

**CLERK OF THE BOARD OF SUPERVISORS  
EXHIBIT/DOCUMENT LOG**

**MEETING DATE & AGENDA NO. 08/16/2022 #21**

**STAFF DOCUMENTS (Numerical)**

| No. | Presented by: | Description:         |
|-----|---------------|----------------------|
| 1   | County Staff  | Powerpoint(10 pages) |

2

3

4

**PUBLIC DOCUMENTS (Alphabetical)**

| No. | Presented by: | Description:                     |
|-----|---------------|----------------------------------|
| A   | Mike Borello  | Vaccine Injury Report(112 pages) |

B

C

D

E

F

G

**OFFICIAL RECORD**

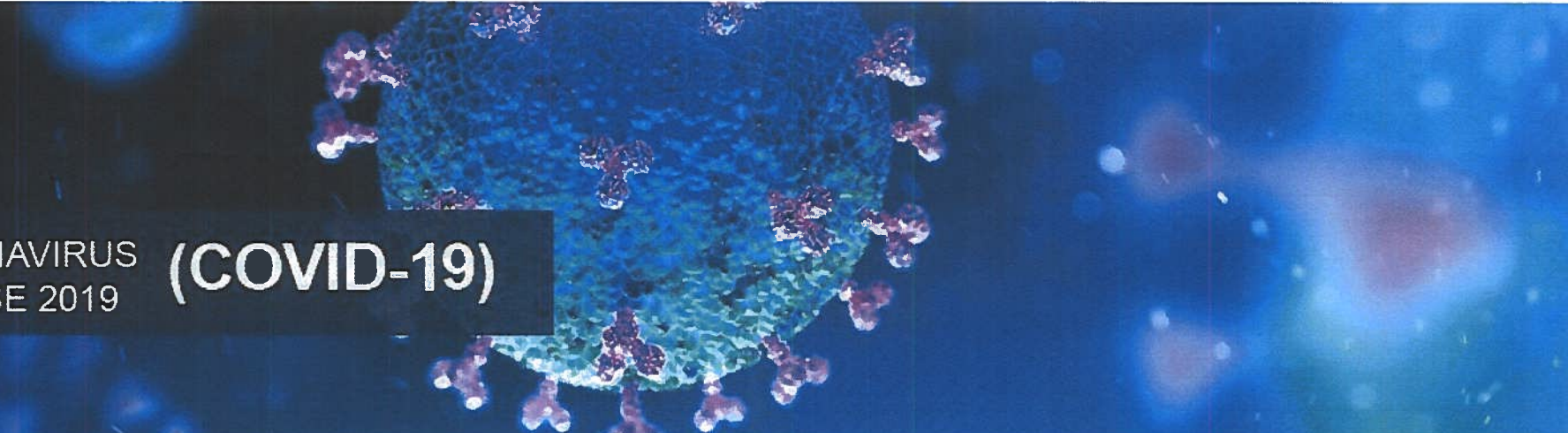
**Clerk of the Board of Supervisors**

**County of San Diego**

Exhibit No. 1

Meeting Date: 8/16/22 Agenda No. 21

Presented by: County Staff, 10 pages



CORONAVIRUS  
DISEASE 2019 (COVID-19)

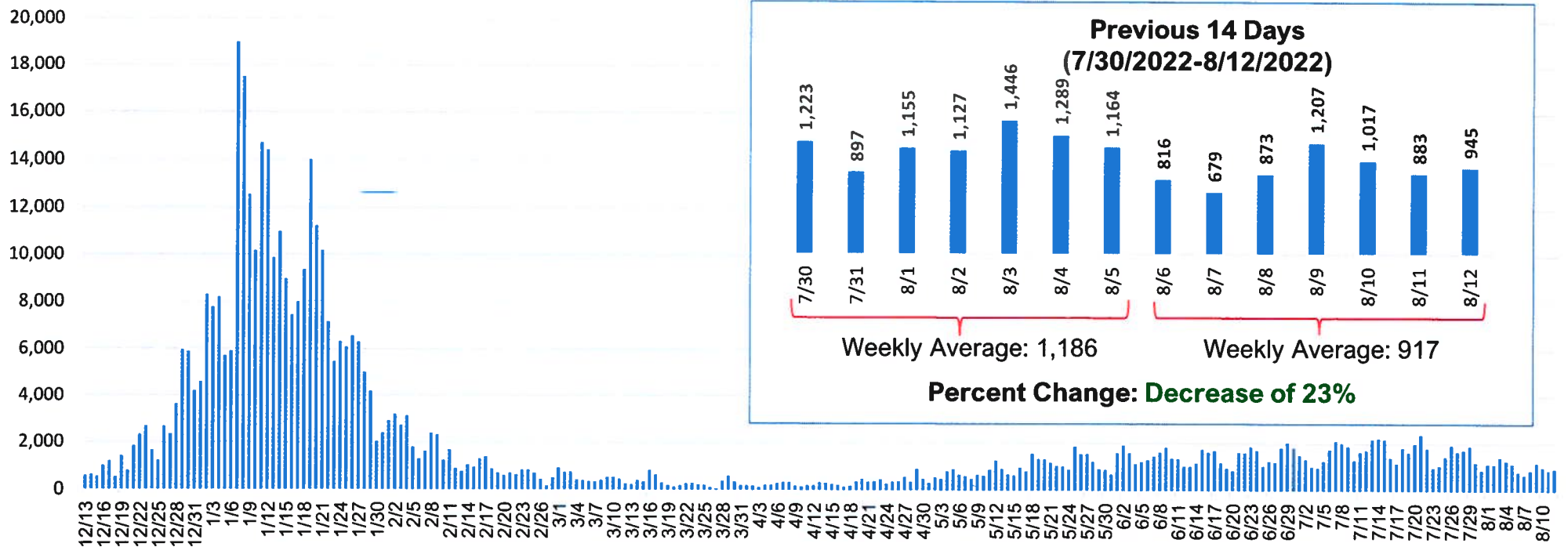
ITEM #21:  
**County of San Diego COVID-19 Update**



August 16, 2022

# COVID-19 Cases

## COVID-19 Cases Among San Diego County Residents New Cases by Date Reported Since December 15, 2021



\*Includes backlog of cases that would have been reported 1/4/22-1/6/22.

\*\*Due to issues with reporting systems, not all cases reported are included and was backlogged in subsequent day's reporting.

\*\*\*The case count for 3/29/2022 includes a backlog of 457 cases from late December

Data through 8/12/2022

Updated 8/15/2022

# Percent Change – One Month

| Metric and Date Range                                                                          | July 12, 2022 | Metric and Date Range                                                                          | August 12, 2022 | % Difference                                                                               |
|------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|
| <b>Case by Report Date</b><br>(7-day average)<br>7/6/22 – 7/12/22                              | 1,789         | <b>Case by Report Date</b><br>(7-day average)<br>8/6/22 – 8/12/22                              | 917             |  49%    |
| <b>Hospitalizations Census</b><br>(7-day average, COVID-19 confirmed only)<br>7/6/22 – 7/12/22 | 368           | <b>Hospitalizations Census</b><br>(7-day average, COVID-19 confirmed only)<br>8/6/22 – 8/12/22 | 346             |  6%    |
| <b>Deaths</b><br>(7-day average, 14-day lag)<br>6/21/22 – 6/27/22                              | 1             | <b>Deaths</b><br>(7-day average, 14-day lag, data through 8/10/22)<br>7/21/22 – 7/27/22        | 2               |  100% |

Data through 8/12/2022  
Updated 8/15/2022

# Percent Change – Two Weeks

| Metric and Date Range                                               | July 30 – August 5 | Metric and Date Range                                               | August 6 – August 12 | % Difference |
|---------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|----------------------|--------------|
| Case by Report Date<br>(7-day average)                              | 1,186              | Case by Report Date<br>(7-day average)                              | 917                  | ↓ 23%        |
| Hospitalizations Census<br>(7-day average, COVID-19 confirmed only) | 416                | Hospitalizations Census<br>(7-day average, COVID-19 confirmed only) | 346                  | ↓ 17%        |
| Deaths<br>(7-day average, 14-day lag, data through 8/10/22)         | 2                  | Deaths<br>(7-day average, 14-day lag, data through 8/10/22)         | 2                    | No Change    |

Data through 8/12/2022, Updated 8/15/2022

# CDC COVID-19 Community Levels

**As of August 11, San Diego County = MEDIUM**

## COVID-19 Community Levels

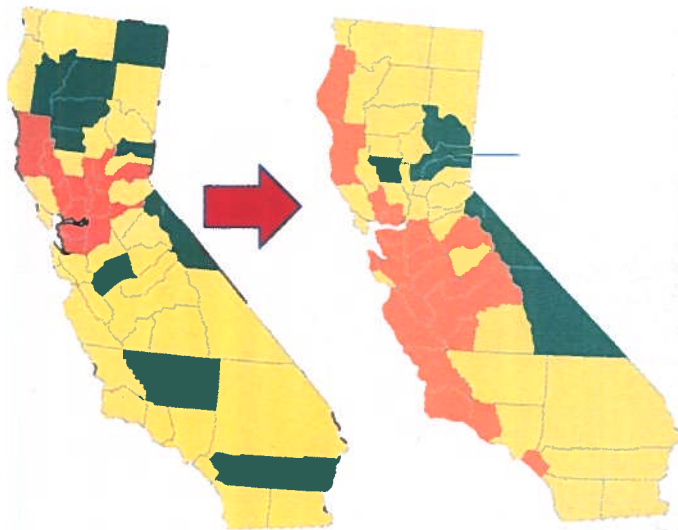
Assignment Based on Highest Metric Among: 1) Case Rate, 2) New COVID-19 Hospital Admissions, and 3) Percent of Staffed Inpatient Beds Occupied by COVID-19 Patients

**Community-level prevention strategies**  
(as recommended by state or local authorities)

| Low                                                                                                                                                                 | Medium                                                                                                                                                                                                                                               | High                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limited impact on healthcare system, low levels of severe disease                                                                                                   | Some impact on healthcare system, more people with severe disease                                                                                                                                                                                    | High potential for healthcare system strain; high level of severe disease                                                                                       |
| <ul style="list-style-type: none"> <li>• Administer vaccines with equity</li> <li>• Ensure access to testing</li> <li>• Community outreach and education</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced prevention measures in high-risk congregate settings</li> <li>• Protect people at high risk for severe illness or death by ensuring equitable access to vaccination, testing, treatment</li> </ul> | <ul style="list-style-type: none"> <li>• Consider setting-specific recommendations for prevention strategies based on local factors (indoor masking)</li> </ul> |

June 13, 2022

August 11, 2022



Data as of 8/9/2022. Data are preliminary and subject to change.

Source: CDC COVID-19 by County, <https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html>, accessed 8/11/2022.

# Vaccinations in San Diego County

## Vaccination Status of San Diego County Residents

Doses Received  
**8,572,485** 🏠

Doses Administered\*  
**7,665,167** 💉

**At Least  
One Dose**

**Fully  
Vaccinated\*\***

**Booster Dose\*\*\***

Eligible Population (6 Months of Age or Older):  
3,343,827 San Diegans

1st Booster Eligible Population^: 2,439,821 San Diegans  
2nd Booster Eligible Population^^: 1,027,457 San Diegans

**3,008,399**

**2,659,442**

**1,432,313**  
1st Booster

**277,757**  
2nd Booster

**90.0%**

**79.5%**

**58.7%**  
1st Booster

**27.0%**  
2nd Booster

\*May not include all administered doses and individuals vaccinated due to reporting delays. Total doses administered includes extra doses (booster doses and additional doses). Data sources include vaccines that have been recorded in SDIR and CAIR, and data provided by Veterans Affairs and Department of Defense. This includes doses from Federal Pharmacy Program and Federally Qualified Health Centers. Doses administered by some tribal providers, some prisons and federal detention facilities do not report to SDIR. Includes all doses administered in San Diego County as well as doses administered to San Diego County residents vaccinated in another California county.

\*\*Fully Vaccinated is based on receiving either a single dose of Johnson & Johnson or both doses of Moderna or Pfizer, therefore completing the recommended vaccination series. However, individuals are not considered fully vaccinated until two weeks after completing the series, as defined by the Centers for Disease Control and Prevention (CDC).

\*\*\*Booster doses includes only doses recorded in SDIR (excludes Veterans Affairs and Department of Defense).

^Booster Eligible Population is updated each week and is the number of San Diego County residents who are fully vaccinated and eligible to receive a booster dose. As of 1/26/2022, individuals are eligible for a booster dose if 1) they are 12 years of age and older, AND 2) at least 5 months have passed after the vaccination date of the second mRNA dose (Moderna or Pfizer-BioNTech) or at least 2 months have passed since the first Janssen/Johnson & Johnson dose.

^^Second booster eligibility is the number of San Diego County residents who received a first booster dose and are eligible to receive a second booster dose. Individuals are eligible for a second booster dose if:  
1) they are 50 years of age and older AND 2) at least 4 months have passed after the vaccination date of the first booster dose AND 3) is an mRNA dose.

Eligible Population for the primary series (at least one dose and fully vaccinated categories) expanded to 6 months and older as of 6/17/2022. The Estimated eligible Population in San Diego County is 3,343,827 individuals, which is the total estimated San Diego County population as estimates are calculated by years. Population estimates are California Department of Finance 2021 Population Estimates, July 2021 release. Data through 08/10/2022. Updated 8/12/2022

# BE COVID SAFE



- Wash your hands
- Wear a mask
- If you have symptoms:
  - Stay home and get tested
  - Isolate according to CDC/CDPH guidance
- Follow current quarantine guidance
- Don't go to the emergency department for COVID-19 testing
- Get all recommended doses of the COVID-19 vaccine
- Get the influenza vaccine

[www.coronavirus-sd.com](http://www.coronavirus-sd.com)

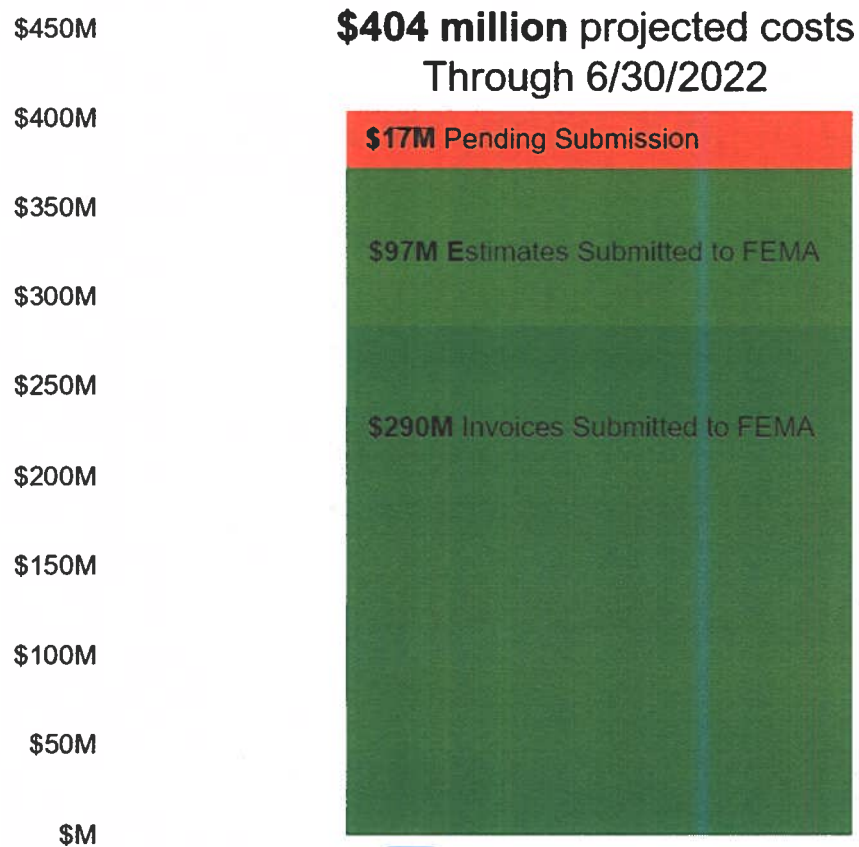
# COVID-19 FINANCE UPDATE

## Spending Estimates for COVID-19 Response Effort (in Millions)

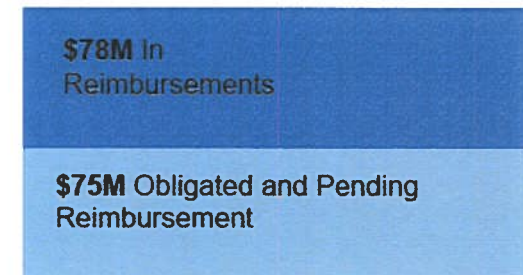
- Vaccinations ..... \$0.2
- T3 ..... \$1.3
- County Response ..... \$0.3

**\$1.8 Million  
Weekly Spend Rate**

# FEMA Reimbursement Progress



**\$153 million** obligated,  
**\$78 million** received



# Recommendations

1. **Receive an update** on the COVID-19 response.
2. **Ratify all actions** taken in response to the local health emergency and local emergency.
3. **Authorize the acceptance** of \$1,109,770 in additional funding to establish, expand, and sustain a public health workforce to support schools with COVID-19 and other school-age vaccinations.
4. **Adopt a resolution** entitled *Resolution Authorizing Continuance of Teleconferenced Public Meetings Pursuant to Government Code Section 54953*.

**OFFICIAL RECORD**

**Clerk of the Board of Supervisors**

**County of San Diego**

Exhibit No. A.

Meeting Date: 8/16/22 Agenda No. 21

Presented by: Mike Borrello, 112 pages

# **COVID-19 Vaccine Injury; a Compendium of Authoritative Resources**

Prepared by: Mike Borrello<sup>1</sup>

Date: 16 August, 2022

*Disclosure: The information in this report is neither misinformation nor disinformation, nor is it intended to disparage beliefs or opinions of others. This report simply consolidates facts and information gathered from authoritative sources on the COVID-19 vaccines to provide a more complete and balanced perspective of COVID-19 vaccine harms.*

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<sup>1</sup> Email contact: [maborrello@roadrunner.com](mailto:maborrello@roadrunner.com)

## Introduction

This report is intended to supplement information reported by San Diego County Health and Human Services (SD HHS) regarding the COVID-19 pandemic, particularly current information county health authorities do not address in their monthly COVID-19 report: **injuries and deaths associated with the COVID-19 vaccines**. SD HHS typically presents their report at the first monthly regular meeting of the County Board of Supervisors. County covid reports since the start of the pandemic have largely focused on: (1) “The number of COVID-19 cases” in San Diego County and (2) the percentage of population that has complied with vaccination programs. SD HHS has never offered any data or metrics addressing the safety, risks and efficacy of the vaccines within their jurisdiction nor any reports of injury or death caused by the vaccines – even if these number were determined to be zero. As a resident of the county, and one who has become actively involved in the pursuit of truth, I’ve personally encountered enough individuals that have been injured or likely killed by COVID-19 vaccines to convince myself of the reality the vaccines do cause harms that are not acknowledged by SD HHS nor the CDC. This report serves as one voice for many of the injured, and for those unfortunate few in SD, unknown names that died from vaccine side effects and their family and friends that continue to grieve their loss.

COVID-19 vaccinations began in December of 2020. After hundreds of millions of doses, there is now solid evidence from published, peer reviewed studies in well-respected scientific and medical journals: the COVID-19 vaccines have indeed caused injury and death, and in significant and unprecedented numbers. Numbers that, from prior FDA policies, would have normally called for immediate recall followed by a full blown investigation. But the federal government and public health continues on a misguided, if not ethically and morally corrupt mission to perpetuate a universal state of emergency when there is no emergency, and to continue vaccinating the entire American populace come hell or high water. Vaccination with a vaccine that clearly ‘waned’ over several months’ time, one that was designed to target a now extinct variant of the virus, and one that now has negative efficacy <sup>2</sup>. The COVID-19 pandemic and in particular the response by Public Health will turn out to be the largest health disaster in world history.

## Summary of Changes in the Report for August

The vaccine injury report starts on page 7. All categorical and specific adverse events continue to increase as vaccine doses have exceeded 610 million in the USA with the most significant increases being inflammatory, thrombogenic or neurogenic in origin. This month’s reported deaths associated with the vaccines now exceed 30,000. But at the same time, the rate of vaccine injury and death seems to be tapering off which, despite the approval of vaccines and boosters for very young children, is consistent with the decreasing rate of vaccine doses given. It seems for all of the CDC, FDA’s effort most parents do not want to vaccinate their child.

While many specific adverse event categories added additional publications, there was only one new category added:



### **COVID-19 Vaccines Swamp Side Effects involving Cancer over all vaccines for all time**

The occurrence of cancer after COVID-19 vaccination is unprecedented. For all vaccines over all time, the COVID-19 vaccines account for 80% of cancers associated with vaccination. See item (33.) in the report for full details.

When Public Health continues to promote and encourage the use of COVID-19 vaccines and condone mandates, it can no longer claim the role as the guardian society’s health. Today the word ‘Public Health’ has become a contender in the dictionary of 1984 Double Speak. Public Health no longer compliments but rather contradicts and interferes with the institutions of established medical practice. It no longer offers any promise of health. The HHS become an institution of Public Harm: the **Department of Harm and Human Sacrifice**. HHS is a juggernaut, born from corruption and the paid henchman for the corporate policy of greed and profit.

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<sup>2</sup> <https://dailysceptic.org/2022/03/20/vaccine-effectiveness-hits-as-low-as-minus-300-as-ukhsa-announces-it-will-no-longer-publish-the-data/>

## 2022, the Year of Recompense

It appears the tide has finally turned. People are resisting the vaccines after now personally witnessing family and friend that have either suffered or died. There are a handful promoting that “2022 will be the year of recompense”<sup>3</sup>

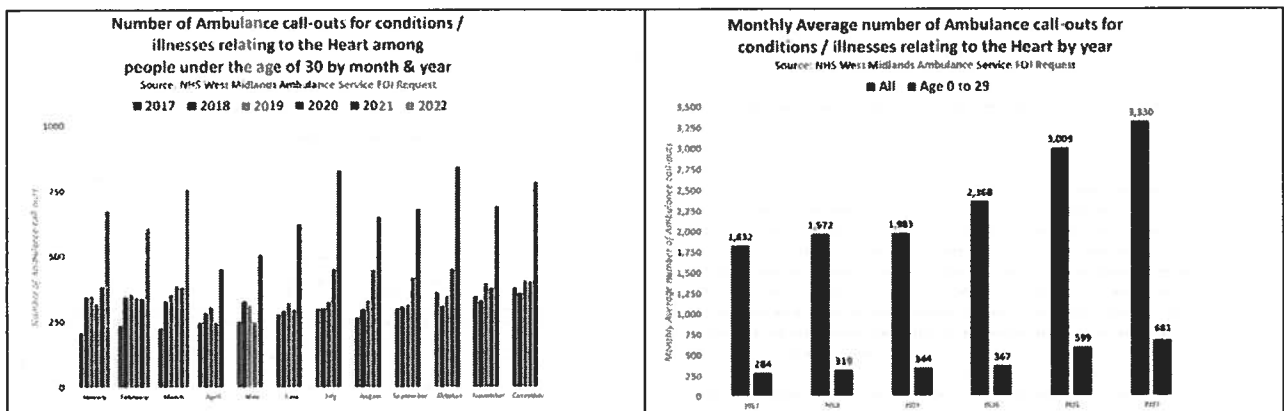
*– IT SHALL BE THE YEAR OF RECOMPENCES FOR THE CONTROVERSY OF ZION. Though God may suffer the enemies of His people to prevail against them very far, and for a long time, yet He will call them to an account for it, and will lead those captive that led His people captive.<sup>4</sup>*

Those that have sought to bring forth truth will be well rewarded, and those that have continued to choose to hide truth will receive their just rewards. Everyone will be paid in a recompensatory manner.

### PfizerGate

Early this year, FOIA’s and a subsequent court order<sup>5</sup> revealed egregious management pf Pfizer’s phase 3 trials. 1200 died. But it’s not over. Just yesterday, August 15, 2022 The Exposé reported the headline: ***PfizerGate: Official Government Reports prove Hundreds of Thousands of People are dying every single week due to Covid-19 Vaccination***<sup>6</sup>. Prediction models had failed at determining infections at start of the plandemic early in 2020, and through the year up to when vaccines were deployed. Hospitals were nowhere near capacity as these models predicted. But now it seems those predictions are coming true, at least in the UK. But the deaths are not directly due to covid infection but rather suppressed immune systems. Most of those hospitalized are the *well vaccinated*. Here is what the UK is presently facing:

- Hospitals are being overrun by patients.
- Waiting times for ambulances are at an all-time high.
- The number of emergency calls due to people suffering cardiac arrest is at an all-time high.
- The number of people dying is at an all-time high
- Hundreds of thousands of excess deaths<sup>7</sup> are occurring around the world every single week.



The Exposé basically issued an indictment on Public Health and their Government sponsors for gross mismanagement, death and harm to society. It’s the year of recompense. Time to pay up. The Exhibits of indictment include:

<sup>3</sup> Tore Maras

<sup>4</sup> Bible:Sermons:Joel 3:1

<sup>5</sup> <https://www.reuters.com/legal/government/wait-what-fda-wants-55-years-process-foia-request-over-vaccine-data-2021-11-18/>

<sup>6</sup> <https://expose-news.com/2022/08/14/gov-reports-prove-hundreds-thousands-dying-covid-vaccine/>

<sup>7</sup> Rancourt, D.G, et al., 2022-08-02 :: COVID-Period Mass Vaccination Campaign and Public Health Disaster in the USA

- Exhibit A: The Healthcare System is overwhelmed
- Exhibit B: Covid-19 Vaccination can damage the heart; that is a FACT
- Exhibit C: Hundreds of thousands of Excess Deaths are being recorded every week
- Exhibit D: Mortality Rates are lowest among the Unvaccinated in all age-groups
- Exhibit E: 1 in every 246 Vaccinated People died within 60 Days of Covid-19 Vaccination
- Exhibit F: COVID-19 Vaccines are at least a shocking 7,402% deadlier than all other Vaccines combined
- Exhibit G: Athlete Deaths are 1700% higher than expected since the COVID Vaccine roll-out
- Closing Arguments: The data doesn't lie

The trajectory of this indictment, forged by truth, and based on data and logical analyses.

## NIH and Pharma Block Publication of Key Paper on the Effects of the COVID-19 Vaccine on Women's Health

During the deployment of COVID-10 vaccines many obstetricians recommended that their pregnant patients receive the vaccine. They assured them mother and child would be safe; that any risks the vaccine might impose were minor compared to what a covid infection might lead too. Like many these doctors parroted the public health mantra: "the benefits outweigh the risks". But time and truth have a way of shattering delusions, ignorance or malfeasance. It turns out these doctors were putting their patients at far greater risk by encouraging vaccines. But it wasn't all the doctor's fault. If they themselves couldn't muster a little common sense or raise an ounce of skeptical doubt, the public health institutions sure didn't make it any easier. In his very recent blog<sup>8</sup>, Dr. Ah Kan Syed, aka Arkmedic presents evidence of fraud, collusion and conspiracy committed by the NIH and Pharma to intentionally block a publications that appeared in October of 2021 that might have led these doctors to opposite opinions.

Syed further argues we are now looking at a generation of women having received vaccines that could be at significant risk of ovarian & breast cancer. He cites the Jiang Paper:



Dr. Syed explains that the harms these women will suffer will be mediated through lymphadenopathy and caused by residual mRNA and spike protein from the vaccines. These residuals are not flushed from the body as originally reported by pharma, but rather many days if not months after vaccine injection. The incidence of lymphadenopathy and lymphadenitis are now included in this vaccine injury report and events have increased. Recall that immunosuppression not only opens the patient to infection; - it's an essential mechanism in the process of gene repair and prevention of p53-dependent ovarian and breast cancer.

<sup>8</sup> Dr Ah Kan Syed, [Welcome to Gilead](#), Arkmedic's blog, July 30, 2022

## CDC Malfeasance

The CDC is not only corrupt. It has no integrity. (Yes you can be corrupt and have integrity). Up till July 21, 2022, the CDC had published on their website<sup>9</sup>:

The mRNA and the spike protein do not last long in the body.

- Our cells break down mRNA from these vaccines and get rid of it within a few days after vaccination.
- Scientists estimate that the spike protein, like other proteins our bodies create, may stay in the body up to a few weeks.

But after July 21 it was quietly removed without notice.

Archive Link: <https://web.archive.org/web/20220721092000/https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>

Link Today: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>

## BMJ Editor Reports Fraudulent Medical Research Rampant:

The BMJ is a once respected weekly peer-reviewed medical trade journal, published by the trade union of the British Medical Association. The BMJ has editorial freedom from the BMA. It is one of the world's oldest general medical journals. On July 5, 2021 Richard Smith, former editor of the BMJ, published an opinion: *Time to assume that health research is fraudulent until proven otherwise?*<sup>10</sup> Concluding remarks included:

*"Everybody gains from the publication game, ... apart from the patients who suffer from being given treatments based on fraudulent data."*

Smith mentioned Stephen Lock his predecessor was worried about research fraud in the 1980s, ... *"and that people thought his concerns eccentric. Research authorities insisted that fraud was rare, [and] didn't matter because science was self-correcting, and that no patients had suffered because of scientific fraud. All those reasons for not taking research fraud seriously have proved to be false, and, 40 years on from Lock's concerns, we are realising that the problem is huge, the system encourages fraud, and we have no adequate way to respond. It may be time to move from assuming that research has been honestly conducted and reported to assuming it to be untrustworthy until there is some evidence to the contrary."*

## CDC Admits Giving False Information on Vaccine Surveillance<sup>11</sup>

On August 11 the EPOCH Times reported the CDC had either lied or by sheer incompetence reported having performed vaccine surveillance of the covid-19 vaccines when in fact it had not. The CDC claimed that prior to October of 2021 they had not conducted any analysis associating myocarditis with mRNA COVID-19 vaccines. But that was wrong. They knew about it at least from reports the military sent them - but did nothing to investigate. Further culmination of information revealed that the CDC simply was not analyzing VAERS data since the COVID-19 vaccination program

<sup>9</sup> <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>

<sup>10</sup> <https://blogs.bmj.com/bmj/2021/07/05/time-to-assume-that-health-research-is-fraudulent-until-proved-otherwise/>

<sup>11</sup> [https://www.theepochtimes.com/exclusive-cdc-admits-it-gave-false-information-about-covid-19-vaccine-surveillance\\_4657836.html](https://www.theepochtimes.com/exclusive-cdc-admits-it-gave-false-information-about-covid-19-vaccine-surveillance_4657836.html)

started. Their job was to look for early warning safety signals. This explains the incredulous disagreement in what independent researchers have been observing from VAERS and what the CDC and HHS denied existed.

## Online tools, resources in researching vaccine injury outside of VAERS

### Vigiaccess

Public access site: VigiAccess <https://vigiaccess.org/>

VigiAccess is maintained by the World Health Organization and providing global scale access to adverse event reports for all medications including specific COVID-19 vaccines. It is very limited regarding detailed case information demographics, etc. only the numbers of events, at least on the public site. Only numbers and percentages are given in drop down categorized adverse events that are sorted according to highest incidence. An example of the search: covid-19 vaccines Pfizer is shown below.

VigiAccess

 World Health Organization

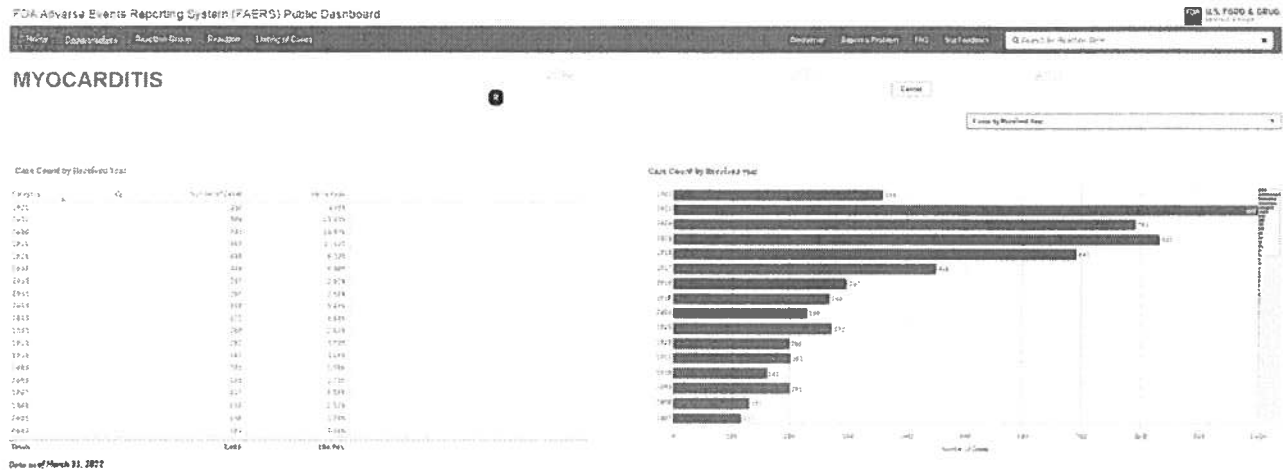
Pfizer BioNTech COVID-19 vaccine contains the active ingredient **COVID-19 vaccine**  
There are **3830946** reports with this active ingredient

### Reported potential side effects

- › Blood and lymphatic system disorders (2%, 177 234 ADRs)
- › Cardiac disorders (3%, 244 080 ADRs)
- › Congenital, familial and genetic disorders (0%, 2 705 ADRs)
- › Ear and labyrinth disorders (1%, 121 437 ADRs)
- › Endocrine disorders (0%, 8 208 ADRs)
- › Eye disorders (1%, 135 205 ADRs)
- › Gastrointestinal disorders (8%, 694 665 ADRs)
- › General disorders and administration site conditions (25%, 2 277 606 ADRs)
- › Hepatobiliary disorders (0%, 8 980 ADRs)
- › Immune system disorders (1%, 66 659 ADRs)
- › Infections and infestations (5%, 419 701 ADRs)
- › Injury, poisoning and procedural complications (3%, 233 511 ADRs)
- › Investigations (6%, 592 505 ADRs)
- › Metabolism and nutrition disorders (1%, 78 694 ADRs)
- › Musculoskeletal and connective tissue disorders (11%, 1 013 669 ADRs)
- › Neoplasms benign, malignant and unspecified (incl cysts and polyps) (0%, 8 659 ADRs)
- › Nervous system disorders (16%, 1 510 696 ADRs)
- › Pregnancy, puerperium and perinatal conditions (0%, 11 254 ADRs)
- › Product issues (0%, 5 855 ADRs)
- › Psychiatric disorders (2%, 173 362 ADRs)
- › Renal and urinary disorders (0%, 34 114 ADRs)
- › Reproductive system and breast disorders (2%, 208 552 ADRs)
- › Respiratory, thoracic and mediastinal disorders (4%, 404 001 ADRs)
- › Skin and subcutaneous tissue disorders (5%, 480 237 ADRs)
- › Social circumstances (0%, 29 697 ADRs)
- › Surgical and medical procedures (1%, 79 790 ADRs)
- › Vascular disorders (2%, 194 247 ADRs)

## FAERS

FDA Adverse Event Reporting System (FAERS) <https://www.fda.gov/drugs/questions-and-answers-fdas-adverse-event-reporting-system-faers/fda-adverse-event-reporting-system-faers-public-dashboard> is another resource for all medications, maintained by the FDA. The advantage in FAERS is being able to associate. FAERS allows search by reaction.



## Paul- Ehrlich-Institute

Germany's surveillance webpage for covid-19 vaccines. Reports only; no raw data:

[https://www.pei.de/EN/newsroom/dossier/coronavirus/coronavirus-content.html?nn=164146&cms\\_pos=6](https://www.pei.de/EN/newsroom/dossier/coronavirus/coronavirus-content.html?nn=164146&cms_pos=6)

Paul-Ehrlich-Institut 

Federal Institute for Vaccines and Biomedicines

Newsroom

Coronavirus and COVID-19

Coronavirus and COVID-19

Top Page Dossier

Safety of COVID-19 Vaccines

In Germany, the Paul-Ehrlich-Institut is the authority responsible for monitoring the safety of vaccines and biomedicines. For this purpose, the institute's Division Pharmacovigilance collects and reviews reports on adverse drug effects and takes the necessary steps if required.

NAVIGATION

- News
- Press Releases
- Positions
- PEI Biennial Reports
- Mandatory Reports
- Social Media
- Events
- Publications on Medicines
- Videos, Audios and Infographics
- WHO CC Annual Reports
- Centralised Authorisations
- Coronavirus and COVID-19
- Brexit

On August 15, 2022, by  
Mike Borrello

A handwritten signature in black ink that reads "Mike Borrello". The signature is written in a cursive, flowing style.

***"The evil that men do lives after them; the good is oft interrèd with their bones" Mark Antony in Julius Caesar***

## COVID 19 VACCINES INJURY REPORT, Mike Borrello August 15, 2022

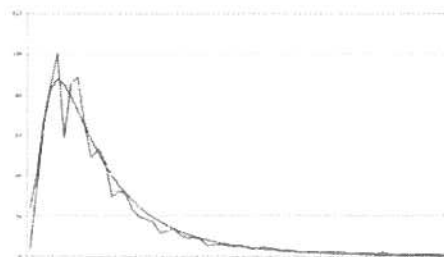
1. United States Department of Health and Human Services (DHHS), Public Health Service (PHS), Centers for Disease Control (CDC) / Food and Drug Administration (FDA), Vaccine Adverse Event Reporting System (VAERS) 1990 - 08/05/2022, CDC WONDER On-line Database. Accessed at <http://wonder.cdc.gov/vaers.html> on Aug 15, 2022 6:45:24 AM

Common to all VAERS queries herein and unless otherwise specified: (1) All US COVID19 vaccines including Pfizer, Moderna & Janssen, (2) All locations under jurisdiction of VAERS reporting, and (3) Onset interval of event relative to vaccine administration. Unless otherwise noted in the following reported data, percentage of events relative to the onset interval of 2 days is used as a basis for temporal correlation. Temporal correlation, if present, usually has structure. The structure for pharmacodynamics involving the occurrence of a discrete event (in this case vaccine reaction) is typically exponential in nature. Hickey and Rancourt explain in a paper<sup>12</sup> they co-authored; briefly:

*The other important discovery is what the researchers refer to as “decay time.” That is the time in which the risk of an adverse event “decays,” or decreases. While there was a very high peak for adverse reactions found within the first five days post injection, that risk then persists before decreasing by about half approximately every two weeks (Figure S5). However, this phenomenon was still measurable up to 60 days post injection. “The fact that this is tied to the time since the injection, and not time alone, proves that this is due to the injection – it proves a causal relationship. If it were just accidental, if people just happened to die within those 60 days, then you would not get that decay of probability, it would be uniform,” says Dr. Rancourt.*

*Dr. Rancourt notes that he and Dr. Hickey are the first to show this exponential decay. “It’s robust in that it happens to every adverse event [in the VAERS dataset] and it’s consistent across all three manufacturers so it’s a common feature seen across the data.”*

By ‘uniform’ Rancourt means that the number of adverse events over time, on the average would be flat. Flatness would indicate independence of the event from vaccine injection, so definitely not causation. But that’s not what we see in this data. Rancourt and Hickey suggest a suitable model as ‘exponential’, but considering that events cannot happen ‘instantaneously’ a more practical model might rather be a temporal Weibull model.



*Weibull model fit to pharmacodynamic response*

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<sup>12</sup> [Nature of the toxicity of the COVID-19 vaccines in the USA](#)

VAERS presently does not provide query of adverse events at the county level; the finest resolution is at state level. The figures in this report as noted above, and unless otherwise specified address all locations to more easily provide comparison with the number of doses of vaccine across the nation.

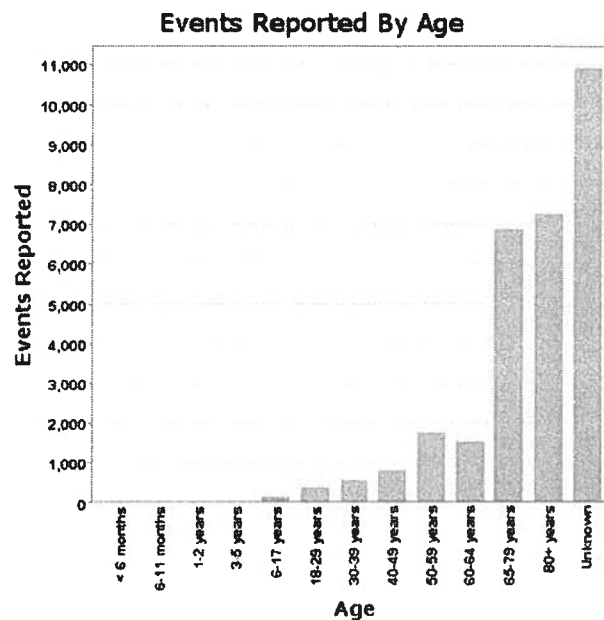
The covid-19 vaccines collectively account for more than 82% of deaths reported in VAERS for ALL the vaccines combined over the 30 year period VAERS has been in existence. But covid-19 vaccines have only been in existence for not even 2 years. Neither the FDA, CDC, NIH nor any Public Health Agency, nationally or locally has bothered to address this elephant in the room - one of MANY elephants surrounding the COVID-19 vaccines.

| Vaccine                                         | Events Reported | Percent (of 39,772) |
|-------------------------------------------------|-----------------|---------------------|
| COVID19 (COVID19 (PFIZER-BIONTECH)) (1200)      | 21,037          | 52.89%              |
| COVID19 (COVID19 (MODERNA)) (1201)              | 9,189           | 23.10%              |
| COVID19 (COVID19 (JANSSEN)) (1203)              | 2,620           | 6.61%               |
| PNEUMO (PREVNAR13) (1141)                       | 989             | 2.49%               |
| PNEUMO (PREVNAR) (1001)                         | 980             | 2.46%               |
| POLIO VIRUS, ORAL (ORIMUNE) (17)                | 790             | 1.99%               |
| INFLUENZA (SEASONAL) (NO BRAND NAME) (44)       | 772             | 1.94%               |
| VACCINE NOT SPECIFIED (NO BRAND NAME) (999)     | 677             | 1.70%               |
| HIB (ACTHIB) (256)                              | 611             | 1.54%               |
| HIB (HIBTITER) (35)                             | 591             | 1.49%               |
| DTP (NO BRAND NAME) (2)                         | 567             | 1.43%               |
| HEP B (ENGIRIX-B) (38)                          | 542             | 1.36%               |
| ROTAVIRUS (ROTATEQ) (1096)                      | 511             | 1.28%               |
| HEP B (RECOMBIVAX HB) (25)                      | 470             | 1.18%               |
| PNEUMO (PNEUMOVAX) (30)                         | 441             | 1.11%               |
| DTAP + HEPB + IPV (PEDIARIX) (1082)             | 417             | 1.05%               |
| HPV (GARDASIL) (1098)                           | 387             | 0.97%               |
| DTAP (INFANRIX) (286)                           | 359             | 0.90%               |
| MEASLES + MUMPS + RUBELLA (MMR II) (26)         | 352             | 0.89%               |
| INFLUENZA (SEASONAL) (FLUZONE) (7)              | 350             | 0.88%               |
| POLIO VIRUS, INACT. (POLIOVAX) (9)              | 329             | 0.82%               |
| DTP (TRI-IMMUNOL) (22)                          | 313             | 0.79%               |
| HEP B (NO BRAND NAME) (110)                     | 313             | 0.79%               |
| ROTAVIRUS (ROTARIX) (1124)                      | 311             | 0.78%               |
| HIB (PEDVAXHIB) (129)                           | 298             | 0.75%               |
| POLIO VIRUS, INACT. (NO BRAND NAME) (232)       | 269             | 0.68%               |
| POLIO VIRUS, INACT. (IPOL) (1030)               | 268             | 0.67%               |
| POLIO VIRUS, ORAL (NO BRAND NAME) (118)         | 255             | 0.64%               |
| DTAP + IPV + HIB (PENTACEL) (1125)              | 224             | 0.59%               |
| DTP + HIB (TETRAMUNE) (250)                     | 220             | 0.55%               |
| DTAP (TRIPEDIA) (242)                           | 205             | 0.52%               |
| HIB + HEP B (COMVAX) (287)                      | 196             | 0.49%               |
| ZOSTER LIVE (ZOSTAVAX) (1097)                   | 187             | 0.47%               |
| COVID19 (COVID19 (UNKNOWN)) (1202)              | 182             | 0.46%               |
| DTAP+IPV+HEPB+HIB (INFANRIX HEXA) (1139)        | 178             | 0.45%               |
| VARICELLA (VARIVAX) (269)                       | 178             | 0.45%               |
| HPV (NO BRAND NAME) (1102)                      | 172             | 0.43%               |
| HIB (NO BRAND NAME) (111)                       | 161             | 0.40%               |
| DENGUE TETRAVALENT (DENGVAIXA) (1195)           | 151             | 0.38%               |
| PNEUMO (NO BRAND NAME) (120)                    | 140             | 0.35%               |
| DTAP (DAPTACEL) (1064)                          | 137             | 0.34%               |
| INFLUENZA (SEASONAL) (TIV DRESDEN) (1186)       | 118             | 0.30%               |
| INFLUENZA (SEASONAL) (FLUVIRIN) (262)           | 115             | 0.29%               |
| ZOSTER (SHINGRIX) (1192)                        | 113             | 0.28%               |
| DTAP (NO BRAND NAME) (258)                      | 110             | 0.28%               |
| RABIES (NO BRAND NAME) (37)                     | 105             | 0.26%               |
| HIB (HIBERIX) (916)                             | 90              | 0.23%               |
| MENINGOCOCCAL (NO BRAND NAME) (113)             | 89              | 0.22%               |
| BCC (NO BRAND NAME) (102)                       | 86              | 0.22%               |
| MEASLES + MUMPS + RUBELLA (NO BRAND NAME) (114) | 84              | 0.21%               |

Many of the VAERS queries reported herein were further substantiated by separate research from peer reviewed online medical and scientific journals. These studies provide further observations, analysis and evidence of the presence and significance of these adverse events from clinical experts. This report is a work

in progress as the VAERS numbers will be updated monthly, and new citations added as publications are brought to my attention.

2. **Number of deaths associated with the three COVID-19 vaccines: 30,162;** 27% of these deaths occurred within 2 days after injection. Of these reported deaths, **628** have been reported having occurred in California. Given that San Diego is the 2<sup>nd</sup> largest populated county among 58 counties in California, the likelihood is that some of those deaths were reported within San Diego. But County HHS does not report this number. From VAERS, the number of deaths, all locations according to age groups are plotted below on the left, where age data was available.



*Reported deaths all COVID-19 vaccines, all locations*

3. According to the CDC (<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>) as of August 15, 2022 about 606 million doses of the COVID -19 vaccines have been administered over a period of about 20 months. This includes 1<sup>st</sup>, 2<sup>nd</sup>, & booster.
4. For the 14 seasonal influenza vaccines, there have been about 3.3 billion doses administered over 32 years<sup>13</sup>. For these vaccines, the reported deaths number much lower than the deaths from influenza vaccines: reporting a much lower death count: **2,204** deaths.

Contrasting the numbers: covid vs the 14 flu vaccines:

| <b>COVID-19</b> | <b>vs</b> | <b>FLU</b>    |                             |
|-----------------|-----------|---------------|-----------------------------|
| <b>30,162</b>   | <b>vs</b> | <b>2,204</b>  | <b>deaths</b>               |
| <b>0.61</b>     | <b>vs</b> | <b>3.3</b>    | <b>billion doses</b>        |
| <b>1.7</b>      | <b>vs</b> | <b>32</b>     | <b>years</b>                |
| <b>50</b>       | <b>vs</b> | <b>&lt; 1</b> | <b>deaths/million doses</b> |

<sup>13</sup> <https://www.cdc.gov/flu/prevent/vaccine-supply-historical.htm>

So the COVID-19 vaccines are more than 50 times deadlier than the influenza vaccines.

5. It's believed by at least several researchers that adverse events reported in VAERS are severely under-reported. This position is well justified because of the dearth of information that would otherwise provide evidence of reporting compliance. While the CDC mandates reporting of vaccine associated deaths, there's no apparent system for enforcing or monitoring. Many suggest that reported numbers could only represent 1% of actual adverse events whether the reporter, for some reason, fails to report the event believing there is a connection between the vaccine and the event or else failing to make any connection. Healthcare providers and manufacturers, are required to report deaths and life threatening events. But I am personally aware that this is not being done, at least at one institution. Regardless other researchers believe that a realistic under-reporting factor (URF) is somewhere between 10 and 40<sup>14</sup>. **Keep this in mind; that some (unknown) URF applies to all the numbers provided in this report.** In other words the numbers reported here is certainly a lower bound for observations. But in this report, the numbers are only what VAERS provides. So we might expect that the death toll for covid-19 vaccines is actually between 301,620 and 1,206,480 deaths. So perhaps over a million have died from the COVID-19 vaccines.

According to VAERS data, reported deaths are largely split between the first and second doses of the vaccine

**Messages:**

- ▶ VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.
- ▶ These results are for 30,162 total events.

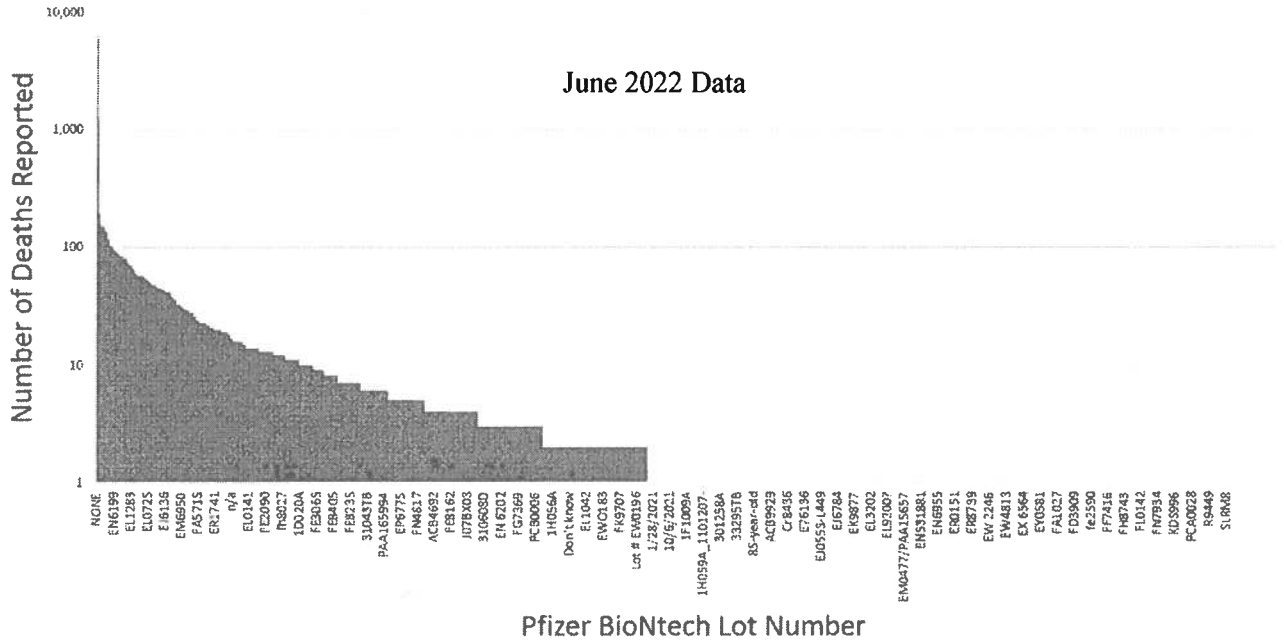
| Vaccine Dose ↓  | ⇒ Events Reported ↑↓ | ← Percent (of 30,162) ↑↓ |
|-----------------|----------------------|--------------------------|
| 1 Dose          | 11,311               | 37.50%                   |
| 2 Doses         | 11,233               | 37.24%                   |
| 3 Doses         | 3,023                | 10.02%                   |
| 4 Doses         | 233                  | 0.77%                    |
| 5 Doses         | 8                    | 0.03%                    |
| 6 Doses         | 1                    | 0.00%                    |
| 7 or more Doses | 8                    | 0.03%                    |
| Unknown         | 7,193                | 23.85%                   |
| Not Applicable  | 28                   | 0.09%                    |

And there's a concerning disparity between the number of deaths across various vaccine lot numbers as shown by the following graphs. But it's not clear if (1) the number of vaccine vials per lot is the same or (2) that the number of administered doses per lot is somewhat uniform. If the lot size and administration of vaccines are somewhat consistent, the data below could suggest a serious quality issue: that something in the manufacturing process is yielding particular lots that are causing harm<sup>15</sup>.

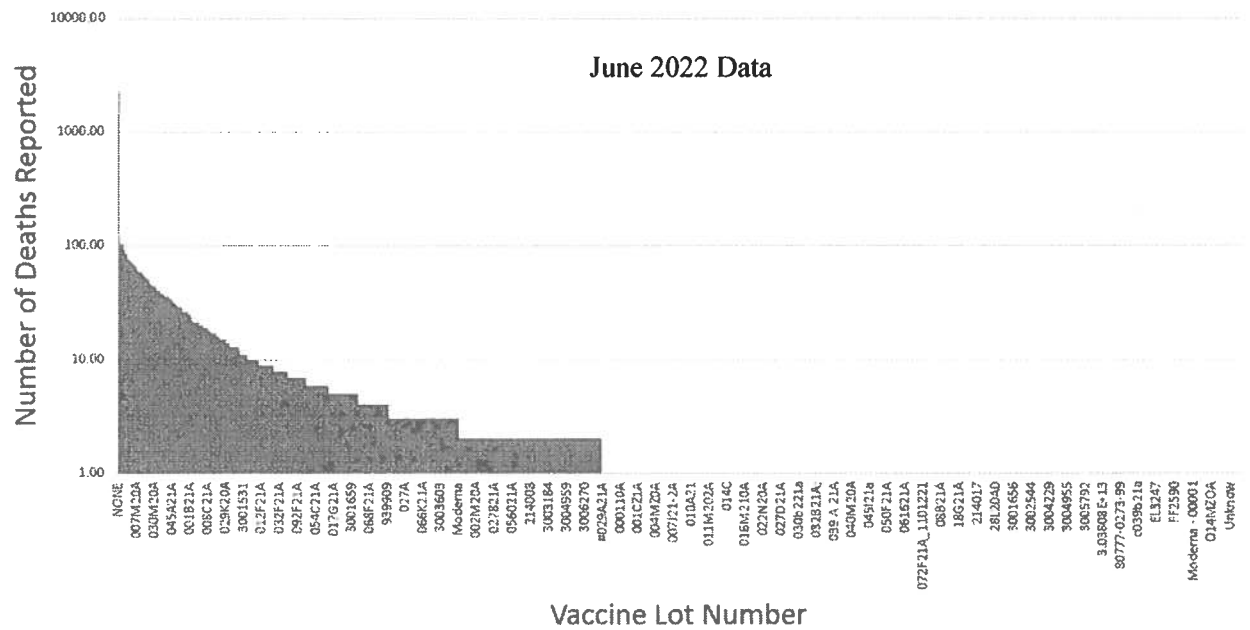
<sup>14</sup> Steve Kirsch Latest VAERS estimate: 388,000 Americans killed by the COVID vaccines

<sup>15</sup> <https://www.nutritruth.org/single-post/covid-truths-hot-lots-deadly-batches-of-vaccines>

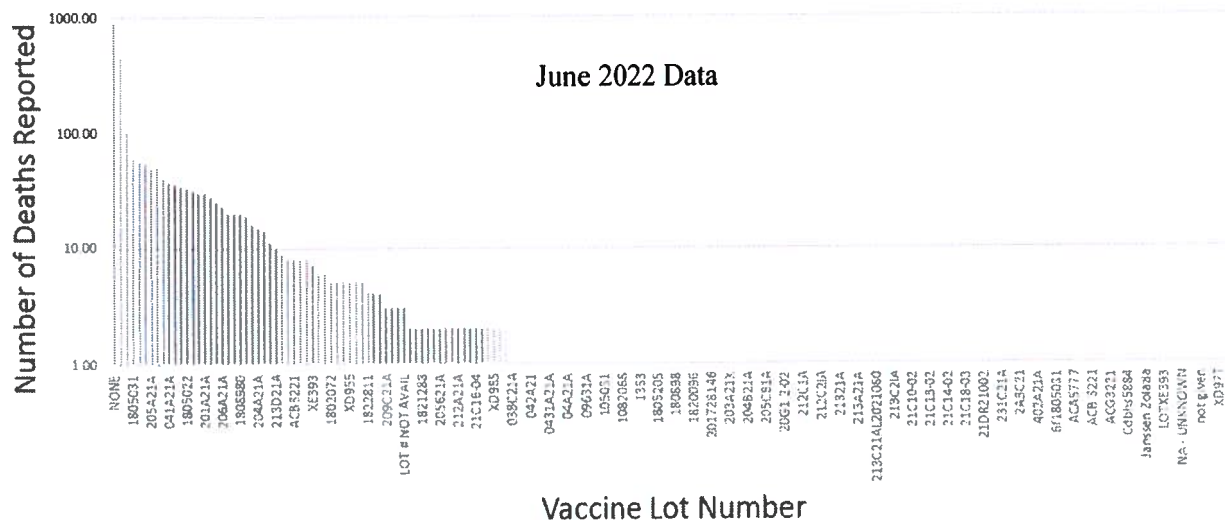
## Deaths By Lot Number, Pfizer BioNtech



## Deaths by Lot Number, Moderna



### Deaths by Lot Number, Jannsen



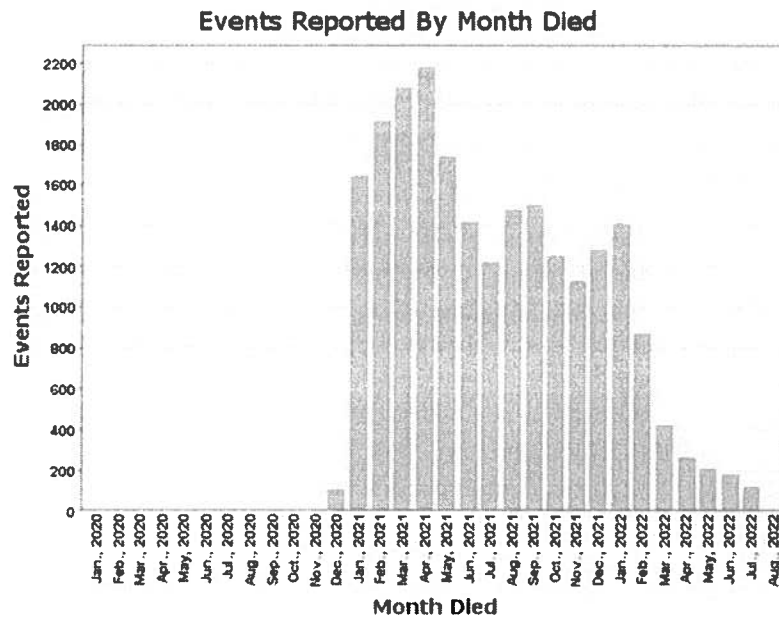
According to sex, the reported deaths associated with COVID-19 vaccines show that males are slightly more likely to be killed by the vaccines.

**Messages:**

- ▶ **VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.**
- ▶ **These results are for 30,162 total events.**

| Sex ↓   | → Events Reported ↑↓ | ← Percent (of 30,162) ↑↓ |
|---------|----------------------|--------------------------|
| Female  | 12,626               | 41.86%                   |
| Male    | 15,991               | 53.02%                   |
| Unknown | 1,545                | 5.12%                    |

Considering many of the deaths reported are associated with cardio pulmonary events and stroke, that the hypothesis in the June report posits that young males are more able and tend to push the envelope of physical exertion, could indeed explain the higher percentage of male deaths.



Before getting into other adverse events, it's first important to note for the adverse event of death alone, there is a fundamental issue with vaccine ethics. Consider of these reported deaths, what are the chances that even 1 report of association is indeed caused by the vaccine. Then ask the question, knowing that the vaccine has the capability of killing the recipient, how is it ethical to vaccinate a population *en masse* when conceivably some people may die that never would have died from the infection, let alone be infected? The correct answer: it is NOT ethical.

Somehow Public Health Officials have managed to convince the public that it is ethical; to kill one group of people in order to save another group. This policy is maliciously labeled by the media as "the greater good" and it condones the twisted premise that some benefit risk analysis mitigates this fact. That there is some 'acceptable' number of vaccine induced deaths.

So far no one has addressed this grievous fault in policy, or perhaps recognized its existence. The policy is one of indiscriminant sacrifice; no different than throwing the virgin into the volcano to appease the gods. At present it's only investment and profits that are being appeased. The medical and scientific literature only touch lightly on the subject of vaccine ethics, and NONE has addressed the question posed above.

Kowalik M. **Ethics of vaccine refusal**. J Med Ethics. 2022 Apr; 48(4):240-243. doi: 10.1136/medethics-2020-107026. Epub 2021 Feb 26. PMID: 33637609. <https://pubmed.ncbi.nlm.nih.gov/33637609/>

Kowalick concludes:

*... there is neither a moral obligation to vaccinate nor a sound ethical basis to mandate vaccination under any circumstances, even for hypothetical vaccines that are medically risk-free.*

*Agent autonomy with respect to self-constitution has absolute normative priority over reduction or elimination of the associated risks to life. In practical terms, mandatory vaccination amounts to discrimination against*

*healthy, innate biological characteristics, which goes against the established ethical norms and is also defeasible a priori.*

Cheng FK. **Debate on mandatory COVID-19 vaccination.** Ethics Med Public Health. 2022 Apr;21:100761. doi: 10.1016/j.jemep.2022.100761. Epub 2022 Jan 24. PMID: 35097181; PMCID: PMC8784578. <https://pubmed.ncbi.nlm.nih.gov/35097181/>

Pomara C, Sessa F, Ciaccio M, Dieli F, Esposito M, Giammanco GM, Garozzo SF, Giarratano A, Prati D, Rappa F, Salerno M, Tripodo C, Mannucci PM, Zamboni P. **COVID-19 Vaccine and Death: Causality Algorithm According to the WHO Eligibility Diagnosis.** Diagnostics. 2021; 11(6):955. <https://doi.org/10.3390/diagnostics1106095> <https://www.mdpi.com/2075-4418/11/6/955>

Maiese A, Baronti A, Manetti AC, Di Paolo M, Turillazzi E, Frati P, Fineschi V. **Death after the Administration of COVID-19 Vaccines Approved by EMA: Has a Causal Relationship Been Demonstrated?** Vaccines. 2022; 10(2):308. <https://doi.org/10.3390/vaccines10020308> <https://www.mdpi.com/2076-393X/10/2/308>

Lv G, Yuan J, Xiong X, Li M. **Mortality Rate and Characteristics of Deaths Following COVID-19 Vaccination.** Front Med (Lausanne). 2021;8:670370. Published 2021 May 14. doi:10.3389/fmed.2021.670370 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8160119/>

Conclusion from Lv et al: *The benefits of COVID-19 vaccines outweigh the potential risks in older frail populations, and our findings do not support actions to exclude older adults from being vaccinated. However, continued monitoring of COVID-19 vaccination is still warranted.*

One more time, an underwhelming candy coated conclusion.

6. Besides associated deaths, the COVID-19 vaccines are currently associated with the following numbers of noted categorical adverse events. These numbers are cumulative events entered since the roll out of the COVID-19 vaccines:

**Messages:**  
 ↳ VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.  
 ↳ These results are for 1,379,438 total events.

| Event Category ↓                    | ⇒ Events Reported ↑ ↓ | ⇐ Percent (of 1,379,438) ↑ ↓ |
|-------------------------------------|-----------------------|------------------------------|
| Death                               | 30,162                | 2.19%                        |
| Life Threatening                    | 33,475                | 2.43%                        |
| Permanent Disability                | 56,477                | 4.09%                        |
| Congenital Anomaly / Birth Defect * | 1,141                 | 0.08%                        |
| Hospitalized                        | 172,590               | 12.51%                       |
| Existing Hospitalization Prolonged  | 1,943                 | 0.14%                        |
| Emergency Room / Office Visit **    | 120                   | 0.01%                        |
| Emergency Room *                    | 133,570               | 9.68%                        |
| Office Visit *                      | 202,530               | 14.68%                       |
| None of the above                   | 899,943               | 65.24%                       |

7. 33,475 Life threatening events; 39% within two days after injection.
8. 56,477 Permanent disabilities; 50% within two days after injection.
9. 172,590 Hospitalized; 32% within two days after injection.
10. 133,570 Emergency room visits; 53% within two days after injection.

11. 202,530 Office visits; 48% within two days after injection.

12. By restricting the query above to children (under age 18) we see there have been almost 54,000 adverse events reported, with 145 deaths.

**Messages:**  
 ▶ VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.  
 ▶ These results are for 53,787 total events.

| Event Category                      | Events Reported | Percent (of 53,787) |
|-------------------------------------|-----------------|---------------------|
| Death                               | 145             | 0.27%               |
| Life Threatening                    | 655             | 1.22%               |
| Permanent Disability                | 505             | 0.94%               |
| Congenital Anomaly / Birth Defect * | 17              | 0.03%               |
| Hospitalized                        | 4,267           | 7.93%               |
| Existing Hospitalization Prolonged  | 90              | 0.17%               |
| Emergency Room / Office Visit **    | 12              | 0.02%               |
| Emergency Room *                    | 5,081           | 9.45%               |
| Office Visit *                      | 7,317           | 13.60%              |
| None of the above                   | 39,710          | 73.83%              |

One of those 145 deaths occurred in California; a nine year old girl:

<https://www.lucianne.com/2022/08/03/9-year-old-dies-two-weeks-after-taking-covid-19-vaccine-vaers-90842.html>

Details for VAERS ID: 2377304-1

| Event Information       |            |                       |                  | Event Categories                    |      |
|-------------------------|------------|-----------------------|------------------|-------------------------------------|------|
| Patient Age             | 9.00       | Sex                   | Female           | Death                               | Yes  |
| State / Territory       | California | Date Report Completed | 2022-07-21       | Life Threatening                    | No   |
| Date Vaccinated         | 2021-12-13 | Date Report Received  | 2022-07-21       | Permanent Disability                | No   |
| Date of Onset           | 2021-12-27 | Date Died             | 2021-12-27       | Congenital Anomaly / Birth Defect * | No   |
| Days to onset           | 14         |                       |                  | Hospitalized                        | No   |
| Vaccine Administered By | Other      | Vaccine Purchased By  | Not Applicable * | Days in Hospital                    | None |
| Mfr/Imm Project Number  | NONE       | Report Form Version   | 2                | Existing Hospitalization Prolonged  | No   |
| Recovered               | No         | Serious               | Yes              | Emergency Room / Office Visit **    | N/A  |
|                         |            |                       |                  | Emergency Room *                    | No   |
|                         |            |                       |                  | Office Visit *                      | No   |

\* VAERS 2.0 Report Form Only  
 \*\* VAERS-1 Report Form Only  
 "Not Applicable" will appear when information is not available on this report form version.

\* VAERS 2.0 Report Form Only  
 \*\* VAERS-1 Report Form Only  
 "N/A" will appear when information is not available on this report form version.

| Vaccine Type    | Vaccine                             | Manufacturer    | Lot  | Dose | Route | Site |
|-----------------|-------------------------------------|-----------------|------|------|-------|------|
| COVID19 VACCINE | COVID19 (COVID19 (PFIZER-BIONTECH)) | PFIZER-BIONTECH | NONE | 1    | SVR   | UN   |

| Symptom              |
|----------------------|
| ABDOMINAL PAIN UPPER |
| CHEST PAIN           |
| DEATH                |
| OROPHARYNGEAL PAIN   |

| Adverse Event Description                                                                                   |
|-------------------------------------------------------------------------------------------------------------|
| Death after 2-3 days of stomach ache, sore throat and chest pain; two weeks after receiving the vaccination |

| Lab Data | Current Illness | Adverse Events After Prior Vaccinations |
|----------|-----------------|-----------------------------------------|
|          |                 |                                         |

| Medications At Time Of Vaccination | History/Allergies |
|------------------------------------|-------------------|
|                                    |                   |

Published information contained in either journals or the media tend to report these adverse events in terms of percentages rather than absolute number of persons affected. Whether the intent is accidental or

intentional, reporting of percentages tends to lessen the impact on the reader of how dangerous the vaccines are – compared to legacy vaccines. For example, given the total number of doses administered, the percentage of deaths associated with the vaccine is *less than* 0.005%. This appears to be a very small number, but because there were 606 million doses even a small percentage like this represents over 30,000 deaths! There is no consolation for the victims and friends and family that lost their loved ones – especially if they were young and fit and may have easily survived a covid-19 infection with early therapeutic treatment – or perhaps never infected in the first place. The magnitude of harm further amplifies the matter of this policy as unethical.

Since the beginning of vaccine distribution it's been difficult to establish solid evidence that COVID-19 vaccines provide benefits that exceed harms, since the number of true COVID-19 cases has been obfuscated by inaccurate PCR testing with a high rate of false positives<sup>16</sup>, and the true number of deaths caused by COVID-19 infection confounded by the fact that many were actually persons “dying with covid” rather than “dying from covid”. Indeed the enigma of correlation vs. causation cuts both ways. Add to this the confusion surrounding TRUE efficacy of the vaccines and the recent release of the phase 3 trial results from Pfizer to the FDA in early 2021. It took a FOIA, a lawsuit and court order to get the FDA to release. The, now publicly released report<sup>1718</sup>, reveals that Pfizer and the FDA have committed a crime, possibly colluding to hide damaging information from the public. The data should, at the very least, forced the FDA to black label the vaccine. But a more appropriate action would have been a recall. Yet MANY continue to receive the vaccines! About 16 million more Americans since the last report.

To further contrast the disparity of harm between the covid19 vaccines and legacy vaccines, all adverse events from all other vaccines collectively were compared over the 32 year timeline of vaccine tracking in VAERS. The blue spike on the following graph towards the right represents this last year where the covid-19 vaccine was rolled out. This graph obtained at <https://vaersanalysis.info/2022/08/13/vaers-summary-for-covid-19-vaccines-through-8-5-2022/>, was last updated 8/5/2022.

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<sup>16</sup> Elena Surkova, Vladyslav Nikolayevskyy, Francis Drobniowski, **False-positive COVID-19 results: hidden problems and costs**, The Lancet Respiratory Medicine, VOLUME 8, ISSUE 12, P1167-1168, DECEMBER 01, 2020 <https://www.thelancet.com/action/showPdf?pii=S2213-2600%2820%2930453-7>

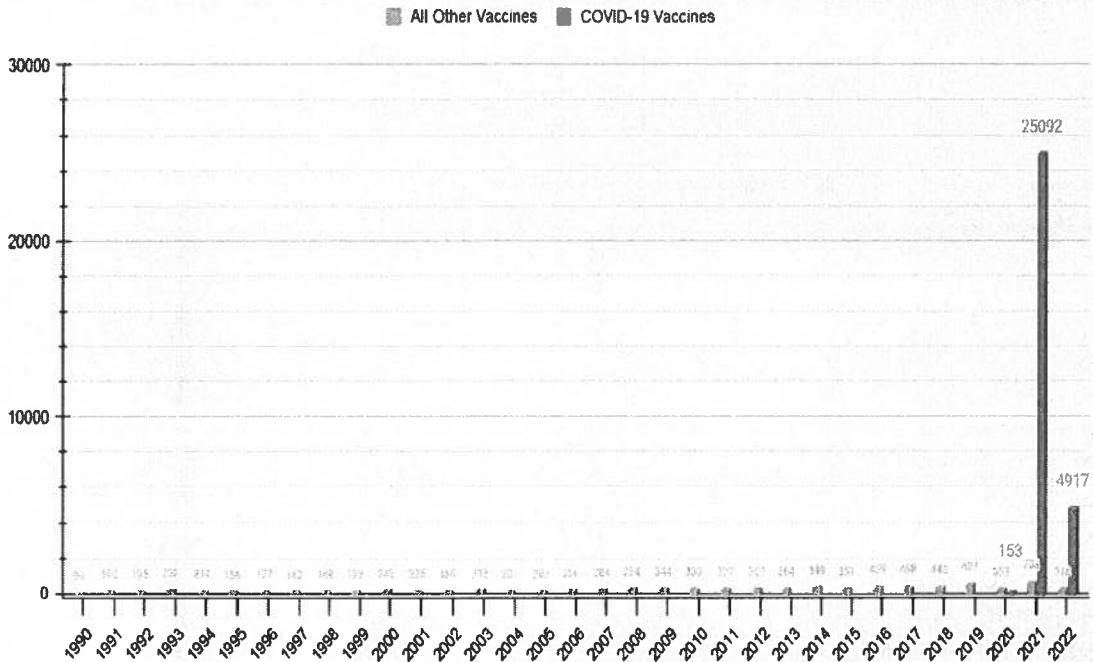
<sup>17</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1063378/Vaccine\\_Analysis\\_Print\\_Pfizer\\_BioNTech\\_COVID-19\\_vaccine\\_16.03.2022\\_v3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063378/Vaccine_Analysis_Print_Pfizer_BioNTech_COVID-19_vaccine_16.03.2022_v3.pdf)

<sup>18</sup> CUMULATIVE ANALYSIS OF POST-AUTHORIZATION ADVERSE EVENT REPORTS OF PF-07302048 (BNT162B2) RECEIVED THROUGH 28-FEB-2021

## Reported Deaths by Year, COVID19 vs. All Other Vaccines

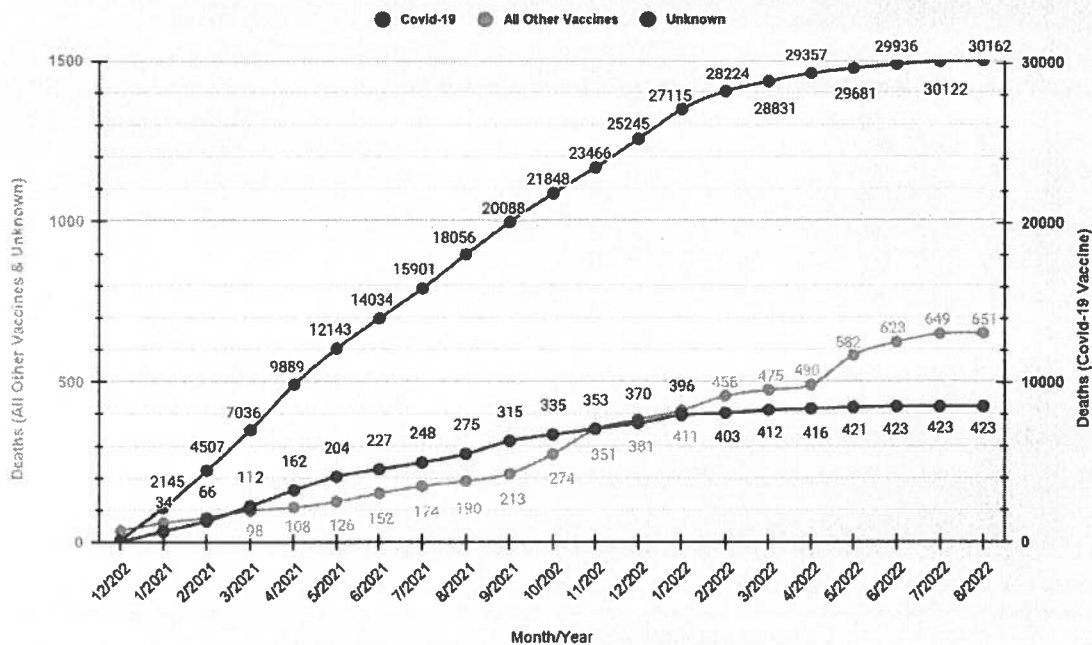
Data Obtained from CDC's VAERS



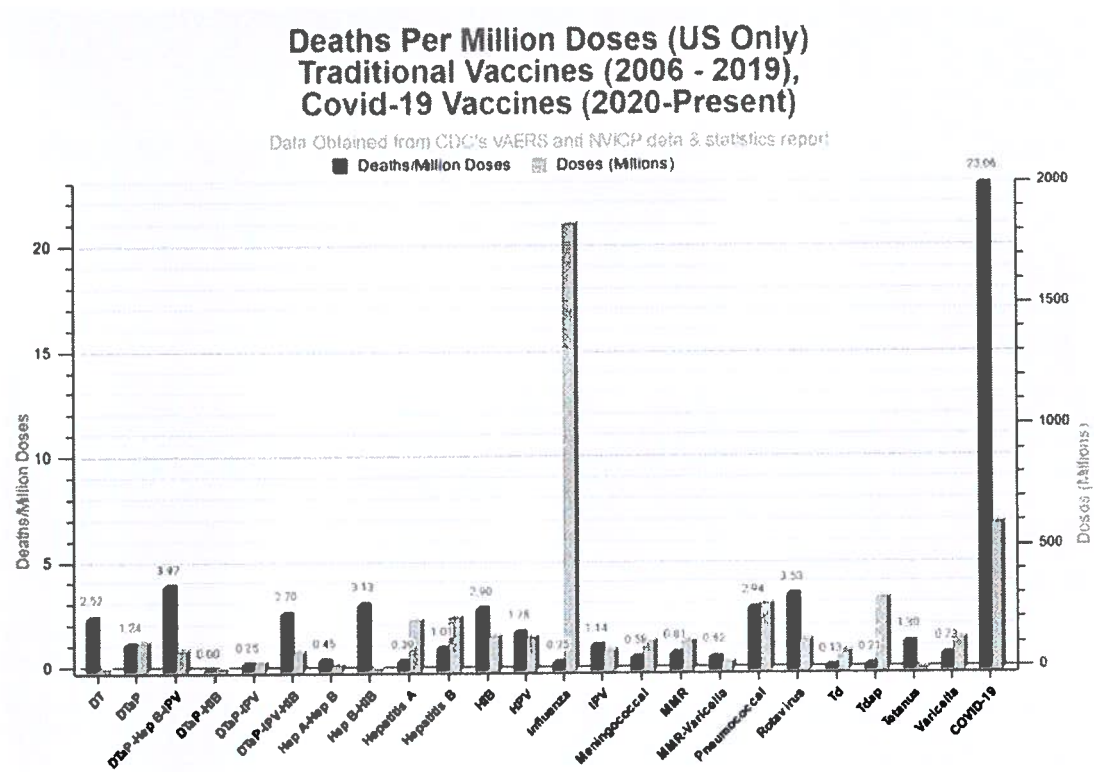
The following graph, obtained from the same source provides a year end summary (2021) of cumulative deaths comparing the covid 19 vaccines with all other vaccines.

## Cumulative Reported Deaths After Vaccination - 1.5 Year Summary

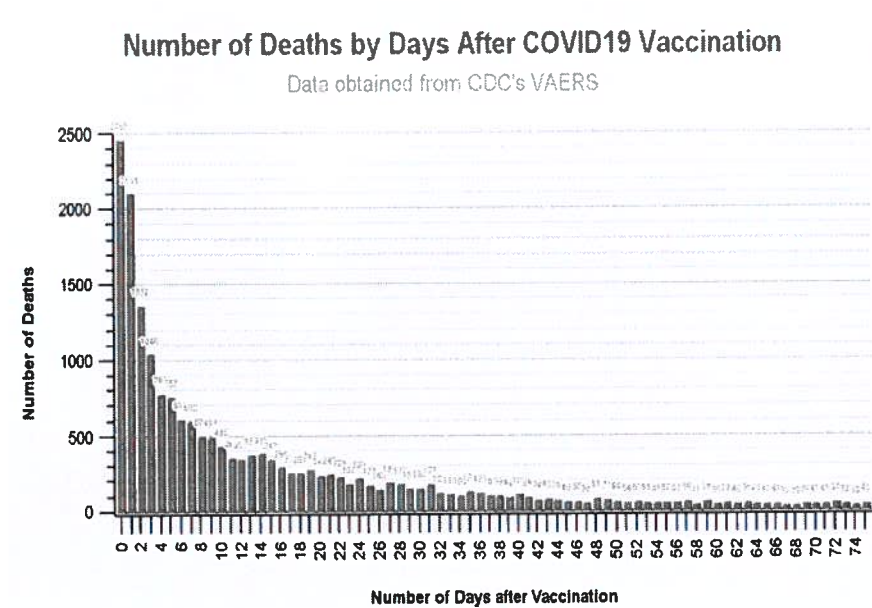
Data obtained from CDC's VAERS



Perhaps a more fair comparison normalizes the number of deaths relative to number of doses. The following graph still shows the stark truth; COVID-19 vaccines are far deadlier than any other vaccine ever administered.



This graph plots the onset of death following the immunization event indicating strong correlation, a necessary (although not sufficient) condition to show causation. Roughly 1/3 of these deaths occurred within 2 days of injection.



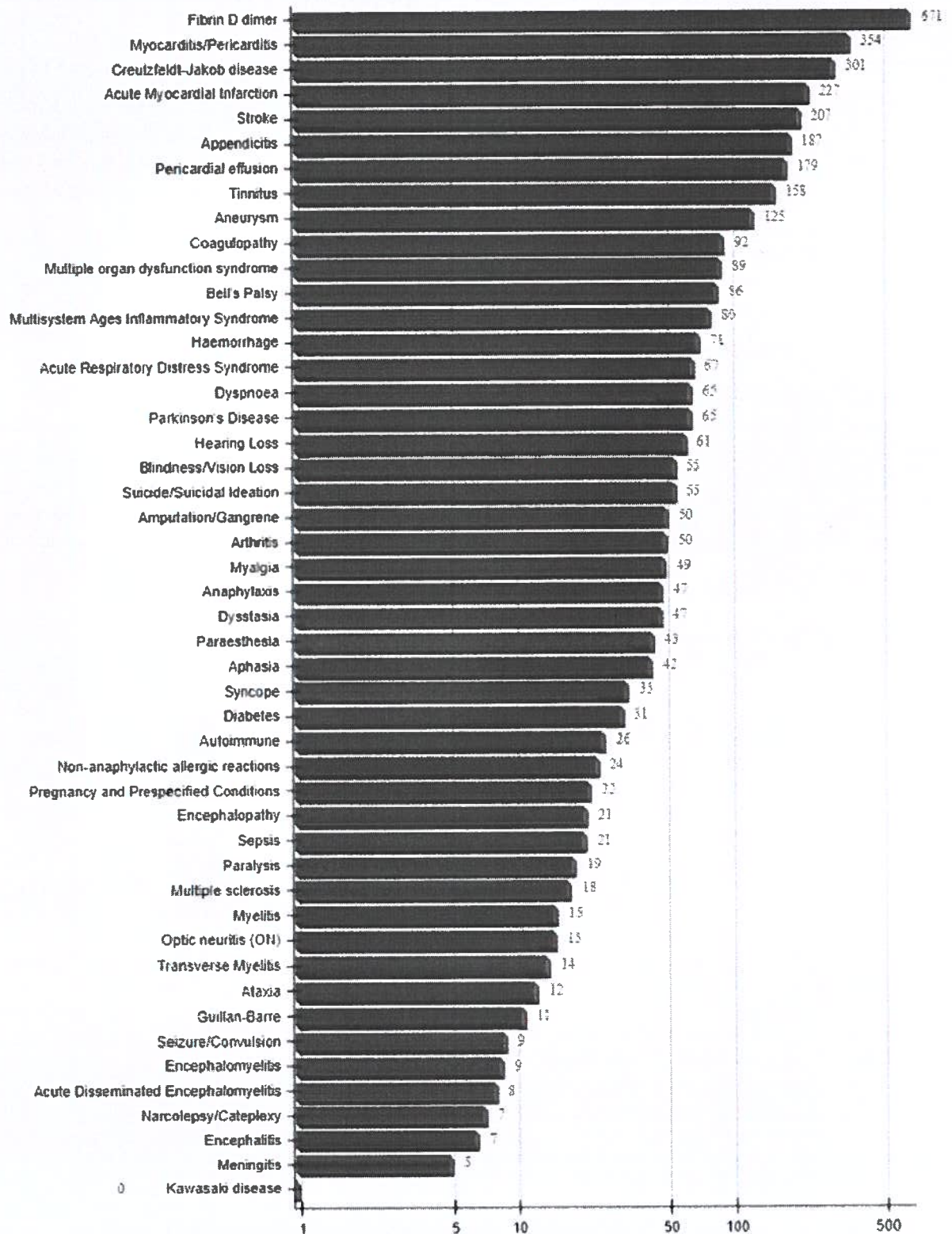
Again, to be fair, the 0<sup>th</sup> and 1<sup>st</sup> day data may be biased by reporters not knowing exactly which day death occurred so they entered either 0 or 1. This was confirmed by reading actual reports report descriptions for onset of zero and 1 data sets. The descriptions for some of these cases actually indicated longer onset intervals. Nevertheless, the preponderance of remaining reports indicate a trend showing definite temporal correlation.

The following graph reveals D-dimer tests top the list of 'events' reported for covid-19 vaccines. This is because events reported in VAERS are not necessarily outcomes, but can be procedures performed or tests ordered by physicians. This result is probably evidence that medical doctors treating vaccine recipients are truly *anticipating* thrombogenesis from the vaccines. The doctors may not be able to publicly come out and raise objections to the COVID-19 vaccines, but we see here they are acting in interest of their patient's health! High D-dimer indicates that clotting has been triggered in the bloodstream and there is increased risk for further clotting > platelets & fibrin attaching to red blood cells, at first creating 'micro-emboli' , clot structures that flow with the blood stream. These can combine and create larger emboli, and if large enough, can cut off blood supply which can be lethal. D-dimer is clinically used to determine stroke, pulmonary embolism or deep vein thrombosis.

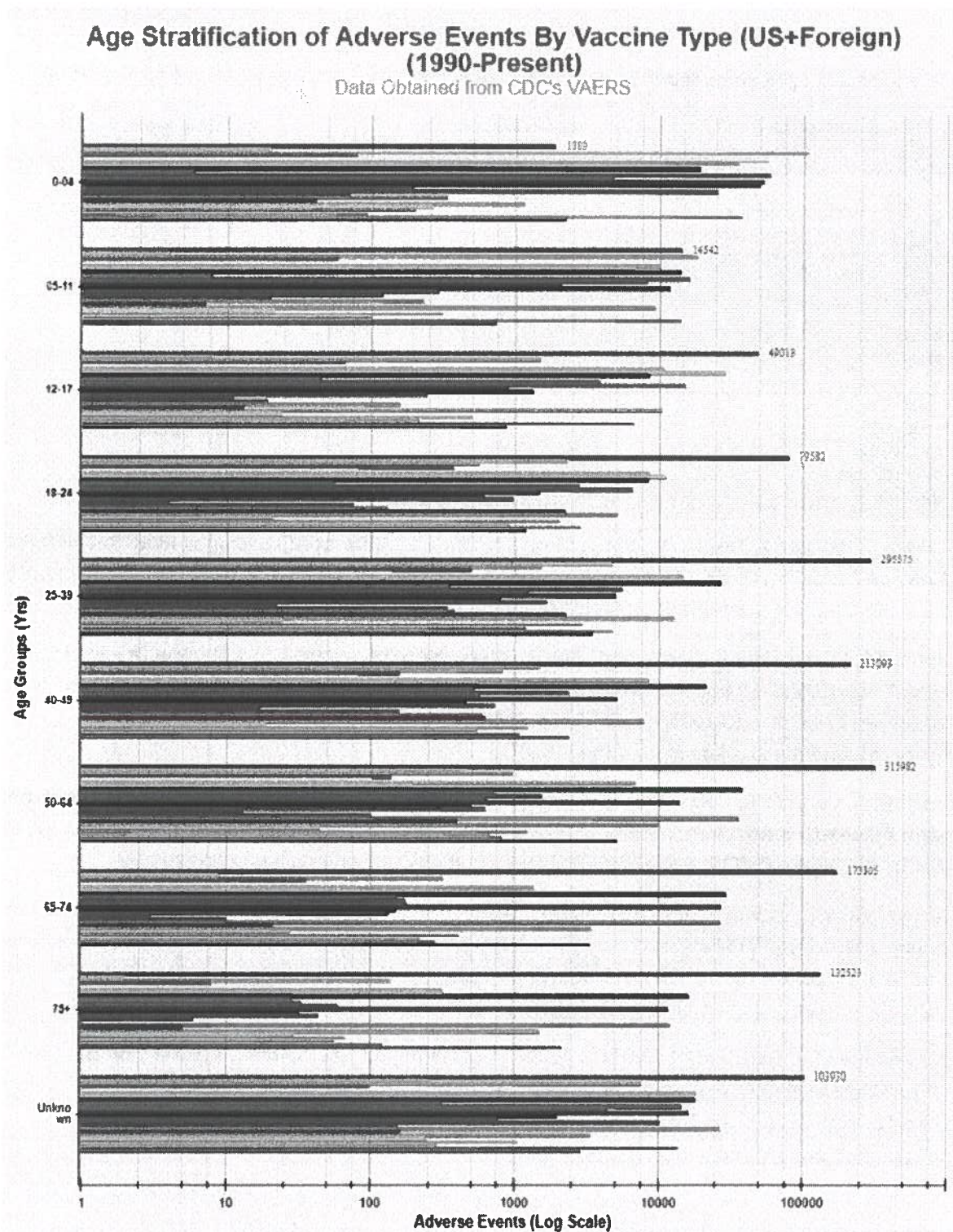
The analysis from the graph indicates that the COVID-19 vaccines have thus far resulted in Fibrin "D-dimer tests" having a higher frequency (X 833) over all other vaccines combined. It also wasn't clear what was meant just by the tag "Fibrin D-dimer". Does that mean high level/low level? VAERS allows query of more detailed information and it further describes this tag as "Fragment D-Dimer" which I believe just means presence of the dimer which is presumably the byproduct of clot decomposition by the enzyme plasmin. There are other associated tags, and perhaps the FIBRIN D DIMER INCREASED tag would have been more appropriate.

## Average Annual Adverse Events by Symptom for Covid-19 Vaccines as a Multiple of All Other Vaccines Combined since 1990

(Data from VAERS through 8/5/22)



The following graph compares deaths between all types of vaccines according to age group. Note that the horizontal scale is on a logarithmic scale since COVID-19 vaccine associated deaths above 18 years old would otherwise dwarf all other vaccines.



13. The following numbers consider more specific adverse events that have been reported to VAERS and associated with the COVID19 vaccines that may or may not have led to death (as of June 10, 2022). These numbers are cumulative events entered since the roll out of the COVID-19 vaccines. Published references and links that relate to these specific events connected with the COVID-19 vaccine are included as supplementary information.

14. **33,101 symptoms reported as syncope (fainting); 61% of cases IMMEDIATELY after injection.**

| Onset Interval ↓     | ⇒ Events Reported ↑↓ | ← Percent (of 33,101) ↑↓ |
|----------------------|----------------------|--------------------------|
| <b>0 days</b>        | 20,128               | 60.81%                   |
| <b>1 day</b>         | 4,461                | 13.48%                   |
| <b>2 days</b>        | 767                  | 2.32%                    |
| <b>3 days</b>        | 360                  | 1.09%                    |
| <b>4 days</b>        | 267                  | 0.81%                    |
| <b>5 days</b>        | 228                  | 0.69%                    |
| <b>6 days</b>        | 137                  | 0.41%                    |
| <b>7 days</b>        | 187                  | 0.56%                    |
| <b>8 days</b>        | 120                  | 0.36%                    |
| <b>9 days</b>        | 119                  | 0.36%                    |
| <b>10-14 days</b>    | 413                  | 1.25%                    |
| <b>15-30 days</b>    | 788                  | 2.38%                    |
| <b>31-60 days</b>    | 454                  | 1.37%                    |
| <b>61-120 days</b>   | 224                  | 0.68%                    |
| <b>Over 120 days</b> | 491                  | 1.48%                    |
| <b>Unknown</b>       | 3,957                | 11.95%                   |

Takase B, Hayashi K, Takei S, Hisada T, Masaki N, Nagata M. **Delayed Vasovagal Reaction with Reflex Syncope Following Covid-19 Vaccination.** Intern Med. 2022 May 14. doi: 10.2169/internalmedicine.9318-21. Epub ahead of print. PMID: 35569982. <https://pubmed.ncbi.nlm.nih.gov/35569982/>

Kimball E, Buchwalder K, Upchurch C, Kea B. **Intermittent complete heart block with ventricular standstill after Pfizer COVID-19 booster vaccination: A case report.** J Am Coll Emerg Physicians Open. 2022 Apr 20;3(2):e12723. doi: 10.1002/emp2.12723. PMID: 35475120; PMCID: PMC9020811. <https://pubmed.ncbi.nlm.nih.gov/35475120/>

Frustaci A, Verardo R, Galea N, Lavallo C, Bagnato G, Scialla R, Chimenti C. **Hypersensitivity Myocarditis after COVID-19 mRNA Vaccination.** J Clin Med. 2022 Mar 16;11(6):1660. doi: 10.3390/jcm11061660. PMID: 35329986; PMCID: PMC8949349. <https://pubmed.ncbi.nlm.nih.gov/35329986/>

Almohaya AM, Alsubie H, Alqarni B, Alzayad B, Alghar A, Alshahrani K, Barry M. **Acute unsolicited adverse events following BNT162b2 vaccine in Saudi Arabia, a real-world data.** Vaccine. 2022 Jan 24;40(3):477-482. doi: 10.1016/j.vaccine.2021.12.001. Epub 2021 Dec 13. PMID: 34916104; PMCID: PMC8668155. <https://pubmed.ncbi.nlm.nih.gov/34916104/>

Mohammed RA, Garout RM, Wahid S, Ayub F, Firas ZinAlldin LM, Sultan I. **A Survey on the Side Effects of Pfizer/BioNTech COVID-19 Vaccine Among Vaccinated Adults in Saudi Arabia.** Cureus. 2021 Nov 3;13(11):e19222. doi: 10.7759/cureus.19222. PMID: 34873547; PMCID: PMC8640570. <https://pubmed.ncbi.nlm.nih.gov/34873547/>

Azdaki N, Farzad M. **Long QT interval and syncope after a single dose of COVID-19 vaccination: a case report.** Pan Afr Med J. 2021 Sep 30;40:67. doi: 10.11604/pamj.2021.40.67.31546. PMID: 34804335; PMCID: PMC8590254. <https://pubmed.ncbi.nlm.nih.gov/34804335/>

*We report a case of a 70-year-old man who presented to the hospital for some syncope, 3 days after his first COVID-19 AstraZeneca Vaccination. Initial electrocardiogram (ECG) showed a long QT interval (QTc = 600 milliseconds). Laboratory tests revealed elevated troponin and lack of evidence of viral infection. Further investigations revealed the vaccine-induced myocarditis and arrhythmias linked to it.*

Kim MS, Jung SY, Ahn JG, Park SJ, Shoenfeld Y, Kronbichler A, Koyanagi A, Dragioti E, Tizaoui K, Hong SH, Jacob L, Salem JE, Yon DK, Lee SW, Ogino S, Kim H, Kim JH, Excler JL, Marks F, Clemens JD, Eisenhut M, Barnett Y, Butler L, Ilie CP, Shin EC, Il Shin J, Smith L. **Comparative safety of mRNA COVID-19 vaccines to influenza vaccines: A pharmacovigilance analysis using WHO international database.** J Med Virol. 2021 Oct 28;10.1002/jmv.27424. doi: 10.1002/jmv.27424. Epub ahead of print. PMID: 34709664; PMCID: PMC8662238. <https://pubmed.ncbi.nlm.nih.gov/34709664/>

Hause AM, Gee J, Johnson T, Jazwa A, Marquez P, Miller E, Su J, Shimabukuro TT, Shay DK. **Anxiety-Related Adverse Event Clusters After Janssen COVID-19 Vaccination - Five U.S. Mass Vaccination Sites,** April 2021. MMWR Morb Mortal Wkly Rep. 2021 May 7;70(18):685-688. doi: 10.15585/mmwr.mm7018e3. PMID: 33956781. <https://pubmed.ncbi.nlm.nih.gov/33956781/>

*Syncope after Janssen COVID-19 vaccination was reported to VAERS (8.2 episodes per 100,000 doses). By comparison, after influenza vaccination, the reporting rate of syncope was 0.05 episodes per 100,000 doses.*

The following chart reports incidence following vaccination for all vaccines that had the largest outcome of reported syncope. So COVID-19 vaccines accounted for over 65% of all reports.

**Messages:**

- VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.
- These results are for 51,357 total events.
- Rows with zero Events Reported are hidden. Use Quick Options above to show zero rows.

| Vaccine                                              | Events Reported | Percent (of 51,357) |
|------------------------------------------------------|-----------------|---------------------|
| COVID19 (COVID19 (PFIZER-BIONTECH)) (1200)           | 21,829          | 42.52%              |
| COVID19 (COVID19 (MODERNA)) (1201)                   | 8,297           | 16.16%              |
| HPV (GARDASIL) (1098)                                | 5,261           | 10.24%              |
| COVID19 (COVID19 (JANSSEN)) (1203)                   | 3,376           | 6.57%               |
| MENINGOCOCCAL CONJUGATE (MENACTRA) (1090)            | 1,890           | 3.68%               |
| HPV (GARDASIL 9) (1170)                              | 1,525           | 2.97%               |
| MEASLES + MUMPS + RUBELLA (MMR II) (26)              | 1,253           | 2.44%               |
| HEP A (HAVRIX) (268)                                 | 1,077           | 2.10%               |
| TDAP (BOOSTRIX) (1091)                               | 1,075           | 2.09%               |
| TDAP (ADACEL) (1092)                                 | 999             | 1.95%               |
| VARICELLA (VARIVAX) (269)                            | 906             | 1.76%               |
| HEP B (ENGRIX-B) (38)                                | 824             | 1.60%               |
| HPV (CERVARIX) (1136)                                | 682             | 1.33%               |
| INFLUENZA (SEASONAL) (FLUZONE) (7)                   | 596             | 1.16%               |
| TD ADSORBED (NO BRAND NAME) (11)                     | 556             | 1.08%               |
| HEP B (RECOMBIVAX HB) (25)                           | 465             | 0.91%               |
| ZOSTER (SHINGRIX) (1192)                             | 458             | 0.89%               |
| MENINGOCOCCAL CONJUGATE (MENVEO) (1140)              | 455             | 0.89%               |
| INFLUENZA (SEASONAL) (NO BRAND NAME) (44)            | 421             | 0.82%               |
| PNEUMO (PNEUMOVAX) (30)                              | 403             | 0.78%               |
| INFLUENZA (SEASONAL) (FLUZONE QUADRIVALENT) (1162)   | 399             | 0.78%               |
| HEP A (VAQTA) (280)                                  | 384             | 0.75%               |
| VACCINE NOT SPECIFIED (NO BRAND NAME) (999)          | 376             | 0.73%               |
| MENINGOCOCCAL B (BEXSERO) (1165)                     | 355             | 0.69%               |
| INFLUENZA (SEASONAL) (FLUVIRIN) (262)                | 344             | 0.67%               |
| POLIO VIRUS, ORAL (ORIMUNE) (17)                     | 334             | 0.65%               |
| INFLUENZA (SEASONAL) (FLUARIX QUADRIVALENT) (1161)   | 328             | 0.64%               |
| HPV (NO BRAND NAME) (1102)                           | 296             | 0.58%               |
| POLIO VIRUS, INACT. (IPOL) (1030)                    | 281             | 0.55%               |
| PNEUMO (PREVNAR13) (1141)                            | 228             | 0.44%               |
| HEP A + HEP B (TWINRIX) (1009)                       | 213             | 0.41%               |
| INFLUENZA (SEASONAL) (FLUCELVAX QUADRIVALENT) (1175) | 209             | 0.41%               |
| TYPHOID VI POLYSACCHARIDE (TYPHIM VI) (271)          | 207             | 0.40%               |
| MENINGOCOCCAL B (TRUMENBA) (1169)                    | 201             | 0.39%               |
| INFLUENZA (SEASONAL) (AFLURIA QUADRIVALENT) (1177)   | 191             | 0.37%               |
| DTP (NO BRAND NAME) (2)                              | 169             | 0.33%               |
| MENINGOCOCCAL (NO BRAND NAME) (113)                  | 167             | 0.33%               |
| POLIO VIRUS, INACT. (NO BRAND NAME) (232)            | 152             | 0.30%               |
| DTAP (INFANRIX) (286)                                | 149             | 0.29%               |
| INFLUENZA (SEASONAL) (FLULAVAL QUADRIVALENT) (1166)  | 129             | 0.25%               |
| INFLUENZA (SEASONAL) (AFLURIA) (1121)                | 129             | 0.25%               |
| INFLUENZA (H1N1) (H1N1 (MONOVALENT) (SANOBI)) (1132) | 126             | 0.25%               |

15. 3,932 symptoms reported as sudden cardiac death, cardiac death, sudden death or cardiac failure; 36% within two days after injection.

Caturano A, Pafundi PC, Sasso FC, Dendramis G, Brugada P, Russo V. **Brugada syndrome and COVID-19 vaccines** [published online ahead of print, 2021 Aug 11]. *Europace*. 2021;euab211. doi:10.1093/europace/euab211  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8385984/pdf/euab211.pdf>

16. 2,160 Symptoms reported as blindness; 54% within two days after injection

Sanjay S, Acharya I, Kawali A, Shetty R, Mahendradas P. **Unilateral recurrent central serous chorioretinopathy (CSCR) following COVID-19 vaccination- A multimodal imaging study**. *Am J Ophthalmol Case Rep*. 2022 Sep;27:101644. doi: 10.1016/j.ajoc.2022.101644. Epub 2022 Jul 6. PMID: 35818570; PMCID: PMC9258414. <https://pubmed.ncbi.nlm.nih.gov/35818570/>

Alhamazani MA, Alruwaili WS, Alshammri B, Alrashidi S, Almasaud J. **A Case of Recurrent Acute Anterior Uveitis After the Administration of COVID-19 Vaccine.** Cureus. 2022 Mar 7;14(3):e22911. doi: 10.7759/cureus.22911. PMID: 35399463; PMCID: PMC8986516. <https://pubmed.ncbi.nlm.nih.gov/35399463/>

Joo CW, Kim YK, Park SP. **Vogt-Koyanagi-Harada Disease following mRNA-1273 (Moderna) COVID-19 Vaccination.** Ocul Immunol Inflamm. 2022 Apr 11:1-5. doi: 10.1080/09273948.2022.2053547. Epub ahead of print. PMID: 35404752. <https://pubmed.ncbi.nlm.nih.gov/35404752/>

Ishibashi K, Yatsuka H, Haruta M, Kimoto K, Yoshida S, Kubota T. **Branch Retinal Artery Occlusions, Paracentral Acute Middle Maculopathy and Acute Macular Neuroretinopathy After COVID-19 Vaccinations.** Clin Ophthalmol. 2022 Mar 31;16:987-992. doi: 10.2147/OPTH.S357359. PMID: 35392428; PMCID: PMC8980294. <https://pubmed.ncbi.nlm.nih.gov/35392428/>

García-Estrada, C, Gómez-Figueroa, E, Alban, L, Arias-Cárdenas, A. **Optic neuritis after COVID-19 vaccine application.** Clin Exp Neuroimmunol. 2021; 00: 1– 3. <https://doi.org/10.1111/cen3.12682> <https://onlinelibrary.wiley.com/doi/epdf/10.1111/cen3.12682>

Nicholas Fowler, Noe R. Mendez Martinez, Bernardo Velazquez Pallares, Ramiro S. Maldonado, **Acute-onset central serous retinopathy after immunization with COVID-19 mRNA vaccine,** American Journal of Ophthalmology Case Reports, Volume 23, 2021, 101136, ISSN 2451-9936, <https://doi.org/10.1016/j.ajoc.2021.101136>. <https://www.sciencedirect.com/science/article/pii/S2451993621001456>

**17. 3,528 Symptoms reported as miscarriage, stillbirth or spontaneous abortion; 28% within two days after injection.**

|          |                  |
|----------|------------------|
| 10000234 | (ABORTION SPONT) |
| 10061616 | (ABORTION SPONT) |
| 10000238 | (ABORTION SPONT) |
| 10061617 | (ABORTION SPONT) |
| 10000242 | (ABORTION THREA  |
| 10042062 | (STILLBIRTH)     |

Dabbousi AA, El Masri J, El Ayoubi LM, Ismail O, Zreika B, Salameh P. **Menstrual abnormalities post-COVID vaccination: a cross-sectional study on adult Lebanese women.** Ir J Med Sci. 2022 Jul 26:1–8. doi: 10.1007/s11845-022-03089-5. Epub ahead of print. PMID: 35881229; PMCID: PMC9315076. <https://pubmed.ncbi.nlm.nih.gov/35881229/>

Pietrasanta C, Ronchi A, Crippa BL, Artieri G, Ballerini C, Crimi R, Mosca F, Pagni L. **Coronavirus Disease 2019 Vaccination During Pregnancy and Breastfeeding: A Review of Evidence and Current Recommendations in Europe, North America, and Australasia.** Front Pediatr. 2022 Apr 29;10:883953. doi: 10.3389/fped.2022.883953. PMID: 35573944; PMCID: PMC9099048. <https://pubmed.ncbi.nlm.nih.gov/35573944/>

Moro PL, Olson CK, Clark E, Marquez P, Strid P, Ellington S, Zhang B, Mba-Jonas A, Alimchandani M, Cragan J, Moore C. **Post-authorization surveillance of adverse events following COVID-19 vaccines in pregnant persons in the vaccine adverse event reporting system (VAERS), December 2020 - October 2021.** Vaccine. 2022 Apr 12:S0264-410X(22)00447-9. doi: 10.1016/j.vaccine.2022.04.031. Epub ahead of print. PMID: 35489985; PMCID: PMC9001176.

<https://pubmed.ncbi.nlm.nih.gov/35489985/>

Edelman A, Boniface ER, Benhar E, Han L, Matteson KA, Favaro C, Pearson JT, Darney BG. **Association Between Menstrual Cycle Length and Coronavirus Disease 2019 (COVID-19) Vaccination: A U.S. Cohort.** *Obstet Gynecol.* 2022 Jan 5. doi: 10.1097/AOG.0000000000004695. Epub ahead of print. PMID: 34991109. <https://pubmed.ncbi.nlm.nih.gov/34991109/>

Bartoszek K, Okrój M. **Controversies around the statistical presentation of data on mRNA-COVID 19 vaccine safety in pregnant women.** *J Reprod Immunol.* 2022 Mar 4;151:103503. doi: 10.1016/j.jri.2022.103503. Epub ahead of print. PMID: 35276571; PMCID: PMC8894688. <https://pubmed.ncbi.nlm.nih.gov/35276571/>

Shimabukuro, Tom T et al. **"Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons."** *The New England journal of medicine* vol. 384, 24 (Apr 21 2021): 2273-2282. doi:10.1056/NEJMoa2104983 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8117969/pdf/NEJMoa2104983.pdf>

Maria C. Magnus, Ph.D., Håkon K. Gjessing, Ph.D., Helena N. Eide, M.D., Allen J. Wilcox, M.D., Ph.D., Deshayne B. Fell, Ph.D., and Siri E. Håberg, M.D., Ph.D. **Covid-19 Vaccination during Pregnancy and First-Trimester Miscarriage** November 18, 2021 *N Engl J Med* 2021; 385:2008-2010 DOI: 10.1056/NEJMc2114466 <https://www.nejm.org/doi/pdf/10.1056/NEJMc2114466?articleTools=true>

Bailey Wallace, M.P.H., Ashley N. Smoots, M.P.H., Christine K. Olson .D. M.P.H., Titilope Oduyebo, M.D., M.P.H., Shin Y. Kim, M.P.H., Emily E. Petersen, M.D., Jun Ju, M.S., Jennifer Beauregard, Ph.D., M.P.H., Centers for Disease Control and Prevention (CDC), Atlanta, GA. Allen J. Wilcox, M.D., Ph.D., National Institutes of Health, Durham, NC, Charles E. Rose, Ph.D., Dana M. Meaney-Delman, M.D., M.P.H., Sascha R. Ellington, Ph.D., M.S.P.H. **Correspondence: Receipt of mRNA Covid-19 Vaccines and Risk of Spontaneous Abortion** October 14, 2021 *N Engl J Med* 2021; 385:1533-1535 DOI: 10.1056/NEJMc2113891 <https://www.nejm.org/doi/pdf/10.1056/NEJMc2113891?articleTools=true>

Joubert, E, Kekeh, AC, Amin, CN. **COVID-19 and novel mRNA vaccines in pregnancy: an updated literature review.** *BJOG* 2021; <https://doi.org/10.1111/1471-0528.16973>. 00: 1– 8. <https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1111/1471-0528.16973>

Kachikis A, Englund JA, Singleton M, Covelli I, Drake AL, Eckert LO. **Short-term Reactions Among Pregnant and Lactating Individuals in the First Wave of the COVID-19 Vaccine Rollout.** *JAMA Netw Open.* 2021;4(8):e2121310. doi:10.1001/jamanetworkopen.2021.21310 <https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2783112>

Kharbanda EO, Haapala J, DeSilva M, et al. **Spontaneous Abortion Following COVID-19 Vaccination During Pregnancy.** *JAMA.* 2021;326(16):1629–1631. doi:10.1001/jama.2021.15494 <https://jamanetwork.com/journals/jama/article-abstract/2784193>

Sun H. **Approximation and evaluation of the spontaneous abortion rate following COVID-19 vaccination in pregnancy.** *American Journal of Obstetrics & Gynecology MFM.* 2021 Oct:100510.

DOI: 10.1016/j.ajogmf.2021.100510. PMID: 34656736; PMCID: PMC8516121.  
<https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC8516121&blobtype=pdf>

Megan E. Trostle, Meghana A. Limaye, Valeryia Avtushka, Jennifer L. Lighter, Christina A. Penfield, Ashley S. Roman, **COVID-19 vaccination in pregnancy: early experience from a single institution**, American Journal of Obstetrics & Gynecology MFM, Volume 3, Issue 6, 2021, 100464, ISSN 2589-9333, <https://doi.org/10.1016/j.ajogmf.2021.100464>.  
<https://www.sciencedirect.com/science/article/pii/S2589933321001592>

Stuckelberger S, Favre G, Ceulemans M, Gerbier E, Lambelet V, Stojanov M, Winterfeld U, Baud D, Panchaud A, Pomar L. Current Data on COVID-19 mRNA-Vaccine Safety during Pregnancy Might Be Subject to Selection Bias. Reply to Strooband, S.; Strooband, R. **Data of the COVID-19 mRNA-Vaccine V-Safe Surveillance System and Pregnancy Registry Reveals Poor Embryonic and Second Trimester Fetal Survival Rate**. Comment on “Stuckelberger et al. SARS-CoV-2 Vaccine Willingness among Pregnant and Breastfeeding Women during the First Pandemic Wave: A Cross-Sectional Study in Switzerland. Viruses 2021, 13, 1199”. Viruses. 2021; 13(8):1546.  
<https://doi.org/10.3390/v13081546>  
<https://www.mdpi.com/1999-4915/13/8/1546#cite>

The researched medical journal publications on miscarriage, stillbirth or spontaneous abortion associated with Covid-19 vaccines mostly agree with a similar common narrative:

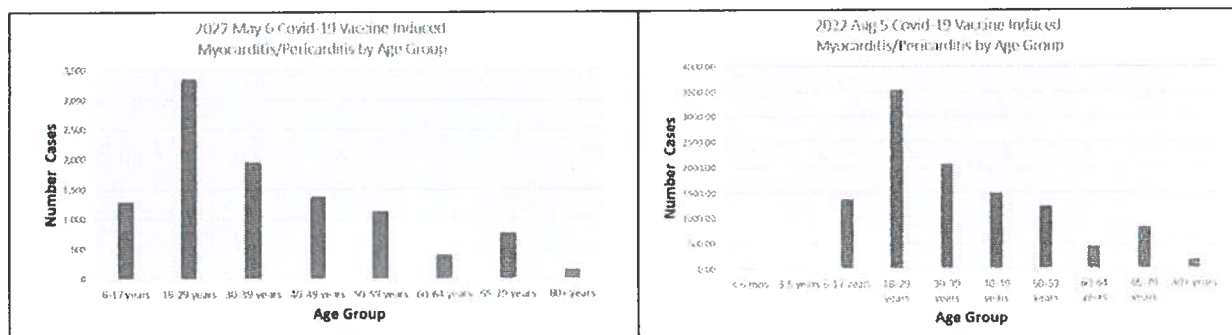
1. “the scientific data suggest no evidence that the COVID-19 vaccines currently used in the United States have any negative effects on female reproductive health” and
2. Nevertheless “the CDC recommended that any American who is pregnant, planning to become pregnant, or currently breastfeeding get vaccinated against COVID-19 as soon as possible”

Some, but most do not mention that the data is lacking relative to the fact that the vaccines have only been out 11 to 12 months (or at time of publication less than that!) and the human gestational time frame is on the same order, 9 months. It takes time to collect and analyze data in this instance for cause and effect. Also not mentioned there are possible adverse events by the vaccine that could indirectly lead to spontaneous abortion or stillbirth - many of the other adverse events listed in this report (e.g. thrombocytopenia, CVST or simply death).

18. **23,894 Symptoms reported as myocarditis, pericarditis or myopericarditis; 35% within two days after injection.**

The charts below plot the number of myocarditis cases by age group. Current data on the right is compared to data from May 6 on the left. Since vaccination for younger children gained approval by the FDA earlier this year, CDC VAERS has added additional age stratification. Graphs, although showing increased numbers are showing a lesser rate of increase in cardiac cases from previous months. Perhaps that is because vaccine intake has now decreased for the 6-12 year age group either due to ‘hesitation’ or by improved medical vigilance. (Note these graphs exclude a significant number of data (~12,778) where the event does not include associated age group data.). Note also that for ages less than 6 years, there are only a few cases

reported (6). It seems that although the FDA ‘approved’ the vaccines, only a small percentage of Americans participated in gettingb their child vaccinated.



Myocarditis or any instance of heart inflammation as a result of COVID-19 vaccine deserves special attention since it’s not only become an officially confirmed ‘signal’ in VAERS, but it’s critically and permanently affecting cardio health of our youth without providing any benefit of protection that a true vaccine is expected to offer.

On Jan 24, 2022 Senator Ron Johnson of Wisconsin hosted a “Covid 19 Response” panel including renowned doctors and medical experts to provide a “different perspective” on the global pandemic response. The video record is 5 ½ hours long, but it’s **strongly recommended that all officials having authority over covid-19 vaccine policies take the time to view it**. Since that meeting and in lieu of the pharmaceutical companies stepping up to take responsibility, Johnson, Braun and Hyde-Smith have begun drafting a bill to address these large numbers of vaccine injuries.<sup>19</sup>

One of the more striking testimonies during the Jan 24 meeting came from Dr. Peter McCullough, a world renowned cardiologist. In the meeting, McCullough mentioned damning evidence that the covid19 vaccines are causing the myocarditis and pericarditis. (index to 17:45) McCullough mentioned about 200 papers have been published addressing the issue of COVID-19 vaccines and cases of myocarditis. Indeed McCullough, and Dr. Jessica Rose in Israel applied the Bradford Hill analysis to VAERS in a paper they co-authored<sup>20</sup> using other associated vaccine injury data to demonstrate causation.

McCullough and other doctors have said it, but it’s a well-known fact that myocytes (heart cells) are not replaceable:

*"Similar to skeletal muscle tissue, **cardiac muscle does not regenerate to a great extent. Dead cardiac muscle tissue is replaced by scar tissue, which cannot contract.** As scar tissue accumulates, the heart loses its ability to*

<sup>19</sup> Countermeasure Injury Compensation Program with respect to COVID–19 vaccines

<sup>20</sup> Jessica Rose PhD, MSc, BSc, Peter A. McCullough MD, MPH, **A Report on Myocarditis Adverse Events in the U.S. Vaccine Adverse Events Reporting System (VAERS) in Association with COVID-19 Injectable Biological Products**, Current Problems in Cardiology (2021), doi: <https://doi.org/10.1016/j.cpcardiol.2021.101011> Unpublished Preprint Here

*pump because of the loss of contractile power."* From on-line Anatomy & Physiology, OSU

'Mild Myocarditis' or 'Benign Myocarditis' are oxymoron's; a phrase fabricated by vaccine proponents. It's a lie to soften the true nature of the harmful effects of the vaccine that could forever limit performance of a would-be athlete or lead to long term heart disease. An inflammation of the heart muscle (myocardium). The inflammation can kill tissue, reduce the heart's ability to pump and cause rapid or irregular heart rhythms (arrhythmias). Signs and symptoms of myocarditis include chest pain, fatigue, shortness of breath, and rapid or irregular heartbeats. In a small percentage of cases persons with myocarditis can be at risk of sudden death following strenuous activity.

Some sufferers of myocarditis may require heart surgery or a heart transplant later in life. And there are no benefits from the vaccine to balance the risk of myocarditis for the younger age groups. Especially now since the vaccines in circulation were designed for the alpha variant, now extinct. The mainstream media is also culpable, promoting narratives to promote fear and cause coercion. Permanent heart damage does occur, however 'mild' the case might be – and the most vulnerable victims are our children and young adults. Does the risk of Covid-19 sequelae exceed the risk of reduced cardiac capacity for these young people? No one has offered any evidence, any calculations or rigorous analysis that warrants such a decision being made.

The paper McCullough co-authored with Rose completed peer review and was approved for publication, but the publisher, Elsevier, assigned it a "temporary removal" — without any explanation or cause.<sup>21</sup> One can only assume Elsevier purposely removed the publication because it went against the narrative of the political machine established to protect the vaccines or fear they would lose sponsorship or funding from pharma. This was done without consideration of the harm to people they might be causing by limiting essential information.

Here is one paper published by Oster et al addressing the harm of vaccine induced myocarditis:

Oster ME, Shay DK, Su JR, Gee J, Creech CB, Broder KR, Edwards K, Soslow JH, Dendy JM, Schlaudecker E, Lang SM, Barnett ED, Ruberg FL, Smith MJ, Campbell MJ, Lopes RD, Sperling LS, Baumblatt JA, Thompson DL, Marquez PL, Strid P, Woo J, Pugsley R, Reagan-Steiner S, DeStefano F, Shimabukuro TT. **Myocarditis Cases Reported After mRNA-Based COVID-19 Vaccination in the US From December 2020 to August 2021.** JAMA. 2022 Jan 25, 327(4): 331-340.  
<https://jamanetwork.com/journals/jama/fullarticle/2788346>

Oster's yearlong study of vaccine rollout addressed the question: What is the risk of myocarditis after mRNA-based COVID-19 vaccination in the US? The main finding was that, of 1626 adjudicated cases of reported myocarditis, occurring within 7 days after vaccination, exceeded the expected rates across multiple age and sex strata. These rates were highest after the second vaccination in males aged 12 to 15 years (70.7 per million doses of the BNT162b2 vaccine), in males aged 16 to 17 years (105.9 per million doses of the BNT162b2 vaccine), and in males aged 18 to 24 years (52.4 and

<sup>21</sup> <https://retractionwatch.com/2021/10/17/paper-linking-covid-19-vaccines-to-myocarditis-is-temporarily-removed-without-explanation/>

56.3 per million doses of the BNT162b2 vaccine and the mRNA-1273 vaccine, respectively). The researchers used as their source of data, the CDC's VAERS database.

Despite persistent castigation of VAERS by vaccine proponents and mass news media narratives, Oster describes how his researchers carefully and procedurally adjudicated data to provide a confident and reliable analysis. They indeed reported the limitations, however most important to note they believe their estimates are low due to the expectation that the biases are in the direction of under-reporting:

*"This study has several limitations. First, although clinicians are required to report serious adverse events after COVID-19 vaccination, including all events leading to hospitalization, VAERS is a passive reporting system. As such, the reports of myocarditis to VAERS may be incomplete, and the quality of the information reported is variable. Missing data for sex, vaccination dose number, and race and ethnicity were not uncommon in the reports received; history of prior SARS-CoV-2 infection also was not known. Furthermore, as a passive system, VAERS data are subject to reporting biases in that both underreporting and over reporting are possible.<sup>38</sup> Given the high verification rate of reports of myocarditis to VAERS after mRNA based COVID-19 vaccination, underreporting is more likely. Therefore, the actual rates of myocarditis per million doses of vaccine are likely higher than estimated."*

Oster is one of the few that didn't candy coat his conclusions and warned that the cases are probably being under-reported.

Citations on myocarditis comprise of at least 186 papers listed here, all addressing studies and case reports of COVID-19 vaccine induced myocarditis or pericarditis. Note the term 'fulminant' indicates that the condition requires some means of intervention to ensure sufficient circulation to continue life. Covid vaccination and the outcome of heart inflammation cannot be undone. There is no antidote or treatment that will restore the heart to its original state.

Massari M, Spila Alegiani S, Morciano C, Spuri M, Marchione P, Felicetti P, Belleudi V, Poggi FR, Lazzeretti M, Ercolanoni M, Clagnan E, Bovo E, Trifirò G, Moretti U, Monaco G, Leoni O, Da Cas R, Petronzelli F, Tartaglia L, Mores N, Zanoni G, Rossi P, Samez S, Zappetti C, Marra AR, Menniti Ippolito F; TheShiniSS-Vax|COVID Surveillance Group. **Postmarketing active surveillance of myocarditis and pericarditis following vaccination with COVID-19 mRNA vaccines in persons aged 12 to 39 years in Italy: A multi-database, self-controlled case series study.** PLoS Med. 2022 Jul 28;19(7):e1004056. doi: 10.1371/journal.pmed.1004056. PMID: 35900992; PMCID: PMC9333264. <https://pubmed.ncbi.nlm.nih.gov/35900992/>

Dini FL, Franzoni F, Scarfò G, Pugliese NR, Imazio M. **Acute pericarditis in patients receiving coronavirus disease 2019 vaccines: a case series from the community.** J Cardiovasc Med (Hagerstown). 2022 Aug 1;23(8):551-558. doi: 10.2459/JCM.0000000000001342. PMID: 35904995. <https://pubmed.ncbi.nlm.nih.gov/35904995/>

Alizadeh LS, Koch V, Yel I, Grünewald LD, Mathies D, Martin S, Vogl TJ, Rauschnig D, Booz C. **A case of**

**myocarditis after COVID-19 vaccination: incidental or consequential?** Heliyon. 2022 May 28;8(6):e09537. doi: 10.1016/j.heliyon.2022.e09537. PMID: 35655920; PMCID: PMC9142175. <https://pubmed.ncbi.nlm.nih.gov/35655920/>

Iwamuro A, Sasa T, Kawai T, Taguchi M, Izuhara M, Uegaito T, Shioji K. **A 17-year-old male with acute myocarditis following mRNA-1273 vaccination in Japan.** J Cardiol Cases. 2022 Apr 26. doi: 10.1016/j.jccase.2022.03.012. Epub ahead of print. PMID: 35495897; PMCID: PMC9040371. <https://pubmed.ncbi.nlm.nih.gov/35495897/>

Yamamoto S, Arita Y, Ogasawara N. **Myocarditis Following the Second Dose of COVID-19 Vaccination in a Japanese Adolescent.** Cureus. 2022 Mar 25;14(3):e23474. doi: 10.7759/cureus.23474. PMID: 35475062; PMCID: PMC9035236. <https://pubmed.ncbi.nlm.nih.gov/35475062/>

Oh TH, Woo SH, Hong S, Lee C, Lee WJ, Jeong SK. **Clinical Features of Patients Presenting to the Emergency Department With Cardiovascular Adverse Reactions After COVID-19 mRNA Vaccination.** J Korean Med Sci. 2022 Mar 7;37(9):e73. doi: 10.3346/jkms.2022.37.e73. PMID: 35257528; PMCID: PMC8901880. <https://pubmed.ncbi.nlm.nih.gov/35257528/>

Won T, Gilotra NA, Wood MK, Hughes DM, Talor MV, Lovell J, Milstone AM, Steenbergen C, Čiháková D. **Increased Interleukin 18-Dependent Immune Responses Are Associated With Myopericarditis After COVID-19 mRNA Vaccination.** Front Immunol. 2022 Feb 18;13:851620. doi: 10.3389/fimmu.2022.851620. PMID: 35251049; PMCID: PMC8894592. <https://pubmed.ncbi.nlm.nih.gov/35251049/>

Goyal M, Ray I, Mascarenhas D, Kunal S, Sachdeva RA, Ish P. **Myocarditis post SARS-CoV-2 vaccination: a systematic review.** QJM. 2022 Mar 3;hcac064. doi: 10.1093/qjmed/hcac064. Epub ahead of print. PMID: 35238384; PMCID: PMC8903459. <https://pubmed.ncbi.nlm.nih.gov/35238384/>

Goyal paper:

*Myocarditis following COVID-19 vaccination is often mild, seen more commonly in young healthy males and is followed by rapid recovery with conservative treatment. The emergence of this adverse event calls for harmonizing case definitions and definite treatment guidelines which require wider research.*

AND

*Only 6 patients died among 1317 of whom data was available*

Nunn S, Kersten J, Tadic M, Wolf A, Gonska B, Hüll E, Dietersberger H, Rottbauer W, Buckert D. **Case Report: Myocarditis After COVID-19 Vaccination - Case Series and Literature Review.** Front Med (Lausanne). 2022 Feb 14;9:836620. doi: 10.3389/fmed.2022.836620. PMID: 35237634; PMCID: PMC8882906. <https://pubmed.ncbi.nlm.nih.gov/35237634/>

- Lee ASY, Balakrishnan IDD, Khoo CY, Ng CT, Loh JKX, Chan LL, Teo LLY, Sim DKL. **Myocarditis Following COVID-19 Vaccination: A Systematic Review (October 2020-October 2021)**. *Heart Lung Circ*. 2022 Jun;31(6):757-765. doi: 10.1016/j.hlc.2022.02.002. Epub 2022 Feb 25. PMID: 35227610; PMCID: PMC8874750. <https://pubmed.ncbi.nlm.nih.gov/35227610/>
- Bengel CP, Kacapor R. **A report of two cases of myocarditis following mRNA coronavirus disease 2019 vaccination**. *Eur Heart J Case Rep*. 2022 Jan 9;6(1):ytac004. doi: 10.1093/ehjcr/ytac004. PMID: 35169677; PMCID: PMC8755378. <https://pubmed.ncbi.nlm.nih.gov/35169677/>
- Liuzzo G, Volpe M. **Myocarditis after BNT162b2 mRNA SARS-CoV-2 vaccine: low incidence and mild severity**. *Eur Heart J*. 2022 Jan 28;ehab901. doi: 10.1093/eurheartj/ehab901. Epub ahead of print. PMID: 35090032. <https://pubmed.ncbi.nlm.nih.gov/35090032/>
- Goldman RD. **Myocarditis and pericarditis after COVID-19 messenger RNA vaccines**. *Can Fam Physician*. 2022 Jan;68(1):17-18. doi: 10.46747/cfp.680117. PMID: 35063975. <https://pubmed.ncbi.nlm.nih.gov/35063975/>
- Wu B, Mittal N, Adler ED, Hong KN. **Acute myocarditis after receiving first dose of BNT162b2 mRNA vaccine**. *J Cardiol Cases*. 2022 Jan 7. doi: 10.1016/j.jccase.2021.12.009. Epub ahead of print. PMID: 35018202; PMCID: PMC8739668. <https://pubmed.ncbi.nlm.nih.gov/35018202/>
- Saeed S, Käsk L, Rajani R, Larsen TH. **Incidence, clinical presentation and management of myocarditis following mRNA-based Covid-19 vaccines: A brief report**. *Cardiology*. 2022 Feb 1:1–7. doi: 10.1159/000522216. Epub ahead of print. PMID: 35104821; PMCID: PMC9059023. <https://pubmed.ncbi.nlm.nih.gov/35104821/>
- Bellos I, Karageorgiou V, Viskin D. **Myocarditis following mRNA Covid-19 vaccination: A pooled analysis**. *Vaccine*. 2022 Mar 15;40(12):1768-1774. doi: 10.1016/j.vaccine.2022.02.017. Epub 2022 Feb 7. PMID: 35153093; PMCID: PMC8818354. <https://pubmed.ncbi.nlm.nih.gov/35153093/>
- Khogali F, Abdelrahman R. **Unusual Presentation of Acute Perimyocarditis Following SARS-COV-2 mRNA-1237 Moderna Vaccination**. *Cureus*. 2021 Jul 23;13(7):e16590. doi: 10.7759/cureus.16590. PMID: 34447639; PMCID: PMC8381757. <https://pubmed.ncbi.nlm.nih.gov/34447639/>
- Mengesha B, Asenov AG, Hirsh-Racah B, Amir O, Pappo O, Asleh R. **Severe Acute Myocarditis after the Third (Booster) Dose of mRNA COVID-19 Vaccination**. *Vaccines (Basel)*. 2022 Apr 8;10(4):575. doi: 10.3390/vaccines10040575. PMID: 35455324; PMCID: PMC9024648. <https://pubmed.ncbi.nlm.nih.gov/35455324/>
- Lane S, Yeomans A, Shakir S. **Reports of myocarditis and pericarditis following mRNA COVID-19 vaccination: a systematic review of spontaneously reported data from the UK, Europe and the USA and of the scientific literature**. *BMJ Open* 2022;12:e059223. doi:10.1136/bmjopen-2021-059223 <https://bmjopen.bmj.com/content/bmjopen/12/5/e059223.full.pdf>

Chellapandian SB, Turkmen S, Salim I, Chinnakaruppan S, Mohammad J. **Myocarditis following COVID-19 mRNA (mRNA-1273) vaccination.** Clin Case Rep. 2022 Apr 18;10(4):e05741. doi: 10.1002/ccr3.5741. PMID: 35449778; PMCID: PMC9014704. <https://pubmed.ncbi.nlm.nih.gov/35449778/>

Power JR, Keyt LK, Adler ED. **Myocarditis following COVID-19 vaccination: incidence, mechanisms, and clinical considerations.** Expert Rev Cardiovasc Ther. 2022 Apr 18:1-11. doi: 10.1080/14779072.2022.2066522. Epub ahead of print. PMID: 35414326; PMCID: PMC9115793. <https://pubmed.ncbi.nlm.nih.gov/35414326/>

Power Paper:

*Medical history has little influence on the risk-benefit profile of COVID-19 vaccination except in the case of prior myocarditis or pericarditis.*

*A CDC analysis published in June 2021 determined that for every million males age 12–29 who underwent a 2-dose regimen of mRNA COVID-19 vaccine, “11,000 COVID-19 cases, 560 hospitalizations, 138 ICU admissions, and six deaths due to COVID-19 could be prevented, compared with 39–47 expected myocarditis cases after COVID-19 vaccination.” [105] This analysis was based on May 2021 rates of COVID-19 prevalence, morbidity, and mortality and served as the basis for CDC recommendations to vaccinate children age 12–15 [106]. In a more flexible risk-benefit model, Gurdasani et al. estimated that in children age 12–17, the number of prevented COVID-related hospitalizations exceeds the incidence of mRNA vaccine-associated myocarditis as long as the incidence of COVID-19 is greater than 30/100,000 teenagers per week, a level unseen in England throughout 2021 [107].*

The fault in this analysis is that public health is attempting to treat the population as a whole “for the greater good” and by that philosophy willing to incur vaccine killed or injured cases; cases that may have managed fine from any injury from infection or even infection itself. These protective measures might improve statistical measures but can unnecessarily sacrifice individual health.

Holland DJ, Blazak PL, Martin J, Broom J, Poulter RS, Stanton T. **Myocarditis and Cardiac Complications Associated With COVID-19 and mRNA Vaccination: A Pragmatic Narrative Review to Guide Clinical Practice.** Heart Lung Circ. 2022 Apr 6:S1443-9506(22)00105-6. doi: 10.1016/j.hlc.2022.03.003. Epub ahead of print. PMID: 35398005; PMCID: PMC8984702. <https://pubmed.ncbi.nlm.nih.gov/35398005/>

Mancini N, Cortigiani L, Aquaro G, Bovenzi FM. **Raro caso di miocardite ed embolia polmonare dopo vaccino a mRNA BNT162b2 [A rare case of myocarditis and pulmonary embolism after BNT162b2 mRNA vaccine].** G Ital Cardiol (Rome). 2022 Apr;23(4):244-246. Italian. doi: 10.1714/3766.37531. PMID: 35343473. <https://pubmed.ncbi.nlm.nih.gov/35343473/>

Puchalski M, Kamińska H, Bartoszek M, Brzewski M, Werner B. **COVID-19-Vaccination-Induced Myocarditis in Teenagers: Case Series with Further Follow-Up.** Int J Environ Res Public Health. 2022 Mar

15;19(6):3456. doi: 10.3390/ijerph19063456. PMID: 35329143; PMCID: PMC8954790.  
<https://pubmed.ncbi.nlm.nih.gov/35329143/>

Amir G, Rotstein A, Razon Y, Beyersdorf GB, Barak-Corren Y, Godfrey ME, Lakovsky Y, Yaeger-Yarom G, Yarden-Bilavsky H, Birk E. **CMR Imaging 6 Months After Myocarditis Associated with the BNT162b2 mRNA COVID-19 Vaccine.** *Pediatr Cardiol.* 2022 Mar 23:1–8. doi: 10.1007/s00246-022-02878-0. Epub ahead of print. PMID: 35320390; PMCID: PMC8941830. <https://pubmed.ncbi.nlm.nih.gov/35320390/>

Amir paper:

*Late CMR follow up demonstrated resolution of the edema in all patients, while some had evidence of residual myocardial scarring.*

So I ask, residual myocardial scarring can be considered a 'mild' effect from vaccination? NO!!!

I'll add that the death of cardiocytes, ANY necrosis of cardiac muscle tissue, which subsequently results in replacement by non-contractile collagenic tissue constitutes PERMANENT diminished reduction in cardiac capacity.

- Reduced athletic ability
- Risk for future serious cardiac events including death
- Increased risk for LVD surgery, heart transplant later in life

Singh A, Nguyen L, Everest S, Afzal S, Shim A. **Acute Pericarditis Post mRNA-1273 COVID Vaccine Booster.** *Cureus.* 2022 Feb 12;14(2):e22148. doi: 10.7759/cureus.22148. PMID: 35308666; PMCID: PMC8919431. <https://pubmed.ncbi.nlm.nih.gov/35308666/>

Fatima M, Ahmad Cheema H, Ahmed Khan MH, Shahid H, Saad Ali M, Hassan U, Wahaj Murad M, Aemaz Ur Rehman M, Farooq H. **Development of myocarditis and pericarditis after COVID-19 vaccination in adult population: A systematic review.** *Ann Med Surg (Lond).* 2022 Apr;76:103486. doi: 10.1016/j.amsu.2022.103486. Epub 2022 Mar 11. PMID: 35291413; PMCID: PMC8912977. <https://pubmed.ncbi.nlm.nih.gov/35291413/>

Ameratunga R, Woon ST, Sheppard MN, Garland J, Ondruschka B, Wong CX, Stewart RAH, Tatley M, Stables SR, Tse RD. **First Identified Case of Fatal Fulminant Necrotizing Eosinophilic Myocarditis Following the Initial Dose of the Pfizer-BioNTech mRNA COVID-19 Vaccine (BNT162b2, Comirnaty): an Extremely Rare Idiosyncratic Hypersensitivity Reaction.** *J Clin Immunol.* 2022 Apr;42(3):441-447. doi: 10.1007/s10875-021-01187-0. Epub 2022 Jan 3. PMID: 34978002; PMCID: PMC8720536. <https://pubmed.ncbi.nlm.nih.gov/34978002/>

Kang DH, Na JY, Yang JH, Moon SH, Kim SH, Jung JJ, Cha HJ, Ahn JH, Park YW, Cho SY, Yu HK, Lee SH, Park MY, Kim JW, Byun JH. **Fulminant Giant Cell Myocarditis following Heterologous Vaccination of ChAdOx1 nCoV-19 and Pfizer-BioNTech COVID-19.** *Medicina (Kaunas).* 2022 Mar 20;58(3):449. doi: 10.3390/medicina58030449. PMID: 35334625; PMCID: PMC8950462. <https://pubmed.ncbi.nlm.nih.gov/35334625/>

Paddock CD, Reagan-Steiner S, Su JR, Oster ME, Martines RB, Bhatnagar J, Shimabukuro TT. **Autopsy Histopathologic Cardiac Findings in Two Adolescents Following the Second COVID-19 Vaccine Dose.** Arch Pathol Lab Med. 2022 Apr 8. doi: 10.5858/arpa.2022-0084-LE. Epub ahead of print. PMID: 35395076. <https://pubmed.ncbi.nlm.nih.gov/35395076/>

Kounis NG, Mplani V, Koniari I. **Autopsy Histopathologic Cardiac Findings in Two Adolescents Following the Second COVID-19 Vaccine Dose: Cytokine storm, hypersensitivity, or something else.** Arch Pathol Lab Med. 2022 Apr 8. doi: 10.5858/arpa.2022-0102-LE. Epub ahead of print. PMID: 35395083. <https://pubmed.ncbi.nlm.nih.gov/35395083/>

Ilonze OJ, Guglin ME. **Myocarditis following COVID-19 vaccination in adolescents and adults: a cumulative experience of 2021.** Heart Fail Rev. 2022 Apr 22:1–11. doi: 10.1007/s10741-022-10243-9. Epub ahead of print. PMID: 35449353; PMCID: PMC9023259. <https://pubmed.ncbi.nlm.nih.gov/35449353/>

Cited in the conclusion of the paper by Ilonze:

*Because fatal cases occur at any age, no case should be dismissed as just having “benign myocarditis,” especially if left ventricular ejection fraction is compromised and if it occurs in older female patients.*

Karlstad Ø, Hovi P, Husby A, et al. **SARS-CoV-2 Vaccination and Myocarditis in a Nordic Cohort Study of 23 Million Residents.** JAMA Cardiol. Published online April 20, 2022. doi:10.1001/jamacardio.2022.0583 <https://jamanetwork.com/journals/jamacardiology/fullarticle/2791253>

*Results of this large cohort study indicated that both first and second doses of mRNA vaccines were associated with increased risk of myocarditis and pericarditis. For individuals receiving 2 doses of the same vaccine, risk of myocarditis was highest among young males (aged 16-24 years) after the second dose. These findings are compatible with between 4 and 7 excess events in 28 days per 100 000 vaccinees after BNT162b2, and between 9 and 28 excess events per 100 000 vaccinees after mRNA-1273. This risk should be balanced against the benefits of protecting against severe COVID-19 disease.*

The statement: *This risk should be balanced against the benefits of protecting against severe COVID-19 disease* seems to be a common statement in many of the papers where the findings reveal what appears to be significant risks of harms from the vaccines. Yet none of these studies delve any further into researching what that tradeoff might be. This is irresponsible and neglectful reporting. Candi coating to get past the peer review and be published. Unethical and criminal.

Sharbatdaran A, Chahal Y, Molaei M, Bhavsar D. **A rare case of COVID-19 vaccine-induced myopericarditis in a young adult.** Radiol Case Rep. 2022 Apr 5;17(6):1916-1920. doi: 10.1016/j.radcr.2022.03.039. PMID: 35401904; PMCID: PMC8980502. <https://pubmed.ncbi.nlm.nih.gov/35401904/>

Misumi I, Ogata A, Fukuda K, Sato K, Nagano M, Usuku H, Tsujita K. **Constrictive pericarditis following mRNA COVID-19 vaccination in a patient with systemic sclerosis.** J Cardiol Cases. 2022 Apr 4. doi:

10.1016/j.jccase.2022.03.014. Epub ahead of print. PMID: 35401886; PMCID: PMC8977375.  
<https://pubmed.ncbi.nlm.nih.gov/35401886/>

Yap J, Tham MY, Poh J, Toh D, Chan CL, Lim TW, Lim SL, Chia YW, Lim YT, Choo J, Ding ZP, Foo LL, Kuo S, Lau YH, Lee A, Yeo KK. **Pericarditis and myocarditis after COVID-19 mRNA vaccination in a nationwide setting.** Ann Acad Med Singap. 2022 Feb;51(2):96-100. doi: 10.47102/annals-acadmedsg.2021425. PMID: 35224605. <https://pubmed.ncbi.nlm.nih.gov/35224605/>

Aviram G, Viskin D, Topilsky Y, Sadon S, Shalmon T, Taieb P, Ghantous E, Flint N, Banai S, Havakuk O. **Myocarditis Associated With COVID-19 Booster Vaccination.** Circ Cardiovasc Imaging. 2022 Feb;15(2):e013771. doi: 10.1161/CIRCIMAGING.121.013771. Epub 2022 Feb 1. PMID: 35100809; PMCID: PMC8845415. <https://pubmed.ncbi.nlm.nih.gov/35100809/>

Miyazato Y, Yamamoto K, Yamada G, Kubota S, Ishikane M, Sugiyama M, Ueno M, Matsunaga A, Miyoshi-Akiyama T, Ishizaka Y, Ohmagari N. **Multisystem Inflammatory Syndrome in Adult after First Dose of mRNA Vaccine.** Emerg Infect Dis. 2022 Feb 11;28(4). doi: 10.3201/eid2804.212585. Epub ahead of print. PMID: 35148495. <https://pubmed.ncbi.nlm.nih.gov/35148495/>

Kyaw H, Shajahan S, Gulati A, Synn S, Khurana S, Nazar N, Shrestha S, Kerstein J. **COVID-19 mRNA Vaccine-Associated Myocarditis.** Cureus. 2022 Jan 7;14(1):e21009. doi: 10.7759/cureus.21009. PMID: 35154981; PMCID: PMC8820479. <https://pubmed.ncbi.nlm.nih.gov/35154981/>

Fronza M, Thavendiranathan P, Chan V, Karur GR, Udell JA, Wald RM, Hong R, Hanneman K. **Myocardial Injury Pattern at MRI in COVID-19 Vaccine-associated Myocarditis.** Radiology. 2022 Feb 15:212559. doi: 10.1148/radiol.212559. Epub ahead of print. PMID: 35166587; PMCID: PMC8856022. <https://pubmed.ncbi.nlm.nih.gov/35166587/>

Al-Rasbi S, Al-Maqbali JS, Al-Farsi R, Al Shukaili MA, Al-Riyami MH, Al Falahi Z, Al Farhan H, Al Alawi AM. **Myocarditis, Pulmonary Hemorrhage, and Extensive Myositis with Rhabdomyolysis 12 Days After First Dose of Pfizer-BioNTech BNT162b2 mRNA COVID-19 Vaccine: A Case Report.** Am J Case Rep. 2022 Feb 17;23:e934399. doi: 10.12659/AJCR.934399. PMID: 35173141. <https://pubmed.ncbi.nlm.nih.gov/35173141/>

Parmar K, Mekraksakit P, Del Rio-Pertuz G, Sethi P, Motes A, Hughes M, Wischmeyer J, Carbajal L, Sosa EA. **Myocarditis following COVID-19 mRNA vaccination.** Proc (Bayl Univ Med Cent). 2021 Nov 15;35(2):209-213. doi: 10.1080/08998280.2021.1990743. PMID: 35256821; PMCID: PMC8607537. <https://pubmed.ncbi.nlm.nih.gov/35256821/>

Chin SE, Bhavsar SM, Corson A, Ghersin ZJ, Kim HS. **Cardiac Complications Associated with COVID-19, MIS-C, and mRNA COVID-19 Vaccination.** Pediatr Cardiol. 2022 Mar 8:1–6. doi: 10.1007/s00246-022-02851-x. Epub ahead of print. PMID: 35258639; PMCID: PMC8902276. <https://pubmed.ncbi.nlm.nih.gov/35258639/>

Kornowski R, Witberg G. **Acute myocarditis caused by COVID-19 disease and following COVID-19 vaccination.** Open Heart. 2022 Mar;9(1):e001957. doi: 10.1136/openhrt-2021-001957. PMID: 35264415; PMCID: PMC8914394. <https://pubmed.ncbi.nlm.nih.gov/35264415/>

Truong DT, Dionne A, Muniz JC, McHugh KE, Portman MA, Lambert LM, Thacker D, Elias MD, Li JS, Toro-Salazar OH, Anderson BR, Atz AM, Bohun CM, Campbell MJ, Chrisant M, D'Addese L, Dummer KB, Forsha

D, Frank LH, Frosch OH, Gelehrter SK, Giglia TM, Hebson C, Jain SS, Johnston P, Krishnan A, Lombardi KC, McCrindle BW, Mitchell EC, Miyata K, Mizzi T, Parker RM, Patel JK, Ronai C, Sabati AA, Schauer J, Sexson-Tejtel SK, Shea JR, Shekerdemian LS, Srivastava S, Votava-Smith JK, White S, Newburger JW. **Clinically Suspected Myocarditis Temporally Related to COVID-19 Vaccination in Adolescents and Young Adults.** *Circulation*. 2021 Dec 6. doi: 10.1161/CIRCULATIONAHA.121.056583. Epub ahead of print. PMID: 34865500.

<https://www.ahajournals.org/doi/epdf/10.1161/CIRCULATIONAHA.121.056583>

Visclosky T, Theyyunni N, Klekowski N, Bradin S. **Myocarditis Following mRNA COVID-19 Vaccine.** *Pediatr Emerg Care*. 2021 Nov 1;37(11):583-584. doi: 10.1097/PEC.0000000000002557. PMID: 34731877.

<https://journals.lww.com/pec->

[online/Abstract/2021/11000/Myocarditis\\_Following\\_mRNA\\_COVID\\_19\\_Vaccine.9.aspx](https://journals.lww.com/pec-online/Abstract/2021/11000/Myocarditis_Following_mRNA_COVID_19_Vaccine.9.aspx)

Alania-Torres E, Morillas-Climent H, García-Escrivá A, Vinueza-Buitrón P, Poquet-Catalá I, Zorio E, Sánchez-Lázaro IJ, Galcerá-Jornet E, Valle-Muñoz A. **Case Report: Probable Myocarditis After Covid-19 mRNA Vaccine in a Patient With Arrhythmogenic Left Ventricular Cardiomyopathy.** *Front Cardiovasc Med*. 2021 Oct 12;8:759119. doi: 10.3389/fcvm.2021.759119. PMID: 34712717; PMCID: PMC8545905.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8545905/pdf/fcvm-08-759119.pdf>

Hryniewicki AT, Tolia VM, Nene RV. **Cardiac Tamponade After COVID-19 Vaccination.** *J Emerg Med*. 2021 Oct 23:S0736-4679(21)00745-9. doi: 10.1016/j.jemermed.2021.10.008. Epub ahead of print. PMID: 34996671; PMCID: PMC8536519.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8536519/pdf/main.pdf>

Al-Ali D, Elshafeey A, Mushannen M, Kawas H, Shafiq A, Mhaimeed N, Mhaimeed O, Mhaimeed N, Zeghlache R, Salameh M, Paul P, Homssi M, Mohammed I, Narangoli A, Yagan L, Khanjar B, Laws S, Elshazly MB, Zakaria D. **Cardiovascular and hematological events post COVID-19 vaccination: A systematic review.** *J Cell Mol Med*. 2021 Dec 29. doi: 10.1111/jcmm.17137. Epub ahead of print. PMID: 34967105.

<https://onlinelibrary.wiley.com/doi/10.1111/jcmm.17137>

Parra-Lucare A, Toro L, Weitz-Muñoz S, Ramos C. **Cardiomyopathy Associated with Anti-SARS-CoV-2 Vaccination: What Do We Know?** *Viruses*. 2021 Dec 13;13(12):2493. doi: 10.3390/v13122493. PMID: 34960761; PMCID: PMC8708989.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8708989/pdf/viruses-13-02493.pdf>

Kounis NG, Koniari I, Mplani V, Velissaris D, Tsigkas G. **The pathogenesis of potential myocarditis induced by COVID-19 vaccine.** *The American Journal of Emergency Medicine*. 2021 Nov. DOI: 10.1016/j.ajem.2021.11.016. PMID: 34799207; PMCID: PMC8585566.

<https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC8585566&blobtype=pdf>

Dionne A, Sperotto F, Chamberlain S, et al. **Association of Myocarditis With BNT162b2 Messenger RNA COVID-19 Vaccine in a Case Series of Children.** *JAMA Cardiol*. Published online August 10, 2021. doi:10.1001/jamacardio.2021.3471

<https://jamanetwork.com/journals/jamacardiology/article-abstract/2783052>

Shashikanth Ambati, Michael Colon, Maya Mihic, Javier Sanchez, Adnan Bakar, "Acute Myopericarditis after COVID-19 Vaccine in Teenagers", *Case Reports in Cardiology*, vol. 2021, Article ID 8268755, 5 pages,

2021. <https://doi.org/10.1155/2021/8268755>  
<https://downloads.hindawi.com/journals/cric/2021/8268755.pdf>

Yalile Perez, Emily R Levy, Avni Y Joshi, Abinash Virk, Martin Rodriguez-Porcel, Matthew Johnson, Daniel Roellinger, Greg Vanichkachorn, W Charles Huskins, Melanie D Swift, **Myocarditis Following Coronavirus Disease 2019 mRNA Vaccine: A Case Series and Incidence Rate Determination**, Clinical Infectious Diseases, 2021;, ciab926, <https://doi.org/10.1093/cid/ciab926>  
PDF

Khogali F, Abdelrahman R. **Unusual Presentation of Acute Perimyocarditis Following SARS-COV-2 mRNA-1237 Moderna Vaccination**. Cureus. 2021 Jul 23;13(7):e16590. doi: 10.7759/cureus.16590. PMID: 34447639; PMCID: PMC8381757. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8381757/pdf/cureus-0013-00000016590.pdf>

Anasua Debhttps, John Abdelmalek, Kenneth, and Kenneth Nugent **Acute Myocardial Injury Following COVID-19 Vaccination: A Case Report and Review of Current Evidence from Vaccine Adverse Events Reporting System Database** Journal of Primary Care & Community Health Volume 12, 2021  
<https://journals.sagepub.com/doi/pdf/10.1177/21501327211029230>

Nassar M, Nso N, Gonzalez C, et al. **COVID-19 vaccine-induced myocarditis: Case report with literature review** [published correction appears in Diabetes Metab Syndr. 2021 Sep-Oct;15(5):102277]. Diabetes Metab Syndr. 2021;15(5):102205. doi:10.1016/j.dsx.2021.102205  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8270733/pdf/main.pdf>

Gautam N, Saluja P, Fudim M, Jambhekar K, Pandey T, Al'Aref S. **A Late Presentation of COVID-19 Vaccine-Induced Myocarditis**. Cureus. 2021;13(9):e17890. Published 2021 Sep 11. doi:10.7759/cureus.17890  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8504680/pdf/cureus-0013-00000017890.pdf>

Hajjo R, Sabbah DA, Bardaweel SK, Tropsha A. **Shedding the Light on Post-Vaccine Myocarditis and Pericarditis in COVID-19 and Non-COVID-19 Vaccine Recipients**. Vaccines (Basel). 2021;9(10):1186. Published 2021 Oct 15. doi:10.3390/vaccines9101186  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8541143/pdf/vaccines-09-01186.pdf>

Calcaterra G, Mehta JL, de Gregorio C, Butera G, Neroni P, Fanos V, Bassareo PP. **COVID 19 Vaccine for Adolescents. Concern about Myocarditis and Pericarditis**. Pediatric Reports. 2021; 13(3):530-533.  
<https://doi.org/10.3390/pediatric13030061>  
<https://www.mdpi.com/2036-7503/13/3/61>

Li M, Yuan J, Lv G, Brown J, Jiang X, Lu ZK. **Myocarditis and Pericarditis following COVID-19 Vaccination: Inequalities in Age and Vaccine Types**. J Pers Med. 2021 Oct 28;11(11):1106. doi: 10.3390/jpm11111106. PMID: 34834458; PMCID: PMC8624452.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8624452/pdf/jpm-11-01106.pdf>

Sanchez Tijmes F, Thavendiranathan P, Udell JA, Seidman MA, Hanneman K. **Cardiac MRI Assessment of Nonischemic Myocardial Inflammation: State of the Art Review and Update on Myocarditis Associated with COVID-19 Vaccination**. Radiol Cardiothorac Imaging. 2021 Nov 18;3(6):e210252. doi: 10.1148/ryct.210252. PMID: 34934954; PMCID: PMC8686006.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8686006/>

Farahmand R, Trottier CA, Kannam JP, Ho KKL. **Incidence of Myopericarditis and Myocardial Injury in Coronavirus Disease 2019 Vaccinated Subjects.** Am J Cardiol. 2021 Nov 28:S0002-9149(21)01047-X. doi: 10.1016/j.amjcard.2021.10.022. Epub ahead of print. PMID: 34852929; PMCID: PMC8627580. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8627580/pdf/main.pdf>

William W. King, Matthew R. Petersen, Ralph M. Matar, Jeffery B. Budweg, Lyda Cuervo Pardo, John W. Petersen, **Myocarditis following mRNA vaccination against SARS-CoV-2, a case series,** American Heart Journal Plus: Cardiology Research and Practice, Volume 8, 2021,,: <https://www.sciencedirect.com/science/article/pii/S2666602221000409>

Montgomery J, Ryan M, Engler R, et al. **Myocarditis Following Immunization With mRNA COVID-19 Vaccines in Members of the US Military.** JAMA Cardiol. 2021;6(10):1202–1206. doi:10.1001/jamacardio.2021. <https://jamanetwork.com/journals/jamacardiology/fullarticle/2781601>

The article above reports that in “23 male patients, including 22 previously healthy military members, myocarditis was identified within 4 days after receipt of the vaccine

Dionne A, Sperotto F, Chamberlain S, Baker AL, Powell AJ, Prakash A, Castellanos DA, Saleeb SF, de Ferranti SD, Newburger JW, Friedman KG. **Association of Myocarditis With BNT162b2 Messenger RNA COVID-19 Vaccine in a Case Series of Children.** JAMA Cardiol. 2021 Dec 1;6(12):1446-1450. doi:10.1001/jamacardio.2021.3471. PMID: 34374740; PMCID: PMC8356143.: <https://pubmed.ncbi.nlm.nih.gov/34374740/>

Mayme Marshall, Ian D. Ferguson, Paul Lewis, Preeti Jaggi, Christina Gagliardo, James Stewart Collins, Robin Shaughnessy, Rachel Caron, Cristina Fuss, Kathleen Jo E. Corbin, Leonard Emuren, Erin Faherty, E. Kevin Hall, Cecilia Di Pentima, Matthew E. Oster, Elijah Paintsil, Saira Siddiqui, Donna M. Timchak, Judith A. Guzman-Cottrill; **Symptomatic Acute Myocarditis in 7 Adolescents After Pfizer-BioNTech COVID-19 Vaccination.** Pediatrics September 2021; 148 (3): e2021052478. 10.1542/peds.2021-052478: <https://pediatrics.aappublications.org/content/early/2021/06/04/peds.2021-052478>

Adriana Luk, Brian Clarke, Nagib Dahdah, Anique Ducharme, Andrew Krahn, Brian McCrindle, Trent Mizzi, Monika Naus, Jacob A. Udell, Sean Virani, Shelley Zieroth, Michael McDonald, **Myocarditis and Pericarditis After COVID-19 mRNA Vaccination: Practical Considerations for Care Providers,** Canadian Journal of Cardiology, Volume 37, Issue 10, 2021,: <https://www.sciencedirect.com/science/article/pii/S0828282X21006243>

Biykem Bozkurt , MD, PhD; Ishan Kamat, MD; Peter J. Hotez, MD, **Myocarditis With COVID-19 mRNA Vaccines,** Circulation. Aug 10, 2021;144:471–484. DOI: 10.1161/CIRCULATIONAHA.121.056135 Phd<https://www.ahajournals.org/doi/pdf/10.1161/CIRCULATIONAHA.121.056135>

Diaz GA, Parsons GT, Gering SK, Meier AR, Hutchinson IV, Robicsek A. **Myocarditis and Pericarditis After Vaccination for COVID-19.** JAMA. 2021;326(12):1210–1212. doi:10.1001/jama.2021.13443: <https://jamanetwork.com/journals/jama/fullarticle/2782900>

Carolyn M. Rosner, MSN, NP-C, MBA; Leonard Genovese , MD; Behnam N. Tehrani, MD; Melany Atkins, MD, MRMD; Hooman Bakhshi, MD; Saquib Chaudhri, MD, MBA; Abdulla A. Damluji, MD, PhD, MPH; James A. de Lemos, MD; Shashank S. Desai, MD, MBA; Abbas Emaminia, MD; Michael Casey Flanagan , MD; Amit

Khera, MD; Alireza Maghsoudi , MD; Girum Mekonnen, MD, MPH; Alagarraju Muthukumar, MD; Ibrahim M. Saeed , MD; Matthew W. Sherwood , MD; Shashank S. Sinha, MD, MSc; Christopher M. O'Connor, MD; Christopher R. deFilippi , MD, **Myocarditis temporally associated with COVID-19 vaccination**, Circulation, August 10, 2021;144:502–505. DOI: 10.1161/CIRCULATIONAHA.121.055891  
: <https://www.ahajournals.org/doi/pdf/10.1161/CIRCULATIONAHA.121.055891>

Imran Sulemankhil, Mohammad Abdelrahman, Smita I. Negi, **Temporal association between the COVID-19 Ad26.COVS vaccine and acute myocarditis: A case report and literature review**, Cardiovascular Revascularization Medicine, 2021,:  
<https://www.sciencedirect.com/science/article/pii/S1553838921005789>

Mahmoud Nassar, Nso Nso, Carlos Gonzalez, Sofia Lakhdar, Mohsen Alshamam, Mohammed Elshafey, Yousef Abdalazeem, Andrew Nyein, Benjamin Punzalan, Richard Jesse Durrance, Mostafa Alfshawy, Sanjiv Bakshi, Vincent Rizzo, **COVID-19 vaccine-induced myocarditis: Case report with literature review**, Diabetes & Metabolic Syndrome: Clinical Research & Reviews, Volume 15, Issue 5, 2021, 102205,:  
<https://www.sciencedirect.com/science/article/pii/S1871402121002253>

Kirsten E. Shaw, João L. Cavalcante, B. Kelly Han, Mario Gössl, **Possible Association Between COVID-19 Vaccine and Myocarditis: Clinical and CMR Findings**, JACC: Cardiovascular Imaging, Volume 14, Issue 9, 2021, Pages 1856-1861,: <https://www.sciencedirect.com/science/article/pii/S1936878X2100485X>

Antonio Abbate, Josh Gavin, Nima Madanchi, Christin Kim, Pranav R. Shah, Katherine Klein, Julie Boatman, Charlotte Roberts, Seema Patel, Stamatina Danielides, **Fulminant myocarditis and systemic hyper inflammation temporally associated with BNT162b2 mRNA COVID-19 vaccination in two patients**, International Journal of Cardiology, Volume 340, 2021, Pages 119-121,:  
<https://www.sciencedirect.com/science/article/pii/S0167527321012286>

Mhd Baraa Habib, Tahseen Hamamyh, Ahmed Elyas, Mohammed Altermanini, Mawahib Elhassan, **Acute myocarditis following administration of BNT162b2 vaccine**, IDCases, Volume 25, 2021, e01197,: <https://www.sciencedirect.com/science/article/pii/S2214250921001530>

Kevin Watkins, Gregory Griffin, Kristen Septaric, Erin L. Simon, **Myocarditis after BNT162b2 vaccination in a healthy male**, The American Journal of Emergency Medicine, Volume 50, 2021, Pages 815.e1-815.e2,:  
<https://www.sciencedirect.com/science/article/pii/S0735675721005362>

Anna Patrignani, Nicolò Schicchi, Francesca Calcagnoli, Elena Falchetti, Nino Ciampani, Giulio Argalia, Antonio Mariani, **Acute myocarditis following Comirnaty vaccination in a healthy man with previous SARS-CoV-2 infection**, Radiology Case Reports, Volume 16, Issue 11, 2021, Pages 3321-3325,:  
<https://www.sciencedirect.com/science/article/pii/S1930043321005549>

Curtis B. Williams, Jung-in Choi, Farshad Hosseini, James Roberts, Krishnan Ramanathan, Kevin Ong, **Acute Myocarditis Following mRNA-1273 SARS-CoV-2 Vaccination**, CJC Open, Volume 3, Issue 11, 2021, Pages 1410-1412: <https://www.sciencedirect.com/science/article/pii/S2589790X21001931>

John B. Dickey, Elisabeth Albert, Mai Badr, Kristin M. Laraja, Laureen M. Sena, David S. Gerson, Jason E. Saucedo, Waqas Qureshi, Gerard P. Aurigemma, **A Series of Patients With Myocarditis Following SARS-**

**CoV-2 Vaccination With mRNA-1279 and BNT162b2**, JACC: Cardiovascular Imaging, Volume 14, Issue 9, 2021, Pages 1862-1863, : <https://www.sciencedirect.com/science/article/pii/S1936878X21004861>

Singh B, Kaur P, Cedeno L, Brahimi T, Patel P, Virk H, Shamooun F, Bikkina M. **COVID-19 mRNA Vaccine and Myocarditis**. Eur J Case Rep Intern Med. 2021 Jun 14;8(7):002681. doi: 10.12890/2021\_002681. PMID: 34268277; PMCID: PMC8276934.: <https://pubmed.ncbi.nlm.nih.gov/34268277/>

Salah HM, Mehta JL. **COVID-19 Vaccine and Myocarditis**. Am J Cardiol. 2021 Oct 15;157:146-148. doi: 10.1016/j.amjcard.2021.07.009. Epub 2021 Jul 12. PMID: 34399967; PMCID: PMC8272967.: <https://pubmed.ncbi.nlm.nih.gov/34399967/>

Kerneis M, Bihan K, Salem JE. **COVID-19 vaccines and myocarditis**. Arch Cardiovasc Dis. 2021 Jun-Jul;114(6-7):515-517. doi: 10.1016/j.acvd.2021.06.001. Epub 2021 Jun 26. PMID: 34246566; PMCID: PMC8233865.: <https://pubmed.ncbi.nlm.nih.gov/34246566/>

Pepe S, Gregory AT, Denniss AR. **Myocarditis, Pericarditis and Cardiomyopathy After COVID-19 Vaccination**. Heart Lung Circ. 2021 Oct;30(10):1425-1429. doi: 10.1016/j.hlc.2021.07.011. Epub 2021 Jul 31. PMID: 34340927; PMCID: PMC8324414.: <https://pubmed.ncbi.nlm.nih.gov/34340927/>

Shay DK, Shimabukuro TT, DeStefano F. **Myocarditis Occurring After Immunization With mRNA-Based COVID-19 Vaccines**. JAMA Cardiol. 2021;6(10):1115–1117. doi:10.1001/jamacardio.2021.2821: <https://jamanetwork.com/journals/jamacardiology/fullarticle/2781600>

Verma, Amanda K. et. al., **Myocarditis after Covid-19 mRNA Vaccination**, New England Journal of Medicine, September 30, 2021 385(14):1332  
<https://www.nejm.org/doi/full/10.1056/NEJMc2109975>

Peter D. Wong, Brian W. McCrindle, Kenny Wong, Michael Khoury, Kevin Chan, Marina Salvadori, **Clinical guidance for youth with myocarditis and pericarditis following mRNA COVID-19 Vaccination**, Canadian Pediatric Society, Sep 1, 2021 : <https://www.cps.ca/en/documents/position/clinical-guidance-for-youth-with-myocarditis-and-pericarditis>

Prashant D Tailor, Aoife M Feighery, Bassim El-Sabawi, Abhiram Prasad, **Case report: acute myocarditis following the second dose of mRNA-1273 SARS-CoV-2 vaccine**, European Heart Journal - Case Reports, Volume 5, Issue 8, August 2021, ytab319: <https://academic.oup.com/ehjcr/article/5/8/ytab319/6339567>

Office of the Chief Science Advisor, Government of Canada, **COVID-19 vaccine-associated myocarditis/pericarditis**, A report of the Chief Science Advisor of Canada, July 16, 2021, : [https://science.gc.ca/eic/site/063.nsf/eng/h\\_98291.html](https://science.gc.ca/eic/site/063.nsf/eng/h_98291.html)

Lazaros G, Klein AL, Hatziantoniou S, Tsioufis C, Tsakris A, Anastassopoulou C. **The Novel Platform of mRNA COVID-19 Vaccines and Myocarditis: Clues into the Potential Underlying Mechanism**. Vaccine. 2021 Aug 16;39(35):4925-4927. doi: 10.1016/j.vaccine.2021.07.016. Epub 2021 Jul 13. PMID: 34312010; PMCID: PMC8275472.: <https://pubmed.ncbi.nlm.nih.gov/34312010/>

Dana Viskin, MD, Yan Topilsky, MD, Galit Aviram, MD, Tomer Mann, MD, Sapir Sadon, Yitzhac Hadad, MD, Nir Flint, MD, Haim Shmilovich, MD, Shmuel Banai, MD, Ofer Havakuk, MD, **Myocarditis Associated With**

**COVID-19 Vaccination**, 25 Aug 2021 <https://doi.org/10.1161/CIRCIMAGING.121.013236> Circulation: Cardiovascular Imaging. 2021;14: <https://www.ahajournals.org/doi/10.1161/CIRCIMAGING.121.013236>

Alagarraju Muthukumar, PhD, Madhusudhanan Narasimhan, PhD, MSHA, Quan-Zhen Li, MD, PhD, Lenin Mahimainathan, PhD, Imran Hitto, MD, Franklin Fuda, DO, Kiran Batra, MD, Xuan Jiang, PhD, Chengsong Zhu, PhD, John Schoggins, PhD, James B. Cutrell, MD, Carol L. Croft, MD, Amit Khera, MD, Mark H. Drazner, MD, Justin L. Grodin, MD, Benjamin M. Greenberg, MD, MHS, Pradeep P.A. Mammen, MD, Sean J. Morrison, PhD, James A. de Lemos, MD, **In-Depth Evaluation of a Case of Presumed Myocarditis After the Second Dose of COVID-19 mRNA Vaccine**, 16 Jun 2021  
<https://doi.org/10.1161/CIRCULATIONAHA.121.056038>:  
<https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.121.056038>

D'Angelo T, Cattafi A, Carerj ML, Booz C, Ascenti G, Cicero G, Blandino A, Mazziotti S. **Myocarditis After SARS-CoV-2 Vaccination: A Vaccine-Induced Reaction?** Can J Cardiol. 2021 Oct;37(10):1665-1667. doi: 10.1016/j.cjca.2021.05.010. Epub 2021 Jun 9. PMID: 34118375; PMCID: PMC8187737.:  
<https://pubmed.ncbi.nlm.nih.gov/34118375/>

Sung JG, Sobieszczyk PS, Bhatt DL. **Acute Myocardial Infarction Within 24 Hours After COVID-19 Vaccination**. Am J Cardiol. 2021 Oct 1;156:129-131. doi: 10.1016/j.amjcard.2021.06.047. Epub 2021 Jul 12. PMID: 34364657; PMCID: PMC8272970: <https://pubmed.ncbi.nlm.nih.gov/34364657/>

Ujueta F, Azimi R, Lozier MR, Poppiti R, Ciment A. **Lymphohistocytic myocarditis after Ad26.COV2.S viral vector COVID-19 vaccination**. Int J Cardiol Heart Vasc. 2021 Oct;36:100869. doi: 10.1016/j.ijcha.2021.100869. Epub 2021 Sep 7. PMID: 34514078; PMCID: PMC8421108.:  
<https://pubmed.ncbi.nlm.nih.gov/34514078/>

Rose J, McCullough PA. WITHDRAWN<sup>22</sup>: **A Report on Myocarditis Adverse Events in the U.S. Vaccine Adverse Events Reporting System (VAERS) in Association with COVID-19 Injectable Biological Products**. Curr Probl Cardiol. 2021 Sep 30:101011. doi: 10.1016/j.cpcardiol.2021.101011. Epub ahead of print. PMID: 34601006; PMCID: PMC8483988.: <https://pubmed.ncbi.nlm.nih.gov/34601006/>

Barda, Noam et. al., **Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting, 2021**, New England Journal of Medicine September 16, 2021 385(12):1078  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2110475>

The study above concludes that: *“The vaccine was associated with an excess risk of myocarditis (1 to 5 events per 100,000 persons). The risk of this potentially serious adverse event and of many other serious adverse events increased substantially after SARS-CoV-2 infection”*

Tracy Beth Høeg, Allison Krug, Josh Stevenson, John Mandrola, **SARS-CoV-2 mRNA Vaccination-Associated Myocarditis in Children Ages 12-17: A Stratified National Database Analysis**  
medRxiv 2021.08.30.21262866; doi: <https://doi.org/10.1101/2021.08.30.21262866>:  
<https://www.medrxiv.org/content/10.1101/2021.08.30.21262866v1>

---

<sup>22</sup> The authors were NOT the moving party in this withdrawal of the paper. After the paper passed peer review, and was accepted, the publisher, Elsevier stopped publication with no cause or reason given.

Mevorach D, Anis E, Cedar N, Bromberg M, Haas EJ, Nadir E, Olsha-Castell S, Arad D, Hasin T, Levi N, Asleh R, Amir O, Meir K, Cohen D, Dichtiar R, Novick D, Hershkovitz Y, Dagan R, Leitersdorf I, Ben-Ami R, Miskin I, Saliba W, Muhsen K, Levi Y, Green MS, Keinan-Boker L, Alroy-Preis S. **Myocarditis after BNT162b2 mRNA Vaccine against Covid-19 in Israel.** N Engl J Med. 2021 Dec 2;385(23):2140-2149. doi: 10.1056/NEJMoa2109730. Epub 2021 Oct 6. PMID: 34614328; PMCID: PMC8531987.: <https://pubmed.ncbi.nlm.nih.gov/34614328/>

Shaw KE, Cavalcante JL, Han BK, Gössl M. **Possible Association Between COVID-19 Vaccine and Myocarditis: Clinical and CMR Findings.** JACC Cardiovasc Imaging. 2021 Sep;14(9):1856-1861. doi: 10.1016/j.jcmg.2021.06.002. Epub 2021 Jun 16. PMID: 34246586; PMCID: PMC8245050.: <https://pubmed.ncbi.nlm.nih.gov/34246586/>

Kounis NG, Mplani V, Koniari I, Velissaris D. **Hypersensitivity myocarditis and COVID-19 vaccines.** Kardiol Pol. 2022;80(1):109-110. doi: 10.33963/KP.a2021.0166. Epub 2021 Dec 2. PMID: 34856634.: <https://pubmed.ncbi.nlm.nih.gov/34856634/>

Nicholas S. Hendren, Spencer Carter, Justin L. Grodin, **Severe COVID-19 vaccine associated myocarditis: Zebra or unicorn?**, International Journal of Cardiology, Volume 343, 2021, [https://www.internationaljournalofcardiology.com/article/S0167-5273\(21\)01477-7/fulltext](https://www.internationaljournalofcardiology.com/article/S0167-5273(21)01477-7/fulltext)

Guy Witberg, M.D., Noam Barda, M.D., Ph.D., Sara Hoss, M.D., Ilan Richter, M.D., M.P.H., Maya Wiessman, M.D., Yaron Aviv, M.D., Tzlil Grinberg, M.D., Oren Auster, M.Sc., Noa Dagan, M.D., Ph.D., M.P.H., Ran D. Balicer, M.D., Ph.D., M.P.H., and Ran Kornowski, M.D., **Myocarditis after Covid-19 vaccination in a large healthcare organization**, New England Journal of Medicine December 2, 2021 385(23):2132: <https://www.nejm.org/doi/10.1056/NEJMoa2110737>

Koizumi T, Awaya T, Yoshioka K, Kitano S, Hayama H, Amemiya K, Enomoto Y, Yazaki Y, Moroi M, Nakamura M. **Myocarditis after COVID-19 mRNA vaccines.** QJM. 2021 Dec 20;114(10):741-743. doi: 10.1093/qjmed/hcab244. PMID: 34546329.: <https://pubmed.ncbi.nlm.nih.gov/34546329/>

Supriya S. Jain, Jeremy M. Steele, Brian Fonseca, Sihong Huang, Sanket Shah, Shiraz A. Maskatia, Sujatha Buddhé, Nilanjana Misra, Preeti Ramachandran, Lasya Gaur, Parham Eshtehardi, Shafkat Anwar, Neeru Kaushik, Frank Han, Nita Ray Chaudhuri, Lars Grosse-Wortmann; **COVID-19 Vaccination–Associated Myocarditis in Adolescents.** Pediatrics November 2021; 148 (5): e2021053427. 10.1542/peds.2021-053427: <https://publications.aap.org/pediatrics/article/148/5/e2021053427/181357>

Arthur Shiyovich, Guy Witberg, Yaron Aviv, Alon Eisen, Katia Orvin, Maya Wiessman, Tzlil Grinberg, Avital Porter, Ran Kornowski, Ashraf Hamdan, **Myocarditis following COVID-19 vaccination: magnetic resonance imaging study**, European Heart Journal - Cardiovascular Imaging, 2021;, jeab230,: <https://academic.oup.com/ehjci/advance-article/doi/10.1093/ehjci/jeab230/6421640>

Miqdad MA, Nasser H, Alshehri A, Mourad AR. **Acute Myocarditis Following the Administration of the Second BNT162b2 COVID-19 Vaccine Dose.** Cureus. 2021;13(10):e18880. Published 2021 Oct 18. doi:10.7759/cureus.18880: <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8599115/>

Risheek Kaul et.al., **Myocarditis after COVID-19 vaccination** , IJC Heart & Vasculature Volume 36, October 2021, 100872: <https://www.sciencedirect.com/science/article/pii/S2352906721001603>

Javier Bautista García, , Pedro Peña Ortega, José Antonio Bonilla Fernández, Aridane Cárdenes León, Luis Ramírez Burgos, Eduardo Caballero Dorta, **Acute Myocarditis after administration of BNT162b2 vaccine against COVID-19**: Revista Española de Cardiología, 16/03/2022

<https://www.revespcardiol.org/en-linkresolver-acute-myocarditis-after-administrationbnt162b2-S188558572100133X>

Jitka Starekova, David A. Bluemke, William S. Bradham, Thomas M. Grist, Mark L. Schiebler, and Scott B. Reeder, **Myocarditis Associated with mRNA COVID-19 Vaccination**, Radiology 2021 301:2, E409-E411: <https://pubs.rsna.org/doi/10.1148/radiol.2021211430>

P. Schmitt, R. Demoulin, R. Poyet, E. Capilla, G. Rohel, F. Pons, C. Jégo, S. Sidibe, A. Druelle, F.-X. Brocq, F. Dutasta, G.R. Cellarier, **Acute Myocarditis after COVID-19 vaccination: A case report**, La Revue de Médecine Interne, Volume 42, Issue 11, 2021,: <https://www.sciencedirect.com/science/article/pii/S0248866321007098>

Eric Tano, Stephanie San Martin, Stephen Girgis, Yadira Martinez-Fernandez, Carolina Sanchez Vegas, **Perimyocarditis in Adolescents After Pfizer-BioNTech COVID-19 Vaccine**, Journal of the Pediatric Infectious Diseases Society, Volume 10, Issue 10, October 2021, Pages 962–966: <https://academic.oup.com/jpids/article/10/10/962/6329543>

Nevet A. **Acute myocarditis associated with anti-COVID-19 vaccination**. Clin Exp Vaccine Res. 2021 May;10(2):196-197 <https://ecevr.org/DOIx.php?id=10.7774/cevr.2021.10.2.196>

Marshall M, Ferguson ID, Lewis P, Jaggi P, Gagliardo C, Collins JS, Shaughnessy R, Caron R, Fuss C, Corbin KJE, Emuren L, Faherty E, Hall EK, Di Pentima C, Oster ME, Paintsil E, Siddiqui S, Timchak DM, Guzman-Cottrill JA. **Symptomatic Acute Myocarditis in 7 Adolescents After Pfizer-BioNTech COVID-19 Vaccination**. Pediatrics. 2021 Sep;148(3):e2021052478. doi: 10.1542/peds.2021-052478. Epub 2021 Jun 4. PMID: 34088762. <https://pubmed.ncbi.nlm.nih.gov/34088762/>

Rosner CM, Genovese L, Tehrani BN, Atkins M, Bakhshi H, Chaudhri S, Damluji AA, de Lemos JA, Desai SS, Emaminia A, Flanagan MC, Khera A, Maghsoudi A, Mekonnen G, Muthukumar A, Saeed IM, Sherwood MW, Sinha SS, O'Connor CM, deFilippi CR. **Myocarditis Temporally Associated With COVID-19 Vaccination**. Circulation. 2021 Aug 10;144(6):502-505. doi: 10.1161/CIRCULATIONAHA.121.055891. Epub 2021 Jun 16. PMID: 34133885; PMCID: PMC8340723. <https://pubmed.ncbi.nlm.nih.gov/34133885/>

Onderko L, Starobin B, Riviere AE, Hohl PK, Phillips CT, Morgan RB, Welsh A, Francis SA, Afari ME. **Myocarditis in the Setting of Recent COVID-19 Vaccination**. Case Rep Cardiol. 2021 Oct 19;2021:6806500. doi: 10.1155/2021/6806500. PMID: 34712497; PMCID: PMC8548171. <https://pubmed.ncbi.nlm.nih.gov/34712497/>

Joseph Mansour, Ryan G. Short, Sanjeev Bhalla, Pamela K. Woodard, Amanda Verma, Xavier Robinson Demetrios A. Raptis, **Acute myocarditis after a second dose of COVID-19 mRNA vaccine: report of two cases**, CARDIOTHORACIC IMAGING | VOLUME 78, P247-249, OCTOBER 01, 2021 : [https://www.clinicalimaging.org/article/S0899-7071\(21\)00265-5/fulltext](https://www.clinicalimaging.org/article/S0899-7071(21)00265-5/fulltext).

Gilbert T Chua, Mike Yat Wah Kwan, Celine S L Chui, Robert David Smith, Edmund Chi-Lok Cheung, Tian Ma, Miriam T Y Leung, Sabrina Siu Ling Tsao, Elaine Kan, Wing Kei Carol Ng, Victor Chi Man Chan, Shuk Mui Tai, Tak Ching Yu, Kwok Piu Lee, Joshua Sung Chih Wong, Ying Kit Lin, Chi Chiu Shek, Agnes Sze Yin Leung, Chit Kwong Chow, Ka Wah Li, Johnny Ma, Wai Yuk Fung, Daniel Lee, Ming Yen Ng, Wilfred Hing Sang

Wong, Hing Wai Tsang, Janette Kwok, Daniel Leung, Kin Lai Chung, Chun Bong Chow, Godfrey Chi Fung Chan, Wing Hang Leung, Kelvin Kai Wang To, Kwok Yung Yuen, Yu Lung Lau, Ian Chi Kei Wong, Patrick Ip, **Epidemiology of Acute Myocarditis/Pericarditis in Hong Kong Adolescents Following Comirnaty Vaccination**, Clinical Infectious Diseases, 2021;, ciab989,:

<https://academic.oup.com/cid/advance-article-abstract/doi/10.1093/cid/ciab989/6445179>

Cimaglia P, Tolomeo P, Rapezzi C. **Acute myocarditis after SARS-CoV-2 vaccination in a 24-year-old man**. Rev Port Cardiol. 2022 Jan;41(1):71-72. doi: 10.1016/j.repc.2021.07.005. Epub 2021 Jul 24. PMID: 34334935; PMCID: PMC8302854.: <https://pubmed.ncbi.nlm.nih.gov/34334935/>

Boursier C, Chevalier E, Filippetti L, Imbert L, Roch V, Huttin O, Claudin M, Marie PY. **68Ga-DOTATOC digital-PET imaging of inflammatory cell infiltrates in myocarditis following COVID-19 vaccination**. Eur J Nucl Med Mol Imaging. 2022 Mar;49(4):1433-1434. doi: 10.1007/s00259-021-05609-4. Epub 2021 Nov 8. PMID: 34746968; PMCID: PMC8572651.: <https://pubmed.ncbi.nlm.nih.gov/34746968/>

Williams CB, Choi JI, Hosseini F, Roberts J, Ramanathan K, Ong K. **Acute Myocarditis Following mRNA-1273 SARS-CoV-2 Vaccination**. CJC Open. 2021 Nov;3(11):1410-1412. doi: 10.1016/j.cjco.2021.07.008. Epub 2021 Jul 14. PMID: 34308326; PMCID: PMC8278869.<https://pubmed.ncbi.nlm.nih.gov/34308326/>

Kadwalwala M, Chadha B, Ortoleva J, Joyce M. **Multimodality imaging and histopathology in a young man presenting with fulminant lymphocytic myocarditis and cardiogenic shock after mRNA-1273 vaccination**. BMJ Case Rep. 2021 Nov 30;14(11):e246059. doi: 10.1136/bcr-2021-246059. PMID: 34848416; PMCID: PMC8634223.: <https://pubmed.ncbi.nlm.nih.gov/34848416/>

Lim Y, Kim MC, Kim KH, Jeong IS, Cho YS, Choi YD, Lee JE. **Case Report: Acute Fulminant Myocarditis and Cardiogenic Shock After Messenger RNA Coronavirus Disease 2019 Vaccination Requiring Extracorporeal Cardiopulmonary Resuscitation**. Front Cardiovasc Med. 2021 Oct 29;8:758996. doi: 10.3389/fcvm.2021.758996. PMID: 34778411; PMCID: PMC8586196.: <https://pubmed.ncbi.nlm.nih.gov/34778411/>

Joob B, Wiwanitkit V. **Acute myocarditis after coronavirus disease 2019 vaccination**. Anatol J Cardiol. 2021 Nov;25(11):841-842. doi: 10.5152/AnatolJCardiol.2021.689. PMID: 34734821; PMCID: PMC8575404.: <https://pubmed.ncbi.nlm.nih.gov/34734821/>

Maeda M, Isawa T, Tada N. **Definite Acute Myocarditis After Coronavirus Disease 2019 mRNA Vaccination**. Circ J. 2021 Dec 4. doi: 10.1253/circj.CJ-21-0840. Epub ahead of print. PMID: 34866122.: <https://pubmed.ncbi.nlm.nih.gov/34866122/>

Maki H, Aikawa T, Ibe T, Oyama-Manabe N, Fujita H. **Biventricular systolic dysfunction in acute myocarditis after SARS-CoV-2 mRNA-1273 vaccination**. Eur Heart J Cardiovasc Imaging. 2022 Jan 24;23(2):e87. doi: 10.1093/ehjci/jeab206. PMID: 34601566. <https://pubmed.ncbi.nlm.nih.gov/34601566/>

Dionne A, Sperotto F, Chamberlain S, Baker AL, Powell AJ, Prakash A, Castellanos DA, Saleeb SF, de Ferranti SD, Newburger JW, Friedman KG. **Association of Myocarditis With BNT162b2 Messenger RNA COVID-19 Vaccine in a Case Series of Children**. JAMA Cardiol. 2021 Dec 1;6(12):1446-1450. doi: 10.1001/jamacardio.2021.3471. PMID: 34374740; PMCID: PMC8356143.: <https://pubmed.ncbi.nlm.nih.gov/34374740/>

King WW, Petersen MR, Matar RM, Budweg JB, Cuervo Pardo L, Petersen JW. **Myocarditis following mRNA vaccination against SARS-CoV-2, a case series.** Am Heart J Plus. 2021 Aug;8:100042. doi: 10.1016/j.ahjo.2021.100042. Epub 2021 Aug 9. PMID: 34396358; PMCID: PMC8349733. <https://pubmed.ncbi.nlm.nih.gov/34396358/>

Sarah A. Buchan et. al, **Epidemiology of myocarditis and pericarditis following mRNA vaccines in Ontario, Canada: by vaccine product, schedule, and interval:** medRxiv 2021.12.02.21267156; doi: <https://doi.org/10.1101/2021.12.02.21267156>  
<https://www.medrxiv.org/content/10.1101/2021.12.02.21267156v1>

Aye YN, Mai AS, Zhang A, Lim OZH, Lin N, Ng CH, Chan MY, Yip J, Loh PH, Chew NWS. **Acute Myocardial Infarction and Myocarditis following COVID-19 Vaccination.** QJM. 2021 Sep 29;hcab252. doi: 10.1093/qjmed/hcab252. Epub ahead of print. PMID: 34586408; PMCID: PMC8522388. <https://pubmed.ncbi.nlm.nih.gov/34586408/>

Abbate, A., Gavin, J., Madanchi, N., Kim, C., Shah, P. R., Klein, K., . . . Danielides, S. (2021). **Fulminant myocarditis and systemic hyperinflammation temporally associated with BNT162b2 mRNA COVID-19 vaccination in two patients.** Int J Cardiol, 340, 119-121. doi:10.1016/j.ijcard.2021.08.018. <https://www.ncbi.nlm.nih.gov/pubmed/34416319>

Abu Mouch, S., Roguin, A., Hellou, E., Ishai, A., Shoshan, U., Mahamid, L., . . . Berar Yanay, N. (2021). **Myocarditis following COVID-19 mRNA vaccination.** Vaccine,39(29), 3790-3793. doi:10.1016/j.vaccine.2021.05.087. <https://www.ncbi.nlm.nih.gov/pubmed/34092429>

Albert, E., Aurigemma, G., Saucedo, J., & Gerson, D. S. (2021). **Myocarditis following COVID-19 vaccination.** Radiol Case Rep, 16(8), 2142-2145. doi:10.1016/j.radcr.2021.05.033. <https://www.ncbi.nlm.nih.gov/pubmed/34025885>

Aye, Y. N., Mai, A. S., Zhang, A., Lim, O. Z. H., Lin, N., Ng, C. H., . . . Chew, N. W. S. (2021). **Acute Myocardial Infarction and Myocarditis following COVID-19 Vaccination.** QJM. doi:10.1093/qjmed/hcab252. <https://www.ncbi.nlm.nih.gov/pubmed/34586408>

Azir, M., Inman, B., Webb, J., & Tannenbaum, L. (2021). **STEMI Mimic: Focal Myocarditis in an Adolescent Patient After mRNA COVID-19 Vaccine.** J Emerg Med, 61(6), e129-e132. doi:10.1016/j.jemermed.2021.09.017. <https://www.ncbi.nlm.nih.gov/pubmed/34756746>

Bozkurt, B., Kamat, I., & Hotez, P. J. (2021). **Myocarditis With COVID-19 mRNA Vaccines.** Circulation, 144(6), 471-484. doi:10.1161/CIRCULATIONAHA.121.056135. <https://www.ncbi.nlm.nih.gov/pubmed/34281357>

Chamling, B., Vehof, V., Drakos, S., Weil, M., Stalling, P., Vahlhaus, C., . . . Yilmaz, A. (2021). **Occurrence of acute infarct-like myocarditis following COVID-19 vaccination: just an accidental co-incidence or rather vaccination-associated autoimmune myocarditis?** Clin Res Cardiol, 110(11), 1850-1854. doi:10.1007/s00392-021-01916-w. <https://www.ncbi.nlm.nih.gov/pubmed/34333695>

Chelala, L., Jeudy, J., Hossain, R., Rosenthal, G., Pietris, N., & White, C. (2021). **Cardiac MRI Findings of Myocarditis After COVID-19 mRNA Vaccination in Adolescents.** AJR Am J Roentgenol. doi:10.2214/AJR.21.26853. <https://www.ncbi.nlm.nih.gov/pubmed/34704459>

- Choi, S., Lee, S., Seo, J. W., Kim, M. J., Jeon, Y. H., Park, J. H., . . . Yeo, N. S. (2021). **Myocarditis-induced Sudden Death after BNT162b2 mRNA COVID-19 Vaccination in Korea: Case Report Focusing on Histopathological Findings.** *J Korean Med Sci*, 36(40), e286. doi:10.3346/jkms.2021.36.e286. <https://www.ncbi.nlm.nih.gov/pubmed/34664804>
- Chua, G. T., Kwan, M. Y. W., Chui, C. S. L., Smith, R. D., Cheung, E. C., Tian, T., . . . Ip, P. (2021). **Epidemiology of Acute Myocarditis/Pericarditis in Hong Kong Adolescents Following Comirnaty Vaccination.** *Clin Infect Dis*. doi:10.1093/cid/ciab989. <https://www.ncbi.nlm.nih.gov/pubmed/34849657>
- Clarke, R., & Ioannou, A. (2021). **Should T2 mapping be used in cases of recurrent myocarditis to differentiate between the acute inflammation and chronic scar?** *J Pediatr*. doi:10.1016/j.jpeds.2021.12.026. <https://www.ncbi.nlm.nih.gov/pubmed/34933012>
- Das, B. B., Moskowitz, W. B., Taylor, M. B., & Palmer, A. (2021). **Myocarditis and Pericarditis Following mRNA COVID-19 Vaccination: What Do We Know So Far?** *Children (Basel)*, 8(7). doi:10.3390/children8070607. <https://www.ncbi.nlm.nih.gov/pubmed/34356586>
- Dickey, J. B., Albert, E., Badr, M., Laraja, K. M., Sena, L. M., Gerson, D. S., . . . Aurigemma, G. P. (2021). **A Series of Patients With Myocarditis Following SARS-CoV-2 Vaccination With mRNA-1279 and BNT162b2.** *JACC Cardiovasc Imaging*, 14(9), 1862-1863. doi:10.1016/j.jcmg.2021.06.003. <https://www.ncbi.nlm.nih.gov/pubmed/34246585>
- Ehrlich, P., Klingel, K., Ohlmann-Knafo, S., Huttinger, S., Sood, N., Pickuth, D., & Kindermann, M. (2021). **Biopsy-proven lymphocytic myocarditis following first mRNA COVID-19 vaccination in a 40-year-old male: case report.** *Clin Res Cardiol*, 110(11), 1855-1859. doi:10.1007/s00392-021-01936-6. <https://www.ncbi.nlm.nih.gov/pubmed/34487236>
- Facetti, S., Giraldi, M., Vecchi, A. L., Rogiani, S., & Nassiacos, D. (2021). **[Acute myocarditis in a young adult two days after Pfizer vaccination].** *G Ital Cardiol (Rome)*, 22(11), 891-893. doi:10.1714/3689.36746. <https://www.ncbi.nlm.nih.gov/pubmed/34709227>
- Foltran, D., Delmas, C., Flumian, C., De Paoli, P., Salvo, F., Gautier, S., . . . Montastruc, F. (2021). **Myocarditis and Pericarditis in Adolescents after First and Second doses of mRNA COVID-19 Vaccines.** *Eur Heart J Qual Care Clin Outcomes*.doi:10.1093/ehjqcco/qcab090. <https://www.ncbi.nlm.nih.gov/pubmed/34849667>
- Gargano, J. W., Wallace, M., Hadler, S. C., Langley, G., Su, J. R., Oster, M. E., . . . Oliver, S. E. (2021). **Use of mRNA COVID-19 Vaccine After Reports of Myocarditis Among Vaccine Recipients: Update from the Advisory Committee on Immunization Practices – United States, June 2021.** *MMWR Morb Mortal Wkly Rep*, 70(27), 977-982. doi:10.15585/mmwr.mm7027e2. <https://www.ncbi.nlm.nih.gov/pubmed/34237049>
- Gellad, W. F. (2021). **Myocarditis after vaccination against covid-19.** *BMJ*, 375, n3090. doi:10.1136/bmj.n3090. <https://www.ncbi.nlm.nih.gov/pubmed/34916217>
- In brief: Myocarditis with the Pfizer/BioNTech and Moderna COVID-19 vaccines.** (2021). *Med Lett Drugs Ther*, 63(1629), e9. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34544112><https://www.ncbi.nlm.nih.gov/pubmed/3454412>

- Ioannou, A. (2021a). **Myocarditis should be considered in those with a troponin rise and unobstructed coronary arteries following Pfizer-BioNTech COVID-19 vaccination.** QJM. doi:10.1093/qjmed/hcab231. <https://www.ncbi.nlm.nih.gov/pubmed/34463755>
- Ioannou, A. (2021b). **T2 mapping should be utilised in cases of suspected myocarditis to confirm an acute inflammatory process.** QJM. doi:10.1093/qjmed/hcab326. <https://www.ncbi.nlm.nih.gov/pubmed/34931681>
- Isaak, A., Feisst, A., & Luetkens, J. A. (2021). **Myocarditis Following COVID-19 Vaccination.** Radiology, 301(1), E378-E379. doi:10.1148/radiol.2021211766. <https://www.ncbi.nlm.nih.gov/pubmed/34342500>
- Istampoulouoglou, I., Dimitriou, G., Spani, S., Christ, A., Zimmermanns, B., Koechlin, S., . . . Leuppi-Taegtmeyer, A. B. (2021). **Myocarditis and pericarditis in association with COVID-19 mRNA-vaccination: cases from a regional pharmacovigilance centre.** Glob Cardiol Sci Pract, 2021(3), e202118. doi:10.21542/gcsp.2021.18. <https://www.ncbi.nlm.nih.gov/pubmed/34805376>
- Jain, S. S., Steele, J. M., Fonseca, B., Huang, S., Shah, S., Maskatia, S. A., . . . Grosse-Wortmann, L. (2021). **COVID-19 Vaccination-Associated Myocarditis in Adolescents.** Pediatrics, 148(5). doi:10.1542/peds.2021-053427. <https://www.ncbi.nlm.nih.gov/pubmed/34389692>
- Kaneta, K., Yokoi, K., Jojima, K., Kotooka, N., & Node, K. (2021). **Young Male With Myocarditis Following mRNA-1273 Vaccination Against Coronavirus Disease-2019 (COVID-19).** Circ J. doi:10.1253/circj.CJ-21-0818. <https://www.ncbi.nlm.nih.gov/pubmed/34744118>
- Kaul, R., Sreenivasan, J., Goel, A., Malik, A., Bandyopadhyay, D., Jin, C., . . . Panza, J. A. (2021). **Myocarditis following COVID-19 vaccination.** Int J Cardiol Heart Vasc, 36, 100872. doi:10.1016/j.ijcha.2021.100872. <https://www.ncbi.nlm.nih.gov/pubmed/34568540>
- Kim, H. W., Jenista, E. R., Wendell, D. C., Azevedo, C. F., Campbell, M. J., Darty, S.N., . . . Kim, R. J. (2021). **Patients With Acute Myocarditis Following mRNA COVID-19 Vaccination.** JAMA Cardiol, 6(10), 1196-1201. doi:10.1001/jamacardio.2021.2828. <https://www.ncbi.nlm.nih.gov/pubmed/34185046>
- Kim, I. C., Kim, H., Lee, H. J., Kim, J. Y., & Kim, J. Y. (2021). **Cardiac Imaging of Acute Myocarditis Following COVID-19 mRNA Vaccination.** J Korean Med Sci, 36(32), e229. doi:10.3346/jkms.2021.36.e229. <https://www.ncbi.nlm.nih.gov/pubmed/34402228>
- King, W. W., Petersen, M. R., Matar, R. M., Budweg, J. B., Cuervo Pardo, L., & Petersen, J. W. (2021). **Myocarditis following mRNA vaccination against SARSCoV-2, a case series.** Am Heart J Plus, 8, 100042. doi:10.1016/j.ahjo.2021.100042. <https://www.ncbi.nlm.nih.gov/pubmed/34396358>
- Kwan, M. Y. W., Chua, G. T., Chow, C. B., Tsao, S. S. L., To, K. K. W., Yuen, K. Y., . . . Ip, P. (2021). **mRNA COVID vaccine and myocarditis in adolescents.** Hong Kong Med J, 27(5), 326-327. doi:10.12809/hkmj215120. <https://www.ncbi.nlm.nih.gov/pubmed/34393110>
- Lee, E., Chew, N. W. S., Ng, P., & Yeo, T. J. (2021). **Reply to “Letter to the editor: Myocarditis should be considered in those with a troponin rise and unobstructed coronary arteries following PfizerBioNTech**

**COVID-19 vaccination". QJM.** doi: 10.1093/qjmed/hcab232.  
<https://www.ncbi.nlm.nih.gov/pubmed/34463770>

Levin, D., Shimon, G., Fadlon-Derai, M., Gershovitz, L., Shovali, A., Sebbag, A., . . . Gordon, B. (2021). **Myocarditis following COVID-19 vaccination – A case series.** *Vaccine*, 39(42), 6195-6200. doi:10.1016/j.vaccine.2021.09.004. <https://www.ncbi.nlm.nih.gov/pubmed/34535317>

Li, M., Yuan, J., Lv, G., Brown, J., Jiang, X., & Lu, Z. K. (2021). **Myocarditis and Pericarditis following COVID-19 Vaccination: Inequalities in Age and Vaccine Types.** *J Pers Med*, 11(11). doi:10.3390/jpm11111106. <https://www.ncbi.nlm.nih.gov/pubmed/34834458>

Lim, Y., Kim, M. C., Kim, K. H., Jeong, I. S., Cho, Y. S., Choi, Y. D., & Lee, J. E. (2021). **Case Report: Acute Fulminant Myocarditis and Cardiogenic Shock After Messenger RNA Coronavirus Disease 2019 Vaccination Requiring Extracorporeal Cardiopulmonary Resuscitation.** *Front Cardiovasc Med*, 8, 758996. doi:10.3389/fcvm.2021.758996. <https://www.ncbi.nlm.nih.gov/pubmed/34778411>

Luk, A., Clarke, B., Dahdah, N., Ducharme, A., Krahn, A., McCrindle, B., . . . McDonald, M. (2021). **Myocarditis and Pericarditis After COVID-19 mRNA Vaccination: Practical Considerations for Care Providers.** *Can J Cardiol*, 37(10), 1629-1634. doi:10.1016/j.cjca.2021.08.001. <https://www.ncbi.nlm.nih.gov/pubmed/34375696>

Minocha, P. K., Better, D., Singh, R. K., & Hoque, T. (2021). **Recurrence of Acute Myocarditis Temporally Associated with Receipt of the mRNA Coronavirus Disease 2019 (COVID-19) Vaccine in a Male Adolescent.** *J Pediatr*, 238, 321-323. doi: 10.1016/j.jpeds.2021.06.035. <https://www.ncbi.nlm.nih.gov/pubmed/34166671>

Montgomery, J., Ryan, M., Engler, R., Hoffman, D., McClenathan, B., Collins, L., . . . Cooper, L. T., Jr. (2021). **Myocarditis Following Immunization With mRNA COVID-19 Vaccines in Members of the US Military.** *JAMA Cardiol*, 6(10), 1202-1206. doi: 10.1001/jamacardio.2021.2833. <https://www.ncbi.nlm.nih.gov/pubmed/34185045>

Murakami, Y., Shinohara, M., Oka, Y., Wada, R., Noike, R., Ohara, H., . . . Ikeda, T. (2021). **Myocarditis Following a COVID-19 Messenger RNA Vaccination: A Japanese Case Series.** *Intern Med*. doi:10.2169/internalmedicine.8731-21. <https://www.ncbi.nlm.nih.gov/pubmed/34840235>

Park, H., Yun, K. W., Kim, K. R., Song, S. H., Ahn, B., Kim, D. R., . . . Kim, Y. J. (2021). **Epidemiology and Clinical Features of Myocarditis/Pericarditis before the Introduction of mRNA COVID-19 Vaccine in Korean Children: a Multicenter Study.** *J Korean Med Sci*, 36(32), e232. doi:10.3346/jkms.2021.36.e232. <https://www.ncbi.nlm.nih.gov/pubmed/34402230>

Park, J., Brekke, D. R., & Bratincsak, A. (2021). **Self-limited myocarditis presenting with chest pain and ST segment elevation in adolescents after vaccination with the BNT162b2 mRNA vaccine.** *Cardiol Young*, 1-4. doi:10.1017/S1047951121002547. <https://www.ncbi.nlm.nih.gov/pubmed/34180390>

Patel, Y. R., Louis, D. W., Atalay, M., Agarwal, S., & Shah, N. R. (2021). **Cardiovascular magnetic resonance findings in young adult patients with acute myocarditis following mRNA COVID-19 vaccination: a case series.** *J Cardiovasc Magn Reson*, 23(1), 101. doi:10.1186/s12968-021-00795-4. <https://www.ncbi.nlm.nih.gov/pubmed/34496880>

- Patone, M., Mei, X. W., Handunnetthi, L., Dixon, S., Zaccardi, F., Shankar-Hari, M., . . . Hippisley-Cox, J. (2021). **Risks of myocarditis, pericarditis, and cardiac arrhythmias associated with COVID-19 vaccination or SARS-CoV-2 infection.** *Nat Med.* doi:10.1038/s41591-021-01630-0. <https://www.ncbi.nlm.nih.gov/pubmed/34907393>
- Patrignani, A., Schicchi, N., Calcagnoli, F., Falchetti, E., Ciampani, N., Argalia, G., & Mariani, A. (2021). **Acute myocarditis following Comirnaty vaccination in a healthy man with previous SARS-CoV-2 infection.** *Radiol Case Rep*, 16(11), 3321-3325. doi: 10.1016/j.radcr.2021.07.082. <https://www.ncbi.nlm.nih.gov/pubmed/34367386>
- Shiyovich, A., Witberg, G., Aviv, Y., Eisen, A., Orvin, K., Wiessman, M., . . . Hamdan, A. (2021). **Myocarditis following COVID-19 vaccination: magnetic resonance imaging study.** *Eur Heart J Cardiovasc Imaging.* doi:10.1093/ehjci/jeab230. <https://www.ncbi.nlm.nih.gov/pubmed/34739045>
- Simone, A., Herald, J., Chen, A., Gulati, N., Shen, A. Y., Lewin, B., & Lee, M. S. (2021). **Acute Myocarditis Following COVID-19 mRNA Vaccination in Adults Aged 18 Years or Older.** *JAMA Intern Med*, 181(12), 1668-1670. doi:10.1001/jama internmed. 2021.5511. <https://www.ncbi.nlm.nih.gov/pubmed/34605853>
- Singer, M. E., Taub, I. B., & Kaelber, D. C. (2021). **Risk of Myocarditis from COVID-19 Infection in People Under Age 20: A Population-Based Analysis.** *medRxiv.* doi:10.1101/2021.07.23.21260998. <https://www.ncbi.nlm.nih.gov/pubmed/34341797>
- Starekova, J., Bluemke, D. A., Bradham, W. S., Grist, T. M., Schiebler, M. L., & Reeder, S. B. (2021). **Myocarditis Associated with mRNA COVID-19 Vaccination.** *Radiology*, 301(2), E409-E411. doi:10.1148/radiol.2021211430. [https:// www.ncbi.nlm.nih.gov/pubmed/34282971](https://www.ncbi.nlm.nih.gov/pubmed/34282971)
- Sulemankhil, I., Abdelrahman, M., & Negi, S. I. (2021). **Temporal association between the COVID-19 Ad26.COV2.S vaccine and acute myocarditis: A case report and literature review.** *Cardiovasc Revasc Med.* doi:10.1016/j.carrev.2021.08.012. <https://www.ncbi.nlm.nih.gov/pubmed/34420869>
- Tailor, P. D., Feighery, A. M., El-Sabawi, B., & Prasad, A. (2021). **Case report: acute myocarditis following the second dose of mRNA-1273 SARS-CoV-2 vaccine.** *Eur Heart J Case Rep*, 5(8), ytab319. doi:10.1093/ehjcr/ytab319. <https:// www.ncbi.nlm.nih.gov/pubmed/34514306>
- Takeda, M., Ishio, N., Shoji, T., Mori, N., Matsumoto, M., & Shikama, N. (2021). **Eosinophilic Myocarditis Following Coronavirus Disease 2019 (COVID-19) Vaccination.** *Circ J.* doi:10.1253/circj.CJ-21-0935. <https://www.ncbi.nlm.nih.gov/pubmed/34955479>
- Vidula, M. K., Ambrose, M., Glassberg, H., Chokshi, N., Chen, T., Ferrari, V. A., & Han, Y. (2021). **Myocarditis and Other Cardiovascular Complications of the mRNA Based COVID-19 Vaccines.** *Cureus*, 13(6), e15576. doi:10.7759/cureus.15576. <https://www.ncbi.nlm.nih.gov/pubmed/34277198>
- Watkins, K., Griffin, G., Septaric, K., & Simon, E. L. (2021). **Myocarditis after BNT162b2 vaccination in a healthy male.** *Am J Emerg Med*, 50, 815 e811-815 e812. doi:10.1016/j.ajem.2021.06.051. <https://www.ncbi.nlm.nih.gov/pubmed/34229940>

Witberg, G., Barda, N., Hoss, S., Richter, I., Wiessman, M., Aviv, Y., . . . Kornowski, R. (2021). **Myocarditis after Covid-19 Vaccination in a Large Health Care Organization.** N Engl J Med, 385(23), 2132-2139. doi:10.1056/NEJMoa2110737. <https://www.ncbi.nlm.nih.gov/pubmed/34614329>

Nagasaka, T., Koitabashi, N., Ishibashi, Y., Aihara, K., Takama, N., Ohyama, Y., . . . Kaneko, Y. (2021). **Acute Myocarditis Associated with COVID-19 Vaccination: A Case Report.** J Cardiol Cases. doi:10.1016/j.jccase.2021.11.006. <https://www.ncbi.nlm.nih.gov/pubmed/34876937>

Zachary Boivin, Jennifer Martin, **Premature myocardial infarction or side effect of COVID-19 vaccine:** <https://pubmed.ncbi.nlm.nih.gov/33824804/>

Nicholas G Kounis et. al., **Acute Myocardial Infarction Within 24 Hours After COVID-19 Vaccination: Is Kounis Syndrome the Culprit?:** <https://pubmed.ncbi.nlm.nih.gov/34702550/>

Sabrina Yesmin Barsha et. al., **A case of acute encephalopathy and non-ST-segment elevation myocardial infarction after vaccination with mRNA-1273: possible adverse effect:** <https://pubmed.ncbi.nlm.nih.gov/34703815/>

Chouchana, L., Blet, A., Al-Khalaf, M., Kafil, T. S., Nair, G., Robblee, J., . . . Liu, P. P. (2021). **Features of Inflammatory Heart Reactions Following mRNA COVID-19 Vaccination at a Global Level.** Clin Pharmacol Ther. doi:10.1002/cpt.2499. <https://www.ncbi.nlm.nih.gov/pubmed/34860360>

19. **55,080 Symptoms reported as heart attacks, injury, cardiac arrest arrhythmia, fibrillation or other cardiomyopathy; 53% within two days after injection**

*Currently selected:*  
10003119 (ARRHYTHMIA)  
10002130 (ARRHYTHMIA SUP  
10067339 (ARRHYTHMIC SIG  
10058093 (ARRHYTHMOGENIC  
10003658 (ATRIAL FIBRILLAT  
10003662 (ATRIAL FLUTTER)  
10003668 (ATRIAL TACHYCAR  
10007515 (CARDIAC ARREST)  
10061024 (CARDIAC DISORDI  
10079751 (CARDIAC DYSFUN  
10052840 (CARDIAC FLUTTER  
10007617 (CARDIO-RESPIRAT  
10049874 (CARDIO-RESPIRAT  
10007636 (CARDIOMYOPATHY  
10007649 (CARDIOVASCULAR  
10061200 (HEART INJURY)  
10019300 (HEART RATE ABNC  
10019301 (HEART RATE DECR  
10019303 (HEART RATE INCR  
10019304 (HEART RATE IRREG  
10061216 (INFARCTION)

Mansanguan, S.; Charunwatthana, P.; Piyaphanee, W.; Dechkhajorn, W.; Poolcharoen, A.; Mansanguan, C. **Cardiovascular Effects of the BNT162b2 mRNA COVID-19 Vaccine in Adolescents.** Preprints 2022, 2022080151 (doi: 10.20944/preprints202208.0151.v1). <https://www.preprints.org/manuscript/202208.0151/v1>

Chida K, Takahashi T, Igarashi S, Fujimoto K, Ogasawara Y, Fujiwara S, Koji T, Kubo Y, Ogasawara K. **Rupture of Vertebral Artery Dissecting Aneurysm after mRNA Anti-COVID-19 Vaccination: A Report of Two Cases.** NMC Case Rep J. 2022 Apr 28;9:95-100. doi: 10.2176/jns-nmc.2022-0012. PMID: 35646499; PMCID: PMC9119691. <https://pubmed.ncbi.nlm.nih.gov/35646499/>

Chida et al: *Here, we reported two cases of VADA that ruptured immediately after the administration of different mRNA antiCOVID-19 vaccines. In both*

*cases, caliber irregularity of the VA was retrospectively identified on MRA before vaccination, suggesting that unruptured VA dissection had already developed. Then, these VADAs ruptured immediately after the vaccination.*<sup>23</sup>

Jeet Kaur R, Dutta S, Charan J, Bhardwaj P, Tandon A, Yadav D, Islam S, Haque M. **Cardiovascular Adverse Events Reported from COVID-19 Vaccines: A Study Based on WHO Database.** Int J Gen Med. 2021 Jul 27;14:3909-3927. doi: 10.2147/IJGM.S324349. PMID: 34349544; PMCID: PMC8326931. <https://pubmed.ncbi.nlm.nih.gov/34349544/>

***Results:** For the cardiovascular system, 4863 adverse events (AEs) were reported from BNT162b2 Pfizer, 1222 AstraZeneca, Moderna, and other COVID-19 vaccines. Common adverse events observed with vaccines under study were tachycardia (16.41%), flushing (12.17%), hypertension (5.82%), hypotension (3.60%) and peripheral coldness (2.41%). Based on disproportionality analysis (IC025 values), acute myocardial infarction, cardiac arrest, and circulatory collapse were linked to the vaccines in the age group >75 years. Hypertension, severe hypertension, supraventricular tachycardia, sinus tachycardia, and palpitations were associated across all age groups and either gender. Amongst the investigations, abnormal ECG findings raised C-reactive protein, elevated D dimer, and troponin were reported in specific age groups or gender or all subjects.*

***Conclusion:** Although cardiovascular events have been reported with the COVID-19 vaccines, the causality is yet to be established because such CVS AEs are also usually associated with the general public even without intervention. Hence, people should be administered these vaccines, and sustained monitoring of these AEs should be done.*

OK – so then why didn't the researchers design their study with a control group? Junk Science

Sun CLF, Jaffe E, Levi R. **Increased emergency cardiovascular events among under-40 population in Israel during vaccine rollout and third COVID-19 wave.** Sci Rep. 2022 Apr 28;12(1):6978. doi: 10.1038/s41598-022-10928-z. PMID: 35484304; PMCID: PMC9048615. <https://pubmed.ncbi.nlm.nih.gov/35484304/>

The Sun paper is in a Nature Journal and was featured in the May 4-10 issue of the Epoch Times

Jahnke C, Doeblin P, Tanacli R, Witt U, Schneider M, Stehning C, Pieske B, Kelle S. **Case Series of Potential Cardiac Inflammation Associated With Various SARS-CoV-2 Vaccinations Assessed by Cardiac MRI.** Front Cardiovasc Med. 2022 Apr 8;9:829392. doi: 10.3389/fcvm.2022.829392. PMID: 35463791; PMCID: PMC9024347. <https://pubmed.ncbi.nlm.nih.gov/35463791/>

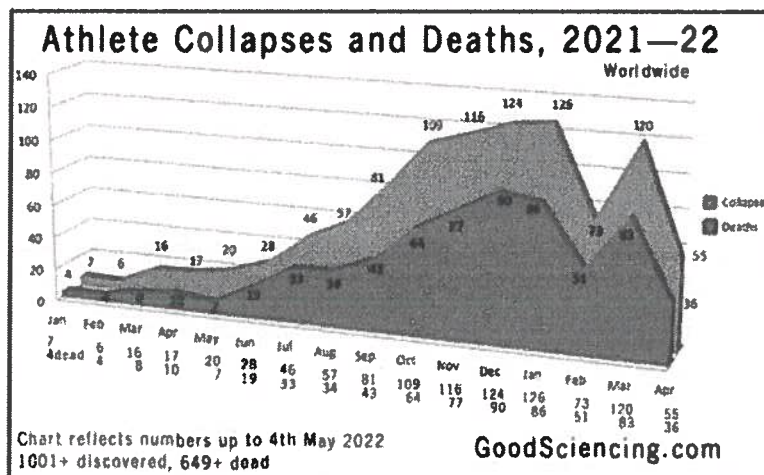
Block JP, Boehmer TK, Forrest CB, Carton TW, Lee GM, Ajani UA, Christakis DA, Cowell LG, Draper C, Gildayal N, Harris AM, Kappelman MD, Ko JY, Mayer KH, Nagavedu K, Oster ME, Paranjape A, Puro J, Ritchey MD, Shay DK, Thacker D, Gundlapalli AV. **Cardiac Complications After SARS-CoV-2 Infection and mRNA COVID-19 Vaccination - PCORnet, United States, January 2021-January 2022.** MMWR Morb Mortal Wkly Rep. 2022 Apr 8;71(14):517-523. doi: 10.15585/mmwr.mm7114e1. PMID: 35389977. <https://pubmed.ncbi.nlm.nih.gov/35389977/>

<sup>23</sup> Although this paper makes no reference to blood pressure in the case reports, see the high incidence of hypertension associated with COVID-19 vaccines in this report which appears to occur immediately after vaccination. Perhaps this was the trigger for aneurysm existing unruptured dissections.

Mohamed E, Coyle P, Kumar TS, Molokhia A, Harris T. **Cardiac arrest secondary to Covid19 pneumonia post full vaccination.** Am J Emerg Med. June 19 2021 ;49:257-258. doi:10.1016/j.ajem.2021.06.027 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8214330/pdf/main.pdf>

see also a list of athletes killed or injured by the vaccines:

Big List of Athletes After Jab



From: <https://stevekirsch.substack.com/p/more-troubling-data-for-the-vaccine?s=r>

## 20. 614 Symptoms reported as myositis; 39% within two days after injection

Magen E, Mukherjee S, Bhattacharya M, Detroja R, Merzon E, Blum I, Livoff A, Shlapobersky M, Baum G, Talisman R, Cherniavsky E, Dori A, Frenkel-Morgenstern M. **Clinical and Molecular Characterization of a Rare Case of BNT162b2 mRNA COVID-19 Vaccine-Associated Myositis.** Vaccines (Basel). 2022 Jul 16;10(7):1135. doi: 10.3390/vaccines10071135. PMID: 35891299; PMCID: PMC9324661. <https://pubmed.ncbi.nlm.nih.gov/35891299/>

Camargo Coronel A, Jiménez Balderas FJ, Quiñones Moya H, Hernández Zavala MR, Mandinabeitia Rodríguez P, Hernández Vázquez JR, Zamora Zarco S, Aguilar Castillo SJ. **Dermatomyositis post vaccine against SARS-COV2.** BMC Rheumatol. 2022 Apr 1;6(1):20. doi: 10.1186/s41927-022-00250-6. PMID: 35361289; PMCID: PMC8970647. <https://pubmed.ncbi.nlm.nih.gov/35361289/>

D J Theodorou, Drs, S J Theodorou, A Axiotis, M Gianniki, N Tsifetaki, **COVID-19 vaccine-related myositis, QJM: An International Journal of Medicine**, Volume 114, Issue 6, June 2021, Pages 424–425, <https://doi.org/10.1093/qjmed/hcab043>  
PDF

M. Blaise, F. Rocher, H. Spittler, A. Sanchez, E. Lanteri, L. Coco, A. Puma, A. Martel, G. Gonfrier, T. Passeron, H. Montaudie, **Severe necrotizing myopathy after COVID-19 vaccine with BNT162b2 and regimen with ipilimumab plus nivolumab in a patient with advanced melanoma**, First published: 17 October 2021, Journal of the European Academy of Dermatology and Venerology. <https://onlinelibrary.wiley.com/doi/full/10.1111/jdv.17760>

**21. 2,856 Symptoms reported as ischemic stroke; 30% within two days after injection**

Currently selected:  
 (CEREBROVASCULAR DISORDERS)  
 (CEREBROVASCULAR INSUFFICIENCY)  
 (CEREBROVASCULAR STENOSIS)  
 (EMBOLIC CEREBELLAR INFARCTION)  
 (EMBOLIC CEREBRAL INFARCTION)  
 (EMBOLIC STROKE)  
 (ISCHAEMIC CEREBRAL INFARCTION)  
 (ISCHAEMIC STROKE)  
 (THROMBOTIC CEREBRAL INFARCTION)  
 (THROMBOTIC STROKE)

Wills A, Swallow G, Kirkman MA, Rajan K, Subramanian G. **Arterial and venous thrombotic stroke after ChAdOx1 nCoV-19 vaccine**. Clin Med (Lond). 2022 Mar;22(2):184-186. doi: 10.7861/clinmed.2021-0321. PMID: 35304381; PMCID: PMC8966826.

<https://pubmed.ncbi.nlm.nih.gov/35304381/>

Kakovan M, Ghorbani Shirkouhi S, Zarei M, Andalib S. **Stroke Associated with COVID-19 Vaccines**. J Stroke Cerebrovasc Dis. 2022 Mar 4;31(6):106440. doi: 10.1016/j.jstrokecerebrovasdis.2022.106440. Epub ahead of print. PMID: 35339857; PMCID: PMC8894799. <https://pubmed.ncbi.nlm.nih.gov/35339857/>

Elaidouni G, Chetouani Z, Manal Merbouh CB, Bkiyar H, Housni B. **Acute ischemic stroke after first dose of inactivated COVID-19 vaccine: A case report**. Radiol Case Rep. 2022 Apr 6;17(6):1942-1945. doi: 10.1016/j.radcr.2022.02.082. PMID: 35392049; PMCID: PMC8983275.

<https://pubmed.ncbi.nlm.nih.gov/35392049/>

De Michele M, Kahan J, Berto I, Schiavo OG, Iacobucci M, Toni D, Merkler AE. **Cerebrovascular Complications of COVID-19 and COVID-19 Vaccination**. Circ Res. 2022 Apr 15;130(8):1187-1203. doi: 10.1161/CIRCRESAHA.122.319954. Epub 2022 Apr 14. PMID: 35420916; PMCID: PMC9005103.

<https://pubmed.ncbi.nlm.nih.gov/35420916/>

Stamenković M, Radmilo L, Jovičević M, Rabi-Žikić T, Žarkov M, Ružička-Kaloci S, Simić S, Stamenković A, Dangić J, Knezović G, Živanović Ž. **Clinical Characteristics of Patients with Acute Ischemic Stroke Previously Vaccinated Against COVID-19**. J Stroke Cerebrovasc Dis. 2022 Apr 4;31(6):106483. doi: 10.1016/j.jstrokecerebrovasdis.2022.106483. Epub ahead of print. PMID: 35447380; PMCID: PMC8977441. <https://pubmed.ncbi.nlm.nih.gov/35447380/>

<https://pubmed.ncbi.nlm.nih.gov/35447380/>

Oshida S, Akamatsu Y, Matsumoto Y, Suzuki T, Sasaki T, Kondo Y, Fujiwara S, Kashimura H, Kubo Y, Ogasawara K. **Intracranial aneurysm rupture within three days after receiving mRNA anti-COVID-19 vaccination: Three case reports**. Surg Neurol Int. 2022 Mar 31;13:117. doi: 10.25259/SNI\_1144\_2021. PMID: 35509565; PMCID: PMC9062907.

<https://pubmed.ncbi.nlm.nih.gov/35509565/>

Cascio Rizzo A, Giussani G, Agostoni EC. **Ischemic Stroke and Vaccine-Induced Immune Thrombotic Thrombocytopenia following COVID-19 Vaccine: A Case Report with Systematic Review of the Literature**. Cerebrovasc Dis. 2022 May 5:1-13. doi: 10.1159/000524290. Epub ahead of print. PMID: 35512656.

<https://pubmed.ncbi.nlm.nih.gov/35512656/>

Garcia-Azorin D, Baykan B, Beghi E, Doheim MF, Fernandez-de-Las-Penas C, Gezegen H, Guekht A, Hoo FK, Santacatterina M, Sejvar J, Tamborska AA, Thakur KT, Westenberg E, Winkler AS, Frontera JA; Contributors from the Global COVID-19 Neuro Research Coalition. **Timing of headache after COVID-19 vaccines and its association with cerebrovascular events: An analysis of 41,700 VAERS reports**. Cephalalgia. 2022 May

6:3331024221099231. doi: 10.1177/03331024221099231. Epub ahead of print. PMID: 35514199.  
<https://pubmed.ncbi.nlm.nih.gov/35514199/>

de Mélo Silva ML Jr, Lopes DP. **Large hemorrhagic stroke after ChAdOx1 nCoV-19 vaccination: A case report.** Acta Neurol Scand. 2021 Dec;144(6):717-718. doi: 10.1111/ane.13505. Epub 2021 Jul 17. PMID: 34273119; PMCID: PMC8444739. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8444739/pdf/ANE-9999-0.pdf>

Diogo Goulart Corrêa, Luis Alcides Quevedo Cañete, Gutemberg Augusto Cruz dos Santos, Romulo Varella de Oliveira, Carlos Otávio Brandão, Luiz Celso Hygino da Cruz, **Neurological symptoms and neuroimaging alterations related with COVID-19 vaccine: Cause or coincidence?**, Clinical Imaging, Volume 80, 2021, Pages 348-352, ISSN 0899-7071, <https://doi.org/10.1016/j.clinimag.2021.08.021>.  
<https://www.sciencedirect.com/science/article/pii/S0899707121003557>

**22. 884 Symptoms reported as cerebral venous sinus thrombosis (CVST); 37% within ten days after injection.**

Eric Kowarz, Lea Krutzke, Marius Külp, Patrick Streb, Patrizia Larghero, Jennifer Reis, Silvia Bracharz, Tatjana Engler, Stefan Kochanek, Rolf Marschalek (2022) **Vaccine-induced COVID-19 mimicry syndrome** eLife 11:e74974 <https://doi.org/10.7554/eLife.74974> <https://elifesciences.org/articles/74974>

*In Kowarz et al: In some rare cases, cerebral venous sinus thromboses (CVST) have been reported as a severe side effect occurring 4–14 days after the first vaccination and were often accompanied by thrombocytopenia. Besides CVST, splanchnic vein thromboses (SVT) and other thromboembolic events have been observed. **These events only occurred following vaccination with adenoviral vector-based vaccines but not following vaccination with mRNA-based vaccines.** Meanwhile, scientists have proposed an immune-based pathomechanism and the condition has been coined vaccine-induced immune thrombotic thrombocytopenia (VITT). Here, we describe an unexpected mechanism that could explain thromboembolic events occurring with DNA-based but not with RNA-based vaccines. **We show that DNA-encoded mRNA coding for Spike protein can be spliced in a way that the transmembrane anchor of Spike is lost, so that nearly full-length Spike is secreted from cells. Secreted Spike variants could potentially initiate severe side effects when binding to cells via the ACE2 receptor.***

Mele F, Tafuri S, Stefanizzi P, D Amati A, Calvano M, Leonardelli M, Macorano E, Duma S, De Gabriele G, Introna F, De Donno A. **Cerebral venous sinus thrombosis after COVID-19 vaccination and congenital deficiency of coagulation factors: Is there a correlation?** Hum Vaccin Immunother. 2022 Jul 27:2095166. doi: 10.1080/21645515.2022.2095166. Epub ahead of print. PMID: 35895937.  
<https://pubmed.ncbi.nlm.nih.gov/35895937/>

Park J, Park M-S, Kim HJ, Song T-J. **Association of Cerebral Venous Thrombosis with mRNA COVID-19 Vaccines: A Disproportionality Analysis of the World Health Organization Pharmacovigilance Database.** Vaccines. 2022; 10(5):799. <https://doi.org/10.3390/vaccines10050799> <https://www.mdpi.com/2076->

Ding J, Song B, Xie X, Li X, Chen Z, Wang Z, Pan L, Lan D, Meng R. **Inflammation in Cerebral Venous Thrombosis**. *Front Immunol*. 2022 Apr 4;13:833490. doi: 10.3389/fimmu.2022.833490. PMID: 35444662; PMCID: PMC9013750. <https://pubmed.ncbi.nlm.nih.gov/35444662/>

Esba LCA, Al Jeraisy M. **Reported adverse effects following COVID-19 vaccination at a tertiary care hospital, focus on cerebral venous sinus thrombosis (CVST)**. *Expert Rev Vaccines*. 2021 Aug;20(8):1037-1042. doi: 10.1080/14760584.2021.1940145. Epub 2021 Jun 17. PMID: 34092166; PMCID: PMC8220435. <https://pubmed.ncbi.nlm.nih.gov/34092166/>

Graf T, Thiele T, Klingebiel R, Greinacher A, Schäbitz WR, Greeve I. **Immediate high-dose intravenous immunoglobulins followed by direct thrombin-inhibitor treatment is crucial for survival in Sars-Covid-19-adenoviral vector vaccine-induced immune thrombotic thrombocytopenia VITT with cerebral sinus venous and portal vein thrombosis**. *J Neurol*. 2021 Dec;268(12):4483-4485. doi: 10.1007/s00415-021-10599-2. Epub 2021 May 22. PMID: 34023956; PMCID: PMC8140563. <https://pubmed.ncbi.nlm.nih.gov/34023956/>

Dutta A, Ghosh R, Bhattacharya D, Bhat S, Ray A, Pandit A, Das S, Dubey S. **Anti-PF4 antibody negative cerebral venous sinus thrombosis without thrombocytopenia following immunization with COVID-19 vaccine in an elderly non-comorbid Indian male, managed with conventional heparin-warfarin based anticoagulation**. *Diabetes Metab Syndr*. 2021 Jul-Aug;15(4):102184. doi: 10.1016/j.dsx.2021.06.021. Epub 2021 Jun 24. PMID: 34186376; PMCID: PMC8223002. <https://pubmed.ncbi.nlm.nih.gov/34186376/>

Sharifian-Dorche M, Bahmanyar M, Sharifian-Dorche A, Mohammadi P, Nomovi M, Mowla A. **Vaccine-induced immune thrombotic thrombocytopenia and cerebral venous sinus thrombosis post COVID-19 vaccination; a systematic review**. *J Neurol Sci*. 2021 Sep 15;428:117607. doi: 10.1016/j.jns.2021.117607. Epub 2021 Aug 3. PMID: 34365148; PMCID: PMC8330139. <https://pubmed.ncbi.nlm.nih.gov/34365148/>

Rizk JG, Gupta A, Sardar P, Henry BM, Lewin JC, Lippi G, Lavie CJ. **Clinical Characteristics and Pharmacological Management of COVID-19 Vaccine-Induced Immune Thrombotic Thrombocytopenia With Cerebral Venous Sinus Thrombosis: A Review**. *JAMA Cardiol*. 2021 Dec 1;6(12):1451-1460. doi: 10.1001/jamacardio.2021.3444. PMID: 34374713. <https://pubmed.ncbi.nlm.nih.gov/34374713/>

Casolla B, Cordonnier C. **Cerebral venous sinus thrombosis associated with COVID-19 vaccine-induced thrombocytopenia: Improvement in mortality rate over time**. *Eur J Neurol*. 2022 Jan;29(1):1-2. doi: 10.1111/ene.15151. Epub 2021 Oct 31. PMID: 34665505; PMCID: PMC8652860. <https://pubmed.ncbi.nlm.nih.gov/34665505/>

Butler-Manuel W, Rana UI, Zafar M, Gadi A, Kiani A. **Post COVID-19 Vaccine Related Cerebral Venous Sinus Thrombosis and Thrombocytopenia**. *Cureus*. 2022 Jan 4;14(1):e20932. doi: 10.7759/cureus.20932. PMID: 35004085; PMCID: PMC8733850. <https://pubmed.ncbi.nlm.nih.gov/35004085/>

Alhashim A, Hadhiah K, Al Khalifah Z, Alhaddad FM, Al ARhain SA, Bin Saif FH, Abid A, Al Gamdi O, Alsulaiman F, AlQarni M. **Extensive Cerebral Venous Sinus Thrombosis (CVST) After the First Dose of Pfizer-BioNTech BNT162b2 mRNA COVID-19 Vaccine without Thrombotic Thrombocytopenia Syndrome**

**(TTS) in a Healthy Woman.** Am J Case Rep. 2022 Feb 9;23:e934744. doi: 10.12659/AJCR.934744. PMID: 35136010; PMCID: PMC8842441. <https://pubmed.ncbi.nlm.nih.gov/35136010/>

Khan E, Bavishi S, Sharma AK, Sharma VK, Goyal V. **COVID-19 Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT) and Cerebral Venous Sinus Thrombosis (CVST)- Lessons for India.** Ann Indian Acad Neurol. 2022 Jan-Feb;25(1):15-20. doi: 10.4103/aian.aian\_669\_21. Epub 2021 Oct 22. PMID: 35342247; PMCID: PMC8954332. <https://pubmed.ncbi.nlm.nih.gov/35342247/>

Tomassini L, Paolini D, Petrasso PEY, Manta AM, Piersanti V, Straccamore M, Ciallella C. **What about cerebral venous sinus thrombosis? A series of three autopsy cases.** Leg Med (Tokyo). 2022 May;56:102052. doi: 10.1016/j.legalmed.2022.102052. Epub 2022 Mar 7. PMID: 35276490. <https://pubmed.ncbi.nlm.nih.gov/35276490/>

Palaiodimou L, Stefanou MI, de Sousa DA, Coutinho JM, Papadopoulou M, Papaevangelou V, Vassilakopoulos TI, Tsiodras S, Filippou DK, Tsigoulis G. **Cerebral venous sinus thrombosis in the setting of COVID-19 vaccination: a systematic review and meta-analysis.** J Neurol. 2022 Apr 8. doi: 10.1007/s00415-022-11101-2. Epub ahead of print. PMID: 35394172. <https://pubmed.ncbi.nlm.nih.gov/35394172/>

de Gregorio C, Colarusso L, Calcaterra G, Bassareo PP, Ieni A, Mazzeo AT, Ferrazzo G, Noto A, Koniari I, Mehta JL, Kounis NG. **Cerebral Venous Sinus Thrombosis following COVID-19 Vaccination: Analysis of 552 Worldwide Cases.** Vaccines (Basel). 2022 Feb 3;10(2):232. doi: 10.3390/vaccines10020232. PMID: 35214690; PMCID: PMC8874972. <https://pubmed.ncbi.nlm.nih.gov/35214690/>

**Cerebral Vein Thrombosis With Vaccine-Induced Immune Thrombotic Thrombocytopenia**  
<https://www.ahajournals.org/doi/epub/10.1161/STROKEAHA.121.035613>

23. **4,246 Symptoms reported as thrombocytopenia, thrombotic thrombocytopenic purpura, VIT or purpura; 43% within ten days after injection.**

Fang F, Tse B, Pavenski K. **Relapse of immune thrombotic thrombocytopenic purpura (iTTP) possibly triggered by COVID-19 vaccination and/or concurrent COVID-19 infection.** BMJ Case Rep. 2022 Jul 28;15(7):e247524. doi: 10.1136/bcr-2021-247524. PMID: 35902184. <https://pubmed.ncbi.nlm.nih.gov/35902184/>

Sharma K, Patel S, Patel Z, Patel KB, Shah DB, Doshi J, Chokshi P, Sharma C, Amdani MM, Parabtani A, Benani U, Konat A. **Immune Thrombocytopenia in Previously Healthy Individuals Following SARS-CoV-2 Vaccination (COVID-19 Immunization): A Descriptive Research of 70 Instances With a Focus on Biomarkers, Predictive Outcomes, and Consequences.** Cureus. 2022 Jul 1;14(7):e26480. doi: 10.7759/cureus.26480. PMID: 35923492; PMCID: PMC9342832. <https://pubmed.ncbi.nlm.nih.gov/35923492/>

Mouta Nunes de Oliveira P, Mendes-de-Almeida DP, Bertollo Gomes Porto V, Crespo Cordeiro C, Vitiello Teixeira G, Saraiva Pedro R, Roberto Gomes Takey P, Kegele Lignani L, Reis Xavier J, Cardoso Doria da Gama V, Amorim Filho L, Emoingt Furtado B, Santa Maria A, Dahrug Barros T, Neves Waite Freitas L, Dos Santos Pereira T, Lima Abreu D, Bernardes Ramos M, Gabe C, Arnold D, William Smith J, Nazy I, Lourdes de Sousa Maia M; **Brazilian VITT Investigative Collaboration Group. Vaccine-induced immune thrombotic**

**thrombocytopenia after COVID-19 vaccination: Description of a series of 39 cases in Brazil.** Vaccine. 2022 Jun 16;S0264-410X(22)00761-7. doi: 10.1016/j.vaccine.2022.06.014. Epub ahead of print. PMID: 35779962; PMCID: PMC9212666. <https://pubmed.ncbi.nlm.nih.gov/35779962/>

Tiwari AM, Zirpe KG, Gurav SK, Bhurud LB, Suryawanshi RS, Kulkarni SS. **Case of Suspected SARS-CoV-2 Vaccine-induced Immune Thrombotic Thrombocytopenia: Dilemma for Organ Donation.** Indian J Crit Care Med. 2022 Summer;26(4):514-517. doi: 10.5005/jp-journals-10071-24184. PMID: 35656057; PMCID: PMC9067495. <https://pubmed.ncbi.nlm.nih.gov/35656057/>

Ribeiro MI, Pimenta I, Conde I, Gonzalez FA. **Vaccine-induced immune thrombocytopaenia and thrombosis (VITT) after COVID-19 vaccination.** BMJ Case Rep. 2022 May 19;15(5):e247346. doi: 10.1136/bcr-2021-247346. PMID: 35589271. <https://pubmed.ncbi.nlm.nih.gov/35589271/>

Atyabi SMH, Rommasi F, Ramezani MH, Ghane Ezabadi MF, Arani MA, Sadeghi MH, Ahmed MM, Rajabi A, Dehghan N, Sohrabi A, Seifi M, Nasiri MJ. **Relationship between blood clots and COVID-19 vaccines: A literature review.** Open Life Sci. 2022 Apr 26;17(1):401-415. doi: 10.1515/biol-2022-0035. PMID: 35582622; PMCID: PMC9055170. <https://pubmed.ncbi.nlm.nih.gov/35582622/>

Nicholson M, Goubran H, Chan N, Siegal D. **No apparent association between mRNA COVID-19 vaccination and venous thromboembolism.** Blood Rev. 2022 May 11:100970. doi: 10.1016/j.blre.2022.100970. Epub ahead of print. PMID: 35577626; PMCID: PMC9091073. <https://pubmed.ncbi.nlm.nih.gov/35577626/>

Herblum J, Frishman W. **Cardiovascular and Hematologic Complications of COVID-19 Vaccines.** Cardiol Rev. 2022 May 16. doi: 10.1097/CRD.0000000000000457. Epub ahead of print. PMID: 35576367. <https://pubmed.ncbi.nlm.nih.gov/35576367/>

Kanack A, Bayas A, George G, Abou-Ismaïl MY, Singh B, Kohlhagen M, Splinter N, Christ M, Naumann M, Moser KA, Smock KJ, Grazioli A, Wen R, Wang D, Murray DL, Padmanabhan A. **Monoclonal and oligoclonal anti-Platelet Factor 4 antibodies mediate VITT.** Blood. 2022 May 13:blood.2021014588. doi: 10.1182/blood.2021014588. Epub ahead of print. PMID: 35560046. <https://pubmed.ncbi.nlm.nih.gov/35560046/>

Saluja P, Gautam N, Yadala S, Venkata AN. **Thrombotic thrombocytopenic purpura (TTP) after COVID-19 vaccination: A systematic review of reported cases.** Thromb Res. 2022 Jun;214:115-121. doi: 10.1016/j.thromres.2022.04.020. Epub 2022 May 2. PMID: 35533526; PMCID: PMC9060716. <https://pubmed.ncbi.nlm.nih.gov/35533526/>

Lai CMB, Lee AYY, Parkin SBI. **Vaccine-induced prothrombotic immune thrombocytopenia without thrombosis may not require immune modulatory therapy: A case report.** Res Pract Thromb Haemost. 2022 May 18;6(4):e12716. doi: 10.1002/rth2.12716. PMID: 35599706; PMCID: PMC9115974. <https://pubmed.ncbi.nlm.nih.gov/35599706/>

Abbasi S, Alsermani A, Alsegayyir A, Altahan T, Alsermani M, Almustanyir S. **Vaccine-Induced Thrombotic Thrombocytopenia: A Case of Splanchnic Veins Thrombosis**. Cureus. 2022 Mar 26;14(3):e23507. doi: 10.7759/cureus.23507. PMID: 35494984; PMCID: PMC9038581. <https://pubmed.ncbi.nlm.nih.gov/35494984/>

Silva L, Pombal R, Fidalgo M, Freitas A, Barbosa M, Magalhães L, Correia M, Valente J. **Vaccine-Induced Thrombotic Thrombocytopenia: A Case Report**. Cureus. 2022 Mar 15;14(3):e23196. doi: 10.7759/cureus.23196. PMID: 35449682; PMCID: PMC9012549. <https://pubmed.ncbi.nlm.nih.gov/35449682/>

Dix C, McFadyen J, Huang A, Chunilal S, Chen V, Tran H. **Understanding vaccine-induced thrombotic thrombocytopenia (VITT)**. Intern Med J. 2022 May;52(5):717-723. doi: 10.1111/imj.15783. Epub 2022 Apr 21. PMID: 35446471; PMCID: PMC9111818. <https://pubmed.ncbi.nlm.nih.gov/35446471/>

Montague SJ, Smith CW, Lodwick CS, Stoneley C, Roberts M, Lowe GC, Lester WA, Watson SP, Nicolson PLR. **Anti-platelet factor 4 immunoglobulin G levels in vaccine-induced immune thrombocytopenia and thrombosis: Persistent positivity through 7 months**. Res Pract Thromb Haemost. 2022 May 4;6(3):e12707. doi: 10.1002/rth2.12707. PMID: 35515079; PMCID: PMC9066380. <https://pubmed.ncbi.nlm.nih.gov/35515079/>

Kimball E, Buchwalder K, Upchurch C, Kea B. **Intermittent complete heart block with ventricular standstill after Pfizer COVID-19 booster vaccination: A case report**. J Am Coll Emerg Physicians Open. 2022 Apr 20;3(2):e12723. doi: 10.1002/emp2.12723. PMID: 35475120; PMCID: PMC9020811. <https://pubmed.ncbi.nlm.nih.gov/35475120/>

Kim AY, Woo W, Yon DK, Lee SW, Yang JW, Kim JH, Park S, Koyanagi A, Kim MS, Lee S, Shin JI, Smith L. **Thrombosis patterns and clinical outcome of COVID-19 vaccine-induced immune thrombotic thrombocytopenia: A Systematic Review and Meta-Analysis**. Int J Infect Dis. 2022 Mar 24;119:130-139. doi: 10.1016/j.ijid.2022.03.034. Epub ahead of print. PMID: 35339716; PMCID: PMC8942584. <https://pubmed.ncbi.nlm.nih.gov/35339716/>

Günther A, Brämer D, Pletz MW, Kamradt T, Baumgart S, Mayer TE, Baier M, Autsch A, Mawrin C, Schönborn L, Greinacher A, Thiele T. **Complicated Long Term Vaccine Induced Thrombotic Immune Thrombocytopenia-A Case Report**. Vaccines (Basel). 2021 Nov 17;9(11):1344. doi: 10.3390/vaccines9111344. PMID: 34835275; PMCID: PMC8622649. <https://pubmed.ncbi.nlm.nih.gov/34835275/>

Shin Jie Yong, **What Autopsies of Vaccinated People (With Covid Vaccines) Show**, Microbial Instincts, Dec 17, 2021, <https://medium.com/microbial-instincts/what-autopsies-of-vaccinated-people-with-covid-vaccines-show-ddc00cc16d14>

Grobbelaar LM, Venter C, Vlok M, et al. **SARS-CoV-2 spike protein S1 induces fibrin(ogen) resistant to fibrinolysis: implications for microclot formation in COVID-19**. Biosci Rep. 2021;41(8):BSR20210611. doi:10.1042/BSR20210611 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8380922/>

Erin Garcia de Jesús, **How antibodies may cause rare blood clots after some COVID-19 vaccines**, Science, July 7, 2021  
<https://www.sciencenews.org/article/coronavirus-covid-vaccine-antibodies-cause-blood-clots-side-effect>

Theodore E Warkentin, MD, BSc(Med), FRCP(C), FACP, FRCP(Edin) Adam Cuker, MD, MS  
Section Editor: Mark Crowther, MD, MSc Deputy Editor: Jennifer S Tirnauer, MD **COVID-19: Vaccine-induced immune thrombotic thrombocytopenia (VITT)** UpToDate  
<https://www.uptodate.com/contents/covid-19-vaccine-induced-immune-thrombotic-thrombocytopenia-vitt#!>

Muir, Kate-Lynn, Kallam, Avyakta, Koepsell, Scott A. Gundabolu, Krishna, **Thrombotic Thrombocytopenia after Ad26.COV2.S Vaccination**, 2021/04/14, New England Journal of Medicine, pp 1964-1965, vol 384, number 20, 10.1056/NEJMc2105869, 33852795, <https://www.nejm.org/doi/full/10.1056/NEJMc2105869>

Huynh, A., Kelton, J.G., Arnold, D.M. et al. **Antibody epitopes in vaccine-induced immune thrombotic thrombocytopenia**. Nature 596, 565–569 (2021). <https://doi.org/10.1038/s41586-021-03744-4>  
<https://www.nature.com/articles/s41586-021-03744-4>

Pavord S, Makris M. **Second-dose VITT: rare but real**. Blood. 2022;139(17):2581-2583.  
doi:10.1182/blood.2022016118 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9047991/>

Trajkovska EL, Mitevska I, Bosevski M, Nastevska CEG, Chelikikj A, Gjorgjievski A. **Vaccine-Induced Thrombotic Thrombocytopenia and Covid-19 Vaccines: Case Series**. Pril (Makedon Akad Nauk Umet Odd Med Nauki). 2022 Apr 22;43(1):49-55. doi: 10.2478/prilozi-2022-0005. PMID: 35451293.  
<https://pubmed.ncbi.nlm.nih.gov/35451293/>

Parveen F, Mujahid K, Yusuff S. **Vaccine-induced thrombosis and thrombocytopenia with widespread abdominal venous thrombosis, venous ischaemia and bowel oedema**. BMJ Case Rep. 2022 Apr 6;15(4):e247996. doi: 10.1136/bcr-2021-247996. PMID: 35387789.  
<https://pubmed.ncbi.nlm.nih.gov/35387789/>

Noyé M, Sauvage A, Toussaint M, Benoit R, Foret T, Lagrange J, Dufrost V, Regnault V, Zuily S, Wahl DG. **Microvascular manifestations revealing vaccine-induced thrombotic thrombocytopenia after COVID-19 vaccination**. J Med Vasc. 2022 Feb;47(1):36-38. doi: 10.1016/j.jdmv.2022.01.072. Epub 2022 Jan 17. PMID: 35393091; PMCID: PMC8761539.  
<https://pubmed.ncbi.nlm.nih.gov/35393091/>

Uprasert N, Watanaboonyongcharoen P, Vichitrachaneekorn R, Trithiphen S, Akkawat B, Sukperm A, Tongbai T, Jantarabenjakul W, Paitoonpong L, Rojnuckarin P. **Prevalence of thrombocytopenia, anti-platelet factor 4 antibodies and D-dimer elevation in Thai people After ChAdOx1 nCoV-19 vaccination**. Res Pract Thromb Haemost. 2021 Sep 18;5(6):e12580. doi: 10.1002/rth2.12580. PMID: 34568726; PMCID: PMC8449289.  
<https://pubmed.ncbi.nlm.nih.gov/34568726/>

Osmanodja B, Schreiber A, Schrezenmeier E, Seelow E. **First diagnosis of thrombotic thrombocytopenic purpura after SARS-CoV-2 vaccine - case report**. BMC Nephrol. 2021 Dec 11;22(1):411. doi: 10.1186/s12882-021-02616-3. PMID: 34895163; PMCID: PMC8665311.  
<https://pubmed.ncbi.nlm.nih.gov/34895163/>

Congiu T, Fanni D, Piras M, Gerosa C, Cau F, Barcellona D, D'Aloja E, Demontis R, Chighine A, Nioi M, Coni P, Ravarino A, Cerrone G, Aimola V, Botta C, Scano A, Orrù G, Coghe F, Van Eyken

P, La Nasa G, Saba L, Suri JS, Faa G, Marongiu F. **Ultrastructural findings of lung injury due to Vaccine-induced Immune Thrombotic Thrombo- cytopenia (VITT) following COVID-19 vaccination: a scanning electron microscopic study.** Eur Rev Med Pharmacol Sci. 2022 Jan;26(1):270-277. doi: 10.26355/eurrev\_202201\_27777. PMID: 35049004.  
<https://pubmed.ncbi.nlm.nih.gov/35049004/>

Kragholm K, Sessa M, Mulvad T, et al. **Thrombocytopenia after COVID-19 vaccination.** J Autoimmun. 2021;123:102712. doi:10.1016/j.jaut.2021.102712  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8313538/pdf/main.pdf>

Kounis NG, Koniari I, de Gregorio C, et al. **COVID-19 Disease, Women's Predominant Non-Heparin Vaccine-Induced Thrombotic Thrombocytopenia and Kounis Syndrome: A Passepartout Cytokine Storm Interplay.** Biomedicines. 2021;9(8):959. Published 2021 Aug 5.  
doi:10.3390/biomedicines9080959  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8391920/pdf/biomedicines-09-00959.pdf>

Gupta A, Sardar P, Cash ME, Milani RV, Lavie CJ. **Covid-19 vaccine- induced thrombosis and thrombocytopenia-a commentary on an important and practical clinical dilemma.** Prog Cardiovasc Dis. 2021;67:105-107. doi:10.1016/j.pcad.2021.05.001  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8130591/pdf/main.pdf>

Wang YH, Huang LY, Chen YL, et al. ChAdOx1 **COVID-19 vaccine-induced thrombocytopenia syndrome** [published online ahead of print, 2021 Aug 25]. QJM. 2021;hcab221.  
doi:10.1093/qjmed/hcab221  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8499769/pdf/hcab221.pdf>

Uwe Walter, Mario Fuchs, Annette Grossmann, Michael Walter, Thomas Thiele, Alexander Storch, Matthias Wittstock, **Adenovirus-Vectored COVID-19 Vaccine-Induced Immune Thrombosis of Carotid Artery, A Case Report** Neurology Oct 2021, 97 (15) 716-719; DOI: 10.1212/WNL.0000000000012576  
<https://n.neurology.org/content/neurology/97/15/716.full.pdf>

24. **3,236 Symptoms reported as of kidney or renal failure, nephritis, Glomerulonephritis, Hemolytic uremic syndrome (HUS) or other urinary system failures; 29% within two days after injection.**

*Currently selected:*

10018362 (GLOMERULAR VAS  
10018364 (GLOMERULONEPHI  
10018366 (GLOMERULONEPHI  
10018378 (GLOMERULONEPHI  
10051920 (GLOMERULONEPHI  
10018932 (HAEMOLYTIC URAE  
10076916 (KIDNEY CONGEST  
10048469 (KIDNEY ENLARGEM  
10029117 (NEPHRITIS)  
10029151 (NEPHROPATHY)  
10048988 (RENAL ARTERY OC  
10038378 (RENAL ARTERY ST  
10038380 (RENAL ARTERY TH  
10038381 (RENAL ATROPHY)  
10038422 (RENAL CORTICAL I  
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10038436 (RENAL FAILURE AC  
10062237 (RENAL IMPAIRMEN  
10038470 (RENAL INFARCT)  
10061481 (RENAL INJURY)  
10063897 (RENAL ISCHAEMIA  
10038481 (RENAL NECROSIS)  
10038537 (RENAL TUBULAR C  
10078933 (RENAL TUBULAR DI  
10038540 (RENAL TUBULAR N  
10072226 (RENAL VASCULAR  
10038546 (RENAL VASCULITIS  
10038547 (RENAL VEIN EMBOL  
10056293 (RENAL VEIN OCCL  
10038548 (RENAL VEIN THRO  
10072109 (RENAL VENOUS CO  
10046480 (URETHRITIS)

Ma Y, Xu G. **New-Onset IgA nephropathy Following COVID-19 Vaccination.** QJM. 2022 Aug 3;hcac185. doi: 10.1093/qjmed/hcac185. Epub ahead of print. PMID: 35920797. <https://pubmed.ncbi.nlm.nih.gov/35920797/>

So D, Min KW, Jung WY, Han SW, Yu MY. **Microscopic Polyangiitis Following mRNA COVID-19 Vaccination: A Case Report.** J Korean Med Sci. 2022 May 16;37(19):e154. doi: 10.3346/jkms.2022.37.e154. PMID: 35578586. <https://pubmed.ncbi.nlm.nih.gov/35578586/>

Tan FS, Kabir ME, Bhandari S. **Acute interstitial nephritis after COVID-19 vaccination.** BMJ Case Rep. 2022 May 19;15(5):e246841. doi: 10.1136/bcr-2021-246841. PMID: 35589264. <https://pubmed.ncbi.nlm.nih.gov/35589264/>

Faour WH, Choib A, Issa E, Choueiry FE, Shbaklo K, Alhadj M, Sawaya RT, Harhous Z, Alefishat E, Nader M. **Mechanisms of COVID-19-induced kidney injury and current pharmacotherapies.** Inflamm Res. 2022 Jan;71(1):39-56. doi: 10.1007/s00011-021-01520-8. Epub 2021 Nov 21. PMID: 34802072; PMCID: PMC8606168. <https://pubmed.ncbi.nlm.nih.gov/34802072/>

Caza TN, Cassol CA, Messias N, Hannoudi A, Haun RS, Walker PD, May RM, Seipp RM, Betchick EJ, Amin H, Ziadie MS, Haderlie M, Eduwu-Okwuwa J, Vancea I, Seek M, Elashi EB, Shenoy G, Khalilullah S, Flaxenburg JA, Brandt J, Diamond MJ, Frome A, Kim EH, Schlessinger G, Ulozas E, Weatherspoon JL, Hoerschgen ET, Fabian SL, Bae SY, Iqbal B, Chouhan KK, Karam Z, Henry JT, Larsen CP. **Glomerular Disease in Temporal Association with SARS-CoV-2 Vaccination: A Series of 29 Cases.** Kidney360. 2021 Sep 16;2(11):1770-1780. doi: 10.34067/KID.0005372021. PMID: 35372991; PMCID: PMC8785835. <https://pubmed.ncbi.nlm.nih.gov/35372991/>

Choi JH, Kang KS, Han KH. **Two adolescent cases of acute tubulointerstitial nephritis after second dose of COVID-19 mRNA vaccine.** Hum Vaccin Immunother. 2022 Apr 6;1-6. doi: 10.1080/21645515.2022.2059308. Epub ahead of print. PMID: 35385678. <https://pubmed.ncbi.nlm.nih.gov/35385678/>

Watanabe S, Zheng S, Rashidi A. **IgA nephropathy relapse following COVID-19 vaccination treated with corticosteroid therapy: case report.** BMC Nephrol. 2022 Apr 7;23(1):135. doi: 10.1186/s12882-022-02769-9. PMID: 35392838; PMCID: PMC8988530. <https://pubmed.ncbi.nlm.nih.gov/35392838/>

Mira FS, Costa Carvalho J, de Almeida PA, Pimenta AC, Alen Coutinho I, Figueiredo C, Rodrigues L, Sousa V, Ferreira E, Pinto H, Escada L, Galvão A, Alves R. **A Case of Acute Interstitial Nephritis After Two Doses of the BNT162b2 SARS-CoV-2 Vaccine.** Int J Nephrol Renovasc Dis. 2021 Dec 3;14:421-426. doi: 10.2147/IJNRD.S345898. PMID: 34887676; PMCID: PMC8650829. <https://pubmed.ncbi.nlm.nih.gov/34887676/>

Feghali EJ, Zafar M, Abid S, Santoriello D, Mehta S. **De-novo Antineutrophil Cytoplasmic Antibody-Associated Vasculitis Following the mRNA-1273 (Moderna) Vaccine for COVID-19.** Cureus. 2021 Nov 16;13(11):e19616. doi: 10.7759/cureus.19616. PMID: 34956751; PMCID: PMC8675571. <https://pubmed.ncbi.nlm.nih.gov/34956751/>

Schaubslager T, Rajora N, Diep S, Kirtsek T, Cai Q, Hendricks AR, Shastri S, Zhou XJ, Saxena R. **De novo or recurrent glomerulonephritis and acute tubulointerstitial nephritis after COVID-19 vaccination: A report of six cases from a single center.** Clin Nephrol. 2022 Feb 10. doi: 10.5414/CN110794. Epub ahead of print. PMID: 35142282. <https://pubmed.ncbi.nlm.nih.gov/35142282/>

Lim JH, Kim MS, Kim YJ, Han MH, Jung HY, Choi JY, Cho JH, Kim CD, Kim YL, Park SH. **New-Onset Kidney Diseases after COVID-19 Vaccination: A Case Series.** Vaccines (Basel). 2022 Feb 16;10(2):302. doi: 10.3390/vaccines10020302. PMID: 35214760; PMCID: PMC8880359 <https://pubmed.ncbi.nlm.nih.gov/35214760/>

Sugita K, Kaneko S, Hisada R, Harano M, Anno E, Hagiwara S, Imai E, Nagata M, Tsukamoto Y. **Development of IgA vasculitis with severe glomerulonephritis after COVID-19 vaccination: a case report and literature review.** CEN Case Rep. 2022 Mar 11;1-6. doi: 10.1007/s13730-022-00695-1. Epub ahead of print. PMID: 35275366; PMCID: PMC8914443. <https://pubmed.ncbi.nlm.nih.gov/35275366/>

Klomjit N, Alexander MP, Fervenza FC, et al. **COVID-19 vaccination and glomerulonephritis** [published online ahead of print, 2021 Oct 6]. Kidney Int Rep. 2021;10.1016/j.ekir.2021.09.008. doi:10.1016/j.ekir.2021.09.008 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8493782/pdf/main.pdf>

Nicholas L. Li et. al. **COVID-19 vaccination followed by activation of glomerular diseases: does association equal causation?** Kidney International (2021) 100, 959–965; <https://doi.org/10.1016/j.kint.2021.09.002> <https://www.kidneyinternational-online.org/action/showPdf?pii=S0085-2538%2821%2900854-1>

Mira FS, Costa Carvalho J, de Almeida PA, Pimenta AC, Alen Coutinho I, Figueiredo C, Rodrigues L, Sousa V, Ferreira E, Pinto H, Escada L, Galvão A, Alves R. **A Case of Acute Interstitial Nephritis After Two Doses of the BNT162b2 SARS-CoV-2 Vaccine.** Int J Nephrol Renovasc Dis. 2021 Dec 3;14:421-426. doi:

10.2147/IJNRD.S345898. PMID: 34887676; PMCID: PMC8650829.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8650829/pdf/ijnrd-14-421.pdf>

Nakazawa E, Uchimura T, Hirai Y, Togashi H, Oyama Y, Inaba A, Shiga K, Ito S. **New-onset pediatric nephrotic syndrome following Pfizer-BioNTech SARS-CoV-2 vaccination: a case report and literature review.** CEN Case Rep. 2021 Nov 15;1–5. doi: 10.1007/s13730-021-00656-0. Epub ahead of print. PMID: 34782983; PMCID: PMC8592073.

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8592073/pdf/13730\\_2021\\_Article\\_656.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8592073/pdf/13730_2021_Article_656.pdf)

Dheir H, Sipahi S, Cakar GC, Yaylaci S, Hacibekiroglu T, Karabay O. **Acute tubulointerstitial nephritis after COVID-19 m-RNA BNT162b2 vaccine.** Eur Rev Med Pharmacol Sci. 2021 Oct;25(20):6171-6173. doi: 10.26355/eurrev\_202110\_26985. PMID: 34730195.

<https://www.europeanreview.org/wp/wp-content/uploads/6171-6173.pdf>

Ferrer F, Roldão M, Figueiredo C, Lopes K. **Atypical Hemolytic Uremic Syndrome after ChAdOx1 nCoV-19 Vaccination in a Patient with Homozygous CFHR3/CFHR1 Gene Deletion.** Nephron. 2021 Nov 1:1-5. doi: 10.1159/000519461. Epub ahead of print. PMID: 34724668; PMCID: PMC8678224.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8678224/pdf/nef-0001.pdf>

25. **2,315 Symptoms reported as paralysis or catatonia; 48% within two days after injection.**

Colella G, Orlandi M, Cirillo N. **Bell's palsy following COVID-19 vaccination.** J Neurol. 2021;268(10):3589-3591. doi:10.1007/s00415-021-10462-4

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7897359/pdf/415\\_2021\\_Article\\_10462.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7897359/pdf/415_2021_Article_10462.pdf)

Flannery P, Yang I, Keyvani M, Sakoulas G. **Acute Psychosis Due to Anti-N-Methyl D-Aspartate Receptor Encephalitis Following COVID-19 Vaccination: A Case Report.** Front Neurol. 2021 Nov 4;12:764197. doi: 10.3389/fneur.2021.764197. PMID: 34803896; PMCID: PMC8599934.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8599934/pdf/fneur-12-764197.pdf>

26. **31,232 Symptoms reported as tremor, dyskinesia, dystonia, myoclonus, tics, rigidity, spasmodic dysphonia, akinesia, bradykinesia, hypokinesia, Ataxia, dysmetria, asynergia, Athetosis, Bradyphrenia or other neurological pathologies; 69% within 2 days of injection.**

10001541 (AKINESIA)  
10003591 (ATAXIA)  
10003626 (ATHETOSIS)  
10003958 (CATONIC SEIZURES)  
10008100 (BRADYPHRENIA)  
10058012 (BRADYPHRENIA)  
10013916 (DYSKINESIA)  
10013924 (DYSKINESIA) DESC  
10013926 (DYSKINESIA)  
10013952 (DYSKINESIA)  
10013983 (DYSKINESIA)  
10073210 (DYSKINESIA) TREMO  
10021021 (HYPOKINESIA)  
10028622 (MYOCLONUS)  
10059832 (NEUROLOGICAL E  
10060860 (NEUROLOGICAL S  
10067672 (SPASMODIC DYS  
10042833 (TIC)  
10044565 (TREMOR)

Khokhar F, Khan A, Hussain Z, Yu J. **Small Fiber Neuropathy Associated With the Moderna SARS-CoV-2 Vaccine.** Cureus. 2022 Jun 15;14(6):e25969. doi: 10.7759/cureus.25969. PMID: 35812635; PMCID: PMC9259076. <https://pubmed.ncbi.nlm.nih.gov/35812635/>

Kim JE, Park J, Song TJ. **A disproportionality analysis for the association of central nervous system demyelinating diseases with COVID-19 vaccination using the World Health Organization pharmacovigilance database.** Mult Scler. 2022 Jul 13:13524585221109397. doi:

10.1177/13524585221109397. Epub ahead of print. PMID: 35822296.

<https://pubmed.ncbi.nlm.nih.gov/35822296/>

Thakur KT, Epstein S, Bilski A, Balbi A, Boehme AK, Brannagan TH, Wesley SF, Riley CS. **Neurologic Safety Monitoring of COVID-19 Vaccines: Lessons From the Past to Inform the Present.** *Neurology*. 2021 Oct 19;97(16):767-775. doi: 10.1212/WNL.0000000000012703. Epub 2021 Sep 2. PMID: 34475124; PMCID: PMC8548963. <https://pubmed.ncbi.nlm.nih.gov/34475124/>

Goss AL, Samudralwar RD, Das RR, Nath A. **ANA Investigates: Neurological Complications of COVID-19 Vaccines.** *Ann Neurol*. 2021 May;89(5):856-857. doi: 10.1002/ana.26065. Epub 2021 Mar 30. PMID: 33710649; PMCID: PMC8250888. <https://pubmed.ncbi.nlm.nih.gov/33710649/>

Kim DD, Kung CS, Perez DL. **Helping the Public Understand Adverse Events Associated With COVID-19 Vaccinations: Lessons Learned From Functional Neurological Disorder.** *JAMA Neurol*. 2021 Jul 1;78(7):789-790. doi: 10.1001/jamaneurol.2021.1042. PMID: 33835153. <https://pubmed.ncbi.nlm.nih.gov/33835153/>

Gill R, Rizvi M, Sadiq MS, Feldman M. **Recrudescence of severe polyneuropathy after receiving Pfizer-BioNTech COVID-19 vaccine in a patient with a history of eosinophilic granulomatosis with polyangiitis.** *BMJ Case Rep*. 2022 Apr 29;15(4):e245749. doi: 10.1136/bcr-2021-245749. PMID: 35487626. <https://pubmed.ncbi.nlm.nih.gov/35487626/>

Yildiz Tasci Y, Nalcacoglu P, Gumusyayla S, Vural G, Toklu Y, Yesilirmak N. **Aquaporin-4 protein antibody-associated optic neuritis related to neuroendocrine tumor after receiving an inactive COVID-19 vaccine.** *Indian J Ophthalmol*. 2022 May;70(5):1828-1831. doi: 10.4103/ijo.IJO\_2494\_21. PMID: 35502086. <https://pubmed.ncbi.nlm.nih.gov/35502086/>

Roncati L, Gravina D, Marra C, Della Rosa N, Adani R. **Cubital Tunnel Syndrome Temporally after COVID-19 Vaccination.** *Trop Med Infect Dis*. 2022 Apr 16;7(4):62. doi: 10.3390/tropicalmed7040062. PMID: 35448837; PMCID: PMC9028216. <https://pubmed.ncbi.nlm.nih.gov/35448837/>

Dinetz E. **Case Series of Three Neurological Side Effects in Younger-Aged Individuals After Pfizer's mRNA Vaccine.** *Cureus*. 2022 Apr 3;14(4):e23779. doi: 10.7759/cureus.23779. PMID: 35382061; PMCID: PMC8977060. <https://pubmed.ncbi.nlm.nih.gov/35382061/>

Gao JJ, Tseng HP, Lin CL, Shiu JS, Lee MH, Liu CH. **Acute Transverse Myelitis Following COVID-19 Vaccination.** *Vaccines (Basel)*. 2021;9(9):1008. Published 2021 Sep 10. doi:10.3390/vaccines9091008 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8470728/pdf/vaccines-09-01008.pdf>

Finsterer J, Scorza FA. **SARS-CoV-2 vaccines are not free of neurological side effects.** *Acta Neurol Scand*. 2021;144(1):109-110. doi:10.1111/ane.13451 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8206845/pdf/ANE-144-109.pdf>

Finsterer J, Matovu D. **Consider Transverse Myelitis as a Complication of a SARS-CoV-2 Vaccination.** *J Korean Med Sci*. 2022 May 9;37(18):e150. doi: 10.3346/jkms.2022.37.e150. PMID: 35535377; PMCID: PMC9091424. <https://pubmed.ncbi.nlm.nih.gov/35535377/>

Lu L, Xiong W, Mu J, et al. **The potential neurological effect of the COVID-19 vaccines: A review.** *Acta Neurol Scand.* 2021;144(1):3-12. doi:10.1111/ane.13417  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8250748/pdf/ANE-144-3.pdf>

Garg RK, Paliwal VK. **Spectrum of neurological complications following COVID-19 vaccination** [published online ahead of print, 2021 Oct 31]. *Neurol Sci.* 2021;1-38. doi:10.1007/s10072-021-05662-9  
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8557950/pdf/10072\\_2021\\_Article\\_5662.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8557950/pdf/10072_2021_Article_5662.pdf)

27. **2,881 Symptoms reported as Guillain-Barré syndrome; 22% within 2 days after injection.**

Bellucci M, Germano F, Grisanti S, Castellano C, Tazza F, Mobilia EM, Visigalli D, Novi G, Massa F, Rossi S, Durando P, Cabona C, Schenone A, Franciotta D, Benedetti L. **Case Report: Post-COVID-19 Vaccine Recurrence of Guillain-Barré Syndrome Following an Antecedent Parainfectious COVID-19-Related GBS.** *Front Immunol.* 2022 Jul 18;13:894872. doi: 10.3389/fimmu.2022.894872. PMID: 35924236; PMCID: PMC9339669. <https://pubmed.ncbi.nlm.nih.gov/35924236/>

Germano F, Bellucci M, Grisanti S, Beronio A, Grazzini M, Coco E, Tassinari T, Della Cava F, De Michelis C, Baldi O, Sivori G, Murialdo A, Cabona C, Durando P, Uccelli A, Schenone A, Franciotta D, Benedetti L. **COVID-19 vaccine-related Guillain-Barré syndrome in the Liguria region of Italy: A multicenter case series.** *J Neurol Sci.* 2022 Jun 25;440:120330. doi: 10.1016/j.jns.2022.120330. Epub ahead of print. PMID: 35802961; PMCID: PMC9232395. <https://pubmed.ncbi.nlm.nih.gov/35802961/>

García-Grimshaw M, Galnares-Olalde JA, Bello-Chavolla OY, Michel-Chávez A, Cadena-Fernández A, Briseño-Godínez ME, Antonio-Villa NE, Nuñez I, Gutiérrez-Romero A, Hernández-Vanegas L, Saniger-Alba MDM, Carrillo-Mezo R, Ceballos-Liceaga SE, Carbajal-Sandoval G, Flores-Silva FD, Díaz-Ortega JL, Cortes-Alcalá R, Pérez-Padilla JR, López-Gatell H, Chiquete E, Reyes-Terán G, Arauz A, Valdés-Ferrer SI. **Incidence of Guillain-Barré syndrome following SARS-CoV-2 immunization: Analysis of a nationwide registry of recipients of 81 million doses of seven vaccines.** *Eur J Neurol.* 2022 Jul 16. doi: 10.1111/ene.15504. Epub ahead of print. PMID: 35841212. <https://pubmed.ncbi.nlm.nih.gov/35841212/>

Kundi M, Montgomery S, Mao S, Asghar S. **Not All That Is Droopy Post Ad26.COVS.2 (JNJ) Vaccine Is Bell's Palsy: A Rare Case of Isolated Dorsal Pontine Stroke Causing Ipsilateral Complete Hemi-Facial Palsy.** *Cureus.* 2022 Mar 15;14(3):e23195. doi: 10.7759/cureus.23195. PMID: 35444866; PMCID: PMC9010170. <https://pubmed.ncbi.nlm.nih.gov/35444866/>

Yamakawa M, Nakahara K, Nakanishi T, Nomura T, Ueda M. **Miller Fisher Syndrome Following Vaccination against SARS-CoV-2.** *Intern Med.* 2022;61(7):1067-1069. doi: 10.2169/internalmedicine.8851-21. Epub 2022 Apr 1. PMID: 35370249. <https://pubmed.ncbi.nlm.nih.gov/35370249/>

Trimboli, M., Zoleo, P., Arabia, G. et al. **Guillain-Barré syndrome following BNT162b2 COVID-19 vaccine.** *Neurol Sci* 42, 4401–4402 (2021). <https://doi.org/10.1007/s10072-021-05523-5>  
<https://link.springer.com/content/pdf/10.1007/s10072-021-05523-5.pdf>

**28. 456 Symptoms reported as myasthenia gravis; 23% within 2 days after injection**

Lee MA, Lee C, Park JH, Lee JH. **Early-Onset Myasthenia Gravis Following COVID-19 Vaccination.** J Korean Med Sci. 2022 Mar 14;37(10):e50. doi: 10.3346/jkms.2022.37.e50. PMID: 35289135; PMCID: PMC8921216. <https://pubmed.ncbi.nlm.nih.gov/35289135/>

Augustine Chavez, Charlotte Pougner, **A Case of COVID-19 Vaccine Associated New Diagnosis Myasthenia Gravis**, October 28, 2021, Journal of Primary Care & Community Health Volume 12: 1–3 <https://journals.sagepub.com/doi/pdf/10.1177/21501327211051933>

**29. 10,292 Symptoms reported as anaphylaxis treatment, anaphylactic reaction, anaphylactic shock or shock; 73% within same day of injection**

Marković I, Božan M, Perković T, Paušek K, Nedeljković V, Perković M, Kelava T, Artuković M, Stipić Marković A. **Incidence of immediate allergic reactions to mRNA COVID-19 vaccines in adults with drug allergies and other allergic disorders.** Medicine (Baltimore). 2022 Jul 29;101(30):e29571. doi: 10.1097/MD.00000000000029571. PMID: 35905225; PMCID: PMC9333079. <https://pubmed.ncbi.nlm.nih.gov/35905225/>

McSweeney MD, Mohan M, Commins SP, Lai SK. **Anaphylaxis to Pfizer/BioNTech mRNA COVID-19 Vaccine in a Patient With Clinically Confirmed PEG Allergy.** Front Allergy. 2021 Sep 29;2:715844. doi: 10.3389/falgy.2021.715844. PMID: 35387046; PMCID: PMC8974707. <https://pubmed.ncbi.nlm.nih.gov/35387046/>

Kim MA, Lee YW, Kim SR, et al. **COVID-19 Vaccine-associated Anaphylaxis and Allergic Reactions: Consensus Statements of the KAAACI Urticaria/Angioedema/Anaphylaxis Working Group.** Allergy Asthma Immunol Res. 2021;13(4):526-544. doi:10.4168/aair.2021.13.4.526 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8255352/pdf/aair-13-526.pdf>

Matsuzaki S, Kamiya H, Inoshima I, Hirasawa Y, Tago O, Arai M. **COVID-19 mRNA Vaccine-induced Pneumonitis: A Case Report.** Intern Med. 2021 Oct 26. doi: 10.2169/internalmedicine.8310-21. Epub ahead of print. PMID: 34707048. [https://www.istage.ist.go.jp/article/internalmedicine/advpub/0/advpub\\_8310-21/article](https://www.istage.ist.go.jp/article/internalmedicine/advpub/0/advpub_8310-21/article)

Kounis NG, Koniari I, de Gregorio C, et al. **Allergic Reactions to Current Available COVID-19 Vaccinations: Pathophysiology, Causality, and Therapeutic Considerations.** Vaccines (Basel). 2021;9(3):221. Published 2021 Mar 5. doi:10.3390/vaccines9030221 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7999280/pdf/vaccines-09-00221.pdf>

**30. 10,356 Symptoms reported as of convulsions or seizure; 62% within 1 day after injection.**

Ghosh R, Dubey S, Roy D, Mandal A, Naga D, Benito-León J. **Focal onset non-motor seizure following COVID-19 vaccination: A mere coincidence?** Diabetes Metab Syndr. 2021;15(3):1023-1024. doi:10.1016/j.dsx.2021.05.003 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8105133/pdf/main.pdf>

**31. 1,693 Symptoms reported as hepatitis, hepatic sarcomas, hepatic vasculature embolism, thrombosis, hemorrhage or adenoviral infection; 30% within 2 days after injection**

10060931 (ADENOVIRUS INFECTION)  
10070369 (ADENOVIRUS TEST)  
10019629 (HEPATIC ADENOMA)  
10067388 (HEPATIC ANGIOsarcoma)  
10019635 (HEPATIC ARTERY FISTULA)  
10019636 (HEPATIC ARTERY THROMBOSIS)  
10073069 (HEPATIC CANCER)  
10073070 (HEPATIC CANCER)  
10019663 (HEPATIC FAILURE)  
10019668 (HEPATIC FIBROSIS)  
10019677 (HEPATIC HAEMORRHOID)  
10076254 (HEPATIC HYPERTENSION)  
10019680 (HEPATIC INFARCTION)  
10056328 (HEPATIC ISCHAEMIA)  
10057110 (HEPATIC MASS)  
10019692 (HEPATIC NECROSIS)  
10019695 (HEPATIC NEOPLASIA)  
10019697 (HEPATIC NEOPLASIA)  
10019698 (HEPATIC NEOPLASIA)  
10019705 (HEPATIC PAIN)  
10019708 (HEPATIC STEATOSIS)  
10074494 (HEPATIC VASCULITIS)  
10058991 (HEPATIC VEIN THROMBOSIS)  
10019713 (HEPATIC VEIN THROMBOSIS)  
10019717 (HEPATITIS)  
10019772 (HEPATITIS FULMINANS)  
10019799 (HEPATITIS VIRAL)

Lasagna A, Lenti MV, Cassaniti I, Sacchi P. **Development of hepatitis triggered by SARS-CoV-2 vaccination in patient with cancer during immunotherapy: a case report.** Immunotherapy. 2022 Jun 13. doi: 10.2217/imt-2021-0342. Epub ahead of print. PMID: 35694999. <https://pubmed.ncbi.nlm.nih.gov/35694999/>

Zin Tun GS, Gleeson D, Al-Joudeh A, Dube A. **Immune-mediated hepatitis with the Moderna vaccine, no longer a coincidence but confirmed.** J Hepatol. 2022 Mar;76(3):747-749. doi: 10.1016/j.jhep.2021.09.031. Epub 2021 Oct 5. PMID: 34619252; PMCID: PMC8491984. <https://pubmed.ncbi.nlm.nih.gov/34619252/>

Kawasaki Y, Matsubara K, Hori M, Isome K. **Liver injury and cytopenia after BNT162b2 COVID-19 vaccination in an adolescent.** Pediatr Int. 2022 Jan;64(1):e15178. doi: 10.1111/ped.15178. PMID: 35510521. <https://pubmed.ncbi.nlm.nih.gov/35510521/>

Boettler T, Csernalabics B, Salié H, Luxenburger H, Wischer L, Alizei ES, Zoldan K, Krimmel L, Bronsert P, Schwabenland M, Prinz M, Mogler C, Neumann-Haefelin C, Thimme R, Hofmann M, Bengsch B. **SARS-CoV-2 vaccination can elicit a CD8 T-cell dominant hepatitis.** J Hepatol. 2022 Apr 21:S0168-8278(22)00234-3. doi: 10.1016/j.jhep.2022.03.040. Epub ahead of print. PMID: 35461912; PMCID: PMC9021033. <https://pubmed.ncbi.nlm.nih.gov/35461912/>

The Boettler paper was featured in the May 4-10 issue of the Epoch Times

Zhou T, Fronhoffs F, Dold L, Strassburg CP, Weismüller TJ. **New-onset autoimmune hepatitis following mRNA COVID-19 vaccination in a 36-year-old woman with primary sclerosing cholangitis - should we be more vigilant?** J Hepatol. 2022 Jan;76(1):218-220. doi: 10.1016/j.jhep.2021.08.006. Epub 2021 Aug 25. PMID: 34450237; PMCID: PMC8384483. <https://pubmed.ncbi.nlm.nih.gov/34450237/>

Bril F. **Autoimmune hepatitis developing after coronavirus disease 2019 (COVID-19) vaccine: One or even several swallows do not make a summer.** J Hepatol. 2021 Nov;75(5):1256-1257. doi: 10.1016/j.jhep.2021.08.001. Epub 2021 Aug 10. PMID: 34384822; PMCID: PMC8352654.

<https://pubmed.ncbi.nlm.nih.gov/34384822/>

Shroff H, Satapathy SK, Crawford JM, Todd NJ, VanWagner LB. **Liver injury following SARS-CoV-2 vaccination: A multicenter case series.** J Hepatol. 2022 Jan;76(1):211-214. doi: 10.1016/j.jhep.2021.07.024. Epub 2021 Jul 31. PMID: 34339763; PMCID: PMC8324396. <https://pubmed.ncbi.nlm.nih.gov/34339763/>

Lodato F, Larocca A, D'Errico A, Cennamo V. **An unusual case of acute cholestatic hepatitis after m-RNABNT162b2 (Comirnaty) SARS-CoV-2 vaccine: Coincidence, autoimmunity or drug-related liver injury.** J Hepatol. 2021 Nov;75(5):1254-1256. doi: 10.1016/j.jhep.2021.07.005. Epub 2021 Jul 10. PMID: 34256064; PMCID: PMC8272621. <https://pubmed.ncbi.nlm.nih.gov/34256064/>

McShane C, Kiat C, Rigby J, Crosbie Ó. **The mRNA COVID-19 vaccine - A rare trigger of autoimmune hepatitis?** J Hepatol. 2021 Nov;75(5):1252-1254. doi: 10.1016/j.jhep.2021.06.044. Epub 2021 Jul 8. PMID: 34245804; PMCID: PMC8264276. <https://pubmed.ncbi.nlm.nih.gov/34245804/>

Clayton-Chubb D, Schneider D, Freeman E, Kemp W, Roberts SK. **Autoimmune hepatitis developing after the ChAdOx1 nCoV-19 (Oxford-AstraZeneca) vaccine.** J Hepatol. 2021 Nov;75(5):1249-1250. doi: 10.1016/j.jhep.2021.06.014. Epub 2021 Jun 22. PMID: 34171435; PMCID: PMC8219312. <https://pubmed.ncbi.nlm.nih.gov/34171435/>

Tan CK, Wong YJ, Wang LM, Ang TL, Kumar R. **Autoimmune hepatitis following COVID-19 vaccination: True causality or mere association?** J Hepatol. 2021 Nov;75(5):1250-1252. doi: 10.1016/j.jhep.2021.06.009. Epub 2021 Jun 18. PMID: 34153398; PMCID: PMC8404983. <https://pubmed.ncbi.nlm.nih.gov/34153398/>

Bril F, Fettig DM. Reply to: "Comment on "Autoimmune hepatitis developing after coronavirus disease 2019 (COVID-19) vaccine: Causality or casualty?"". J Hepatol. 2021 Oct;75(4):996-997. doi: 10.1016/j.jhep.2021.06.008. Epub 2021 Jun 17. PMID: 34146650; PMCID: PMC8272678. <https://pubmed.ncbi.nlm.nih.gov/34146650/>

Londoño MC, Gratacós-Ginès J, Sáez-Peñataro J. **Another case of autoimmune hepatitis after SARS-CoV-2 vaccination - still casualty?** J Hepatol. 2021 Nov;75(5):1248-1249. doi: 10.1016/j.jhep.2021.06.004. Epub 2021 Jun 12. PMID: 34129886; PMCID: PMC8197609. <https://pubmed.ncbi.nlm.nih.gov/34129886/>

Rocco A, Sgamato C, Compare D, Nardone G. **Autoimmune hepatitis following SARS-CoV-2 vaccine: May not be a casualty.** J Hepatol. 2021 Sep;75(3):728-729. doi: 10.1016/j.jhep.2021.05.038. Epub 2021 Jun 9. PMID: 34116081; PMCID: PMC8186938. <https://pubmed.ncbi.nlm.nih.gov/34116081/>

Capecchi PL, Lazzerini PE, Brilli S. **Comment on "Autoimmune hepatitis developing after coronavirus disease 2019 (COVID-19) vaccine: Causality or casualty?".** J Hepatol. 2021 Oct;75(4):994-995. doi: 10.1016/j.jhep.2021.04.039. Epub 2021 May 5. PMID: 33964372; PMCID: PMC8098030. <https://pubmed.ncbi.nlm.nih.gov/33964372/>

Bril F, Al Diffalha S, Dean M, Fettig DM. **Autoimmune hepatitis developing after coronavirus disease 2019 (COVID-19) vaccine: Causality or casualty?** J Hepatol. 2021 Jul;75(1):222-224. doi: 10.1016/j.jhep.2021.04.003. Epub 2021 Apr 20. PMID: 33862041; PMCID: PMC8056822. <https://pubmed.ncbi.nlm.nih.gov/33862041/>

Rela M, Jothimani D, Vij M, Rajakumar A, Rammohan A. **Auto-immune hepatitis following COVID vaccination.** J Autoimmun. 2021 Sep;123:102688. doi: 10.1016/j.jaut.2021.102688. Epub 2021 Jul 3. PMID: 34225251. <https://pubmed.ncbi.nlm.nih.gov/34225251/>

Pinazo-Bandera JM, Hernández-Albújar A, García-Salguero AI, Arranz-Salas I, Andrade RJ, Robles-Díaz M. **Acute hepatitis with autoimmune features after COVID-19 vaccine: coincidence or vaccine-induced phenomenon?** Gastroenterol Rep (Oxf). 2022 Apr 27;10:goac014. doi: 10.1093/gastro/goac014. PMID: 35498817; PMCID: PMC9046091. <https://pubmed.ncbi.nlm.nih.gov/35498817/>

Schneider L, Schubert L, Winkler F, Munda P, Winkler S, Tobudic S. **SARS-CoV-2 vaccine response in patients with autoimmune hepatitis.** Clin Gastroenterol Hepatol. 2022 Apr 26:S1542-3565(22)00405-0. doi: 10.1016/j.cgh.2022.04.006. Epub ahead of print. PMID: 35487452; PMCID: PMC9040499. <https://pubmed.ncbi.nlm.nih.gov/35487452/>

Chow KW, Pham NV, Ibrahim BM, Hong K, Saab S. **Autoimmune Hepatitis-Like Syndrome Following COVID-19 Vaccination: A Systematic Review of the Literature.** Dig Dis Sci. 2022 Apr 29:1–7. doi: 10.1007/s10620-022-07504-w. Epub ahead of print. PMID: 35486203; PMCID: PMC9052185. <https://pubmed.ncbi.nlm.nih.gov/35486203/>

Sookaromdee P, Wiwanitkit V. **COVID-19 vaccine and autoimmune hepatitis.** Rev Esp Enferm Dig. 2022 Apr 26. doi: 10.17235/reed.2022.8837/2022. Epub ahead of print. PMID: 35469403. <https://pubmed.ncbi.nlm.nih.gov/35469403/>

Kang SH, Kim MY, Cho MY, Baik SK. **Autoimmune Hepatitis Following Vaccination for SARS-CoV-2 in Korea: Coincidence or Autoimmunity?** J Korean Med Sci. 2022 Apr 18;37(15):e116. doi: 10.3346/jkms.2022.37.e116. PMID: 35437965; PMCID: PMC9015903. <https://pubmed.ncbi.nlm.nih.gov/35437965/>

32. **184,539 Symptoms reported as diarrhea, abdominal pain, gastritis, vomiting or other digestive system pathology; 69% within two days of injection**

Currently selected:  
 (ABDOMINAL DISCOMFORT)  
 (ABDOMINAL DISTENSION)  
 (ABDOMINAL PAIN)  
 (ABDOMINAL PAIN LOWER)  
 (ABDOMINAL PAIN UPPER)  
 (ABDOMINAL RUDDITY)  
 (ABDOMINAL SYMPTOM)  
 (ABDOMINAL TENDERNESS)  
 (DIARRHOEA)  
 (DIARRHOEA HAEMORRHOIC)  
 (GALLBLADDER ENLARGEMENT)  
 (GALLBLADDER PATH)  
 (GASTRIC DISORDER)  
 (GASTRIC MUCOSAL HYPERT)  
 (GASTRITIS)  
 (GASTRITIS HAEMORRHOIC)  
 (GASTRODUODENITIS)  
 (GASTROINTESTINAL DISORD)  
 (GASTROINTESTINAL HAEMO)  
 (GASTROINTESTINAL INFLAM)  
 (GASTROINTESTINAL ISCHAE)  
 (GASTROINTESTINAL PAIN)  
 (NAUSEA)  
 (VOMITING)

Nishimura T, Onogawa S, Yamamoto T, Okuda Y, Ikeda M, Matsumoto N, Kurihara K, Shimizu A, Kitamura S, Katamura Y, Hirano N, Itamoto S, Nakahara M, Yonehara S, Shimamoto F, Hanada K. **Acute necrotic disorder of the small intestine post-coronavirus disease-2019 vaccination.** DEN open. 2022 Jun 5;3(1):e137. doi: 10.1002/deo2.137. PMID: 35898845; PMCID: PMC9307720.

<https://pubmed.ncbi.nlm.nih.gov/35898845/>

Lee JY, Lee JH. **mRNA COVID-19 Vaccine-Associated Subserosal Eosinophilic Gastroenteritis: A Case Report.** J Korean Med Sci. 2022 Aug 1;37(30):e233. doi: 10.3346/jkms.2022.37.e233. PMID: 35916045.

<https://pubmed.ncbi.nlm.nih.gov/35916045/>

James D, Jena A, Bharath PN, Choudhury A, Singh AK, Sebastian S, Sharma V. **Safety of SARS-CoV-2 vaccination in patients with inflammatory bowel disease: A systematic review and meta-analysis.** Dig Liver Dis. 2022 Mar 22:S1590-8658(22)00210-9. doi: 10.1016/j.dld.2022.03.005. Epub ahead of print. PMID: 35382972; PMCID: PMC8938236.

<https://pubmed.ncbi.nlm.nih.gov/35382972/>

Zacharopoulou E, Orfanoudaki E, Tzouvala M, Tribonias G, Kokkotis G, Kitsou V, Almpani F, Christidou A, Viazis N, Mantzaris GJ, Tsafaridou M, Karmiris K, Theodoropoulou A, Papathanasiou E, Zampeli E, Michopoulos S, Tigkas S, Michalopoulos G, Laoudi E, Karatzas P, Mylonas I, Kyriakos N, Liatsos C, Kafetzi T, Theocharis G, Taka S, Panagiotopoulou K, Koutroubakis IE, Bamias G. **Patients With Inflammatory Bowel Diseases Have Impaired Antibody Production After Anti-SARS-CoV-2 Vaccination: Results From a Panhellenic Registry.** Inflamm Bowel Dis. 2022 Apr 8:izac068. doi: 10.1093/ibd/izac068. Epub ahead of print. PMID: 35394529. <https://pubmed.ncbi.nlm.nih.gov/35394529/>

Cannatelli R, Ferretti F, Carmagnola S, et al Risk of adverse events and reported clinical relapse after COVID-19 vaccination in patients with IBD Gut Published Online First: 24 November 2021. doi: 10.1136/gutjnl-2021-326237

<https://gut.bmj.com/content/gutjnl/early/2021/11/23/gutjnl-2021-326237.full.pdf>

### 33. 1,172 Symptoms reported as Cancer; COVID-19 vaccines account for over 80% of all cancers associated with all vaccinations over 30 years (1,459)

| <b>MISSION:</b><br>• VARS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.<br>• These results are for 1,459 total events.<br>• Rows with zero Events Reported are hidden. Use Quick Options above to show zero rows. |                   |                      | Search codes                |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|-----------------------------|--|
| Vaccine #                                                                                                                                                                                                                                                                        | Events Reported # | Percent (of 1,459) % |                             |  |
| COVID19 (COVID19 (PFIZER-BIONTECH)) (1200)                                                                                                                                                                                                                                       | 841               | 57.64%               | 10004146 (BASAL CELL CARC)  |  |
| COVID19 (COVID19 (MODERNA)) (1201)                                                                                                                                                                                                                                               | 299               | 20.49%               | 10005949 (BONE CANCER)      |  |
| HPV (GARDASIL) (1098)                                                                                                                                                                                                                                                            | 46                | 3.15%                | 10006187 (BREAST CANCER)    |  |
| ZOSTER LIVE (ZOSTAVAX) (1097)                                                                                                                                                                                                                                                    | 36                | 2.67%                | 100061451 (COLORECTAL CANC) |  |
| COVID19 (COVID19 (JANSSEN)) (1203)                                                                                                                                                                                                                                               | 32                | 2.19%                | 10014733 (ENDOMETRIAL CANC) |  |
| INFLUENZA (SEASONAL) (NO BRAND NAME) (14)                                                                                                                                                                                                                                        | 28                | 1.92%                | 10024288 (LEUKAEMIA)        |  |
| VACCINE NOT SPECIFIED (NO BRAND NAME) (999)                                                                                                                                                                                                                                      | 28                | 1.92%                | 10024299 (LEUKAEMIA GRAN)   |  |
| ZOSTER (SHINGRIX) (1192)                                                                                                                                                                                                                                                         | 26                | 1.78%                | 10024305 (LEUKAEMIA MONO)   |  |
| PNEUMO (PNEUMOVAX) (30)                                                                                                                                                                                                                                                          | 22                | 1.51%                | 10024325 (LEUKAEMIA LYMPH)  |  |
| HEP B (ENGERIX-B) (38)                                                                                                                                                                                                                                                           | 18                | 1.23%                | 10025310 (LYMPHOMA)         |  |
| HPV (CERVARIX) (1136)                                                                                                                                                                                                                                                            | 16                | 1.10%                | 10068115 (METASTATIC CARC)  |  |
| MEASLES + MUMPS + RUBELLA (MMR II) (26)                                                                                                                                                                                                                                          | 16                | 1.10%                | 10057352 (METASTATIC CAPC)  |  |
| PNEUMO (PREVNAR13) (1141)                                                                                                                                                                                                                                                        | 15                | 1.03%                | 10071541 (METASTATIC LYMPH) |  |
| HPV (GARDASIL 9) (1170)                                                                                                                                                                                                                                                          | 14                | 0.96%                | 10027480 (METASTATIC MALI)  |  |
| HEP A + HEP B (TWINRIX) (1009)                                                                                                                                                                                                                                                   | 12                | 0.82%                | 10061289 (METASTATIC NEOP)  |  |
| VARICELLA (VARIVAX) (269)                                                                                                                                                                                                                                                        | 12                | 0.82%                | 10050513 (METASTATIC REIN)  |  |
| COVID19 (COVID19 (UNKNOWN)) (1202)                                                                                                                                                                                                                                               | 9                 | 0.62%                | 10062569 (METASTATIC SQUA)  |  |
| HEP B (RECOMBIVAX HB) (25)                                                                                                                                                                                                                                                       | 9                 | 0.62%                | 10031291 (OSTEOSARCOMA)     |  |
| DENGUE TETRAVALENT (DENGVAIXIA) (1195)                                                                                                                                                                                                                                           | 7                 | 0.48%                | 10033609 (PANCREATIC CARC)  |  |
| HPV (NO BRAND NAME) (1102)                                                                                                                                                                                                                                                       | 7                 | 0.48%                | 10065862 (PROSTATE CANCER)  |  |
| PNEUMO (PREVNAR) (1001)                                                                                                                                                                                                                                                          | 6                 | 0.41%                | 10041823 (SQUAMOUS CELL C)  |  |
| SMALLPOX (DRYVAX) (47)                                                                                                                                                                                                                                                           | 6                 | 0.41%                | 10060121 (SQUAMOUS CELL C)  |  |
| ANTHRAX (BIOTHRAX) (1008)                                                                                                                                                                                                                                                        | 5                 | 0.34%                | 10041826 (SQUAMOUS CELL C)  |  |
| HEP A (HAVRIX) (268)                                                                                                                                                                                                                                                             | 5                 | 0.34%                | 10066471 (SQUAMOUS CELL C)  |  |
| INFLUENZA (SEASONAL) (FLUARIX) (1089)                                                                                                                                                                                                                                            | 5                 | 0.34%                | 10041834 (SQUAMOUS CELL C)  |  |
|                                                                                                                                                                                                                                                                                  |                   |                      | 10041848 (SQUAMOUS CELL C)  |  |
|                                                                                                                                                                                                                                                                                  |                   |                      | 10041857 (SQUAMOUS CELL C)  |  |
|                                                                                                                                                                                                                                                                                  |                   |                      | 10041865 (SQUAMOUS CELL C)  |  |
|                                                                                                                                                                                                                                                                                  |                   |                      | 10052644 (TESTIS CANCER)    |  |

### 34. 40,288 Symptoms reported as Lymphadenopathy or Lymphadenitis; 66% within two days of injection

Co M, Wong PCP, Kwong A. **COVID-19 vaccine associated axillary lymphadenopathy - A systematic review.** Cancer Treat Res Commun. 2022;31:100546. doi: 10.1016/j.ctarc.2022.100546. Epub 2022 Mar 11. PMID: 35334408; PMCID: PMC8913438. <https://pubmed.ncbi.nlm.nih.gov/35334408/>

Perry H. **Editorial Comment: Prolonged Resolution of COVID-19 Vaccine-Related Axillary Lymphadenopathy Necessitates a Long Imaging Follow-Up Interval.** AJR Am J Roentgenol. 2022 Jun 1. doi: 10.2214/AJR.22.28019. Epub ahead of print. PMID: 35642766. <https://pubmed.ncbi.nlm.nih.gov/35642766/>

Armas-Conde M, Sánchez-Álvarez ÁL, Tejera-Hernández A, Vega-Benítez V, Antela-López JC, Gutiérrez-Giner MI, Hernández-Hernández JR. **Post-vaccination SARS-CoV-2 axillary adenopathy. Differences with axillary metastases from breast cancer.** Cir Cir. 2022;90(3):410-413. English. doi: 10.24875/CIRU.21000737. PMID: 35636962. <https://pubmed.ncbi.nlm.nih.gov/35636962/>

Alijotas-Reig J, García-Glmenez V, Velthuis PJ, Niessen FB, Decates TS. **Inflammatory immune-mediated adverse reactions induced by COVID-19 vaccines in previously injected patients with soft tissue fillers: a case-series of 20 patients.** J Cosmet Dermatol. 2022 May 27. doi: 10.1111/jocd.15117. Epub ahead of print. PMID: 35621234. <https://pubmed.ncbi.nlm.nih.gov/35621234/>

Daghri S, Belmoufid N, Rami A, Al Bouzidi A, Bouanani N. **Kikuchi-Fujimoto's Disease or Histiocytic Necrotizing Lymphadenitis Following mRNA COVID-19 Vaccination: A Rare Case.** Cureus. 2022 Apr 15;14(4):e24155. doi: 10.7759/cureus.24155. PMID: 35592214; PMCID: PMC9110038. <https://pubmed.ncbi.nlm.nih.gov/35592214/>

Heaven CL, Barber L, Abmadi O, Selvarajah K, Shetty S. **COVID-19 vaccine associated cervical lymphadenopathy: a case series.** ANZ J Surg. 2022 May 19. doi: 10.1111/ans.17808. Epub ahead of print. PMID: 35588265. <https://pubmed.ncbi.nlm.nih.gov/35588265/>

Kashiwada T, Saito Y, Terasaki Y, Shirakura Y, Shinbu K, Tanaka T, Tanaka Y, Seike M, Gemma A. **Kikuchi-Fujimoto disease can present as delayed lymphadenopathy after COVID-19 vaccination.** Hum Vaccin Immunother. 2022 May 18:2071080. doi: 10.1080/21645515.2022.2071080. Epub ahead of print. PMID: 35583472. <https://pubmed.ncbi.nlm.nih.gov/35583472/>

Lane EG, Eisen CS, Drotman MB, Dodelzon K, Mema E, Thomas C, Prince MR. **Time for Resolution of COVID-19 Vaccine-Related Lymphadenopathy and Associated Factors.** AJR Am J Roentgenol. 2022 May 18. doi: 10.2214/AJR.22.27687. Epub ahead of print. PMID: 35583425. <https://pubmed.ncbi.nlm.nih.gov/35583425/>

Schroeder JW, Gamba C, Toniato A; COVID-19 Study Group, Rongioletti F, Caputo V, Balossi LG, Piantanida M, Borgonovo L, Scibilia J, Gentile CR, Liuzzi M, Nicolosi S, Toscano A, Ortiz SVB, Calzari P, Bagnato CD, Arguello YA, Lasagni G, Moll JF, Botta A, Cordini C. **A definite case of Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) induced by administration of the Pfizer/BioNTech BNT162b2 vaccine for SARS-CoV2.** Clin Dermatol. 2022 May 9:S0738-081X(22)00052-9. doi: 10.1016/j.clindermatol.2022.02.018. Epub ahead of print. PMID: 35550918; PMCID: PMC9085440. <https://pubmed.ncbi.nlm.nih.gov/35550918/>

Felices-Farias JM, Martínez-Martínez JF, Guzmán-Aroca F. **Unusual lymphadenopathies secondary to the BNT162b2 mRNA Covid-19 vaccine.** Med Clin (Engl Ed). 2022 Apr 8;158(7):343-344. doi: 10.1016/j.medcle.2021.06.018. Epub 2022 May 3. PMID: 35531304; PMCID: PMC9063124. <https://pubmed.ncbi.nlm.nih.gov/35531304/>

Romeo V, Stanzione A, D'Auria D, Fulgione L, Giusto F, Maurea S, Brunetti A. **COVID-19 vaccine-induced lymphadenopathies: incidence, course and imaging features from an ultrasound prospective study.** J Ultrasound. 2022 May 4:1–7. doi: 10.1007/s40477-022-00674-3. Epub ahead of print. PMID: 35507248; PMCID: PMC9064721. <https://pubmed.ncbi.nlm.nih.gov/35507248/>

Moy L, Kim E. **Follow-up of COVID-19 Vaccine-related Axillary Lymphadenopathy before 12 weeks is Unnecessary.** Radiology. 2022 Apr 26:220962. doi: 10.1148/radiol.220962. Epub ahead of print. PMID: 35471114; PMCID: PMC9096715. <https://pubmed.ncbi.nlm.nih.gov/35471114/>

Ha SM, Chu AJ, Lee J, Kim SY, Lee SH, Yoen H, Cho N, Moon WK, Chang JM. **US Evaluation of Axillary Lymphadenopathy Following COVID-19 Vaccination: A Prospective Longitudinal Study.** Radiology. 2022 Apr 26:220543. doi: 10.1148/radiol.220543. Epub ahead of print. PMID: 35471107; PMCID: PMC9096883. <https://pubmed.ncbi.nlm.nih.gov/35471107/>

Yamada M, Sada RM, Kashihara E, Okubo G, Matsushita S, Manabe A, Tagawa S, Akebo H, Miyake H, Hatta K. **TAFRO syndrome with a fatal clinical course following BNT162b2 mRNA (Pfizer-BioNTech) COVID-19 vaccination: A case report.** J Infect Chemother. 2022 Jul;28(7):1008-1011. doi: 10.1016/j.jiac.2022.04.005. Epub 2022 Apr 11. PMID: 35428576; PMCID: PMC8995253. <https://pubmed.ncbi.nlm.nih.gov/35428576/>

Adin ME, Wu J, Isufi E, Tsui E, Pucar D. **Ipsilateral Malignant Axillary Lymphadenopathy and Contralateral Reactive Lymph Nodes in a COVID-19 Vaccine Recipient With Breast Cancer.** J Breast Cancer. 2022

Apr;25(2):140-144. doi: 10.4048/jbc.2022.25.e12. Epub 2021 Mar 15. PMID: 35380021; PMCID: PMC9065355. <https://pubmed.ncbi.nlm.nih.gov/35380021/>

Azzolini E, Canziani LM, Voza A, Desai A, Pepys J, De Santis M, Ceribelli A, Pozzi C, Turato M, Badalamenti S, Germagnoli L, Mantovani A, Rescigno M, Selmi C. **Short-Term Adverse Events and Antibody Response to the BNT162b2 SARS-CoV-2 Vaccine in 4156 Health Care Professionals.** *Vaccines (Basel)*. 2022 Mar 13;10(3):439. doi: 10.3390/vaccines10030439. PMID: 35335071; PMCID: PMC8950377. <https://pubmed.ncbi.nlm.nih.gov/35335071/>

Granata V, Fusco R, Vallone P, Setola SV, Picone C, Grassi F, Patrone R, Belli A, Izzo F, Petrillo A. **Not only lymphadenopathy: case of chest lymphangitis assessed with MRI after COVID 19 vaccine.** *Infect Agent Cancer*. 2022 Mar 17;17(1):8. doi: 10.1186/s13027-022-00419-1. PMID: 35300727; PMCID: PMC8929244. <https://pubmed.ncbi.nlm.nih.gov/35300727/>

Musaddaq B, Brown A, Dluzewski S, Marafioti T, Malhotra A. **Axillary lymphadenopathy in a high-risk breast screening patient following the COVID-19 vaccine: a diagnostic conundrum.** *BJR Case Rep*. 2022 Mar 9;7(6):20210063. doi: 10.1259/bjrcr.20210063. PMID: 35300233; PMCID: PMC8906153. <https://pubmed.ncbi.nlm.nih.gov/35300233/>

de Bock E, Trumpi K, Suijkerbuijk KPM, Vriens MR, Richir MC. **Diagnostic pitfalls after COVID-19 vaccination in melanoma and breast cancer patients: A case series.** *Int J Surg Case Rep*. 2022 Apr;93:106938. doi: 10.1016/j.ijscr.2022.106938. Epub 2022 Mar 12. PMID: 35298983; PMCID: PMC8917012. <https://pubmed.ncbi.nlm.nih.gov/35298983/>

Guan Y, Xia X, Lu H. **Kikuchi-Fujimoto disease following vaccination against COVID-19.** *J Hematop*. 2022 Mar 4;15(1):21-23. doi: 10.1007/s12308-021-00477-1. PMID: 35284024; PMCID: PMC8896846. <https://pubmed.ncbi.nlm.nih.gov/35284024/>

Kaur I, Zafar S, Capitle E, Khianey R. **COVID-19 Vaccination as a Potential Trigger for New-Onset Systemic Lupus Erythematosus.** *Cureus*. 2022 Feb 4;14(2):e21917. doi: 10.7759/cureus.21917. PMID: 35273863; PMCID: PMC8901143. <https://pubmed.ncbi.nlm.nih.gov/35273863/>

Koff A, Inaty H. **Axillary Adenopathy Secondary to SARS-CoV-2 Vaccination: a Case Report.** *SN Compr Clin Med*. 2022;4(1):61. doi: 10.1007/s42399-022-01143-y. Epub 2022 Feb 19. PMID: 35224447; PMCID: PMC8857527. <https://pubmed.ncbi.nlm.nih.gov/35224447/>

Hieber ML, Sprute R, Eichenauer DA, Hallek M, Jachimowicz RD. **Hemophagocytic lymphohistiocytosis after SARS-CoV-2 vaccination.** *Infection*. 2022 Feb 26:1–6. doi: 10.1007/s15010-022-01786-y. Epub ahead of print. PMID: 35218512; PMCID: PMC8881936. <https://pubmed.ncbi.nlm.nih.gov/35218512/>

Citu IM, Citu C, Gorun F, Sas I, Tomescu L, Neamtu R, Motoc A, Gorun OM, Burlea B, Bratosin F, Malita D. **Immunogenicity Following Administration of BNT162b2 and Ad26.COV2.S COVID-19 Vaccines in the Pregnant Population during the Third Trimester.** *Viruses*. 2022 Feb 2;14(2):307. doi: 10.3390/v14020307. PMID: 35215900; PMCID: PMC8878278. <https://pubmed.ncbi.nlm.nih.gov/35215900/>

Cheong KM, Tsai TY. **A Woman with Painful Neck after COVID-19 Vaccination.** *Ann Emerg Med*. 2022 Feb;79(2):e13-e14. doi: 10.1016/j.annemergmed.2021.08.021. Epub 2021 Aug 31. PMID: 35065751; PMCID: PMC8405597. <https://pubmed.ncbi.nlm.nih.gov/35065751/>

Bshesh K, Khan W, Vattoth AL, Janjua E, Nauman A, Almasri M, Mohamed Ali A, Ramadorai V, Mushannen B, AlSubaie M, Mohammed I, Hammoud M, Paul P, Alkaabi H, Haji A, Laws S, Zakaria D. **Lymphadenopathy post-COVID-19 vaccination with increased FDG uptake may be falsely attributed to oncological disorders: A systematic review.** J Med Virol. 2022 May;94(5):1833-1845. doi: 10.1002/jmv.27599. Epub 2022 Feb 7. PMID: 35060149; PMCID: PMC9015520. <https://pubmed.ncbi.nlm.nih.gov/35060149/>

Gullotti DM, Lipson EJ, Fishman EK, Rowe SP. **Acute axillary lymphadenopathy detected shortly after COVID-19 vaccination found to be due to newly diagnosed metastatic melanoma.** Radiol Case Rep. 2022 Mar;17(3):878-880. doi: 10.1016/j.radcr.2021.12.002. Epub 2022 Jan 10. PMID: 35035652; PMCID: PMC8747434. <https://pubmed.ncbi.nlm.nih.gov/35035652/>

Hao M, Edmonds CE, Nachiappan AC, Conant EF, Zuckerman SP. **Management Strategies for Patients Presenting With Symptomatic Lymphadenopathy and Breast Edema After Recent COVID-19 Vaccination.** AJR Am J Roentgenol. 2022 Jun;218(6):970-976. doi: 10.2214/AJR.21.27118. Epub 2021 Dec 29. PMID: 34964358. <https://pubmed.ncbi.nlm.nih.gov/34964358/>

Tsumura Y, Asakura K, Takahashi I, Akaihashi M, Takahashi Y, Ishida Y. **New mimic of relapse or regional lymph node metastasis in a cancer survivor: a case of mRNA COVID-19 vaccine-induced lymphadenitis with high FDG uptake.** Immunol Med. 2022 Mar;45(1):45-47. doi: 10.1080/25785826.2021.1999786. Epub 2021 Dec 16. PMID: 34915816. <https://pubmed.ncbi.nlm.nih.gov/34915816/>

Larkin K, Sharma A, Drachtman R, Salaru G. **Supraclavicular lymphadenopathy after COVID-19 vaccination.** Pediatr Blood Cancer. 2022 May;69(5):e29516. doi: 10.1002/pbc.29516. Epub 2021 Dec 16. PMID: 34913588. <https://pubmed.ncbi.nlm.nih.gov/34913588/>

### 35. 11,511 Symptoms reported as Cognitive Disorder or Confusional State; 60% within two days of injection

Procaccini L, Mincuzzi E, Bernardini A, Franchi P, Voicu IP, Caulo M. **"Reversible cytotoxic lesion of the corpus callosum following SARS-CoV-2 mRNA vaccine administration: a finding to be aware of".** Neuroradiol J. 2022 Apr 29;19714009221096825. doi: 10.1177/19714009221096825. Epub ahead of print. PMID: 35488375; PMCID: PMC9066226. <https://pubmed.ncbi.nlm.nih.gov/35488375/>

### 36. 6,829 Symptoms reported as intracranial hemorrhage or brain bleed; 33% within two days of injection

Kim BH, Yoo MC. **Intracranial Hemorrhage Due to Potential Rupture of an Arteriovenous Malformation after BNT162b2 COVID-19 mRNA Vaccination in a Young Korean Woman: Case Report.** Vaccines (Basel). 2022 Feb 25;10(3):362. doi: 10.3390/vaccines10030362. PMID: 35334996; PMCID: PMC8953327. <https://pubmed.ncbi.nlm.nih.gov/35334996/>

10050130 (BRAIN DYSPLASIA)  
10061127 (BRAIN INFARCT)  
10067067 (BRAIN INFARCT)  
10049062 (BRAIN EDEMA)  
10006145 (BRAIN STEM HAEM)  
10000147 (BRAIN STEM TUMOR)  
10000148 (BRAIN STEM ISCHEMIA)  
10005964 (BRAIN STEM STROKE)  
10002573 (BRAIN STEM TUMOR)  
10077043 (CENTRAL NERVOUS)  
10009523 (CEREBELLAR ARTERY)  
10007107 (CEREBELLAR EPHEM)  
10006030 (CEREBELLAR HAEM)  
10005024 (CEREBELLAR INFARCT)  
10008021 (CEREBELLAR ISCHEMIA)  
10079060 (CEREBELLAR STROKE)  
10005009 (CEREBELLAR ARTERY)  
10003392 (CEREBELLAR ARTERY)  
10000111 (CEREBELLAR INFARCT)  
10009118 (CEREBELLAR INFARCT)  
10008120 (CEREBELLAR ISCHEMIA)  
10007277 (CEREBELLAR INFARCT)  
10006122 (CEREBELLAR TUMOR)  
10075240 (CEREBELLAR VENTRICLE)  
10019085 (CEREBELLAR INFARCT)  
10022773 (CEREBELLAR INFARCT)

Purkayastha P, Mckechnie C, Kalkur P, et al **Rare case of COVID-19 vaccine-associated intracranial hemorrhage with venous sinus thrombosis** BMJ Case Reports CP 2021;14:e245092.  
<https://casereports.bmj.com/content/bmjcr/14/9/e245092.full.pdf>

### 37. 3,031 Symptoms reported as alopecia; 30% within two days of injection

Aryanian Z, Balighi K, Hatami P, Afshar ZM, Mohandesi NA. **The role of SARS-CoV-2 infection and its vaccines in various types of hair loss.** Dermatol Ther. 2022 Mar 9:e15433. doi: 10.1111/dth.15433. Epub ahead of print. PMID: 35266262; PMCID: PMC9111640. <https://pubmed.ncbi.nlm.nih.gov/35266262/>

Gallo G, Mastorino L, Tonella L, Ribero S, Quaglino P. **Alopecia areata after COVID-19 vaccination.** Clin Exp Vaccine Res. 2022 Jan;11(1):129-132. doi: 10.7774/cevr.2022.11.1.129. Epub 2022 Jan 31. PMID: 35223675; PMCID: PMC8844677. <https://pubmed.ncbi.nlm.nih.gov/35223675/>

*Here, we report the case of a patient with a rapid onset of alopecia areata immediately after receiving the second dose of the COVID-19 vaccine*

May Lee M, Bertolani M, Pierobon E, Lotti T, Feliciani C, Satolli F. **Alopecia areata following COVID-19 vaccination: vaccine-induced autoimmunity?** Int J Dermatol. 2022 May;61(5):634-635. doi: 10.1111/ijd.16113. Epub 2022 Feb 2. PMID: 35107173. <https://pubmed.ncbi.nlm.nih.gov/35107173/>

Rossi A, Magri F, Michelini S, Caro G, Di Fraia M, Fortuna MC, Pellacani G, Carlesimo M. **Recurrence of alopecia areata after covid-19 vaccination: A report of three cases in Italy.** J Cosmet Dermatol. 2021 Dec;20(12):3753-3757. doi: 10.1111/jocd.14581. Epub 2021 Nov 6. PMID: 34741583. <https://pubmed.ncbi.nlm.nih.gov/34741583/>

### 38. 3,509 Symptoms reported as aphasia; 51% within two days of injection

Saleh M, Zimmermann J, Lehnen NC, Pöttsch B, Weller JM. **Late-Onset Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT) with Cerebral Venous Sinus Thrombosis.** J Stroke Cerebrovasc Dis. 2022 Apr;31(4):106311. doi: 10.1016/j.jstrokecerebrovasdis.2022.106311. Epub 2022 Jan 29. PMID: 35093626; PMCID: PMC8799476. <https://pubmed.ncbi.nlm.nih.gov/35093626/>

Aphasia can be caused by the COVID vaccine Steve Kirsch, March 30, 2022

### 39. 13,398 Symptoms reported as pulmonary embolism, pulmonary thromboembolism or pulmonary thrombus; 42% within 10 days of injection

Currently selected:  
10078201 {PULMONARY ARTE  
10037340 {PULMONARY ARTE  
10037377 {PULMONARY EMBO  
10037437 {PULMONARY THRO  
10037459 {PULMONARY VENQ

Kan Y, Asada M, Uesawa Y. **Trends in reporting embolic and thrombotic events after COVID-19 vaccination: A retrospective, pharmacovigilance study.** PLoS One. 2022 Aug 1;17(8):e0269268. doi:

10.1371/journal.pone.0269268. PMID: 35913955; PMCID: PMC9342794.  
<https://pubmed.ncbi.nlm.nih.gov/35913955/>

Borisoff B D, Bohn K D, Sager J, et al. (August 05, 2022) **Unprovoked Submassive Saddle Pulmonary Embolism in an Adult Male After Pfizer COVID-19 Vaccination**. Cureus 14(8): e27717. doi:10.7759/cureus.27717 <https://www.cureus.com/articles/107450-unprovoked-submassive-saddle-pulmonary-embolism-in-an-adult-male-after-pfizer-covid-19-vaccination#references>

Malik B, Kalantary A, Rikabi K, Kunadi A. **Pulmonary embolism, transient ischaemic attack and thrombocytopenia after the Johnson & Johnson COVID-19 vaccine**. BMJ Case Rep. 2021 Jul 14;14(7):e243975. doi: 10.1136/bcr-2021-243975. PMID: 34261635; PMCID: PMC8280905. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8280905/pdf/bcr-2021-243975.pdf>

**40. 7,851 Symptoms reported as pneumonia, adenoviral pneumonia or pulmonary edema; 26% within 2 days of injection**

Yoshikawa T, Tomomatsu K, Okazaki E, Takeuchi T, Horio Y, Kondo Y, Oguma T, Asano K. **COVID-19 vaccine-associated organizing pneumonia**. Respirol Case Rep. 2022 Mar 29;10(5):e0944. doi: 10.1002/rcr2.944. PMID: 35386579; PMCID: PMC8965045. <https://pubmed.ncbi.nlm.nih.gov/35386579/>

Dr Alex Stoyanov MBBS (Hons) MSc , Dr Graeme Thompson MBBS (Hons) , Dr Monique Lee MBBS (Hons) , Professor Connie Katelaris MBBS PhD , **Delayed hypersensitivity to the Comirnaty COVID-19 vaccine presenting with pneumonitis and rash**, Annals of Allergy, Asthma Immunology (2021), doi: <https://doi.org/10.1016/j.anai.2021.11.014>  
<https://www.annallergy.org/action/showPdf?pii=S1081-1206%2821%2901274-6>

**41. 619 Symptoms reported as interstitial lung disease; 22% within 2 days of injection**

So C, Izumi S, Ishida A, Hirakawa R, Kusaba Y, Hashimoto M, Ishii S, Miyazaki H, Ikura M, Hojo M. **COVID-19 mRNA vaccine-related interstitial lung disease: Two case reports and literature review**. Respirol Case Rep. 2022 Mar 23;10(4):e0938. doi: 10.1002/rcr2.938. PMID: 35355663; PMCID: PMC8942814. <https://pubmed.ncbi.nlm.nih.gov/35355663/>

DeDent AM, Farrand E **Vaccine-induced interstitial lung disease: a rare reaction to COVID-19 vaccination** Thorax Published Online First: 11 September 2021. doi: 10.1136/thoraxjnl-2021-217985 <https://thorax.bmj.com/content/thoraxjnl/early/2021/09/11/thoraxjnl-2021-217985.full.pdf>

Miqdadi A, Herrag M (October 21, 2021) **Acute Eosinophilic Pneumonia Associated With the Anti-COVID-19 Vaccine AZD1222**. Cureus 13(10): e18959. doi:10.7759/cureus.18959 <https://www.cureus.com/articles/71391-acute-eosinophilic-pneumonia-associated-with-the-anti-covid-19-vaccine-azd1222>

Ayumi Yoshifuji, Kota Ishioka, Yuya Masuzawa, Shuntaro Suda, Saori Murata, Yoshifumi Uwamino, Motoko Fujino, Hiromi Miyahara, Naoki Hasegawa, Munekazu Ryuzaki, Haruhiko Hoshino, Kazuhiko Sekine, **COVID-19 vaccine induced interstitial lung disease**, Journal of Infection and Chemotherapy, Volume 28, Issue 1,

2022, Pages 95-98, ISSN 1341-321X, <https://doi.org/10.1016/j.jiac.2021.09.010>  
<https://www.sciencedirect.com/science/article/pii/S1341321X21002592>

Shinichi Matsuzaki, Hiroyuki Kamiya, Ichiro Inoshima, Yasutaka Hirasawa, Osamu Tago, Masashi Arai, **COVID-19 mRNA Vaccine-induced Pneumonitis: A Case Report**, Internal Medicine, Article ID 8310-21, [Advance publication] Released October 26, 2021, Online ISSN 1349-7235, Print ISSN 0918-2918, [https://www.jstage.jst.go.jp/article/internalmedicine/advpub/0/advpub\\_8310-21/pdf/-char/en](https://www.jstage.jst.go.jp/article/internalmedicine/advpub/0/advpub_8310-21/pdf/-char/en)

**42. 9,298 Symptoms reported as Deep vein thrombosis (DVT), phlebitis or thrombophlebitis; 45% within 10 days of injection**

Roncati L, Manenti A, Corsi L. **A Three-Case Series of Thrombotic Deaths in Patients over 50 with Comorbidities Temporally after modRNA COVID-19 Vaccination**. Pathogens. 2022 Apr 3;11(4):435. doi: 10.3390/pathogens11040435. PMID: 35456110; PMCID: PMC9032304.  
<https://pubmed.ncbi.nlm.nih.gov/35456110/>

Vallone MG, Falcón AL, Castro HM, Ferraris A, Cantarella RF, Staneloni MI, Aliperti VI, Ferloni A, Mezzarobba D, Vázquez FJ, Ratti MFG. **Thrombotic events following Covid-19 vaccines compared to Influenza vaccines**. Eur J Intern Med. 2022 May;99:82-88. doi: 10.1016/j.ejim.2022.03.002. Epub 2022 Mar 9. PMID: 35288031; PMCID: PMC8904150.  
<https://pubmed.ncbi.nlm.nih.gov/35288031/>

The Vallone study found twice the number of thrombotic events for covid-19 vaccines over flu vaccines; statistically significant, and cited the following conclusion:

*This study shows a significant increase in thrombotic events in subjects vaccinated with Covid-19 vaccines in comparison to a control group. The clinical implication of these findings should be interpreted with caution, in light of the high effectiveness of vaccination and the inherent risk of thrombosis from Covid-19 infection itself.<sup>24</sup>*

Bhan C, Bheesham N, Shakuntulla F, Sharma M, Sun C, Weinstein M. **An unusual presentation of acute deep vein thrombosis after the Moderna COVID-19 vaccine-a case report**. Ann Transl Med. 2021 Oct;9(20):1605. doi: 10.21037/atm-21-2772. PMID: 34790811; PMCID: PMC8576696.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8576696/pdf/atm-09-20-1605.pdf>

**43. 566 Symptoms reported as coma or brain death; 34% within 2 days of injection**

Uzun G, Bohnert BN, Althaus K, Nann D, Nadalin S, Heyne N, Fend F, Haap M, Bakchoul T. **Organ Donation From a Brain Dead Donor With Vaccine-induced Immune Thrombotic Thrombocytopenia After Ad26.COV2.S: The Risk of Organ Microthrombi**. Transplantation. 2022 Mar 1;106(3):e178-e180. doi: 10.1097/TP.0000000000004039. PMID: 34974451; PMCID: PMC8862669.  
<https://pubmed.ncbi.nlm.nih.gov/34974451/>

Guditi S, Setty G, Verma M, Reddy R, Devraj R, Raju SB, Gokhale GK. **Vaccine-Induced Thrombotic Thrombocytopenia Due to Coronavirus Disease 2019 Vaccine From a Deceased Donor: A Case Report**.

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<sup>24</sup> This last sentence candy coats the conclusion, and the paper further offers no substantial statistics to firmly support the statement. In court a defense attorney for the case would call *hearsay*.

Transplant Proc. 2021 Nov 12:S0041-1345(21)00794-6. doi: 10.1016/j.transproceed.2021.11.002. Epub ahead of print. PMID: 34916063; PMCID: PMC8585593. <https://pubmed.ncbi.nlm.nih.gov/34916063/>

**44. 1,229 Symptoms reported as Pancreatitis; 32% within 2 days of injection**

|          |                   |
|----------|-------------------|
| 10033616 | (PANCREATIC DISO  |
| 10079281 | (PANCREATIC FAILU |
| 10068239 | (PANCREATIC INFA  |
| 10033627 | (PANCREATIC INJUR |
| 10033628 | (PANCREATIC INSU  |
| 10033645 | (PANCREATITIS)    |
| 10033647 | (PANCREATITIS ACC |
| 10033649 | (PANCREATITIS CH  |
| 10033650 | (PANCREATITIS HA  |

Parkash O, Sharko A, Farooqi A, Ying GW, Sura P. **Acute Pancreatitis: A Possible Side Effect of COVID-19 Vaccine.** Cureus. 2021;13(4):e14741. Published 2021 Apr 28. doi:10.7759/cureus.14741  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8163516/pdf/cureus-0013-00000014741.pdf>

**45. 22,675 Symptoms reported as tinnitus, hearing impairment, auditory disorder, auditory nerve disorder; 51% within 2 days of injection**

Saunders GH, Beukes E, Uus K, Armitage CJ, Kelly J, Munro KJ. **Shedding Light on SARS-CoV-2, COVID-19, COVID-19 Vaccination, and Auditory Symptoms: Causality or Spurious Conjunction?** Front Public Health. 2022 Feb 22;10:837513. doi: 10.3389/fpubh.2022.837513. PMID: 35296050; PMCID: PMC8919951.  
<https://pubmed.ncbi.nlm.nih.gov/35296050/>

Shirai T, Suzuki J, Kuniyoshi S, Tanno Y, Fujii H. **Granulomatosis with Polyangiitis Following Pfizer-BioNTech COVID-19 Vaccination.** Mod Rheumatol Case Rep. 2022 Mar 4:rxac016. doi: 10.1093/mrcr/rxac016. Epub ahead of print. PMID: 35246689; PMCID: PMC8903471.  
<https://pubmed.ncbi.nlm.nih.gov/35246689/>

Ulrich AK, Sundaram ME, Osterholm MT. **Rare Sudden Sensorineural Hearing Loss Potentially Associated With COVID-19 Vaccination Does Not Outweigh the Benefit of COVID-19 Vaccines.** JAMA Otolaryngol Head Neck Surg. 2022 Feb 24. doi: 10.1001/jamaoto.2021.4279. Epub ahead of print. PMID: 35201285.  
<https://pubmed.ncbi.nlm.nih.gov/35201285/>

Formeister EJ, Chien W, Agrawal Y, Carey JP, Stewart CM, Sun DQ. **Preliminary Analysis of Association Between COVID-19 Vaccination and Sudden Hearing Loss Using US Centers for Disease Control and Prevention Vaccine Adverse Events Reporting System Data.** JAMA Otolaryngol Head Neck Surg. 2021;147(7):674–676. doi:10.1001/jamaoto.2021.0869  
<https://jamanetwork.com/journals/jamaotolaryngology/fullarticle/2780288>

Briggs SE, Brenner MJ, Chandrasekhar SS. **Sudden Sensorineural Hearing Loss and COVID-19 Vaccination.** JAMA Otolaryngol Head Neck Surg. Published online November 24, 2021. doi:10.1001/jamaoto.2021.3384  
<https://jamanetwork.com/journals/jamaotolaryngology/article-abstract/2786751>

**46. 629 Symptoms reported as Rhabdomyolysis; 39% within 2 days of injection**

Kalekar TM, Jaipuria RK, Navani RS. **MRI Findings in Case of Post-COVID-19 Vaccination Rhabdomyolysis: A Rare Postvaccination Adverse Effect.** Indian J Radiol Imaging. 2022 Jul 13;32(2):256-259. doi: 10.1055/s-0042-1748534. PMID: 35924123; PMCID: PMC9340183. <https://pubmed.ncbi.nlm.nih.gov/35924123/>

Unger K, Ponte CD, Anderson D. **A Possible Case of COVID-19 Booster Vaccine-Associated Rhabdomyolysis and Acute Kidney Injury.** J Pharm Technol. 2022 Aug; 38(4):247-250. doi:

10.1177/87551225221093944. Epub 2022 May 3. PMID: 35832563; PMCID: PMC9272487.  
<https://pubmed.ncbi.nlm.nih.gov/35832563/>

Kamura Y, Terao T, Akao S, Kono Y, Honma K, Matsue K. **Fatal thrombotic microangiopathy with rhabdomyolysis as an initial symptom after the first dose of mRNA-1273 vaccine: A case report.** Int J Infect Dis. 2022 Apr;117:322-325. doi: 10.1016/j.ijid.2022.02.031. Epub 2022 Feb 18. PMID: 35189339; PMCID: PMC8853962. <https://pubmed.ncbi.nlm.nih.gov/35189339/>

Nassar M, Chung H, Dhayaparan Y, et al. **COVID-19 vaccine induced rhabdomyolysis: Case report with literature review.** Diabetes Metab Syndr. 2021;15(4):102170. doi:10.1016/j.dsx.2021.06.007  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8205294/pdf/main.pdf>

Faissner, S., Richter, D., Ceylan, U. et al. **COVID-19 mRNA vaccine induced rhabdomyolysis and fasciitis.** J Neurol (2021). <https://link.springer.com/content/pdf/10.1007/s00415-021-10768-3.pdf>

Ajmera KM. **Fatal Case of Rhabdomyolysis Post-COVID-19 Vaccine.** Infect Drug Resist. 2021;14:3929-3935. Published 2021 Sep 24. doi:10.2147/IDR.S331362  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8478340/pdf/idr-14-3929.pdf>

Gelbenegger G, Cacioppo F, Firbas C, Jilma B. **Rhabdomyolysis Following Ad26.COV2.S COVID-19 Vaccination.** Vaccines. 2021; 9(9):956. <https://doi.org/10.3390/vaccines9090956>  
<https://www.mdpi.com/2076-393X/9/9/956>

Hakroush S, Tampe B. **Case Report: ANCA-Associated Vasculitis Presenting With Rhabdomyolysis and Pauci-Immune Crescentic Glomerulonephritis After Pfizer-BioNTech COVID-19 mRNA Vaccination.** Front Immunol. 2021 Sep 30;12:762006. doi: 10.3389/fimmu.2021.762006. PMID: 34659268; PMCID: PMC8514980.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8514980/pdf/fimmu-12-762006.pdf>

#### 47. 15,867 Symptoms reported as Hypertension; 54% within 1 days of injection.

Soegiarto G, Wulandari L, Purnomosari D, Dhia Fahmita K, Ikhwan Gautama H, Tri Hadmoko S, Edwin Prasetyo M, Aulia Mahdi B, Arafah N, Prasetyaningtyas D, Prawiro Negoro P, Rosita Sigit Prakoeswa C, Endaryanto A, Gede Agung Suprabawati D, Tinduh D, Basuki Rachmad E, Astha Triyono E, Wahyuhadi J, Budi Keswardiono C, Elyana Wardani F, Mayorita F, Kristiani N, Baskoro A, Fetarayani D, Kartika Nurani W, Oceandy D. **Hypertension is associated with antibody response and breakthrough infection in health care workers following vaccination with inactivated SARS-CoV-2.** Vaccine. 2022 May 27:S0264-410X(22)00676-4. doi: 10.1016/j.vaccine.2022.05.059. Epub ahead of print. PMID: 35660034; PMCID: PMC9135674. <https://pubmed.ncbi.nlm.nih.gov/35660034/>

For COVID-19 vaccines, Pfizer accounts for over 70% of the cases of hypertension, but this may only be due to Pfizer being the the major vaccine distributed.

#### Messages:

- ▶ VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.
- ▶ These results are for 15,867 total events.
- ▶ Rows with zero Events Reported are hidden. Use Quick Options above to show zero rows.

| Vaccine ↕                                  | ⇒ Events Reported ↕ | ⇐ Percent (of 15,867) ↕ |
|--------------------------------------------|---------------------|-------------------------|
| COVID19 (COVID19 (PFIZER-BIONTECH)) (1280) | 11,340              | 71.47%                  |
| COVID19 (COVID19 (MODERNA)) (1201)         | 4,108               | 25.89%                  |
| COVID19 (COVID19 (JANSSEN)) (1203)         | 950                 | 5.80%                   |
| COVID19 (COVID19 (UNKNOWN)) (1202)         | 63                  | 0.40%                   |

48. 318 Symptoms reported as Multisystem Inflammatory Syndrome; 20% within 2 days of injection.

Although MIS, and in particular MIS-C has been in the news and published literature as a concern, VAERS is showing relatively few reported cases. Of these cases the breakdown according to vaccine and age group is summarized in the following table. Regardless of this low number, the number that immediately jumps out from the table is that the Pfizer vaccine accounts for 45% of these reports for the age group 6 to 17 years. This might be worth a deeper dig into the specific adverse event details - 160 cases.

**Messages:**

- VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.
- These results are for 318 total events.
- Rows with zero Events Reported are hidden. Use Quick Options above to show zero rows.

| Vaccine Manufacturer | Age         | Events Reported | Percent (of 318) |
|----------------------|-------------|-----------------|------------------|
| JANSSEN              | 18-29 years | 1               | 0.31%            |
|                      | 30-39 years | 1               | 0.31%            |
|                      | 65-79 years | 1               | 0.31%            |
|                      | Unknown     | 2               | 0.63%            |
| MODERNA              | 6-17 years  | 5               | 1.57%            |
|                      | 18-29 years | 6               | 1.89%            |
|                      | 30-39 years | 3               | 0.94%            |
|                      | 40-49 years | 2               | 0.63%            |
|                      | 50-59 years | 3               | 0.94%            |
|                      | 60-64 years | 1               | 0.31%            |
|                      | 65-79 years | 7               | 2.20%            |
|                      | Unknown     | 5               | 1.57%            |
| PFIZER\BIONTECH      | 1-2 years   | 1               | 0.31%            |
|                      | 3-5 years   | 14              | 4.40%            |
|                      | 6-17 years  | 160             | 50.31%           |
|                      | 18-29 years | 11              | 3.46%            |
|                      | 30-39 years | 2               | 0.63%            |
|                      | 40-49 years | 3               | 0.94%            |
|                      | 50-59 years | 3               | 0.94%            |
|                      | 60-64 years | 2               | 0.63%            |
|                      | 65-79 years | 5               | 1.57%            |
|                      | 80+ years   | 2               | 0.63%            |
|                      | Unknown     | 110             | 34.59%           |
|                      | 6-17 years  | 1               | 0.31%            |
| UNKNOWN MANUFACTURER | Unknown     | 3               | 0.94%            |

Wangu Z, Swartz H, Doherty M. **Multisystem inflammatory syndrome in children (MIS-C) possibly secondary to COVID-19 mRNA vaccination.** BMJ Case Rep. 2022 Mar 30;15(3):e247176. doi: 10.1136/bcr-2021-247176. PMID: 35354564. <https://pubmed.ncbi.nlm.nih.gov/35354564/>

Ouldali N, Bagheri H, Salvo F, Antona D, Pariente A, Leblanc C, Tebacher M, Micallef J, Levy C, Cohen R, Javouhey E, Bader-Meunier B, Ovaert C, Renolleau S, Hentgen V, Kone-Paut I, Deschamps N, De Pontual L, Iriart X, Guen CG, Angoulvant F, Belot A; "French Covid-19 Paediatric Inflammation Consortium" and the "French Pharmacovigilance network". **Hyper inflammatory syndrome following COVID-19 mRNA vaccine in children: A national post-authorization pharmacovigilance study.** Lancet Reg Health Eur. 2022 Apr 29;100393. doi: 10.1016/j.lanepe.2022.100393. Epub ahead of print. PMID: 35505833; PMCID: PMC9051933. <https://pubmed.ncbi.nlm.nih.gov/35505833/>

Bartsch YC, St Denis KJ, Kaplonek P, Kang J, Lam EC, Burns MD, Farkas EJ, Davis JP, Boribong BP, Edlow AG, Fasano A, Shreffler W, Zavadska D, Johnson M, Goldblatt D, Balazs AB, Yonker LM, Alter G. **Comprehensive antibody profiling of mRNA vaccination in children.** bioRxiv [Preprint]. 2022 Jan 4:2021.10.07.463592. doi: 10.1101/2021.10.07.463592. PMID: 35018376; PMCID: PMC8750651. <https://pubmed.ncbi.nlm.nih.gov/35018376/>

Lieu A, Mah J, Church D. **A case of multisystem inflammatory syndrome in adults following natural infection and subsequent immunization.** Int J Infect Dis. 2022 Mar;116:34-37. doi:

10.1016/j.ijid.2021.12.339. Epub 2021 Dec 24. PMID: 34954311; PMCID: PMC8702592.

<https://pubmed.ncbi.nlm.nih.gov/34954311/>

Patel T, Kelleman M, West Z, Peter A, Dove M, Butto A, Oster ME. **Comparison of Multisystem Inflammatory Syndrome in Children-Related Myocarditis, Classic Viral Myocarditis, and COVID-19 Vaccine-Related Myocarditis in Children.** J Am Heart Assoc. 2022 May 3;11(9):e024393. doi:

10.1161/JAHA.121.024393. Epub 2022 Apr 27. PMID: 35475362.

<https://pubmed.ncbi.nlm.nih.gov/35475362/>

Kildegaard H, Lund LC, Højlund M, Stensballe LG, Pottegård A. **Risk of adverse events after covid-19 in Danish children and adolescents and effectiveness of BNT162b2 in adolescents: cohort study.** BMJ. 2022 Apr 11;377:e068898. doi: 10.1136/bmj-2021-068898. PMID: 35410884; PMCID: PMC8995669.

<https://pubmed.ncbi.nlm.nih.gov/35410884/>

Merckx J, Cooke S, El Tal T, Bitnun A, Morris SK, Yeh EA, Yea C, Gill P, Papenburg J, Lefebvre MA, Scuccimarri R, Ulloa-Gutierrez R, Brenes-Chacon H, Yock-Corrales A, Ivankovich-Escoto G, Soriano-Fallas A, Mezerville MH, Dewan T, Restivo L, Nateghian A, Aski BH, Manafi A, Dwihow R, Bullard J, Lopez A, Sadarangani M, Roberts A, Barton M, Petel D, Le Saux N, Bowes J, Purewal R, Lautermilch J, Tehseen S, Bayliss A, Wong JK, Leifso K, Foo C, Robinson J; Pediatric Investigators Collaborative Network on Infections in Canada (PICNIC). **Predictors of severe illness in children with multisystem inflammatory syndrome after SARS-CoV-2 infection: a multicentre cohort study.** CMAJ. 2022 Apr 11;194(14):E513-E523. doi:

10.1503/cmaj.210873. PMID: 35410860; PMCID: PMC9001008.

<https://pubmed.ncbi.nlm.nih.gov/35410860/>

Kumar D, Rostad CA, Jaggi P, Villacis Nunez DS, Prince C, Lu A, Hussaini L, Nguyen TH, Malik S, Ponder LA, Shenoy SPV, Anderson EJ, Briones M, Sanz I, Prahalad S, Chandrakasan S. **Distinguishing immune activation and inflammatory signatures of multisystem inflammatory syndrome in children (MIS-C) versus hemophagocytic lymphohistiocytosis (HLH).** J Allergy Clin Immunol. 2022 May;149(5):1592-1606.e16. doi: 10.1016/j.jaci.2022.02.028. Epub 2022 Mar 15. PMID: 35304157; PMCID: PMC8923010.

<https://pubmed.ncbi.nlm.nih.gov/35304157/>

Jain E, Donowitz JR, Aarons E, Marshall BC, Miller MP. **Multisystem Inflammatory Syndrome in Children after SARS-CoV-2 Vaccination.** Emerg Infect Dis. 2022 May;28(5):990-993. doi: 10.3201/eid2805.212418.

Epub 2022 Mar 11. PMID: 35275051; PMCID: PMC9045439. <https://pubmed.ncbi.nlm.nih.gov/35275051/>

Schelde AB, Nielsen KF, Nygaard U, von Linstow ML, Espenhain L, Koch A. **[COVID-19 among children and adolescents].** Ugeskr Laeger. 2022 Feb 28;184(9):V11210858. Danish. PMID: 35244020.

<https://pubmed.ncbi.nlm.nih.gov/35244020/>

Yousaf AR, Cortese MM, Taylor AW, Broder KR, Oster ME, Wong JM, Guh AY, McCormick DW, Kamidani S, Schlaudecker EP, Edwards KM, Creech CB, Staat MA, Belay ED, Marquez P, Su JR, Salzman MB, Thompson D, Campbell AP; MIS-C Investigation Authorship Group. **Reported cases of multisystem inflammatory syndrome in children aged 12-20 years in the USA who received a COVID-19 vaccine, December, 2020, through August, 2021: a surveillance investigation.** Lancet Child Adolesc Health. 2022 May;6(5):303-312. doi: 10.1016/S2352-4642(22)00028-1. Epub 2022 Feb 23. PMID: 35216660; PMCID: PMC8864018.

<https://pubmed.ncbi.nlm.nih.gov/35216660/>

Poussaint TY, LaRovere KL, Newburger JW, Chou J, Nigrovic LE, Novak T, Randolph AG. **Multisystem Inflammatory-like Syndrome in a Child Following COVID-19 mRNA Vaccination.** *Vaccines (Basel)*. 2021 Dec 30;10(1):43. doi: 10.3390/vaccines10010043. PMID: 35062704; PMCID: PMC8781649. <https://pubmed.ncbi.nlm.nih.gov/35062704/>

Yalçinkaya R, Öz FN, Polat M, Uçan B, Teke TA, Kaman A, Özdem S, Savaş Şen Z, Cinni RG, Tanir G. **A Case of Multisystem Inflammatory Syndrome in a 12-Year-old Male After COVID-19 mRNA Vaccine.** *Pediatr Infect Dis J*. 2022 Mar 1;41(3):e87-e89. doi: 10.1097/INF.0000000000003432. PMID: 34978781; PMCID: PMC8828314. <https://pubmed.ncbi.nlm.nih.gov/34978781/>

DeJong J, Sainato R, Forouhar M, Robinson D, Kunz A. **Multisystem Inflammatory Syndrome in a Previously Vaccinated Adolescent Female With Sickle Cell Disease.** *Pediatr Infect Dis J*. 2022 Mar 1;41(3):e104-e105. doi: 10.1097/INF.0000000000003444. PMID: 34955521; PMCID: PMC8828312. <https://pubmed.ncbi.nlm.nih.gov/34955521/>

Abdelgalil AA, Saeedi FA. **Multisystem Inflammatory Syndrome in a 12-Year-old Boy After mRNA-SARS-CoV-2 Vaccination.** *Pediatr Infect Dis J*. 2022 Mar 1;41(3):e93-e94. doi: 10.1097/INF.0000000000003442. PMID: 34955518; PMCID: PMC8828311. <https://pubmed.ncbi.nlm.nih.gov/34955518/>

Campagnani G, Bardanzellu F, Pintus MC, Fanos V, Marcialis MA. **COVID-19 vaccination in children: an open question.** *Curr Pediatr Rev*. 2021 Dec 19. doi: 10.2174/1573396318666211220093111. Epub ahead of print. PMID: 34931965. <https://pubmed.ncbi.nlm.nih.gov/34931965/>

Belay ED, Godfred Cato S, Rao AK, Abrams J, Wilson WW, Lim S, Newton-Cheh C, Melgar M, DeCuir J, Webb B, Marquez P, Su JR, Meng L, Grome HN, Schlaudecker E, Talaat K, Edwards K, Barnett E, Campbell AP, Broder KR, Bamrah Morris S. **Multisystem Inflammatory Syndrome in Adults after SARS-CoV-2 infection and COVID-19 vaccination.** *Clin Infect Dis*. 2021 Nov 28:ciab936. doi: 10.1093/cid/ciab936. Epub ahead of print. PMID: 34849680; PMCID: PMC8690151. <https://pubmed.ncbi.nlm.nih.gov/34849680/>

Buchhorn R, Meyer C, Schulze-Forster K, Junker J, Heidecke H. **Autoantibody Release in Children after Corona Virus mRNA Vaccination: A Risk Factor of Multisystem Inflammatory Syndrome?** *Vaccines (Basel)*. 2021 Nov 18;9(11):1353. doi: 10.3390/vaccines9111353. PMID: 34835284; PMCID: PMC8618727. <https://pubmed.ncbi.nlm.nih.gov/34835284/>

Nune A, Iyengar KP, Goddard C, Ahmed AE. **Multisystem inflammatory syndrome in an adult following the SARS-CoV-2 vaccine (MIS-V).** *BMJ Case Rep*. 2021 Jul 29;14(7):e243888. doi: 10.1136/bcr-2021-243888. PMID: 34326117; PMCID: PMC8323360. <https://pubmed.ncbi.nlm.nih.gov/34326117/>

There was great concern for MIS-C from SARS-Cov-2, but after vaccines were 'approved' for children it was found that the vaccine itself could cause MIS-C. The number of papers, studies just provided here suggest that the number of vaccine associated MIS cases are under-reported in VAERS.

**49. 2,453 Symptoms reported as either auto-immune or auto-inflammatory response; 31% within 2 days of injection.**

10080243 (AUTOIMMUNE ANA)  
10071155 (AUTOIMMUNE ART)  
10083961 (AUTOIMMUNE BLIS)  
10083626 (AUTOIMMUNE CHC)  
10075761 (AUTOIMMUNE COL)  
10075688 (AUTOIMMUNE DEM)  
10075689 (AUTOIMMUNE DER)  
10061664 (AUTOIMMUNE DIS)  
10075691 (AUTOIMMUNE ENC)  
10078953 (AUTOIMMUNE END)  
10081456 (AUTOIMMUNE ENT)  
10081123 (AUTOIMMUNE EYE)  
10073785 (AUTOIMMUNE HAE)  
10003827 (AUTOIMMUNE HEP)  
10076644 (AUTOIMMUNE HYP)  
10065996 (AUTOIMMUNE INN)  
10080701 (AUTOIMMUNE LUN)  
10069521 (AUTOIMMUNE LYM)  
10064539 (AUTOIMMUNE MYC)  
10082418 (AUTOIMMUNE MYC)  
10077087 (AUTOIMMUNE NER)  
10070439 (AUTOIMMUNE NEU)  
10055128 (AUTOIMMUNE NEU)  
10069002 (AUTOIMMUNE PAN)  
10069509 (AUTOIMMUNE PAN)  
10071578 (AUTOIMMUNE RET)  
10050245 (AUTOIMMUNE THR)  
10079165 (AUTOIMMUNE THY)  
10049046 (AUTOIMMUNE THY)  
10075690 (AUTOIMMUNE UVE)  
10072220 (AUTOINFLAMMATO)

Vences MA, Canales D, Albuja MF, Barja E, Araujo-Chumacero MM, Cardenas E, Alvarez A, Urrunaga-Pastor D. **Post-Vaccinal Encephalitis with Early Relapse after BNT162b2 (COMIRNATY) COVID-19 Vaccine: A Case Report.** Vaccines (Basel). 2022 Jul 1;10(7):1065. doi: 10.3390/vaccines10071065. PMID: 35891229; PMCID: PMC9318781. <https://pubmed.ncbi.nlm.nih.gov/35891229/>

Huang YF, Ho TC, Chang CC, Shen DH, Chan HP, Chuang KP, Tyan YC, Yang MH. **A Rare Adverse Effect of the COVID-19 Vaccine on Autoimmune Encephalitis.** Vaccines (Basel). 2022 Jul 13;10(7):1114. doi: 10.3390/vaccines10071114. PMID: 35891278; PMCID: PMC9319671. <https://pubmed.ncbi.nlm.nih.gov/35891278/>

Bellinva A, Aprea MG, Portaccio E, Pastò L, Razzolini L, Fonderico M, Addazio I, Betti M, Amato MP. **Hypogammaglobulinemia is associated with reduced antibody response after anti-SARS-CoV-2 vaccination in MS patients treated with antiCD20 therapies.** Neurol Sci. 2022 Aug 3:1–12. doi: 10.1007/s10072-022-06287-2. Epub ahead of print. PMID: 35918574; PMCID: PMC9345744. <https://pubmed.ncbi.nlm.nih.gov/35918574/>

Vanaskova E, Kelbich P, Novotny T. **Reactive synovitis of the knee joint after COVID-19 vaccination: The first ultrastructural analysis of synovial fluid.** Int J Rheum Dis. 2022 Aug 5. doi: 10.1111/1756-185X.14411. Epub ahead of print. PMID: 35929362. <https://pubmed.ncbi.nlm.nih.gov/35929362/>

Martinez-Reviejo R, Tejada S, Adebajo GAR, Chello C, Machado MC, Parisella FR, Campins M, Tammaro A, Rello J. **Varicella-Zoster virus reactivation following severe acute respiratory syndrome coronavirus 2 vaccination or infection: New insights.** Eur J Intern Med. 2022 Aug 1;S0953-6205(22)00270-9. doi: 10.1016/j.ejim.2022.07.022. Epub ahead of print. PMID: 35931613. <https://pubmed.ncbi.nlm.nih.gov/35931613/>

Lensen R, Netea MG, Rosendaal FR. **Hepatitis C Virus Reactivation Following COVID-19 Vaccination - A Case Report.** Int Med Case Rep J. 2021 Aug 29;14:573-576. doi: 10.2147/IMCRJ.S328482. Erratum in: Int Med Case Rep J. 2021 Oct 27;14:741-742. PMID: 34512037; PMCID: PMC8412816. <https://pubmed.ncbi.nlm.nih.gov/34512037/>

Jara LJ, Vera-Lastra O, Mahroum N, Pineda C, Shoenfeld Y. **Autoimmune post-COVID vaccine syndromes:**

**does the spectrum of autoimmune/inflammatory syndrome expand?** Clin Rheumatol. 2022 Apr 5:1–7. doi: 10.1007/s10067-022-06149-4. Epub ahead of print. PMID: 35378658; PMCID: PMC8979721. <https://pubmed.ncbi.nlm.nih.gov/35378658/>

Chris von Csefalvay, **A case-control study of autoimmune AEFIs following COVID-19 vaccination reported to VAERS**, PREPRINT medRxiv 2021.07.06.21260074; doi: <https://doi.org/10.1101/2021.07.06.21260074> <https://www.medrxiv.org/content/10.1101/2021.07.06.21260074v1.full.pdf>

Isabel Garrido, Susana Lopes, Manuel Sobrinho Simões, Rodrigo Liberal, Joanne Lopes, Fátima Carneiro, Guilherme Macedo, **Autoimmune hepatitis after COVID-19 vaccine – more than a coincidence**, Journal of Autoimmunity, Volume 125, 2021,102741,ISSN 0896-8411 <https://www.sciencedirect.com/science/article/pii/S0896841121001499>

## Summary – Adverse Events

Unlike mathematics, where propositions can be *proven* with certainty, scientific hypotheses in the strict sense can never be proven. Hypotheses can only be *supported* by presenting evidence that sufficiently *infers* their truth or else *falsified* by as little as one instance of a counter example. Mathematical proof, except for practicing skills, never requires *repetition*. But good science should continually be repeated, even when a hypothesis has been falsified; something could have been improperly assumed or a detail missed. Mathematics is exact, science is not. There is no ‘proof’ in science. This fact places considerable burden on scientists, much more so than the mathematician. It also raises the question: what is considered *sufficient* to warrant a hypothesis as highly probable? Scientists rely on confidence intervals (CI) but proper use requires the associated (and assumed) statistical models (distributions) represent the reality of the data set. Too often they do not. For vaccines, adverse events occur in the ‘noise’ over the entirety of data and exist on *fat tailed*<sup>25</sup> distributions. These distributions are NOT normal (Gaussian). For fat tailed distributions, what matters is not so much frequency of occurrence, but rather the *consequences* of these events. Too much attention on low frequency of occurrence over consequence. The consequences for the vaccines, which Bayesian adherents may label ‘outliers’ to the statistics include the suffering and loss of human lives. Too many fooled by randomness and statistics.

Searching Pubmed (<https://pubmed.ncbi.nlm.nih.gov/>) today with the search string:

**((covid-19 vaccine) OR (covid 19 vaccine) OR (covid-19 vaccines) OR (covid 19 vaccines)) AND ((adverse reaction) OR injury OR death OR VAERS )**

Brings up 3,446 results, of course all having been published after December of 2020. This number is overwhelming in such a short time period and we cannot expect the medical community to digest it all, let alone know that such a body of work exists to address the outcome. PubMed unfortunately does not track publications by day or month, only year. But by publishing this compendium report on a monthly basis there is a sense that the growth of publications are exponential. The intent of this report is to make public health officials and other readers aware that despite the public narrative, the vaccines are doing significant harm and causing death. It is hoped that this report will

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<sup>25</sup> Taleb NN, Bar-Yam Y, Cirillo P. **On single point forecasts for fat-tailed variables**. Int J Forecast. 2020;10.1016/j.ijforecast.2020.08.008. doi:10.1016/j.ijforecast.2020.08.008 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7572356/>

help wake them from the spell this narrative has captured them and that they confirm – or else deny – what is in this report is real. Unless they do that, they are complicit in the narrative and the death and destruction the vaccines have caused.

A high percentage of many of the adverse events noted above having occurred within 2 days of injection of a COVID-19 vaccine substantiates strong temporal correlation<sup>26</sup>, but as many will point out, correlation may not necessarily imply causation. Correlation is however a *necessary* condition for causation. Causation is not easy to determine, but scientists typically use the *Bradford Hill* criteria to test for causation. One publication by MacIntyre applies this criteria to thrombocytopenia to successfully argue indeed these events are being caused by the vaccines:

MacIntyre, C.R., 2021. **Using the Bradford-Hill criteria to assess causality in the association between CHADOX1 NCOV-19 vaccine and thrombotic immune thrombocytopenia.** Global Biosecurity, 3(1), p.None. DOI: <http://doi.org/10.31646/gbio.109>

Thrombocytopenia is one of the several adverse events in VAERS that that's even been now accepted by the vaccine manufacturers as a strong signal, and now written as a risk in their FACT sheet for informed consent. Thrombocytopenia has been attributed to many of the deaths reported. MacIntyre concludes his study that indeed the vaccines are causing thrombocytopenia:

***"In summary, all criteria for causation are met, with consistency, specificity, temporality and biological plausibility being very clearly met. Strength of association is met, but more data required to establish the precise estimate of the association, as case ascertainment may be variable between countries, resulting in varied estimates of incidence rates from 25 to 0.5 per 100,000 (2, 4). The application of the modified Bradford-Hill criteria to VITT following CHADOX1 NCOV- vaccine strongly supports a causal relationship."***

Myocarditis is now also listed in the vaccine FACT sheets as a risk; particularly the number of cases in young male adults. A great number of published and peer reviewed papers, many cited above substantiate causation and should give pause to immediately stop vaccination, at least for these higher risk age groups and revisit the benefit risk analysis. It appears the vaccine manufacturers are NOT taking that action, and the FDA is not enforcing it. But lives appear to be at risk. With such poor response, more doctors, scientists and public health officials must break from the political paralysis that's binding truth for the welfare of a generation. Publications should not hold back in spreading this truth.

An Israeli study by Mevorach et. al. also establishes a causal relationship, increased risk of myocarditis in young male persons receiving the Pfizer BioNtech mRNA vaccines:

Liu R, Pan J, Zhang C, Sun X. **Cardiovascular Complications of COVID-19 Vaccines.** Front Cardiovasc Med. 2022 Mar 18;9:840929. doi: 10.3389/fcvm.2022.840929. PMID: 35369340; PMCID: PMC8971371. <https://pubmed.ncbi.nlm.nih.gov/35369340/>

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<sup>26</sup> Imran Sulemankhil, Mohammad Abdelrahman, Smita I. Negi, **Temporal association between the COVID-19 Ad26.COV2.S vaccine and acute myocarditis: A case report and literature review**, Cardiovascular Revascularization Medicine, 2021,: <https://www.sciencedirect.com/science/article/pii/S1553838921005789>

Mevorach D, Anis E, Cedar N, et al. **Myocarditis after BNT162b2 mRNA Vaccine against Covid-19 in Israel.** N Engl J Med. 2021;385(23):2140-2149. doi:10.1056/NEJMoa2109730  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8531987/pdf/NEJMoa2109730.pdf>

They write:

*"The incidence of myocarditis, although low, increased after the receipt of the BNT162b2 vaccine, particularly after the second dose among young male recipients. The clinical presentation of myocarditis after vaccination was usually mild."*

But as I've mentioned above using 'mild' to describe myocarditis is misdirection. Myocarditis leads to necrosis of cardiac tissue. The dead tissue is replaced with collagen fibers (scar tissue). Scar tissue, unlike healthy myocytes, cannot function to contract the heart. This causes permanent diminished cardiac output however small that might be. The changes might not result in death or injury of the person but the changes could be a deciding factor in athletic ability especially in peak performers. Describing myocarditis as 'mild' is medical malfeasance, and the authors are clearly softening the tone for publication so that the paper is not rejected in peer review. This must stop NOW. The present academic dogma is choking scientific expression and harming individuals as much as are the contagion, the vaccines and policy.

*"The evil that men do lives after them; the good is oft interred with their bones." – Julius Caesar*

Many researchers will do anything to get published; including omission of proper conclusions and bending the truth to satisfy editors. These evil deeds indeed will live after them, frozen in ink. Their published legacy will only reveal them as cowards that participated in the sacrifice of lives. History will regard them as self-indulging enemies of mankind during this tumultuous time.

Considering a preponderance of evidence that COVID-19 vaccines are causing harm, the prudent response by officials should at least be NOT demanding that everyone be vaccinated or arranging expensive and intrusive measures to track vaccinated individuals (vaccine passports). These are the same officials that chant "Trust the Science" But the evidence is showing that the vaccines are causing harm. Acting with force and coercion on the order of a 'higher authority' are the actions of mindless zealots, not leaders. We need only to look at history to realize very bad decisions have been made by public health officials in crusades to 'save lives' or 'make lives better'. Some have been by unwitting, negligent people. But others are more surreptitious in their actions driven by power and lucrative profits. Recall the Thalidomide tragedy in the 50's and how long that took to come to an end? From a Nov 2021 report on CNN:

*"This year, the Covid vaccine has brought in revenue of \$24.3 billion. And Pfizer said it expects a total of \$36 billion from the vaccine for all of 2021 -- nearly \$12 billion more in revenue the final quarter of the year. And it said based on contracts it now has signed it expects revenue \$29 billion from the Covid vaccine in 2022. And that's not necessarily all it will bring in."*

This figure now exceeds \$40 billion. When this much money is involved, it's difficult to NOT have corruption and influence that's counterproductive to health. As the [illicit] drug cartels have shown, money buys loyalty, obedience and protection.

This website <https://www.topmastersinpublichealth.com/10-biggest-medical-scandals-in-history/> chronicles the 10 biggest medical scandals in history last updated in 2017. But given the numbers seen in VAERS alone the COVID-19 vaccine assault on humanity will be the largest ever.

50. VAERS currently reports **63,351 vaccine site complications** for all vaccines, all time with Pfizer and Moderna COVID-19 vaccines alone reporting 56,953 complications (about 90% of vaccination site complications for all vaccines). The Janssen COVID-19 accounts for less than 1%. This is an astounding observation that warrants full investigation.

| Messages:                                                                                                                                                                                                                                                                |                 |                     | Currently selected:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
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| <p>VAERS data in CDC WONDER are updated every Friday. Hence, results for the same query can change from week to week.</p> <p>These results are for 63,351 total events.</p> <p>Rows with zero Events Reported are hidden. Use Quick Options above to show zero rows.</p> |                 |                     | <p>N COMPLICATION</p> <p>N SITE ABSCESS</p> <p>N SITE ANAESTHESIA</p> <p>N SITE ATROPHY</p> <p>N SITE BRUISE</p> <p>N SITE CALCIFICATION</p> <p>N SITE CELLULITIS</p> <p>N SITE COLIC</p> <p>N SITE CYST</p> <p>N SITE DERMATITIS</p> <p>N SITE DISCHARGE</p> <p>N SITE DISCOLORATION</p> <p>N SITE DISCOMFORT</p> <p>N SITE DRYNESS</p> <p>N SITE DYSAESTHESIA</p> <p>N SITE EDEMA</p> <p>N SITE EROSION</p> <p>N SITE EPITHEMIA</p> <p>N SITE ESCALATION</p> <p>N SITE EXFOLIATION</p> <p>N SITE EXTRAVASATION</p> <p>N SITE FIBROSIS</p> <p>N SITE GRANULOMA</p> <p>N SITE HAEMATOMA</p> <p>N SITE HAEMORRHOGE</p> <p>N SITE HYPERAESTHESIA</p> <p>N SITE HYPERSENSITIVITY</p> <p>N SITE HYPERTRICHOSIS</p> <p>N SITE HYPERTROPHY</p> <p>N SITE HYPOAESTHESIA</p> <p>N SITE INDURATION</p> <p>N SITE INFECTION</p> <p>N SITE INFLAMMATION</p> <p>N SITE INJURY</p> <p>N SITE IRRITATION</p> <p>N SITE ISCHAEMIA</p> <p>N SITE JOINT DISCOMFORT</p> <p>N SITE JOINT EFFUSION</p> <p>N SITE JOINT ERYTHEMA</p> <p>N SITE JOINT INFECTION</p> <p>N SITE JOINT INFLAMMATION</p> <p>N SITE JOINT MOVEMENT IMP</p> <p>N SITE JOINT PAIN</p> <p>N SITE JOINT SWELLING</p> <p>N SITE JOINT WARMTH</p> <p>N SITE LACERATION</p> <p>N SITE LYMPHADENOPATHY</p> <p>N SITE MACULE</p> <p>N SITE MAGE</p> <p>N SITE MOVEMENT IMPAIME</p> <p>N SITE NECKPAIN</p> <p>N SITE NERVE DAMAGE</p> <p>N SITE NODULE</p> <p>N SITE OCEAN</p> <p>N SITE PAIN</p> <p>N SITE PALLOR</p> <p>N SITE PALLOR</p> <p>N SITE PARAEESTHESIA</p> <p>N SITE PUNCTURE</p> <p>N SITE PRURITUS</p> <p>N SITE PUSTULE</p> <p>N SITE RASH</p> <p>N SITE REACTION</p> <p>N SITE SCAB</p> <p>N SITE SCAR</p> <p>N SITE STINGING</p> <p>N SITE SWELLING</p> <p>N SITE THROMBOCYTOSIS</p> <p>N SITE ULCER</p> <p>N SITE URTICARIA</p> <p>N SITE VASCULITIS</p> <p>N SITE VESICLE</p> <p>N SITE WARTING</p> |  |
| Vaccine #                                                                                                                                                                                                                                                                | Events Reported | Percent (of 63,351) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| COVID19 (COVID19 (PFIZER-BIONTECH)) (1200)                                                                                                                                                                                                                               | 34,533          | 54.51%              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| COVID19 (COVID19 (MODERNA)) (1201)                                                                                                                                                                                                                                       | 22,418          | 35.38%              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| PNEUMO (PREVHARIS) (1141)                                                                                                                                                                                                                                                | 1,011           | 1.60%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| PNEUMO (PNEUMOVAX) (30)                                                                                                                                                                                                                                                  | 798             | 1.26%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| VACCINE NOT SPECIFIED (NO BRAND NAME) (909)                                                                                                                                                                                                                              | 541             | 0.85%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| COVID19 (COVID19 (JANSSEN)) (1203)                                                                                                                                                                                                                                       | 451             | 0.71%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| ZOSTER (SHINGRIX) (1192)                                                                                                                                                                                                                                                 | 380             | 0.60%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HIB (ACTHIB) (256)                                                                                                                                                                                                                                                       | 319             | 0.50%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| VARICELLA (VARIVAX) (269)                                                                                                                                                                                                                                                | 301             | 0.48%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (NO BRAND NAME) (44)                                                                                                                                                                                                                                | 261             | 0.44%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| ZOSTER LIVE (ZOSTAVAX) (1097)                                                                                                                                                                                                                                            | 267             | 0.42%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MENINGOCOCCAL B (BEXSERO) (1105)                                                                                                                                                                                                                                         | 252             | 0.40%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| TDAP (ADACEL) (1092)                                                                                                                                                                                                                                                     | 214             | 0.34%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HPV (GARDASIL) (1098)                                                                                                                                                                                                                                                    | 180             | 0.28%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUZONE HIGH-DOSE) (1145)                                                                                                                                                                                                                          | 172             | 0.27%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| TDAP (BOOSTRIX) (1091)                                                                                                                                                                                                                                                   | 172             | 0.27%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUZONE) (7)                                                                                                                                                                                                                                       | 159             | 0.25%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MEASLES + MUMPS + RUBELLA (MMR II) (26)                                                                                                                                                                                                                                  | 158             | 0.25%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUZONE QUADRIVALENT) (1162)                                                                                                                                                                                                                       | 155             | 0.24%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTAP (INFANRIX) (286)                                                                                                                                                                                                                                                    | 135             | 0.21%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HPV (GARDASIL 9) (1170)                                                                                                                                                                                                                                                  | 133             | 0.21%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTP (NO BRAND NAME) (2)                                                                                                                                                                                                                                                  | 131             | 0.21%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MENINGOCOCCAL CONJUGATE (MENVEO) (1140)                                                                                                                                                                                                                                  | 127             | 0.20%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MEASLES + MUMPS + RUBELLA + VARICELLA (PROQUAD) (1094)                                                                                                                                                                                                                   | 118             | 0.19%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTAP + IPV (UNKNOWN) (1104)                                                                                                                                                                                                                                              | 117             | 0.18%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MEASLES + MUMPS + RUBELLA (NO BRAND NAME) (114)                                                                                                                                                                                                                          | 110             | 0.17%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MENINGOCOCCAL CONJUGATE (MENACTRA) (1090)                                                                                                                                                                                                                                | 110             | 0.17%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HEP A (HAVRIX) (268)                                                                                                                                                                                                                                                     | 106             | 0.17%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTAP (DAPTACEL) (1064)                                                                                                                                                                                                                                                   | 99              | 0.16%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTAP + IPV (KINRIX) (1126)                                                                                                                                                                                                                                               | 98              | 0.15%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTAP+IPV+HEPB+HIB (INFANRIX HEXA) (1139)                                                                                                                                                                                                                                 | 96              | 0.15%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUARIX QUADRIVALENT) (1161)                                                                                                                                                                                                                       | 91              | 0.14%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| PNEUMO (NO BRAND NAME) (120)                                                                                                                                                                                                                                             | 89              | 0.14%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUVIRIN) (202)                                                                                                                                                                                                                                    | 86              | 0.14%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| INFLUENZA (SEASONAL) (FLUCELVAX QUADRIVALENT) (1175)                                                                                                                                                                                                                     | 87              | 0.14%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| COVID19 (COVID19 (UNKNOWN)) (1202)                                                                                                                                                                                                                                       | 75              | 0.12%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| SHALLPOX (ACAM2000) (1122)                                                                                                                                                                                                                                               | 75              | 0.12%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| POLIO VIRUS, INACT. (IPOL) (1030)                                                                                                                                                                                                                                        | 72              | 0.12%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| DTP + IPV (NO BRAND NAME) (270)                                                                                                                                                                                                                                          | 72              | 0.11%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| POLIO VIRUS, INACT. (POLIOVAX) (9)                                                                                                                                                                                                                                       | 59              | 0.11%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| PNEUMO (PREVNAR) (1001)                                                                                                                                                                                                                                                  | 67              | 0.11%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| MENINGOCOCCAL B (TRUMENBA) (1169)                                                                                                                                                                                                                                        | 63              | 0.10%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| ANTHRAX (BIOTHRAX) (1008)                                                                                                                                                                                                                                                | 60              | 0.09%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| POLIO VIRUS, INACT. (NO BRAND NAME) (232)                                                                                                                                                                                                                                | 54              | 0.09%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HEP B (ENGIRIX-B) (38)                                                                                                                                                                                                                                                   | 53              | 0.08%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| HIB (PEDVAXHIB) (129)                                                                                                                                                                                                                                                    | 51              | 0.08%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| ROTAVIRUS (ROTARIX) (1124)                                                                                                                                                                                                                                               | 51              | 0.08%               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

51. VAERS currently reports:

**29 cases of Vaccine Associated Enhanced Disease**

**4 case of Vaccine Virus Shedding and surprisingly only**

**5,502 Vaccine Breakthrough Infections**, considering that Omicron BA.4 and BA.5 variants were reporting high breakthrough cases in the news

It's well published now that the COVID-19 vaccines offer little to no protection from delta or omicron variants of the virus. But this figure aligns with reports that the vaccinated, if expressing flu-like symptoms, are NOT being routinely tested for COVID-19<sup>27</sup>.

Taquet M, Dercon Q, Harrison PJ. **Six-month sequelae of post-vaccination SARS-CoV-2 infection: A retrospective cohort study of 10,024<sup>28</sup> breakthrough infections.** Brain Behav Immun. 2022 Apr 18;103:154-162. doi: 10.1016/j.bbi.2022.04.013. Epub ahead of print. PMID: 35447302; PMCID: PMC9013695. <https://pubmed.ncbi.nlm.nih.gov/35447302/>

Gazit S, Shlezinger R, Perez G, Lotan R, Peretz A, Ben-Tov A, Herzel E, Alapi H, Cohen D, Muhsen K, Chodick G, Patalon T. **SARS-CoV-2 Naturally Acquired Immunity vs. Vaccine-induced Immunity, Reinfections versus Breakthrough Infections: a Retrospective Cohort Study.** Clin Infect Dis. 2022 Apr 5:ciac262. doi: 10.1093/cid/ciac262. Epub ahead of print. PMID: 35380632. <https://pubmed.ncbi.nlm.nih.gov/35380632/>

Kim AHJ, Nakamura MC. **COVID-19 Breakthrough Infection Among Immunocompromised Persons.** JAMA Intern Med. 2021 Dec 28. doi: 10.1001/jamainternmed.2021.7033. Epub ahead of print. PMID: 34962552. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2787647>

Sun J, Zheng Q, Madhira V, Olex AL, Anzalone AJ, Vinson A, Singh JA, French E, Abraham AG, Mathew J, Safdar N, Agarwal G, Fitzgerald KC, Singh N, Topaloglu U, Chute CG, Mannon RB, Kirk GD, Patel RC; National COVID Cohort Collaborative (N3C) Consortium. **Association Between Immune Dysfunction and COVID-19 Breakthrough Infection After SARS-CoV-2 Vaccination in the US.** JAMA Intern Med. 2021 Dec 28. doi: 10.1001/jamainternmed.2021.7024. Epub ahead of print. PMID: 34962505. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2787643>

Joan Chung, MD, **A Case of Breakthrough COVID-19 Requiring Hospitalization**, Proceedings of UCLA Health -VOLUME 25 (2021)-  
<https://proceedings.med.ucla.edu/wp-content/uploads/2021/10/Chung-A210614JC-BLM-formatted.pdf>

Yamamoto S, Maeda K, Matsuda K, Tanaka A, Horii K, Okudera K, Takeuchi JS, Mizoue T, Konishi M, Ozeki M, Sugiyama H, Aoyanagi N, Mitsuya H, Sugiura W, Ohmagari N. **COVID-19 breakthrough infection and post-vaccination neutralizing antibody among healthcare workers in a referral hospital in Tokyo: a case-control matching study.** Clin Infect Dis. 2021 Dec 24:ciab1048. doi: 10.1093/cid/ciab1048. Epub ahead of print. PMID: 34950947. <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciab1048/6482345>

Hsu L, Grüne B, Buess M, Joisten C, Klobucnik J, Nießen J, Patten D, Wolff A, Wiesmüller GA, Kossow A, Hurraß J. **COVID-19 Breakthrough Infections and Transmission Risk: Real-World Data Analyses from Germany's Largest Public Health Department (Cologne).** Vaccines (Basel). 2021 Nov 2;9(11):1267. doi: 10.3390/vaccines9111267. PMID: 34835198; PMCID: PMC8624814. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8624814/>

Wendelyn Bosch, Jennifer B Cowart, Shivang Bhakta, Rickey E Carter, Hani M Wadei, Sadia Z Shah, Devang K Sanghavi, Benjamin D Pollock, Matthew R Neville, Sven P Oman, Leigh Speicher, Ameya D Scindia, Mark W Matson, Pablo Moreno Franco, **Coronavirus Disease 2019 Vaccine-Breakthrough Infections Requiring**

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<sup>27</sup> Carolyn Crist [CDC: Fully Vaccinated Can Skip Routine COVID Testing](#) WebMD June 4, 2021

<sup>28</sup> Note the discrepancy of breakthrough infections this report offers vs what was reported in VAERS above (4076 at the date of this report, 5/7/2022).

**Hospitalization in Mayo Clinic Florida Through August 2021**, Clinical Infectious Diseases, 2021;, ciab932,  
<https://doi.org/10.1093/cid/ciab932>  
[PDF](#)

Tenforde MW, Self WH, Adams K, et al. **Association Between mRNA Vaccination and COVID-19 Hospitalization and Disease Severity**. JAMA. 2021;326(20):2043–2054. doi:10.1001/jama.2021.19499  
<https://jamanetwork.com/journals/jama/article-abstract/2786039>

Barbara A. Cohn, Piera M. Cirillo, Caitlin C. Murphy, Nickilou Y. Krigbaum, Arthur W. Wallace,  
**Breakthrough SARS-CoV-2 infections in 620,000 U.S. Veterans, February 1, 2021 to August 13, 2021**,  
medRxiv 2021.10.13.21264966; doi: <https://doi.org/10.1101/2021.10.13.21264966>  
<https://www.medrxiv.org/content/10.1101/2021.10.13.21264966v1.full.pdf>

Aditya Sharma, Gina Oda, Mark Holodniy, **COVID-19 Vaccine Breakthrough Infections in Veterans Health Administration**, medRxiv 2021.09.23.21263864; doi: <https://doi.org/10.1101/2021.09.23.21263864>  
<https://www.medrxiv.org/content/10.1101/2021.09.23.21263864v1.full.pdf>

## COVID-19 Vaccine Injury: Other Citations

These references relate to vaccine injury and other related topics, but are not necessarily related to the cited adverse events queried from VAERS listed above)

Luo C, Du J, Cuker A, Lautenbach E, Asch DA, Poland GA, Tao C, Chen Y. **Comparability of clinical trials and spontaneous reporting data regarding COVID-19 vaccine safety.** Sci Rep. 2022 Jun 29;12(1):10946. doi: 10.1038/s41598-022-13809-7. PMID: 35768434; PMCID: PMC9243073.  
<https://pubmed.ncbi.nlm.nih.gov/35768434/>

Sandbrink JB, Koblentz GD. **Biosecurity risks associated with vaccine platform technologies.** Vaccine. 2022 Apr 14;40(17):2514-2523. doi: 10.1016/j.vaccine.2021.02.023. Epub 2021 Feb 25. PMID: 33640142; PMCID: PMC7904460. <https://pubmed.ncbi.nlm.nih.gov/33640142/>

Capponi M, Pulvirenti F, Cinicola BL, Brindisi G, Conti MG, Colaiocco G, de Castro G, Guido CA, Duse M, Midulla F, Zicari AM, Spalice A. **Short-Term Side Effects and SARS-CoV-2 Infection after COVID-19 Pfizer-BioNTech Vaccine in Children Aged 5-11 Years: An Italian Real-World Study.** Vaccines (Basel). 2022 Jun 30;10(7):1056. doi: 10.3390/vaccines10071056. PMID: 35891219; PMCID: PMC9317287.  
<https://pubmed.ncbi.nlm.nih.gov/35891219/>

Kim J, Cho JR, Kang MK. **Spontaneous (dumbbell-shaped) coronary artery pseudoaneurysm after COVID-19 vaccination.** Coron Artery Dis. 2022 Aug 1;33(5):429-430. doi: 10.1097/MCA.0000000000001133. Epub 2022 Mar 8. PMID: 35880562; PMCID: PMC9239353. <https://pubmed.ncbi.nlm.nih.gov/35880562/>

Dobson GP. **Wired to Doubt: Why People Fear Vaccines and Climate Change and Mistrust Science.** Front Med (Lausanne). 2022 Jan 28;8:809395. doi: 10.3389/fmed.2021.809395. PMID: 35186977; PMCID: PMC8849212. <https://pubmed.ncbi.nlm.nih.gov/35186977/>

Dobson speaks about Science as though it were absolute and incorruptible. That the 'recipients of science' and their reluctance to obey authority are the problem. That every scientist is pure at heart and not influenced by economic, political or egotistic influence to publish. Absolutely no benefit of the doubt that Junk Science (Dan Agin) exists and that the peer review process has been hijacked by political narrative, corporate and government forces.

Jonathan Campion, Afzal Javed, Crick Lund, Norman Sartorius, Shekhar Saxena, Michael Marmot, John Allan, Pichet Udomratn, **Public mental health: required actions to address implementation failure in the context of COVID-19,** The Lancet Psychiatry, Volume 9, Issue 2, 2022, Pages 169-182, ISSN 2215-0366, [https://doi.org/10.1016/S2215-0366\(21\)00199-1](https://doi.org/10.1016/S2215-0366(21)00199-1)  
<https://www.sciencedirect.com/science/article/pii/S2215036621001991>

Bonzano L, Djuric O, Mancuso P, Fares L, Brancaccio R, Ottone M, Bisaccia E, Vicentini M, Cocconcilli A, Motolese A, Boyko R, Giorgi Rossi P, Motolese A. **Incidence and Characteristics of Adverse Events after COVID-19 Vaccination in a Population-Based Programme.** Vaccines (Basel). 2022 Jul 12;10(7):1111. doi: 10.3390/vaccines10071111. PMID: 35891275; PMCID: PMC9324067.  
<https://pubmed.ncbi.nlm.nih.gov/35891275/>

Yong SJ, Halim A, Halim M, Al Mutair A, Alhumaid S, Al-Sihati J, Albayat H, Alsaeed M, Garout M, Al Azmi R, Aldakheel N, Alshukairi AN, Al Ali HA, Almoumen AA, Rabaan AA. **Rare Adverse Events Associated with**

- BNT162b2 mRNA Vaccine (Pfizer-BioNTech): A Review of Large-Scale, Controlled Surveillance Studies.** Vaccines (Basel). 2022 Jul 2;10(7):1067. doi: 10.3390/vaccines10071067. PMID: 35891231; PMCID: PMC9319660. <https://pubmed.ncbi.nlm.nih.gov/35891231/>
- Sebastian J, Mathew M, Sharsty V, Ramesh M. **Leukocytoclastic Vasculitis Following COVID-19 Vaccination: A Case Report.** Hosp Pharm. 2022 Aug;57(4):564-567. doi: 10.1177/00185787211067379. Epub 2021 Dec 29. PMID: 35898243; PMCID: PMC9310316. <https://pubmed.ncbi.nlm.nih.gov/35898243/>
- Flora J, Khan W, Jin J, Jin D, Hussain A, Dajani K, Khan B. **Usefulness of Vaccine Adverse Event Reporting System for Machine-Learning Based Vaccine Research: A Case Study for COVID-19 Vaccines.** Int J Mol Sci. 2022 Jul 26;23(15):8235. doi: 10.3390/ijms23158235. PMID: 35897804. <https://pubmed.ncbi.nlm.nih.gov/35897804/>
- Riad A, Pöld A, Kateeb E, Attia S. **Oral Adverse Events Following COVID-19 Vaccination: Analysis of VAERS Reports.** Front Public Health. 2022 Jul 11;10:952781. doi: 10.3389/fpubh.2022.952781. PMID: 35899169; PMCID: PMC9309565. <https://pubmed.ncbi.nlm.nih.gov/35899169/>
- Al-Qazaz HK, Al-Obaidy LM, Attash HM. **COVID-19 vaccination, do women suffer from more side effects than men? A retrospective cross-sectional study.** Pharm Pract (Granada). 2022 Apr-Jun;20(2):2678. doi: 10.18549/PharmPract.2022.2.2678. Epub 2022 Jun 10. PMID: 35919795; PMCID: PMC9296083. <https://pubmed.ncbi.nlm.nih.gov/35919795/>
- In Al-Qaza, et al. - **Outrageous claim!!** – they conclude the reason women are more susceptible are psychological factors. How did this get past peer review?
- Montejano-Hervás P, Gómez-Pavón J, Tornero-Torres O, Valverde-Moyar MV, Martín Cruz B, Vela Carbonera M, Fuentes-Irigoyen R, Tejada González P, González-Becerra M, Higuera Sánchez E, Ramos Cordero P. **Safety, Effectiveness, and Immunogenicity 6 Months After BNT162B2 mRNA Vaccine in Frail Nursing Home Residents.** Drugs Aging. 2022 Jul;39(7):587-595. doi: 10.1007/s40266-022-00959-6. Epub 2022 Jul 7. PMID: 35794430; PMCID: PMC9261238. <https://pubmed.ncbi.nlm.nih.gov/35794430/>
- Garrido-Suárez BB, Garrido-Valdes M, Garrido G. **Reactogenic sleepiness after COVID-19 vaccination. A hypothesis involving orexinergic system linked to inflammatory signals.** Sleep Med. 2022 Jun 20;98:79-86. doi: 10.1016/j.sleep.2022.06.011. Epub ahead of print. PMID: 35792321; PMCID: PMC9212783. <https://pubmed.ncbi.nlm.nih.gov/35792321/>
- Al-Ahmari AK, AlAsmari A, AlKorbi A, Ahmed NJ, Almalki ZS, Alshehri AM, Albassam AA, Alem GM. **Comparison of the post-marketing safety profile between influenza and COVID-19 vaccines: An analysis of the vaccine adverse event reporting system.** Saudi Pharm J. 2022 Jun 21. doi: 10.1016/j.jsps.2022.06.009. Epub ahead of print. PMID: 35783675; PMCID: PMC9232269. <https://pubmed.ncbi.nlm.nih.gov/35783675/>
- Manzo C, Castagna A, Isetta M. **Polymyalgia rheumatica and polymyalgia-like syndromes as adverse events following COVID-19 vaccines: working notes from a narrative review of published literature.** Reumatologia. 2022;60(2):142-147. doi: 10.5114/reum.2022.115665. Epub 2022 May 18. PMID: 35782034; PMCID: PMC9238316. <https://pubmed.ncbi.nlm.nih.gov/35782034/>
- Qi X, Wang J, Zhang Q, Ai J, Liu C, Li Q, Gu Y, Lv J, Huang Y, Liu Y, Xu D, Chen S, Liu D, Li J, Xiang H, Liang J, Bian L, Zhang Z, Liu L, Zhang X, Qin W, Wang X, Hou Z, Zhang N, Zhang A, Zu H, Wang Y, Yan Z, Xiufang D,

Hou A, Ji J, Yang J, Huang J, Zhao Z, Zou S, Ji H, Ge G, Zeng QL, Zhang W. **Safety and Immunogenicity of COVID-19 Vaccination in Patients with Hepatocellular Carcinoma (CHESS-NMCID 2101): A Multicenter Prospective Study.** J Med Virol. 2022 Jul 10. doi: 10.1002/jmv.27992. Epub ahead of print. PMID: 35811309. <https://pubmed.ncbi.nlm.nih.gov/35811309/>

From Qi et al: *"Given that the potential benefits may outweigh the risks and the continuing emergences of novel severe acute respiratory syndrome coronavirus 2 variants, we suggest HCC patients to be vaccinated against COVID-19"*. Stressing the word 'may'. This just shows how stupid some of these people are.

Caironi V, Pitoia F, Trimboli P. **Thyroid Inconveniences With Vaccination Against SARS-CoV-2: The Size of the Matter. A Systematic Review.** Front Endocrinol (Lausanne). 2022 Jun 23;13:900964. doi: 10.3389/fendo.2022.900964. PMID: 35813627; PMCID: PMC9259875. <https://pubmed.ncbi.nlm.nih.gov/35813627/>

Seki Y, Yoshihara Y, Nojima K, Momose H, Fukushi S, Moriyama S, Wagatsuma A, Numata N, Sasaki K, Kuzuoka T, Yato Y, Takahashi Y, Maeda K, Suzuki T, Mizukami T, Hamaguchi I. **Safety and immunogenicity of the Pfizer/BioNTech SARS-CoV-2 mRNA third booster vaccine dose against the BA.1 and BA.2 Omicron variants.** Med (N Y). 2022 Jun 10;3(6):406-421.e4. doi: 10.1016/j.medj.2022.04.013. Epub 2022 Apr 26. PMID: 35815933; PMCID: PMC9040508. <https://pubmed.ncbi.nlm.nih.gov/35815933/>

Guo W, Deguise J, Tian Y, Huang PC, Goru R, Yang Q, Peng S, Zhang L, Zhao L, Xie J, He Y. **Profiling COVID-19 Vaccine Adverse Events by Statistical and Ontological Analysis of VAERS Case Reports.** Front Pharmacol. 2022 Jun 24;13:870599. doi: 10.3389/fphar.2022.870599. PMID: 35814246; PMCID: PMC9263450. <https://pubmed.ncbi.nlm.nih.gov/35814246/>

Kant, A., Jansen, J., van Balveren, L. et al. **Description of Frequencies of Reported Adverse Events Following Immunization Among Four Different COVID-19 Vaccine Brands.** Drug Saf 45, 319–331 (2022). <https://doi.org/10.1007/s40264-022-01151-w> <https://link.springer.com/article/10.1007/s40264-022-01151-w>

Kundawar A, Guralwar CO, Sontakke S. **Study of Adverse Events following COVID-19 Vaccination: A cross-sectional Survey in India.** J Assoc Physicians India. 2022 Jul;70(7):11-12. PMID: 35833411. <https://pubmed.ncbi.nlm.nih.gov/35833411/>

Muhsen K, Maimon N, Mizrahi AY, Varticovski B, Bodenheimer O, Cohen D, Dagan R. **Association of BNT162b2 Vaccine Third Dose Receipt With Incidence of SARS-CoV-2 Infection, COVID-19-Related Hospitalization, and Death Among Residents of Long-term Care Facilities, August to October 2021.** JAMA Netw Open. 2022 Jul 1;5(7):e2219940. doi: 10.1001/jamanetworkopen.2022.19940. PMID: 35796153; PMCID: PMC9250055. <https://pubmed.ncbi.nlm.nih.gov/35796153/>

Fraiman, Joseph and Erviti, Juan and Jones, Mark and Greenland, Sander and Whelan, Patrick and Kaplan, Robert M. and Doshi, Peter, **Serious Adverse Events of Special Interest Following mRNA Vaccination in Randomized Trials.** Available at SSRN: <https://ssrn.com/abstract=4125239> [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4125239](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4125239)

Dotan A, Kanduc D, Muller S, Makatsariya A, Shoenfeld Y. **Molecular mimicry between SARS-CoV-2 and the female reproductive system.** Am J Reprod Immunol. 2021 Dec;86(6):e13494. doi: 10.1111/aji.13494.

Epub 2021 Sep 17. PMID: 34407240; PMCID: PMC8420155.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8420155/>

Yamamoto K. **Adverse effects of COVID-19 vaccines and measures to prevent them.** Virol J. 2022 Jun 5;19(1):100. doi: 10.1186/s12985-022-01831-0. PMID: 35659687; PMCID: PMC9167431.

<https://pubmed.ncbi.nlm.nih.gov/35659687/>

King WC, Rubinstein M, Reinhart A, Mejia R. **Time trends, factors associated with, and reasons for COVID-19 vaccine hesitancy: A massive online survey of US adults from January-May 2021.** PLoS One. 2021;16(12):e0260731. Published 2021 Dec 21. doi:10.1371/journal.pone.0260731

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8691631/>

Alphandéry E. **Nano dimensions/adjuvants in COVID-19 vaccines.** J Mater Chem B. 2022 Mar 9;10(10):1520-1552. doi: 10.1039/d1tb02408f. PMID: 35166754.

<https://pubmed.ncbi.nlm.nih.gov/35166754/>

Mitchell B. Liester, MD, **A review of the benefits, risks, and controversies associated with the Pfizer and Moderna COVID-19 vaccines**, July 13, 2021, DOI:10.13140/RG.2.2.23982.43843

<https://www.researchgate.net/publication/353234557> A review of the benefits risks and controversies associated with the Pfizer and Moderna COVID-19 vaccines preprint

Liester, Mitchell B. 2022. **"The Suppression of Dissent During the COVID-19 Pandemic."** Social Epistemology Review and Reply Collective 11 (4): 53-76. <https://wp.me/p1Bfg0-6Jw>

Mitchell B. Liester, **The Suppression of Dissent During the COVID-19 Pandemic**, University of Colorado School of Medicine

<https://www.researchgate.net/publication/360089716> The Suppression of Dissent During the COVID-19 Pandemic

Mitchell B. Liester (2021) **A review of the use of persuasion and coercion to overcome COVID-19 vaccine hesitancy**, Journal of Peer Scientist 4(2): e1000037

<https://www.researchgate.net/publication/357366363> A review of the use of persuasion and coercion to overcome COVID-19 vaccine hesitancy

Yuen WLP, Loh SYJ, Wang DB. **SIRVA (Shoulder Injury Related to Vaccine Administration) following mRNA COVID-19 Vaccination: Case discussion and literature review.** Vaccine. 2022 Apr 20;40(18):2546-2550. doi: 10.1016/j.vaccine.2022.03.037. Epub 2022 Mar 21. PMID: 35339304; PMCID: PMC8934720.

<https://pubmed.ncbi.nlm.nih.gov/35339304/>

van der Kraats AM, Munk S, Hollman F, Staal HM, Lambers Heerspink FOO. **Ernstige schouderproblematiek na covid-19-vaccinatie [Serious shoulder injury after COVID-19 vaccination].** Ned Tijdschr Geneesk. 2022 May 2;166:D6665. Dutch. PMID: 35499697.

<https://pubmed.ncbi.nlm.nih.gov/35499697/>

Ritter A, Helmchen B, Gaspert A, Bleisch J, Fritschi B, Buchkremer F, Damm S, Schmid N, Schachtner T, Seeger H. **Clinical spectrum of gross haematuria following SARS-CoV-2 vaccination with mRNA vaccines.** Clin Kidney J. 2021 Dec 21;15(5):961-973. doi: 10.1093/ckj/sfab284. PMID: 35498904; PMCID: PMC9050541. <https://pubmed.ncbi.nlm.nih.gov/35498904/>

Maliwankul K, Boonsri P, Klabklay P, Chuaychoosakoon C. **Shoulder Injury Related to COVID-19 Vaccine Administration: A Case Series.** Vaccines (Basel). 2022 Apr 12;10(4):588. doi: 10.3390/vaccines10040588. PMID: 35455337; PMCID: PMC9027408. <https://pubmed.ncbi.nlm.nih.gov/35455337/>

Hamza N, Kulkarni U. **A narrative review of the challenges, ethical frameworks, and guidelines in the setting of COVID-19 healthcare and research.** Perspect Clin Res. 2022 Apr-Jun;13(2):70-76. doi: 10.4103/picr.picr\_206\_21. Epub 2022 Apr 6. PMID: 35573457; PMCID: PMC9106127. <https://pubmed.ncbi.nlm.nih.gov/35573457/>

Dunford S, Brooke J. **Effects of social isolation and restrictions on older people during the COVID-19 pandemic.** Nurs Older People. 2022 May 18. doi: 10.7748/nop.2022.e1400. Epub ahead of print. PMID: 35582820. <https://pubmed.ncbi.nlm.nih.gov/35582820/>

Koszalinski RS, Olmos B. **Communication challenges in social isolation, subjective cognitive decline, and mental health status in older adults: A scoping review (2019-2021).** Perspect Psychiatr Care. 2022 May 17. doi: 10.1111/ppc.13115. Epub ahead of print. PMID: 35582750. <https://pubmed.ncbi.nlm.nih.gov/35582750/>

Antolí A, Rocamora-Blanch G, Framil M, Mas-Bosch V, Navarro S, Bermudez C, Martinez-Yelamos S, Dopico E, Calatayud L, Garcia-Muñoz N, Hernández-Benítez LH, Riera-Mestre A, Bas J, Masuet-Aumatell C, Rigo-Bonnin R, Morandeira F, Solanich X. **Evaluation of Humoral and Cellular Immune Responses to the SARS-CoV-2 Vaccine in Patients With Common Variable Immunodeficiency Phenotype and Patient Receiving B-Cell Depletion Therapy.** Front Immunol. 2022 Apr 29;13:895209. doi: 10.3389/fimmu.2022.895209. PMID: 35572562; PMCID: PMC9098934. <https://pubmed.ncbi.nlm.nih.gov/35572562/>

Brito-Dellán N, Tsoukalas N, Font C. **Thrombosis, cancer, and COVID-19.** Support Care Cancer. 2022 May 14:1–10. doi: 10.1007/s00520-022-07098-z. Epub ahead of print. PMID: 35567609; PMCID: PMC9106567. <https://pubmed.ncbi.nlm.nih.gov/35567609/>

Elisha E, Guetzkow J, Shir-Raz Y, Ronel N. **Suppressing Scientific Discourse on Vaccines? Self-perceptions of researchers and practitioners.** HEC Forum. 2022 May 19:1–19. doi: 10.1007/s10730-022-09479-7. Epub ahead of print. PMID: 35587319; PMCID: PMC9117988. <https://pubmed.ncbi.nlm.nih.gov/35587319/>

The Elisha paper says: Subjective perceptions of physicians, nurses, and researchers involved with vaccines through practice and/or research and who take a critical view on vaccines reported being subjected to a variety of censorship and suppression tactics, including

- retraction of papers pointing to vaccine safety problems

- negative publicity
- difficulty in obtaining research funding
- calls for dismissal
- summonses to official hearings
- suspension of medical licenses, and
- self-censorship

Scientific discourse is a hallmark of science and its suppression endangers proper interpretation of the facts by propping up a false impression of scientific consensus.

Funk PR, Yogurtcu ON, Forshee RA, Anderson SA, Marks PW, Yang H. **Benefit-risk assessment of COVID-19 vaccine, mRNA (Comirnaty) for age 16-29 years.** Vaccine. 2022 Apr 26;40(19):2781-2789. doi: 10.1016/j.vaccine.2022.03.030. Epub 2022 Mar 28. PMID: 35370016; PMCID: PMC8958165. <https://pubmed.ncbi.nlm.nih.gov/35370016/>

Prasad S, Kalafat E, Blakeway H, Townsend R, O'Brien P, Morris E, Draycott T, Thangaratinam S, Le Doare K, Ladhani S, von Dadelszen P, Magee LA, Heath P, Khalil A. **Systematic review and meta-analysis of the effectiveness and perinatal outcomes of COVID-19 vaccination in pregnancy.** Nat Commun. 2022 May 10;13(1):2414. doi: 10.1038/s41467-022-30052-w. PMID: 35538060; PMCID: PMC9090726. <https://pubmed.ncbi.nlm.nih.gov/35538060/>

Lewis G, Bonsall M. **Risk-benefit analysis of emergency vaccine use.** Sci Rep. 2022 May 6;12(1):7444. doi: 10.1038/s41598-022-11374-7. PMID: 35523979; PMCID: PMC9076899. <https://pubmed.ncbi.nlm.nih.gov/35523979/>

Olejarczyk JP, Young M. **Patient Rights And Ethics.** 2022 May 5. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan–. PMID: 30855863. <https://pubmed.ncbi.nlm.nih.gov/30855863/>

Gesser-Edelsburg A, Hijazi R, Cohen R. **It Takes Two to Tango: How the COVID-19 Vaccination Campaign in Israel Was Framed by the Health Ministry vs. the Television News.** Front Public Health. 2022 Apr 12;10:887579. doi: 10.3389/fpubh.2022.887579. PMID: 35493372; PMCID: PMC9039239. <https://pubmed.ncbi.nlm.nih.gov/35493372/>

Tan ST, Park HJ, Rodríguez-Barraquer I, Rutherford GW, Bibbins-Domingo K, Schechter R, Lo NC. **COVID-19 Vaccination and Estimated Public Health Impact in California.** JAMA Netw Open. 2022 Apr 1;5(4):e228526. doi: 10.1001/jamanetworkopen.2022.8526. PMID: 35452106; PMCID: PMC9034409. <https://pubmed.ncbi.nlm.nih.gov/35452106/>

Stoto MA, Schlageter S, Kraemer JD. **COVID-19 mortality in the United States: It's been two Americas from the start.** PLoS One. 2022 Apr 28;17(4):e0265053. doi: 10.1371/journal.pone.0265053. PMID: 35482643; PMCID: PMC9049562. <https://pubmed.ncbi.nlm.nih.gov/35482643/>

Walach H, Klement RJ, Aukema W. The risk-benefit ratio of Covid-19 vaccines: Publication policy by retraction does nothing to improve it. Clin Transl Discov. 2022;2(1):e35. doi:10.1002/ctd2.35 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9087123/>

*Among them, two deaths in the placebo-group were attributed to COVID-19, and one in the vaccination group was attributed to COVID-19 pneumonia. This leads to an ARR =  $4.56 \times 10^{-5}$ , and conversely to an NNV =  $1/ARR = 21\,916$  to prevent one death by COVID-19. This shows that our original estimate was not so far off the mark.*

Akhlaghi H, Dinou V, Jones H, Vorias B, Moloney J, Tse J, Parnis S, Karro J, Walby A, Morrissey B. **Epidemiology, clinical presentations, and outcome of patients presenting to the Emergency Department after a COVID-19 vaccination: An observational study.** Emerg Med Australas. 2022 May 8. doi: 10.1111/1742-6723.14016. Epub ahead of print. PMID: 35527398.  
<https://pubmed.ncbi.nlm.nih.gov/35527398/>

Ssentongo P, Ssentongo AE, Voleti N, Groff D, Sun A, Ba DM, Nunez J, Parent LJ, Chinchilli VM, Paules CI. **SARS-CoV-2 vaccine effectiveness against infection, symptomatic and severe COVID-19: a systematic review and meta-analysis.** BMC Infect Dis. 2022 May 7;22(1):439. doi: 10.1186/s12879-022-07418-y. PMID: 35525973; PMCID: PMC9077344. <https://pubmed.ncbi.nlm.nih.gov/35525973/>

Hirschbühl, K., Schaller, T., Märkl, B. et al. **High viral loads: what drives fatal cases of COVID-19 in vaccinees? – an autopsy study.** Mod Pathol (2022). <https://doi.org/10.1038/s41379-022-01069-9>  
<https://www.nature.com/articles/s41379-022-01069-9>

Ioannis P. Trougakos, Evangelos Terpos, Harry Alexopoulos, Marianna Politou, Dimitrios Paraskevis, Andreas Scorilas, Efstathios Kastitis, Evangelos Andreacos, and Meletios A. Dimopoulos, **Adverse effects of COVID-19 mRNA vaccines: the spike hypothesis, Trends in Molecular Medicine**, April 20, 2022, Vol. xx, No. xx <https://doi.org/10.1016/j.molmed.2022.04.007>  
<https://www.cell.com/action/showPdf?pii=S1471-4914%2822%2900103-4>

Schneider J, Sottmann L, Greinacher A, Hagen M, Kasper HU, Kuhnen C, Schlepper S, Schmidt S, Schulz R, Thiele T, Thomas C, Schmeling A. **Postmortem investigation of fatalities following vaccination with COVID-19 vaccines.** Int J Legal Med. 2021 Nov;135(6):2335-2345. doi: 10.1007/s00414-021-02706-9. Epub 2021 Sep 30. PMID: 34591186; PMCID: PMC8482743. <https://pubmed.ncbi.nlm.nih.gov/34591186/>

Stassi C, Mondello C, Baldino G, Cardia L, Asmundo A, Ventura Spagnolo E. **An Insight into the Role of Postmortem Immunohistochemistry in the Comprehension of the Inflammatory Pathophysiology of COVID-19 Disease and Vaccine-Related Thrombotic Adverse Events: A Narrative Review.** Int J Mol Sci. 2021 Nov 6;22(21):12024. doi: 10.3390/ijms222112024. PMID: 34769454; PMCID: PMC8584583.  
<https://pubmed.ncbi.nlm.nih.gov/34769454/>

Yeo A, Kuek B, Lau M, Tan SR, Chan S. **Post COVID-19 vaccine deaths - Singapore's early experience.** Forensic Sci Int. 2022 Jan 19;332:111199. doi: 10.1016/j.forsciint.2022.111199. Epub ahead of print. PMID: 35078041; PMCID: PMC8767909. <https://pubmed.ncbi.nlm.nih.gov/35078041/>

Chaparro Mérida NA, Moreno Samper D, Lacato AOF. **Seguridad de las vacunas contra la COVID-19 [COVID-19 vaccine safety].** Rev Peru Med Exp Salud Publica. 2021 Oct-Dec;38(4):634-642. Spanish. doi: 10.17843/rpmesp.2021.384.9308. Epub 2022 Apr 1. PMID: 35385018.  
<https://pubmed.ncbi.nlm.nih.gov/35385018/>

Mills K, Tri A, Nilsen K. **The COVID-19 Vaccines: A Description of Adverse Events of Reactions Reported in Kansas.** Kans J Med. 2022 Feb 9;15:39-47. doi: 10.17161/kjm.vol15.15825. PMID: 35371387; PMCID: PMC8942589.

<https://pubmed.ncbi.nlm.nih.gov/35371387/>

Cohen DA, Greenberg P, Formanowski B, Parikh PD. **Are COVID-19 mRNA vaccine side effects severe enough to cause missed work? Cross-sectional study of health care-associated workers.** Medicine (Baltimore). 2022 Feb 18;101(7):e28839. doi: 10.1097/MD.00000000000028839. PMID: 35363178.

<https://pubmed.ncbi.nlm.nih.gov/35363178/>

Castaldo M, Waliszewska-Prosół M, Koutsokera M, Robotti M, Straburzyński M, Apostolakopoulou L, Capizzi M, Çibuku O, Ambat FDF, Frattale I, Gadzhieva Z, Gallo E, Gryglas-Dworak A, Halili G, Jusupova A, Koperskaya Y, Leheste AR, Manzo ML, Marcinnò A, Marino A, Mikulenska P, Ong BE, Polat B, Popovic Z, Rivera-Mancilla E, Roceanu AM, Rollo E, Romozzi M, Ruscitto C, Scotto di Clemente F, Strauss S, Taranta V, Terhart M, Tychenko I, Vigneri S, Misiak B, Martelletti P, Raggi A; European Headache Federation School of Advanced Studies (EHF-SAS). **Headache onset after vaccination against SARS-CoV-2: a systematic literature review and meta-analysis.** J Headache Pain. 2022 Mar 31;23(1):41. doi: 10.1186/s10194-022-01400-4. PMID: 35361131; PMCID: PMC8969402.

<https://pubmed.ncbi.nlm.nih.gov/35361131/>

Fusco F, Scognamiglio G, Merola A, Roma AS, Nicastro C, Spatarella M, D'Abbraccio M, Di Mauro G, Atripaldi U, Atripaldi L, Correr A, Palma M, Barracano R, Borrelli N, Capuano A, Sarubbi B. **COVID-19 vaccination in adults with congenital heart disease: Real-world data from an Italian tertiary centre.** Int J Cardiol Congenit Heart Dis. 2021 Dec;6:100266. doi: 10.1016/j.ijchd.2021.100266. Epub 2021 Oct 28. PMID: 35360668; PMCID: PMC8552781.

<https://pubmed.ncbi.nlm.nih.gov/35360668/>

Yamaguchi T, Iwagami M, Ishiguro C, et al. **Safety monitoring of COVID-19 vaccines in Japan.** Lancet Reg Health West Pac. 2022;23:100442. Published 2022 Mar 29. doi:10.1016/j.lanwpc.2022.100442

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8960038/>

Ma BM, Tam AR, Chan KW, Ma MKM, Hung IFN, Yap DYH, Chan TM. **Immunogenicity and Safety of COVID-19 Vaccines in Patients Receiving Renal Replacement Therapy: A Systematic Review and Meta-Analysis.** Front Med (Lausanne). 2022 Mar 9;9:827859. doi: 10.3389/fmed.2022.827859. PMID: 35355604; PMCID: PMC8959490.

<https://pubmed.ncbi.nlm.nih.gov/35355604/>

Menni C, May A, Polidori L, Louca P, Wolf J, Capdevila J, Hu C, Ourselin S, Steves CJ, Valdes AM, Spector TD. **COVID-19 vaccine waning and effectiveness and side-effects of boosters: a prospective community study from the ZOE COVID Study.** Lancet Infect Dis. 2022 Apr 8:S1473-3099(22)00146-3. doi: 10.1016/S1473-3099(22)00146-3. Epub ahead of print. PMID: 35405090; PMCID: PMC8993156.

<https://pubmed.ncbi.nlm.nih.gov/35405090/>

Ashmawy R, Hamdy NA, Elhadi YAM, Alqutub ST, Esmail OF, Abdou MSM, Reyad OA, El-Ganainy SO, Gad BK, Nour El-Deen AE, Kamal A, ElSaieh H, Elrewiny E, Shaaban R, Ghazy RM. **A Meta-Analysis on the Safety and Immunogenicity of Covid-19 Vaccines.** J Prim Care Community Health. 2022 Jan-Dec;13:21501319221089255. doi: 10.1177/21501319221089255. PMID: 35400233; PMCID: PMC8998390.

<https://pubmed.ncbi.nlm.nih.gov/35400233/>

Shanshal M. **Eruptive Angiomas Triggered by COVID-19 Vaccination**. *Cureus*. 2022 Mar 7;14(3):e22907. doi: 10.7759/cureus.22907. PMID: 35399409; PMCID: PMC8984657.

<https://pubmed.ncbi.nlm.nih.gov/35399409/>

Jalani N, Tadj D. **COVID-19 vaccination-associated ipsilateral supraclavicular lymphadenopathy**. *Aust J Gen Pract*. 2021 Dec 10;50. doi: 10.31128/AJGP-COVID-54. PMID: 35398876.

<https://pubmed.ncbi.nlm.nih.gov/35398876/>

Luchetti Gentiloni MM, Paci V, Marconi V, Gigli M, Benfaremo D, Sordillo R, Macchini C, Massaccesi L, Perna GP, Offidani AM, Moroncini G. **SARS-COV-2 Infection, Vaccination, and Immune-Mediated Diseases: Results of a Single-Center Retrospective Study**. *Front Immunol*. 2022 Mar 21;13:859550. doi: 10.3389/fimmu.2022.859550. PMID: 35386714; PMCID: PMC8977466.

<https://pubmed.ncbi.nlm.nih.gov/35386714/>

Couzin-Frankel J, Vogel G. **Vaccines may cause rare, Long Covid-like symptoms**. *Science*. 2022 Jan 28;375(6579):364-366. doi: 10.1126/science.ada0536. Epub 2022 Jan 27. PMID: 35084966.

<https://pubmed.ncbi.nlm.nih.gov/35084966/>

Stephanie Seneff, Greg Nigh, Anthony M. Kyriakopoulos, Peter A. McCullough, **Innate immune suppression by SARS-CoV-2 mRNA vaccinations: The role of G-quadruplexes, exosomes, and MicroRNAs**, *Food and Chemical Toxicology*, Volume 164, 2022, 113008, ISSN 0278-6915, <https://doi.org/10.1016/j.fct.2022.113008>.

Vitiello A, Ferrara F, Zovi A, Trama U, Boccellino M. **Pregnancy and COVID-19, focus on vaccine and pharmacological treatment**. *J Reprod Immunol*. 2022 Apr 21;151:103630. doi: 10.1016/j.jri.2022.103630. Epub ahead of print. PMID: 35483212; PMCID: PMC9023094.

<https://pubmed.ncbi.nlm.nih.gov/35483212/>

Ross M. Kedl, Elena Hsieh, Thomas E. Morrison, Gabriela Samayoa-Reyes, Siobhan Flaherty, Conner L. Jackson, Rosemary Rochford, **Evidence for Aerosol Transfer of SARS-CoV2-specific Humoral Immunity**, *medRxiv* 2022.04.28.22274443; doi: <https://doi.org/10.1101/2022.04.28.22274443>

Bardenheier BH, White EM, Blackman C, Gravenstein S, Gutman R, Sarkar IN, Feifer RA, McConeghy K, Nanda A, Duprey M, Mor V. **Adverse Events Following Third Dose of mRNA COVID-19 Vaccination among Nursing Home Residents Who Received the Primary Series**. *J Am Geriatr Soc*. 2022 Apr 23. doi: 10.1111/jgs.17812. Epub ahead of print. PMID: 35460263. <https://pubmed.ncbi.nlm.nih.gov/35460263/>

Soraci L, Lattanzio F, Soraci G, Gambuzza ME, Pulvirenti C, Cozza A, Corsonello A, Luciani F, Rezza G. **COVID-19 Vaccines: Current and Future Perspectives**. *Vaccines (Basel)*. 2022 Apr 13;10(4):608. doi: 10.3390/vaccines10040608. PMID: 35455357; PMCID: PMC9025326.

<https://pubmed.ncbi.nlm.nih.gov/35455357/>

Chen L, Cai X, Zhao T, Han B, Xie M, Cui J, Zhang J, Wang C, Liu B, Lu Q, Cui F. **Safety of Global SARS-CoV-2 Vaccines, a Meta-Analysis**. *Vaccines (Basel)*. 2022 Apr 12;10(4):596. doi: 10.3390/vaccines10040596. PMID: 35455344; PMCID: PMC9030038. <https://pubmed.ncbi.nlm.nih.gov/35455344/>

Machado BAS, Hodel KVS, Fonseca LMDS, Pires VC, Mascarenhas LAB, da Silva Andrade LPC, Moret MA, Badaró R. **The Importance of Vaccination in the Context of the COVID-19 Pandemic: A Brief Update Regarding the Use of Vaccines. Vaccines (Basel).** 2022 Apr 12;10(4):591. doi: 10.3390/vaccines10040591. PMID: 35455340; PMCID: PMC9027942. <https://pubmed.ncbi.nlm.nih.gov/35455340/>

Lin TY, Yeh YH, Chen LW, Cheng CN, Chang C, Roan JN, Shen CF. **Hemophagocytic Lymphohistiocytosis Following BNT162b2 mRNA COVID-19 Vaccination. Vaccines (Basel).** 2022 Apr 8;10(4):573. doi: 10.3390/vaccines10040573. PMID: 35455321; PMCID: PMC9025976. <https://pubmed.ncbi.nlm.nih.gov/35455321/>

Loosen SH, Bohlken J, Weber K, Konrad M, Luedde T, Roderburg C, Kostev K. **Factors Associated with Non-Severe Adverse Reactions after Vaccination against SARS-CoV-2: A Cohort Study of 908,869 Outpatient Vaccinations in Germany. Vaccines (Basel).** 2022 Apr 6;10(4):566. doi: 10.3390/vaccines10040566. PMID: 35455315; PMCID: PMC9032707. <https://pubmed.ncbi.nlm.nih.gov/35455315/>

Palacka P, Pol'anová M, Svobodová A, Žigmond J, Zanchetta K, Gombárová V, Vulganová M, Slopovský J, Obertová J, Drgoňa Ľ, Mego M, Pechan J. **Effectiveness, Adverse Events, and Immune Response Following Double Vaccination with BNT162b2 in Staff at the National Comprehensive Cancer Center (NCCC). Vaccines (Basel).** 2022 Apr 4;10(4):558. doi: 10.3390/vaccines10040558. PMID: 35455308; PMCID: PMC9026370. <https://pubmed.ncbi.nlm.nih.gov/35455308/>

Tan AY, Chang CT, Yu YK, Low YX, Razali NFM, Tey SY, Lee SWH. **Adverse Events Following BNT162b2 mRNA COVID-19 Vaccine Immunization among Healthcare Workers in a Tertiary Hospital in Johor, Malaysia. Vaccines (Basel).** 2022 Mar 25;10(4):509. doi: 10.3390/vaccines10040509. PMID: 35455258; PMCID: PMC9031399. <https://pubmed.ncbi.nlm.nih.gov/35455258/>

Tang KT, Hsu BC, Chen DY. **Immunogenicity, Effectiveness, and Safety of COVID-19 Vaccines in Rheumatic Patients: An Updated Systematic Review and Meta-Analysis. Biomedicines.** 2022 Apr 1;10(4):834. doi: 10.3390/biomedicines10040834. PMID: 35453585; PMCID: PMC9030402. <https://pubmed.ncbi.nlm.nih.gov/35453585/>

Mayfield HJ, Lau CL, Sinclair JE, Brown SJ, Baird A, Litt J, Vuorinen A, Short KR, Waller M, Mengersen K. **Designing an evidence-based Bayesian network for estimating the risk versus benefits of AstraZeneca COVID-19 vaccine. Vaccine.** 2022 Apr 8:S0264-410X(22)00418-2. doi: 10.1016/j.vaccine.2022.04.004. Epub ahead of print. PMID: 35450781; PMCID: PMC8989774. <https://pubmed.ncbi.nlm.nih.gov/35450781/>

Zou C, Xue X, Qian J. **Characteristics and Comparison of Adverse Events of Coronavirus Disease 2019 Vaccines Reported to the United States Vaccine Adverse Event Reporting System Between 14 December 2020 and 8 October 2021. Front Med (Lausanne).** 2022 Apr 5;9:826327. doi: 10.3389/fmed.2022.826327. PMID: 35449806; PMCID: PMC9016134. <https://pubmed.ncbi.nlm.nih.gov/35449806/>

Gao J, Lun P, Ding YY, George PP. **COVID-19 Vaccination for Frail Older Adults in Singapore - Rapid Evidence Summary and Delphi Consensus Statements. J Frailty Aging.** 2022;11(2):236-241. doi: 10.14283/jfa.2022.12. PMID: 35441203; PMCID: PMC8853208. <https://pubmed.ncbi.nlm.nih.gov/35441203/>

Benn, Christine Stabell and Scholtz-Buchholzer, Frederik and Nielsen, Sebastian and Netea, Mihai G. and Netea, Mihai G. and Aaby, Peter, **Randomised Clinical Trials of COVID-19 Vaccines: Do Adenovirus-Vector Vaccines Have Beneficial Non-Specific Effects?**. Available at SSRN: <https://ssrn.com/abstract=4072489> or <http://dx.doi.org/10.2139/ssrn.4072489>

Stephanie Seneff, Greg Nigh, Anthony M. Kyriakopoulos, Peter A. McCullough, **Innate immune suppression by SARS-CoV-2 mRNA vaccinations: The role of G-quadruplexes, exosomes, and MicroRNAs**, Food and Chemical Toxicology, Volume 164, 2022, 113008, ISSN 0278-6915, <https://doi.org/10.1016/j.fct.2022.113008>

Wik JA, Skålhegg BS. **T Cell Metabolism in Infection**. Front Immunol. 2022;13:840610. Published 2022 Mar 14. doi:10.3389/fimmu.2022.840610 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8964062/>

Shen, XR., Geng, R., Li, Q. et al. **ACE2-independent infection of T lymphocytes by SARS-CoV-2**. Sig Transduct Target Ther 7, 83 (2022). <https://doi.org/10.1038/s41392-022-00919-x>

Gu, W., Gan, H., Ma, Y. et al. **The molecular mechanism of SARS-CoV-2 evading host antiviral innate immunity**. Virol J 19, 49 (2022). <https://doi.org/10.1186/s12985-022-01783-5>  
<https://virologyj.biomedcentral.com/articles/10.1186/s12985-022-01783-5>

Anika Singanayagam, PhD, Seran Hakki, PhD, Jake Dunning, PhD, Kieran J Madon, MSc Michael A Crone, MBBCh Aleksandra Koycheva, BSc et al. **Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study** October 29, 2021 DOI: [https://doi.org/10.1016/S1473-3099\(21\)00648-4](https://doi.org/10.1016/S1473-3099(21)00648-4)

Jiang H, Mei YF. **SARS-CoV-2 Spike Impairs DNA Damage Repair and Inhibits V(D)J Recombination In Vitro**. Viruses. 2021;13(10):2056. Published 2021 Oct 13. doi:10.3390/v13102056  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8538446/>

Katharina Röltgen, et. al., **Immune imprinting, breadth of variant recognition, and germinal center response in human SARS-CoV-2 infection and vaccination**, Cell, January 24, 2022  
<https://doi.org/10.1016/j.cell.2022.01.018>

Regarding the Röltgen paper, on Feb 8, 2022 Dr. Schooley, an Infectious Disease Specialist at UCSD was featured at the County Board of Supervisors meeting on agenda item 16, the monthly COVID-19 status report from Wilma Wooten at HHS . Schooley addressed immunology as it relates to SARS-Cov-2 infections, the variants and vaccination. In his presentation he explained how the mRNA introduced by the vaccine degrades in 12 hours and that the spike protein, an agent produced by the body's own cells after being reprogrammed by vaccine induced mRNA, disappears over 48 hours. He also mentioned that the mRNA coding, although originally coded to address the alpha variant, still provides protection from the delta and omicron variants. But only a week after Schooley's lesson, Röltgen's work was published indicating otherwise. The residence time of mRNA introduced by the vaccine and spike protein antigen is significantly longer than 12 days. The study detected presence of both factors for up to 60 days in some subjects; that's when the study ended. So it's very possible residence times could be even longer.

Main results from the Röltgen paper:

- Viral variant infection elicits variant-specific antibodies, but prior mRNA vaccination imprints serological responses toward Wuhan-Hu-1 rather than variant antigens. (that's the alpha variant)
- In contrast to disrupted germinal centers (GCs) in lymph nodes during infection, mRNA vaccination stimulates robust GCs containing vaccine mRNA and spike antigen up to 8 weeks post vaccination in some cases.
- Another fact, not pointed out by the researchers, however obvious from the context of the paper is they actually found the mRNA from the vaccine in lymph nodes. This is evidence the vaccine does not stay in the injection site. It indeed travels throughout the body – which was not intended by the vaccine designers! (another reason for the FDA to step in)

Sessa F, Salerno M, Esposito M, Di Nunno N, Zamboni P, Pomara C. **Autopsy Findings and Causality Relationship between Death and COVID-19 Vaccination: A Systematic Review.** J Clin Med. 2021; 10(24):5876. 2021 Dec 15. <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8709364/pdf/jcm-10-05876.pdf>

James R. Gill, Randy Tashjian, Emily Duncanson; **Autopsy Histopathologic Cardiac Findings in Two Adolescents Following the Second COVID-19 Vaccine Dose.** Arch Pathol Lab Med 2022; doi: <https://doi.org/10.5858/arpa.2021-0435-SA>

Haas JW, Bender FL, Ballou S, Kelley JM, Wilhelm M, Miller FG, Rief W, Kaptchuk TJ. **Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials: A Systematic Review and Meta-analysis.** JAMA Netw Open. 2022 Jan 4;5(1):e2143955. doi: 10.1001/jamanetworkopen.2021.43955. Erratum in: JAMA Netw Open. 2022 Feb 1;5(2):e221277. PMID: 35040967; PMCID: PMC8767431. <https://pubmed.ncbi.nlm.nih.gov/35040967/>

Ahmad W, Shabbiri K. **Two years of SARS-CoV-2 infection (2019-2021): structural biology, vaccination, and current global situation.** Egypt J Intern Med. 2022;34(1):5. doi: 10.1186/s43162-021-00092-7. Epub 2022 Jan 14. PMID: 35043040; PMCID: PMC8759062. <https://pubmed.ncbi.nlm.nih.gov/35043040/>

Alshammari F, Abuzied Y, Korairi A, Alajlan M, Alzomia M, AlSheef M. **Bullous pemphigoid after second dose of mRNA- (Pfizer-BioNTech) Covid-19 vaccine: A case report.** Ann Med Surg (Lond). 2022 Mar;75:103420. doi: 10.1016/j.amsu.2022.103420. Epub 2022 Mar 1. PMID: 35251600; PMCID: PMC8885466. <https://pubmed.ncbi.nlm.nih.gov/35251600/>

Hisham Mushtaq, Anwar KhedrAnwar, KhedrThoyaja, KoritalaThoyaja, et. al. **A review of adverse effects of COVID-19 vaccines,** March 2022 Le Infezioni in Medicina: Rivista Periodica di Eziologia, Epidemiologia, Diagnostica, Clinica e Terapia Delle Patologie Infettive 30(1):1-10 <https://www.researchgate.net/publication/359155382> A review of adverse effects of COVID-19 vaccines

Jill M. Ferdinands, PhD et. al, **Waning 2-Dose and 3-Dose Effectiveness of mRNA Vaccines Against COVID-19—Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–**

**January 2022, Weekly / February 18, 2022 / 71(7);255–263**, On February 11, 2022, this report was posted online as an MMWR Early Release. CDC Morbidity and Mortality Weekly Report (MMWR)  
<https://www.cdc.gov/mmwr/volumes/71/wr/mm7107e2.htm>

Sonya Stokes, MD, MPH; Karen Shek, MHA; Michelle Hung, **Breakthroughs, Boosters, and Beyond: A Practical Primer on Current Challenges with COVID-19**, Emergency Medicine Practice, October 3, 2021,  
[https://www.ebmedicine.net/topics.php?paction=dLoadTopic&topic\\_id=687](https://www.ebmedicine.net/topics.php?paction=dLoadTopic&topic_id=687)

Daniel R Feikin, MD, Melissa M Higdon, MPH, Laith J Abu-Raddad, PhD, Nick Andrews, PhD', Rafael Araos, MD, Yair Goldberg, PhD, et al., **Duration of effectiveness of vaccines against SARS-CoV-2 infection and COVID-19 disease: results of a systematic review and meta-regression**, The Lancet, VOLUME 399, ISSUE 10328, P924-944, MARCH 05, 2022, DOI: [https://doi.org/10.1016/S0140-6736\(22\)00152-0](https://doi.org/10.1016/S0140-6736(22)00152-0)

Gostin LO, Salmon DA, Larson HJ. **Mandating COVID-19 Vaccines**. JAMA. 2021;325(6):532–533.  
doi:10.1001/jama.2020.26553 <https://jamanetwork.com/journals/jama/fullarticle/2774712>

Wu, Q., Dudley, M.Z., Chen, X. et al. **Evaluation of the safety profile of COVID-19 vaccines: a rapid review**. BMC Med 19, 173 (2021). <https://doi.org/10.1186/s12916-021-02059-5>

Lauring A S, Tenforde M W, Chappell J D, Gaglani M, Ginde A A, McNeal T et al. **Clinical severity of, and effectiveness of mRNA vaccines against, covid-19 from omicron, delta, and alpha SARS-CoV-2 variants in the United States: prospective observational study** BMJ 2022; 376 :e069761 doi:10.1136/bmj-2021-069761 <https://www.bmj.com/content/376/bmj-2021-069761>

Xinyue Chang, Gilles Sousa Augusto, Xuelan Liu, Thomas M Kündig, Monique Vogel, Mona O. Mohsen, Martin F. Bachmann **BNT162b2 mRNA COVID-19 vaccine induces antibodies of broader cross-reactivity than natural infection but recognition of mutant viruses is up to 10-fold reduced**  
<https://www.biorxiv.org/content/10.1101/2021.03.13.435222v1.full.pdf>

Dash, S., Sirka, C.S., Mishra, S. and Viswan, P. (2021), **COVID-19 vaccine-induced Stevens–Johnson syndrome**. Clin Exp Dermatol, 46: 1615-1617. <https://doi.org/10.1111/ced.14784>  
<https://onlinelibrary.wiley.com/doi/full/10.1111/ced.14784>

Annabi E, Dupin N, Sohier P, et al. **Rare cutaneous adverse effects of COVID-19 vaccines: a case series and review of the literature**. J Eur Acad Dermatol Venereol. 2021;35(12):e847-e850. doi:10.1111/jdv.17578  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8447383/pdf/JDV-9999-0.pdf>

Paraskevi C. Fragkou, Dimitra Dimopoulou, **Serious complications of COVID-19 vaccines: A mini-review**, Metabolism Open, Volume 12, 2021, 100145, ISSN 2589-9368  
<https://www.sciencedirect.com/science/article/pii/S2589936821000694>

Daniel Magliulo, Soumya Narayan, Frances Ue, Afroditi Boulougoura, Fadi Badlissi **Adult-onset Still's disease after mRNA COVID-19 vaccine** The Lancet Rheumatology, Vol 3 October 2021  
<https://www.thelancet.com/action/showPdf?pii=S2665-9913%2821%2900219-8>

Su, S., Du, L. & Jiang, S. **Learning from the past: development of safe and effective COVID-19 vaccines**. Nat Rev Microbiol 19, 211–219 (2021). <https://doi.org/10.1038/s41579-020-00462-y>  
<https://www.nature.com/articles/s41579-020-00462-y.pdf>

Hause AM, Gee J, Baggs J, et al. **COVID-19 Vaccine Safety in Adolescents Aged 12-17 Years - United States, December 14, 2020-July 16, 2021.** MMWR Morb Mortal Wkly Rep. 2021;70(31):1053-1058. Published 2021 Aug 6. doi:10.15585/mmwr.mm7031e1  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8367318/pdf/mm7031e1.pdf>

Amninder Singh, Ratesh Khillan, Yogendra Mishra, Sumit Khurana, **The safety profile of COVID-19 vaccinations in the United States, American Journal of Infection Control**, 2021, ISSN 0196-6553,  
<https://doi.org/10.1016/j.ajic.2021.10.015>

Scott McLachlan, Magda Osman, Kudakwashe Dube, Patience Chiketero, Yvonne Choi, Norman Fenton  
**Analysis of COVID-19 vaccine death reports from the Vaccine Adverse Events Reporting System (VAERS) Database** self-published - Research gate  
<https://austingwalters.com/wp-content/uploads/2021/07/VAERSInterimResults2.0ReleaseDraft1.pdf>

Robert P. Schumaker, Michael A. Veronin, Trevor Rohm, Rohit R. Dixit, Shadi Aljawarneh, and Juan A. Lara  
**An Analysis of Covid-19 Vaccine Allergic Reactions** September 17, 2021 Self published  
<https://www.robschumaker.com/publications/IIMA%20-%20An%20Analysis%20of%20COVID-19%20Allergic%20Reactions.pdf>

Jessica Rose, PhD, MSc, BSc, The Institute for Pure and Applied Knowledge, **Critical Appraisal of VAERS Pharmacovigilance: Is the U.S. Vaccine Adverse Events Reporting System (VAERS) a Functioning Pharmacovigilance System?**, Science, Public Health Policy and the Law, Volume 3:100–129, October, 2021, Clinical and Translational Research  
[https://resistance-mondiale.com/wp-content/uploads/2021/11/adf864\\_0490c898f7514df4b6fbc5935da07322.pdf](https://resistance-mondiale.com/wp-content/uploads/2021/11/adf864_0490c898f7514df4b6fbc5935da07322.pdf)

Wong, J.; Patel, J.; White, C.; Ang, J.; Munoz, J.; Gee, S, Deaths post COVID-19 Vaccination: **An analysis per VAERS JACCP Journal of the American College of Clinical Pharmacy** ; 4(9):1223-1224, 2021. Artigo em Inglês | EMBASE | ID: covidwho-1445837  
<https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-1445837?lang=en>

Zimmermann P, Pittet LF, Finn A, et al **Should children be vaccinated against COVID-19?** Archives of Disease in Childhood Published Online First: 03 November 2021. doi: 10.1136/archdischild-2021-323040  
<https://adc.bmj.com/content/archdischild/early/2021/11/01/archdischild-2021-323040.full.pdf>

Kostoff RN, Calina D, Kanduc D, et al. **Why are we vaccinating children against COVID-19?** [published correction appears in Toxicol Rep. 2021;8:1981]. Toxicol Rep. 2021;8:1665-1684. doi:10.1016/j.toxrep.2021.08.010  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8437699/pdf/main.pdf>

Wei N, Kresch M, Elbogen E, Lebwohl M. **New onset and exacerbation of psoriasis after COVID-19 vaccination.** JAAD Case Rep. 2022;19:74-77. doi:10.1016/j.jdc.2021.11.016  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8628636/pdf/main.pdf>

Belay ED, Godfred Cato S, Rao AK, Abrams J, Wilson WW, Lim S, Newton-Cheh C, Melgar M, DeCuir J, Webb B, Marquez P, Su JR, Meng L, Grome HN, Schlaudecker E, Talaat K, Edwards K, Barnett E, Campbell AP, Broder KR, Bamrah Morris S. **Multisystem Inflammatory Syndrome in Adults after SARS-CoV-2**

**infection and COVID-19 vaccination.** Clin Infect Dis. 2021 Nov 28:ciab936. doi: 10.1093/cid/ciab936. Epub ahead of print. PMID: 34849680.

Osmanodja B, Schreiber A, Schrezenmeier E, Seelow E. **First diagnosis of thrombotic thrombocytopenic purpura after SARS-CoV-2 vaccine - case report.** BMC Nephrol. 2021 Dec 11;22(1):411. doi: 10.1186/s12882-021-02616-3. PMID: 34895163; PMCID: PMC8665311.  
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8665311/pdf/12882\\_2021\\_Article\\_2616.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8665311/pdf/12882_2021_Article_2616.pdf)

Song YK, Mantri S, Lawson JM, Berger EJ, Koenig HG. **Morally Injurious Experiences and Emotions of Health Care Professionals During the COVID-19 Pandemic Before Vaccine Availability.** JAMA Netw Open. 2021 Nov 1;4(11):e2136150. doi: 10.1001/jamanetworkopen.2021.36150. PMID: 34817579; PMCID: PMC8613593.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8613593/>

Kahn B, Apostolidis SA, Bhatt V, Greenplate AR, Kallish S, LaCava A, Lucas A, Meyer NJ, Negoianu D, Ogdie AR, Shashaty MGS, Takach PA, Zuroff L, Wherry EJ, Anesi GL. **Multisystem Inflammation and Organ Dysfunction After BNT162b2 Messenger RNA Coronavirus Disease 2019 Vaccination.** Crit Care Explor. 2021 Nov 5;3(11):e0578. doi: 10.1097/CCE.0000000000000578. PMID: 34765984; PMCID: PMC8575416.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8575416/pdf/cc9-3-e0578.pdf>

**LiverTox: Clinical and Research Information on Drug-Induced Liver Injury** [Internet]. Bethesda (MD): National Institute of Diabetes and Digestive and Kidney Diseases; 2012–. Covid-19 Vaccines. 2021 Oct 28. PMID: 34014629.  
<https://pubmed.ncbi.nlm.nih.gov/34014629/>

Liu J, Wang J, Xu J, Xia H, Wang Y, Zhang C, Chen W, Zhang H, Liu Q, Zhu R, Shi Y, Shen Z, Xing Z, Gao W, Zhou L, Shao J, Shi J, Yang X, Deng Y, Wu L, Lin Q, Zheng C, Zhu W, Wang C, Sun YE, Liu Z. **Comprehensive investigations revealed consistent pathophysiological alterations after vaccination with COVID-19 vaccines.** Cell Discov. 2021 Oct 26;7(1):99. doi: 10.1038/s41421-021-00329-3. PMID: 34697287; PMCID: PMC8546144.  
[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8546144/pdf/41421\\_2021\\_Article\\_329.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8546144/pdf/41421_2021_Article_329.pdf)

*Large-scale COVID-19 vaccinations are currently underway in many countries in response to the COVID-19 pandemic. Here, we report, besides generation of neutralizing antibodies, consistent alterations in hemoglobin A1c, serum sodium and potassium levels, coagulation profiles, and renal functions in healthy volunteers after vaccination with an inactivated SARS-CoV-2 vaccine. Similar changes had also been reported in COVID-19 patients, suggesting that vaccination mimicked an infection. Single-cell mRNA sequencing (scRNA-seq) of peripheral blood mononuclear cells (PBMCs) before and 28 days after the first inoculation also revealed consistent alterations in gene expression of many different immune cell types. Reduction of CD8+ T cells and increase in classic monocyte contents were exemplary. Moreover, scRNA-seq revealed increased NF-κB signaling and reduced type I interferon responses, which were confirmed by biological assays and also had been reported to occur after SARS-CoV-2 infection with aggravating symptoms.*

*Altogether, our study recommends additional caution when vaccinating people with pre-existing clinical conditions, including diabetes, electrolyte imbalances, renal dysfunction, and coagulation disorders.*

Hsiao YT, Tsai MJ, Chen YH, Hsu CF. **Acute Transverse Myelitis after COVID-19 Vaccination.** *Medicina (Kaunas).* 2021 Sep 25;57(10):1010. doi: 10.3390/medicina57101010. PMID: 34684047; PMCID: PMC8540274.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8540274/pdf/medicina-57-01010.pdf>

Campagnani G, Bardanzellu F, Pintus MC, Fanos V, Marcialis MA. **COVID-19 vaccination in children: an open question.** *Curr Pediatr Rev.* 2021 Dec 19. doi: 10.2174/1573396318666211220093111. Epub ahead of print. PMID: 34931965.

<https://pubmed.ncbi.nlm.nih.gov/34931965/>

Atiyat R, Elias S, Kiwan C, Shaaban HS, Slim J. **Varicella-Zoster Virus Reactivation in AIDS Patient After Pfizer-BioNTech COVID-19 Vaccine.** *Cureus.* 2021 Dec 3;13(12):e20145. doi: 10.7759/cureus.20145. PMID: 35003978; PMCID: PMC8723776.

<https://pubmed.ncbi.nlm.nih.gov/35003978/>

Sieiro Santos C, Calleja Antolin S, Moriano Morales C, Garcia Herrero J, Diez Alvarez E, Ramos Ortega F, Ruiz de Morales JG. **Immune responses to mRNA vaccines against SARS-CoV-2 in patients with immune-mediated inflammatory rheumatic diseases.** *RMD Open.* 2022 Jan;8(1):e001898. doi: 10.1136/rmdopen-2021-001898. PMID: 34987093.

<https://pubmed.ncbi.nlm.nih.gov/34987093/>

Angeli F, Reboldi G, Trapasso M, Verdecchia P. **Ipertensione dopo vaccinazione anti-COVID-19 [Hypertension after COVID-19 vaccination].** *G Ital Cardiol (Rome).* 2022 Jan;23(1):10-14. Italian. doi: 10.1714/3715.37055. PMID: 34985455.

<https://pubmed.ncbi.nlm.nih.gov/34985455/>

Park SY, Lee KH. **Adult-onset Still's Disease after BNT162b2 mRNA COVID-19 Vaccine.** *J Korean Med Sci.* 2021 Dec 27;36(50):e344. doi: 10.3346/jkms.2021.36.e344. PMID: 34962116.

<https://pubmed.ncbi.nlm.nih.gov/34962116/>

Ajmeriya S, Kumar A, Karmakar S, Rana S, Singh H. **Neutralizing Antibodies and Antibody-Dependent Enhancement in COVID-19: A Perspective** [published online ahead of print, 2022 Feb 4]. *J Indian Inst Sci.* 2022;1-17. doi:10.1007/s41745-021-00268-8

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8814804/pdf/41745\\_2021\\_Article\\_268.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8814804/pdf/41745_2021_Article_268.pdf)

Albalawi OM, Alomran MI, Alsagri GM, Althunian TA, Alshammari TM. **Analyzing the U.S. Post-marketing safety surveillance of COVID-19 vaccines.** *Saudi Pharm J.* 2022 Feb;30(2):180-184. doi: 10.1016/j.jsps.2021.12.008. Epub 2021 Dec 31. PMID: 35002372; PMCID: PMC8719360.

<https://pubmed.ncbi.nlm.nih.gov/35002372/>

Tan NJH, Tay KXJ, Wong SBJ, Nga ME. **COVID-19 post-vaccination lymphadenopathy: Report of cytological findings from fine needle aspiration biopsy.** *Diagn Cytopathol.* 2021;49(12):E467-E470. doi:10.1002/dc.24863

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8652983/>

## Papers Addressing Excess All Cause Mortality

The problem with determining the difference between causality and correlation is there may be many inputs to the system that can also lead to adverse effects and which may not be observable or even known. The benefit of excess all cause mortality (aka excess deaths) analysis is it doesn't care about inputs. It assumes ALL inputs and depends on a historical trend to determine if more recent outcomes are falling out of line with the trend. So at least several researchers in public health have turned to this tool.

Christopher J. Ruhm, **Excess deaths in the United States during the first year of COVID-19**, Preventive Medicine, Volume 162, 2022, 107174, ISSN 0091-7435, <https://doi.org/10.1016/j.ypmed.2022.107174>  
<https://www.sciencedirect.com/science/article/pii/S0091743522002237>

Calvin A. Ackley, Dielle J. Lundberg, Lei Ma, Irma T. Elo, Samuel H. Preston, Andrew C. Stokes, **County-level estimates of excess mortality associated with COVID-19 in the United States**, SSM - Population Health, Volume 17, 2022, 101021, ISSN 2352-8273, <https://doi.org/10.1016/j.ssmph.2021.101021>  
<https://www.sciencedirect.com/science/article/pii/S2352827321002962>

Paglino E, Lundberg DJ, Cho A, Wasserman JA, Raquib R, Luck AN, Hempstead K, Bor J, Elo IT, Preston SH, Stokes AC. **Excess all-cause mortality across counties in the United States, March 2020 to December 2021**. medRxiv [Preprint]. 2022 May 17:2022.04.23.22274192. doi: 10.1101/2022.04.23.22274192. PMID: 35547848; PMCID: PMC9094106. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9094106/>

Karlinsky A, Kobak D. **The World Mortality Dataset: Tracking excess mortality across countries during the COVID-19 pandemic**. medRxiv [Preprint]. 2021 Jun 4:2021.01.27.21250604. doi: 10.1101/2021.01.27.21250604. Update in: Elife. 2021 Jun 30;10: PMID: 33532789; PMCID: PMC7852240. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7852240/>

Denis G Rancourt, Marine Baudin, Jérémie Mercier, **COVID-Period Mass Vaccination Campaign and Public Health Disaster in the USA From age/state-resolved all-cause mortality by time, age-resolved vaccine delivery by time, and socio-geo-economic data**, August 2022, DOI: 10.13140/RG.2.2.12688.28164, Project: Science reviews relevant to COVID-19, Lab: Jérémie Mercier's Lab

Zhou F, Hu TJ, Zhang XY, Lai K, Chen JH, Zhou XH. **The association of intensity and duration of non-pharmacological interventions and implementation of vaccination with COVID-19 infection, death, and excess mortality: Natural experiment in 22 European countries**. J Infect Public Health. 2022 May;15(5):499-507. doi: 10.1016/j.jiph.2022.03.011. Epub 2022 Mar 24. PMID: 35429788; PMCID: PMC8944114. <https://pubmed.ncbi.nlm.nih.gov/35429788/>

Kirpich A, Shishkin A, Weppelmann TA, Tchernov AP, Skums P, Gankin Y. **Excess mortality in Belarus during the COVID-19 pandemic as the case study of a country with limited non-pharmaceutical interventions and limited reporting**. Sci Rep. 2022 Mar 31;12(1):5475. doi: 10.1038/s41598-022-09345-z. PMID: 35361826. <https://pubmed.ncbi.nlm.nih.gov/35361826/>

Peretz C, Rotem N, Keinan-Boker L, Furshpan A, Green M, Bitan M, Steinberg DM. **Excess mortality in Israel associated with COVID-19 in 2020-2021 by age group and with estimates based on daily mortality patterns in 2000-2019**. Int J Epidemiol. 2022 Mar 31;dyac047. doi: 10.1093/ije/dyac047. Epub ahead of print. PMID: 35356971. <https://pubmed.ncbi.nlm.nih.gov/35356971/>

Asta F, Michelozzi P, De Sario M, Santelli E, Bauleo L, Cozzi I, Vairo F, Davoli M, Porta D. **Impatto dell'epidemia di COVID-19 sulla mortalità totale e per causa a Roma nel 2020 [Impact of the COVID-19 epidemic on total and cause-specific mortality in Rome (Italy) in 2020]**. *Epidemiol Prev*. 2022 Jan-Apr;46(1-2):59-67. Italian. doi: 10.19191/EP22.1-2.A003.003. PMID: 35354268. <https://pubmed.ncbi.nlm.nih.gov/35354268/>

Karlinsky A. **Estimating national excess mortality from subnational data: application to Argentina**. *Rev Panam Salud Publica*. 2022 Mar 23;46:e19. doi: 10.26633/RPSP.2022.19. PMID: 35350453; PMCID: PMC8948443. <https://pubmed.ncbi.nlm.nih.gov/35350453/>

Kiang MV, Acosta RJ, Chen YH, Matthay EC, Tsai AC, Basu S, Glymour MM, Bibbins-Domingo K, Humphreys K, Arthur KN. **Sociodemographic and geographic disparities in excess fatal drug overdoses during the COVID-19 pandemic in California: A population-based study**. *Lancet Reg Health Am*. 2022 Jul;11:100237. doi: 10.1016/j.lana.2022.100237. Epub 2022 Mar 19. PMID: 35342895; PMCID: PMC8934030. <https://pubmed.ncbi.nlm.nih.gov/35342895/>

Glei DA. **The US Midlife Mortality Crisis Continues: Excess Cause-Specific Mortality During 2020**. *Am J Epidemiol*. 2022 Mar 24;kwac055. doi: 10.1093/aje/kwac055. Epub ahead of print. PMID: 35333293. <https://pubmed.ncbi.nlm.nih.gov/35333293/>

Walkowiak MP, Walkowiak D. **Underestimation in Reporting Excess COVID-19 Death Data in Poland during the First Three Pandemic Waves**. *Int J Environ Res Public Health*. 2022 Mar 20;19(6):3692. doi: 10.3390/ijerph19063692. PMID: 35329378; PMCID: PMC8954142. <https://pubmed.ncbi.nlm.nih.gov/35329378/>

Ramírez-Soto MC, Ortega-Cáceres G. **Analysis of Excess All-Cause Mortality and COVID-19 Mortality in Peru: Observational Study**. *Trop Med Infect Dis*. 2022 Mar 5;7(3):44. doi: 10.3390/tropicalmed7030044. PMID: 35324591; PMCID: PMC8950420. <https://pubmed.ncbi.nlm.nih.gov/35324591/>

## Revisiting Efficacy of the COVID-19 Vaccines

The fact that the COVID-19 vaccines are causing significant injury and death, and accepting the flawed policy that it's ok to injure some to protect others is an egregious act by public health officials. But wait, there's more. We can still ask the basic question: are the vaccines really providing protection? This question more pertinent than ever considering the vaccines were designed to vector the alpha variant of SARS-Cov2, which no longer exists.

Even the phase 3 Pfizer and Moderna vaccine trials, accepted by the FDA is flawed since the studies used deceptive relative risk reduction (RRR) metrics. In a paper by Brown<sup>29</sup> Brown demonstrated in simple language and mathematics that the number needed to vaccinate to prevent one COVID-19 infection was

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<sup>29</sup> Brown RB. **Outcome Reporting Bias in COVID-19 mRNA Vaccine Clinical Trials**. *Medicina (Kaunas)*. 2021 Feb 26;57(3):199. doi: 10.3390/medicina57030199. PMID: 33652582; PMCID: PMC7996517.

roughly between 80 to 120 persons. That was for the alpha variant. Just how effective now are the vaccines at preventing infection or else the severity of infection? More recently the EPOCH Times<sup>30</sup> addressed this very question by listing summaries of 44 published papers that collectively show evidence the vaccines are NOT effective. The article summaries and links to the original papers are offered here as evidence the vaccines were never effective:

- 1) Gazit et al. out of Israel showed that “SARS-CoV-2-naïve vaccinees had a **13-fold (95% CI, 8-21) increased risk for breakthrough infection with the Delta variant** compared to those previously infected.” When adjusting for the time of disease/vaccine, there was a 27-fold increased risk (95% CI, 13-57).
- 2) Ignoring the risk of infection, given that someone was infected, Acharya et al. found “**no significant difference in cycle threshold values between vaccinated and unvaccinated**, asymptomatic and symptomatic groups infected with SARS-CoV-2 Delta.”
- 3) Riemersma et al. found “**no difference in viral loads when comparing unvaccinated individuals** to those who have vaccine “breakthrough” infections. Furthermore, individuals with vaccine breakthrough infections frequently test positive with viral loads consistent with the ability to shed infectious viruses.” Results indicate that “if vaccinated individuals become infected with the delta variant, they may be sources of SARS-CoV-2 transmission to others.” They reported “low Ct values (<25) in 212 of 310 fully vaccinated (68%) and 246 of 389 (63%) unvaccinated individuals. Testing a subset of these low-Ct samples revealed infectious SARS-CoV-2 in 15 of 17 specimens (88%) from unvaccinated individuals and 37 of 39 (95%) from vaccinated people.”
- 4) In a study from Qatar, Chemaitelly et al. reported vaccine efficacy (Pfizer) against severe and fatal disease, with efficacy in the 85-95% range at least until 24 weeks after the second dose. As a contrast, **the efficacy against infection waned down to around 30% at 15-19 weeks after the second dose.**
- 5) From Wisconsin, Riemersma et al. reported that **vaccinated individuals who get infected with the Delta variant can transmit SARS-CoV-2 to others.** They found an elevated viral load in the unvaccinated and vaccinated symptomatic persons (68% and 69% respectively, 158/232 and 156/225). Moreover, in the asymptomatic persons, they uncovered elevated viral loads (29% and 82% respectively) in the unvaccinated and the vaccinated respectively. This suggests that the vaccinated can be infected, harbor, cultivate, and transmit the virus readily and unknowingly.

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<sup>30</sup> Paul Alexander of the Brownstone Institute, **44 Studies on Vaccine Efficacy That Raise Doubts on Vaccine Mandates**, March 19.2022 [https://www.theepochtimes.com/44-studies-on-vaccine-efficacy-that-raise-doubts-on-vaccine-mandates\\_4348494.html?est=gYnejqpgBhIRYe8DWNMS6DtsftRxBdG34hlgoSzz5Zdb5BcGfM82X8DjTvXfIy0nLRk3cW4%3D](https://www.theepochtimes.com/44-studies-on-vaccine-efficacy-that-raise-doubts-on-vaccine-mandates_4348494.html?est=gYnejqpgBhIRYe8DWNMS6DtsftRxBdG34hlgoSzz5Zdb5BcGfM82X8DjTvXfIy0nLRk3cW4%3D)

- 6) Subramanian reported that “at the country-level, there appears to be no discernable relationship between percentage of population fully vaccinated and new COVID-19 cases.” When comparing 2947 counties in the United States, there were slightly less cases in more vaccinated locations. In other words, there is no clear discernable relationship.
- 7) Chau et al. looked at transmission of SARS-CoV-2 Delta variant among vaccinated healthcare workers in Vietnam. Of 69 healthcare workers that tested positive for SARS-CoV-2, 62 participated in the clinical study, all of whom recovered. For 23 of them, complete-genome sequences were obtained, and all belonged to the Delta variant. “Viral loads of breakthrough Delta variant infection cases were 251 times higher than those of cases infected with old strains detected between March-April 2020”.
- 8) In Barnstable, Massachusetts, Brown et al found that among **469 cases of COVID-19, 74% were fully vaccinated**, and that **“the vaccinated had on average more virus in their nose than the unvaccinated who were infected.”**
- 9) Reporting on a nosocomial hospital outbreak in Finland, Hetemäli et al. observed that “both symptomatic and asymptomatic infections were found among vaccinated health care workers, and secondary transmission occurred from those with symptomatic infections despite use of personal protective equipment.”
- 10) In a hospital outbreak investigation in Israel, Shitrit et al. observed “high transmissibility of the SARS-CoV-2 Delta variant among twice vaccinated and masked individuals.” They added that **“this suggests some waning of immunity**, albeit still providing protection for individuals without comorbidities.”
- 11) In the UK COVID-19 vaccine Surveillance Report for week #42, it was noted that there is “waning of the N antibody response over time” and “that N antibody levels appear to be lower in individuals who acquire infection following 2 doses of vaccination.” The same report (Table 2, page 13), shows the in the older age groups above 30, the double vaccinated persons have greater infection risk than the unvaccinated, presumably because **the latter group include more people with stronger natural immunity from prior Covid disease**. As a contrast, the vaccinated people had a lower risk of death than the unvaccinated, across all age groups, indicating that vaccines provide more protection against death than against infection. See also UK PHE reports 43, 44, 45, 46 for similar data.
- 12) In Israel, Levin et al. “conducted a 6-month longitudinal prospective study involving vaccinated health care workers who were tested monthly for the presence of anti-spike IgG and neutralizing antibodies”. They found that “six months after receipt of the second dose of the BNT162b2 vaccine, humoral response was substantially decreased, especially among men, among persons 65 years of age or older, and among persons with immunosuppression.”

**13)** In a study from New York State, Rosenberg et al. reported that “During May 3–July 25, 2021, the overall age-adjusted vaccine effectiveness against hospitalization in New York was relatively stable (89.5%–95.1%). The overall age-adjusted vaccine effectiveness against infection for all New York adults declined from 91.8% to 75.0%.”

**14)** Suthar et al. noted that “Our data demonstrate a **substantial waning of antibody responses** and T cell immunity to SARS-CoV-2 and its variants, at 6 months following the second immunization with the BNT162b2 vaccine.”

**15)** In a study from Umeå University in Sweden, Nordström et al. observed that “vaccine effectiveness of BNT162b2 against infection waned progressively from 92% (95% CI, 92-93,  $P < 0.001$ ) at day 15-30 to 47% (95% CI, 39-55,  $P < 0.001$ ) at day 121-180, and from day 211 and onwards **no effectiveness could be detected** (23%; 95% CI, -2-41,  $P = 0.07$ ).”

**16)** Yahi et al. have reported that “in the case of the Delta variant, neutralizing antibodies have a decreased affinity for the spike protein, whereas facilitating antibodies display a strikingly increased affinity. Thus, antibody dependent enhancement may be a concern for people receiving vaccines based on the original Wuhan strain spike sequence.”

**17)** Goldberg et al. (BNT162b2 Vaccine in Israel) reported that “immunity against the delta variant of SARS-CoV-2 waned in all age groups a few months after receipt of the second dose of vaccine.”

**18)** Singanayagam et al. examined the transmission and viral load kinetics in vaccinated and unvaccinated individuals with mild delta variant infection in the community. They found that (in 602 community contacts (identified via the UK contact-tracing system) of 471 UK COVID-19 index cases were recruited to the Assessment of Transmission and Contagiousness of COVID-19 in Contacts cohort study and contributed 8145 upper respiratory tract samples from daily sampling for up to 20 days) “vaccination reduces the risk of delta variant infection and accelerates viral clearance. Nonetheless, fully vaccinated individuals with breakthrough infections have peak viral load similar to unvaccinated cases and can efficiently transmit infection in household settings, including to fully vaccinated contacts.”

**19)** Keehner et al. in NEJM, has recently reported on the resurgence of SARS-CoV-2 infection in a highly vaccinated health system workforce. Vaccination with mRNA vaccines began in mid-December 2020; by March, 76% of the workforce had been fully vaccinated, and by July, the percentage had risen to 87%. Infections had decreased dramatically by early February 2021...“coincident with the end of California’s mask mandate on June 15 and the rapid dominance of the B.1.617.2 (delta) variant that first emerged in mid-April and accounted for over 95% of UCSDH isolates by the end of July, infections increased rapidly, including cases among fully vaccinated persons...researchers reported that the “dramatic change in

vaccine effectiveness from June to July is likely to be due to both the emergence of the delta variant and waning immunity over time.”

**20)** Juthani et al. sought to describe the impact of vaccination on admission to hospital in patients with confirmed SARS-CoV-2 infection using real-world data collected by the Yale New Haven Health System. “Patients were considered fully vaccinated if the final dose (either second dose of BNT162b2 or mRNA-1273, or first dose of Ad.26.COV2.S) was administered at least 14 days before symptom onset or a positive PCR test for SARS-CoV-2. In total, we identified 969 patients who were admitted to a Yale New Haven Health System hospital with a confirmed positive PCR test for SARS-CoV-2”...Researchers reported “a higher number of patients with severe or critical illness in those who received the BNT162b2 vaccine than in those who received mRNA-1273 or Ad.26.COV2.S...”

**21)** A very recent study published by the CDC reported that a majority (53%) of patients who were hospitalized with Covid-19-like illnesses were already fully vaccinated with two-dose RNA shots. Table 1 reveals that among the 20,101 immunocompromised adults hospitalized with Covid-19, 10,564 (53%) were fully-vaccinated with the Pfizer or Moderna vaccine (Vaccination was defined as having received exactly 2 doses of an mRNA-based COVID-19 vaccine  $\geq 14$  days before the hospitalization index date, which was the date of respiratory specimen collection associated with the most recent positive or negative SARS-CoV-2 test result before the hospitalization or the hospitalization date if testing only occurred after the admission). This highlights the ongoing challenges faced with Delta breakthrough when vaccinated.

**22)** Eyre, 2021 looked at The impact of SARS-CoV-2 vaccination on Alpha & Delta variant transmission. They reported that “while vaccination still lowers the risk of infection, similar viral loads in vaccinated and unvaccinated individuals infected with Delta question how much vaccination prevents onward transmission... transmission reductions declined over time since second vaccination, for Delta reaching similar levels to unvaccinated individuals by 12 weeks for ChAdOx1 and attenuating substantially for BNT162b2. Protection from vaccination in contacts also declined in the 3 months after second vaccination...vaccination reduces transmission of Delta, but by less than the Alpha variant.”

**23)** Levine-Tiefenbrun, 2021 looked at Viral loads of Delta-variant SARS-CoV-2 breakthrough infections after vaccination and booster with BNT162b2, and reported the viral load reduction effectiveness declines with time after vaccination, “significantly decreasing at 3 months after vaccination and effectively vanishing after about 6 months.”

**24)** Puranik, 2021 looked at a Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence, reporting “In July, vaccine effectiveness against hospitalization has remained high (mRNA-1273: 81%, 95% CI: 33–96.3%; BNT162b2: 75%, 95% CI: 24–

93.9%), but effectiveness against infection was lower for both vaccines (mRNA-1273: 76%, 95% CI: 58–87%; BNT162b2: 42%, 95% CI: 13–62%), with a more pronounced reduction for BNT162b2.”

**25)** Saade, 2021 looked at Live virus neutralization testing in convalescent patients and subjects vaccinated against 19A, 20B, 20I/501Y.V1 and 20H/501Y.V2 isolates of SARS-CoV-2, and reported as “Assessed the neutralizing capacity of antibodies to prevent cell infection, using a live virus neutralization test with different strains [19A (initial one), 20B (B.1.1.241 lineage), 20I/501Y.V1 (B.1.1.7 lineage), and 20H/501Y.V2 (B.1.351 lineage)] in serum samples collected from different populations: two-dose vaccinated COVID-19-naïve healthcare workers (HCWs; Pfizer-BioNTech BNT161b2), 6-months post mild COVID-19 HCWs, and critical COVID-19 patients... finding of the present study is the reduced neutralizing response observed towards the 20H/501Y.V2 variant in fully immunized subjects with the BNT162b2 vaccine by comparison to the wild type and 20I/501Y.V1 variant.”

**26)** Canaday, 2021 looked at Significant reduction in humoral immunity among healthcare workers and nursing home residents 6 months after COVID-19 BNT162b2 mRNA vaccination, reporting “Anti-spike, anti-RBD and neutralization levels dropped more than 84% over 6 months’ time in all groups irrespective of prior SARS-CoV-2 infection. At 6 months post-vaccine, 70% of the infection-naïve NH residents had neutralization titers at or below the lower limit of detection compared to 16% at 2 weeks after full vaccination. These data demonstrate a significant reduction in levels of antibody in all groups. In particular, those infection-naïve NH residents had lower initial post-vaccination humoral immunity immediately and exhibited the greatest declines 6 months later.”

**27)** Israel, 2021 looked at Large-scale study of antibody titer decay following BNT162b2 mRNA vaccine or SARS-CoV-2 infection, and reported as “To determine the kinetics of SARS-CoV-2 IgG antibodies following administration of two doses of BNT162b2 vaccine, or SARS-CoV-2 infection in unvaccinated individuals...In vaccinated subjects, antibody titers decreased by up to 40% each subsequent month while in convalescents they decreased by less than 5% per month. Six months after BNT162b2 vaccination 16.1% subjects had antibody levels below the sero-positivity threshold of <50 AU/mL, while only 10.8% of convalescent patients were below <50 AU/mL threshold after 9 months from SARS-CoV-2 infection.”

**28)** Eyran, 2020 examined The longitudinal kinetics of antibodies in COVID-19 recovered patients over 14 months, and found “a significantly faster decay in naïve vaccinees compared to recovered patients suggesting that the serological memory following natural infection is more robust compared to vaccination. Our data highlights the differences between serological memory induced by natural infection vs. vaccination.”

**29)** Salvatore et al. examined the transmission potential of vaccinated and unvaccinated persons infected with the SARS-CoV-2 Delta variant in a federal prison, July-August 2021. They found a total of 978 specimens were provided by 95 participants, “of whom 78 (82%) were fully vaccinated and 17 (18%) were not fully vaccinated....clinicians and public health practitioners should consider vaccinated persons who become infected with SARS-CoV-2 to be no less infectious than unvaccinated persons.”

**30)** Andeweg et al. analyzed 28,578 sequenced SARS-CoV-2 samples from individuals with known immune status obtained through national community testing in the Netherlands from March to August 2021. They found evidence for an “increased risk of infection by the Beta (B.1.351), Gamma (P.1), or Delta (B.1.617.2) variants compared to the Alpha (B.1.1.7) variant after vaccination. No clear differences were found between vaccines. However, the effect was larger in the first 14-59 days after complete vaccination compared to 60 days and longer. In contrast to vaccine-induced immunity, no increased risk for reinfection with Beta, Gamma or Delta variants relative to Alpha variant was found in individuals with infection-induced immunity.”

**31)** Di Fusco et al. conducted an evaluation of COVID-19 vaccine breakthrough infections among immunocompromised patients fully vaccinated with BNT162b2. “COVID-19 vaccine breakthrough infections were examined in fully vaccinated ( $\geq 14$  days after 2nd dose) IC individuals (IC cohort), 12 mutually exclusive IC condition groups, and a non-IC cohort.” They found that “of 1,277,747 individuals  $\geq 16$  years of age who received 2 BNT162b2 doses, 225,796 (17.7%) were identified as IC (median age: 58 years; 56.3% female). The most prevalent IC conditions were solid malignancy (32.0%), kidney disease (19.5%), and rheumatologic/inflammatory conditions (16.7%). Among the fully vaccinated IC and non-IC cohorts, a total of 978 breakthrough infections were observed during the study period; 124 (12.7%) resulted in hospitalization and 2 (0.2%) were inpatient deaths. IC individuals accounted for 38.2% ( $N = 374$ ) of all breakthrough infections, 59.7% ( $N = 74$ ) of all hospitalizations, and 100% ( $N = 2$ ) of inpatient deaths. The proportion with breakthrough infections was 3 times higher in the IC cohort compared to the non-IC cohort ( $N = 374$  [0.18%] vs.  $N = 604$  [0.06%]; unadjusted incidence rates were 0.89 and 0.34 per 100 person-years, respectively.”

**32)** Mallapaty (NATURE) reported that the protective effect of being vaccinated if you already had infection is “relatively small, and dwindles alarmingly at three months after the receipt of the second shot.” Mallapaty further adds what we have been warning the public health community which is that persons infected with Delta have about the same levels of viral genetic materials in their noses “regardless of whether they’d previously been vaccinated, suggesting that vaccinated and unvaccinated people might be equally infectious.” Mallapaty reported on testing data from 139,164 close contacts of 95,716 people infected with SARS-CoV-2 between January and August 2021 in the United Kingdom, and

at a time when the Alpha and Delta variants were competing for dominance. The finding was that “although the vaccines did offer some protection against infection and onward transmission, Delta dampened that effect. A person who was fully vaccinated and then had a ‘breakthrough’ Delta infection was almost twice as likely to pass on the virus as someone who was infected with Alpha. And that was on top of the higher risk of having a breakthrough infection caused by Delta than one caused by Alpha.”

**33)** Chia et al. reported that PCR cycle threshold (Ct) values were “similar between both vaccinated and unvaccinated groups at diagnosis, but viral loads decreased faster in vaccinated individuals. Early, robust boosting of anti-spike protein antibodies was observed in vaccinated patients, however, these titers were significantly lower against B.1.617.2 as compared with the wildtype vaccine strain.”

**34)** Wilhelm et al. reported on reduced neutralization of SARS-CoV-2 omicron variant by vaccine sera and monoclonal antibodies. “*in vitro* findings using authentic SARS-CoV-2 variants indicate that in contrast to the currently circulating Delta variant, the neutralization efficacy of vaccine-elicited sera against Omicron was severely reduced highlighting T-cell mediated immunity as essential barrier to prevent severe COVID-19.”

**35)** CDC reported on the details for 43 cases of COVID-19 attributed to the Omicron variant. They found that “34 (79%) occurred in persons who completed the primary series of an FDA-authorized or approved COVID-19 vaccine  $\geq 14$  days before symptom onset or receipt of a positive SARS-CoV-2 test result.”

**36)** Dejnirattisai et al. presented live neutralisation titres against SARS-CoV-2 Omicron variant, and examined it relative to neutralisation against the Victoria, Beta and Delta variants. They reported a significant drop in “neutralisation titres in recipients of both AZD1222 and BNT16b2 primary courses, with evidence of some recipients failing to neutralise at all.”

**37)** Cele et al. assessed whether Omicron variant escapes antibody neutralization “elicited by the Pfizer BNT162b2 mRNA vaccine in people who were vaccinated only or vaccinated and previously infected.” They reported that Omicron variant “still required the ACE2 receptor to infect but had extensive escape of Pfizer elicited neutralization.”

**38)** Holm Hansen et al.’s Denmark study looked at vaccine effectiveness against SARS-CoV-2 infection with the Omicron or Delta variants following a two-dose or booster BNT162b2 or mRNA-1273 vaccination series. A key finding was reported as “VE against Omicron was 55.2% initially following primary BNT162b2 vaccination, but waned quickly thereafter. Although estimated with less precision, VE against Omicron after primary mRNA-1273 vaccination similarly indicated a rapid decline in protection. By comparison, both vaccines showed higher, longer-lasting protection against Delta.” In other words, the vaccine that has failed against Delta is even far worse for Omicron. The table and figure below paint a devastating picture. See where the green dot is (Omicron variant) in the vertical

lines (blue is Delta) and the 2 edges of the bars (upper and lower lips) 91 days out for Omicron (3 months). Both Pfizer and Moderna show negative efficacy for Omicron at 31 days (both are below the 'line of no effect' or '0'). The comparative table is even more devastating for it shows how much less vaccine effectiveness there is for Omicron. For example, at 1-30 days, Pfizer showed 55.2% effectiveness for Omicron versus 86.7% for Delta, and for the same period, Moderna showed 36.7% effectiveness for Omicron versus 88.2% for Delta.

**39)** UK reporting showed that boosters protect against symptomatic COVID-19 caused by Omicron for about 10 weeks; the UK Health Security Agency reported protection against symptomatic COVID-19 caused by the variant dropped from 70% to 45% following a Pfizer booster for those initially vaccinated with the shot developed by Pfizer with BioNTech. Specifically reporting by the UK Health Security Agency showed "Among those who received an AstraZeneca primary course, vaccine effectiveness was around 60% 2 to 4 weeks after either a Pfizer or Moderna booster, then dropped to 35% with a Pfizer booster and 45% with a Moderna booster by 10 weeks after the booster. Among those who received a Pfizer primary course, vaccine effectiveness was around 70% after a Pfizer booster, dropping to 45% after 10-plus weeks and stayed around 70 to 75% after a Moderna booster up to 9 weeks after booster."

**40)** Buchan et al. used a test-negative design to assess vaccine effectiveness against OMICRON or DELTA variants (regardless of symptoms or severity) during November 22 and December 19, 2021. They included persons who had received at least 2 COVID-19 vaccine doses (with at least 1 mRNA vaccine dose for the primary series) and applied multivariable logistic regression modelling analysis to "estimate the effectiveness of two or three doses by time since the latest dose." They included 3,442 Omicron-positive cases, 9,201 Delta-positive cases, and 471,545 test-negative controls. Following 2 doses, "vaccine effectiveness against Delta infection declined steadily over time but recovered to 93% (95%CI, 92-94%)  $\geq 7$  days after receiving an mRNA vaccine for the third dose. In contrast, **receipt of 2 doses of COVID-19 vaccines was not protective against Omicron**. Vaccine effectiveness against Omicron was 37% (95%CI, 19-50%)  $\geq 7$  days after receiving an mRNA vaccine for the third dose."

**41)** Public Health Scotland COVID-19 & Winter Statistical Report ( Publication date: 19 January 2022) provided startling data on page 38 (case rates), page 44 (hospitalization), and page 50 (deaths), showing that the vaccination has failed Delta but critically, is failing omicron. The 2<sup>nd</sup> inoculation data is of particular concern. Table 14 age-standardized case data is very troubling for it shows across the multiple weeks of study that across each dose (1 vs 2 vs 3 booster inoculations) that the vaccinated are greatly more infected than the unvaccinated, with the 2<sup>nd</sup> dose being alarmingly elevated (see grey rows). Age-standardized rates of acute hospital admissions are stunningly elevated after 2<sup>nd</sup> inoculation (over the

unvaccinated) during January 2022. Looking at table 16 that reports on the number of confirmed COVID-19 related deaths by vaccination status, we again observe massive elevation in death at the 2<sup>nd</sup> inoculation. **This data indicates to us that the vaccine is associated with infection and is not optimally working against omicron and that the protection is limited, waning rapidly.**

**42)** The UK's COVID-19 vaccine surveillance report Week 3, 20 January 2022, raises very serious concern as to the failure of the vaccines on Delta (which is basically now being replaced by omicron for dominance) and omicron. When we look at table 9, page 34 (COVID-19 cases by vaccination status between week 51 2021 and week 2 2022), we see greater case numbers for the 2<sup>nd</sup> and 3<sup>rd</sup> inoculations. The important table on page 38, Figure 12 (unadjusted rates of COVID-19 infection, hospitalization and death in vaccinated and unvaccinated populations) shows us a continual pattern in the UK data over the last 2 to 3 to 4 months, with **the present reporting showing that persons in receipt of the 3<sup>rd</sup> inoculation (booster) at far greater risk of infection/cases than the unvaccinated** (30 years of age and above age strata).

**43)** In the recent UK Public Health surveillance reports Week 9, Week 8, as well as week 7 (UK COVID-19 vaccine surveillance report Week 7 17 February 2022), week 6 (COVID-19 vaccine surveillance report Week 6 10 February 2022) and week 5 for 2022 (COVID-19 vaccine surveillance report Week 5 3 February 2022) as well as the reports accumulated for 2021 since vaccine roll-out, **we see that the vaccinated are at higher risk of infection and especially for age groups above 18 years old, as well as hospitalization and even death.** This is particularly marked for those in receipt of double vaccinations. There is increased risk of death for those who are triple vaccinated and especially as age increases. The same pattern emerges in the Scottish data.

**44.)** Regev-Yochay et al. in Israel looked at (publication date March 16<sup>th</sup> 2022) the immunogenicity and safety of a fourth dose (4<sup>th</sup>) of either BNT162b2 (Pfizer–BioNTech) or mRNA-1273 (Moderna) administered 4 months after the third dose in a series of three BNT162b2 doses). This was an open-label, nonrandomized clinical study assessing the 4<sup>th</sup> dose in terms of need beyond the 3<sup>rd</sup> dose. Among the '1050 eligible health care workers enrolled in the Sheba HCW COVID-19 Cohort, 154 received the fourth dose of BNT162b2 and, 1 week later, 120 received mRNA-1273. For each participant, two age-matched controls were selected from the remaining eligible participants'. Overall, 25.0% of the participants in the control group were infected with the omicron variant, as compared with 18.3% of the participants in the BNT162b2 group and 20.7% of those in the mRNA-1273 group. **Vaccine efficacy against any SARS-CoV-2 infection was 30%** (95% confidence interval [CI], –9 to 55) for BNT162b2 and 11% (95% CI, –43 to 44) for mRNA-1273

The article concludes:

*What these studies show, are that vaccines are important to reduce severe disease and death, but unable to prevent the disease from spreading and eventually infect[ing] most of us. That is, while the vaccines [may] provide individual benefits to the vaccinee, and especially to older high-risk people, the public benefit of universal vaccination is in grave doubt. As such, Covid vaccines should not be expected to contribute to eliminating the communal spread of the virus or the reaching of herd immunity. This unravels the rationale for vaccine mandates and passports.*

And here are other papers that address the concern on effectiveness of the COVID-19 vaccines:

Pilar T V Florentino, Tristan Millington, Thiago Cerqueira-Silva, Chris Robertson, Vinicius de Araújo Oliveira, Juracy B S Júnior, Flávia J O Alves, Gerson O Penna, Srinivasa Vital Katikireddi, Viviane S Boaventura, Guilherme L Werneck, Neil Pearce, Colin McCowan, Christopher Sullivan, Utkarsh Agrawal, Zoe Grange, Lewis D Ritchie, Colin R Simpson, Aziz Sheikh, Mauricio L Barreto, Igor Rudan, Manoel Barral-Netto, Enny S Paixão, **Vaccine effectiveness of two-dose BNT162b2 against symptomatic and severe COVID-19 among adolescents in Brazil and Scotland over time: a test-negative case-control study**, The Lancet, Infectious disease, August 8, 2022, [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(22\)00451-0/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00451-0/fulltext)

Pavan M, Bassani D, Sturlese M, Moro S. **From the Wuhan-Hu-1 strain to the XD and XE variants: is targeting the SARS-CoV-2 spike protein still a pharmaceutically relevant option against COVID-19?** J Enzyme Inhib Med Chem. 2022 Dec;37(1):1704-1714. doi: 10.1080/14756366.2022.2081847. PMID: 35695095. <https://pubmed.ncbi.nlm.nih.gov/35695095/>

Le Gars M, Hendriks J, Sadoff J, Ryser M, Struyf F, Douoguih M, Schuitemaker H. **Immunogenicity and efficacy of Ad26.COV2.S: An adenoviral vector-based COVID-19 vaccine**. Immunol Rev. 2022 Jun 11. doi: 10.1111/imr.13088. PMID: 35689434. <https://pubmed.ncbi.nlm.nih.gov/35689434/> <sup>31</sup>

Ssemaganda A, Nguyen HM, Nuhu F, Jahan N, Card CM, Kiazzyk S, Severini G, Keynan Y, Su RC, Ji H, Abrenica B, McLaren PJ, Ball TB, Bullard J, Van Caesele P, Stein D, McKinnon LR. **Expansion of cytotoxic tissue-resident CD8+ T cells and CCR6+CD161+ CD4+ T cells in the nasal mucosa following mRNA COVID-19 vaccination**. Nat Commun. 2022 Jun 10;13(1):3357. doi: 10.1038/s41467-022-30913-4. PMID: 35688805. <https://pubmed.ncbi.nlm.nih.gov/35688805/> <sup>32</sup>

Kouhpayeh H, Ansari H. **Adverse events following COVID-19 vaccination: A systematic review and meta-analysis**. Int Immunopharmacol. 2022 May 30;109:108906. doi: 10.1016/j.intimp.2022.108906. Epub ahead of print. PMID: 35671640; PMCID: PMC9148928. <https://pubmed.ncbi.nlm.nih.gov/35671640/>

Singh H, Dahiya N, Yadav M, Sehrawat N. **Emergence of SARS-CoV-2 New Variants and Their Clinical**

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<sup>31</sup> Note this paper was supported by grants from Janssen Vaccines & Prevention B.V., NH/NIH HHS/United States, the National Institute of Allergy and Infectious Diseases and the Biomedical Advanced Research and Development Authority

<sup>32</sup> This study was supported by the Bill and Melinda Gates Foundation

**Significance.** Can J Infect Dis Med Microbiol. 2022 May 28;2022:7336309. doi: 10.1155/2022/7336309. PMID: 35669528; PMCID: PMC9167142. <https://pubmed.ncbi.nlm.nih.gov/35669528/>

*Singh et al: These new strains occur due to unique mutations in the spike protein, which modify SARS-CoV-2 transmission and infection capabilities, limiting the efficacy of the COVID-19 vaccination. Hence, there is a need to find a potential vaccine against it.*

Buisson Y. **Covid-19, an unfinished story.** Presse Med. 2022 Jun 3;104131. doi: 10.1016/j.lpm.2022.104131. Epub ahead of print. PMID: 35667598. <https://pubmed.ncbi.nlm.nih.gov/35667598/>

Salari N, Vepa A, Daneshkhah A, Darvishi N, Ghasemi H, Khunti K, Mohammadi M. **Efficacy of COVID-19 vaccines by race and ethnicity.** Public Health. 2022 May 5;208:14-17. doi: 10.1016/j.puhe.2022.04.009. Epub ahead of print. PMID: 35660280; PMCID: PMC9069229. <https://pubmed.ncbi.nlm.nih.gov/35660280/>

Wang K, Wang L, Li M, Xie B, He L, Wang M, Zhang R, Hou N, Zhang Y, Jia F. **Real-World Effectiveness of Global COVID-19 Vaccines Against SARS-CoV-2 Variants: A Systematic Review and Meta-Analysis.** Front Med (Lausanne). 2022 May 19;9:820544. doi: 10.3389/fmed.2022.820544. PMID: 35665358; PMCID: PMC9160927. <https://pubmed.ncbi.nlm.nih.gov/35665358/>

Leong C, Jin L, Kim D, Kim J, Teo YY, Ho TH. **Assessing the impact of novelty and conformity on hesitancy towards COVID-19 vaccines using mRNA technology.** Commun Med (Lond). 2022 May 31;2:61. doi: 10.1038/s43856-022-00123-6. PMID: 35664455; PMCID: PMC9156695. <https://pubmed.ncbi.nlm.nih.gov/35664455/><sup>33</sup>

Olliaro P, Torreele E, Vaillant M. **COVID-19 vaccine efficacy and effectiveness-the elephant (not) in the room.** Lancet Microbe. 2021 Jul;2(7):e279-e280. doi: 10.1016/S2666-5247(21)00069-0. Epub 2021 Apr 20. Erratum in: Lancet Microbe. 2021 Jul;2(7):e288. PMID: 33899038; PMCID: PMC8057721. <https://pubmed.ncbi.nlm.nih.gov/33899038/>

Dean Follmann, Holly E. Janes, Olive D. Buhule, Honghong Zhou, Bethany Girard, Kristen Marks, Karen Kotloff, Michaël Desjardins, Lawrence Corey, Kathleen M. Neuzil, Jacqueline M. Miller, Hana M. El Sahly, Lindsey R. Baden, **Anti-nucleocapsid antibodies following SARS-CoV-2 infection in the blinded phase of the mRNA-1273 Covid-19 vaccine efficacy clinical trial**, , medRxiv 2022.04.18.22271936; doi: <https://doi.org/10.1101/2022.04.18.22271936>

The Follmann study, et. al. looked at two sides of the Moderna Phase 3 vaccine trial: the vaccinated group and the control group. They looked at unvaccinated people having Covid, versus vaccinated people having so called “break-through Covid infections”. The question that they asked, was: do the vaccinated acquire the same full-spectrum immunity as the unvaccinated? The answer was no. Vaccinated people were much

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<sup>33</sup> It’s interesting to consider the word ‘novel’ is nowhere found in product labeling of the vaccines however present in disclosure of investment risks for the company’s FY 2021 SEC 10-K filings. Investors can sue; vaccine recipients

LESS likely to develop broad natural immunity, compared to unvaccinated people. Discussed here:  
[https://igorchudov.substack.com/p/moderna-knew-vaccinated-people-will?r=47149&s=r&utm\\_campaign=post&utm\\_medium=email](https://igorchudov.substack.com/p/moderna-knew-vaccinated-people-will?r=47149&s=r&utm_campaign=post&utm_medium=email)

Singanayagam A, Hakki S, Dunning J, Madon KJ, Crone MA, Koycheva A, Derqui-Fernandez N, Barnett JL, Whitfield MG, Varro R, Charlett A, Kundu R, Fenn J, Cutajar J, Quinn V, Conibear E, Barclay W, Freemont PS, Taylor GP, Ahmad S, Zambon M, Ferguson NM, Lalvani A; ATACCC Study Investigators. **Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study.** Lancet Infect Dis. 2022 Feb;22(2):183-195. doi: 10.1016/S1473-3099(21)00648-4. Epub 2021 Oct 29. Erratum in: Lancet Infect Dis. 2021 Dec;21(12):e363. PMID: 34756186; PMCID: PMC8554486.  
<https://pubmed.ncbi.nlm.nih.gov/34756186/>

Please contact [maborrello@roadrunner.com](mailto:maborrello@roadrunner.com) to request this file for easy access to hyperlinks to all cited references.

**About the Author:** Mike Borrello is an Engineer & Scientist that specializes in feedback control systems and dynamic simulations. For decades he has provided control designs for the defense, aerospace and medical device industries and until recently was employed by Philips Respironics but terminated by corporate policy that required him to disclose his “vaccine status” which he refused to do. Despite what the mainstream or others wish to label him, Mike Borrello is NOT an ‘Anti-Vaxxer’. Up until covid he annually received influenza vaccines and during covid the shingles vaccine. In fact he volunteered on-line for the Pfizer Phase 3 trials for the covid vaccine with pure altruism in mind but Pfizer never contacted him, and as he awaited authorization to vaccinate by age group in winter of 2021, by curiosity he ran queries on VAERS to confirm what he had seen in social media. The numbers of deaths and other adverse events he saw reported with the vaccines caused him concern to the point he decided to wait and see what the CDC or FDA might publicly offer to dispel any concerns over what was happening on the CDC’s own website. That explanation never happened and continues to be a void. Only media narratives that VAERS was ‘unreliable’. Eventually Borrello decided he would avoid vaccination at all costs and that in his good health he could better manage infection by the virus with therapeutics than risking some of the potential harms he’s seen reported in VAERS – however little the risk might be.

Borrello’s experience prompted him to become more involved in researching the data and publications that continue to examine the covid-19 vaccine injuries. Since June of 2021 he has publicly engaged Wilma Wooten and the San Diego HHS each month with others by presenting the materials contained in this report. He is asking that officials stop all vaccinations, especially for younger people who potentially have so much to lose, and little or nothing to gain by being vaccinated. He is asking that the officials investigate these harms, the deception used by pharma to show vaccine efficacy is high, and to remove the emergency orders to prevent the collateral damage caused by this destructive policy.