

# **ATTACHMENT E**



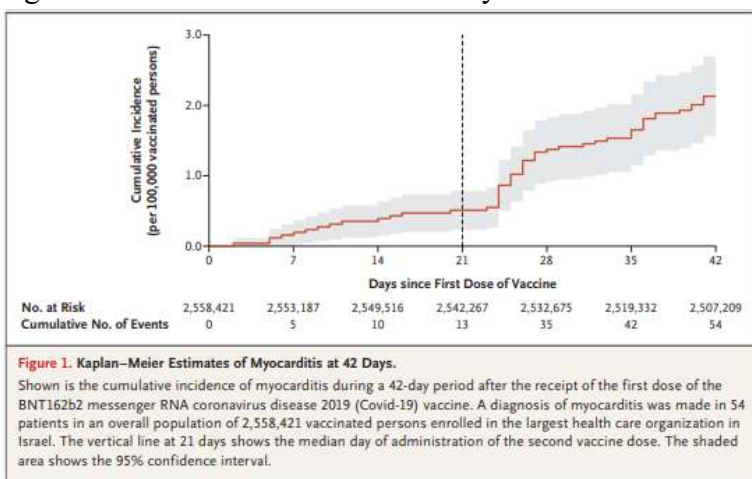
4. I have not and will not receive any financial or other compensation to prepare this Declaration.
5. I have no prior relationship with any of the plaintiffs.
6. I have been asked to provide my opinion the potential long term cardiac consequences of vaccines.

**OPINIONS**

7. There is little doubt that the mRNA vaccines are associated with myocarditis. This has been confirmed by multiple datasets, and the CDC agrees there is a [“likely association.”](#)
8. The putative mechanisms are currently [being explored](#) by researchers.
9. Some of the datasets are summarized below:

[Myocarditis after Covid-19 Vaccination in a Large Health Care Organization. N Engl J Med 2021;385:2132-9.](#)

This was an evaluation of the incidence of myocarditis after the receipt of the BNT162b2 mRNA vaccine in a single health care organization in Israel that demonstrates a significant increase in incidence of myocarditis after the second dose of the vaccine.



The diagnosis of myocarditis occurred throughout the post-vaccination period, but there appeared to be an increase approximately 3 to 5 days after the second vaccine dose. Most cases were mild or moderate in severity, but one patient had cardiogenic shock, and one

patient with preexisting cardiac disease died of an unknown cause soon after hospital discharge.

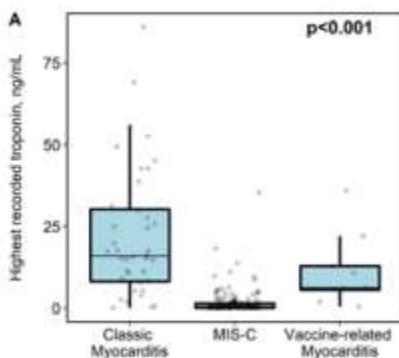
Montgomery J, Ryan M, Engler R, et al. Myocarditis following immunization with mRNA COVID-19 vaccines in members of the US military. JAMA Cardiol 2021 June 29 (Epub ahead of print).

This was a report from the US military noted an incidence of 8.2 cases of myocarditis per 100,000 male service members.

Barda N, Dagan N, Ben-Shlomo Y, et al. Safety of the BNT162b2 mRNA Covid-19 vaccine in a nationwide setting. N Engl J Med 2021;385:1078-1090.

10. An Israeli study demonstrated 2.7 excess cases of myocarditis per 100,000 vaccinated persons.

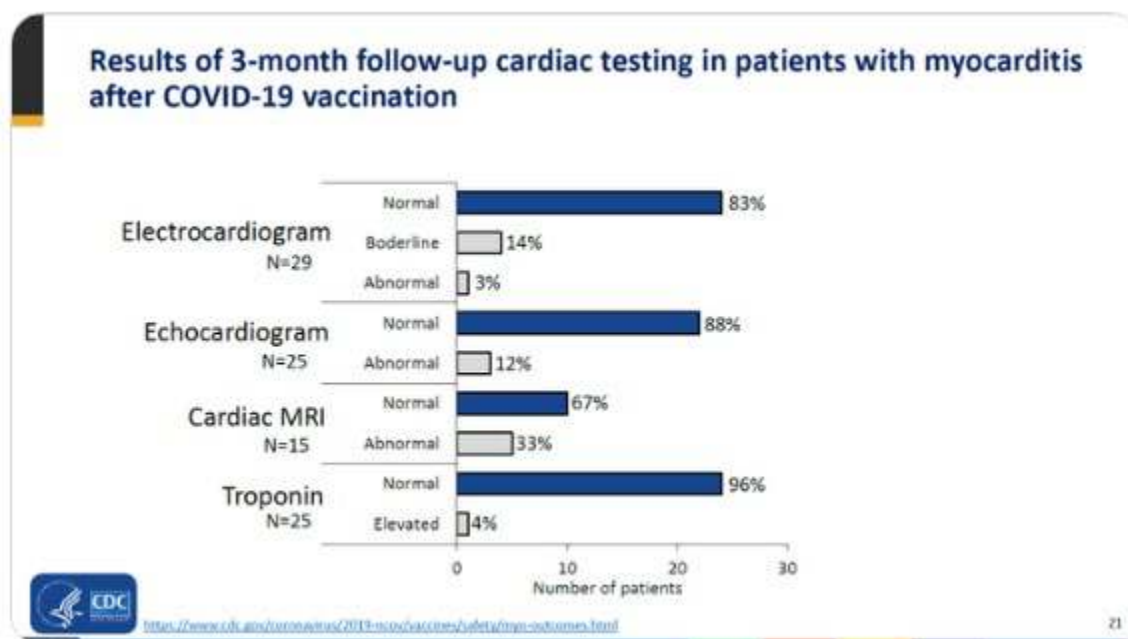
11. Vaccine related myocarditis is associated with a significant leak of cardiac enzymes from the heart and thus can result in permanent damage to the heart (as presented to the Vaccines and Related Biological Products Advisory Committee (VRBPAC) )  
(Comparison of MIS-C Related Myocarditis, Classic Viral Myocarditis, and COVID-19 Vaccine related Myocarditis in Children, Patel et. al. )



12. While vaccine myocarditis is associated with a reduction in function of the heart that appears to rapidly normalize, cardiac Magnetic Resonance imaging finds the formation of

scar after vaccine myocarditis is similar to findings in non-vaccine myocarditis. ([Hanneman et. al](https://pubs.rsna.org/doi/10.1148/ryct.210252)) (<https://pubs.rsna.org/doi/10.1148/ryct.210252>)

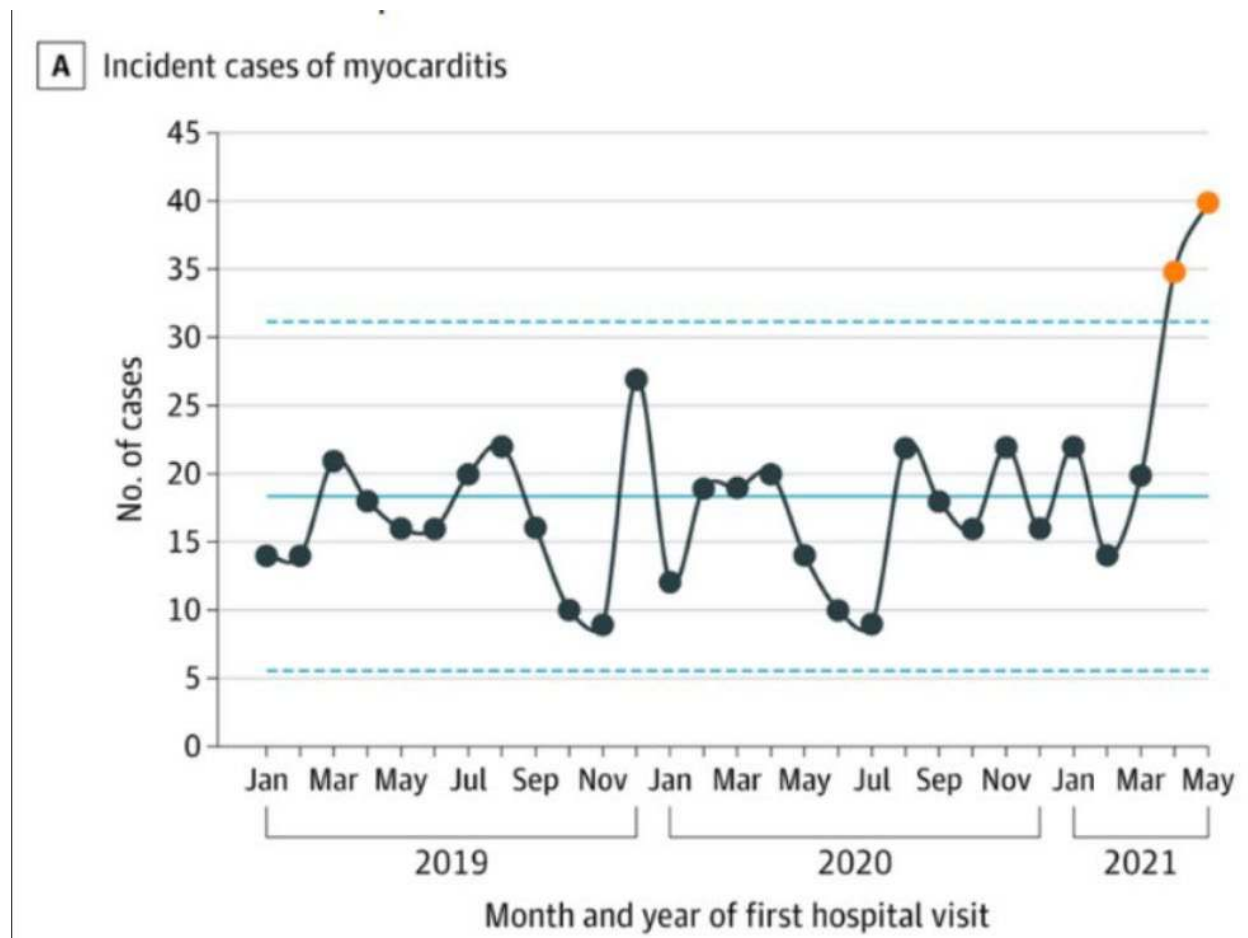
13. There is limited long-term follow up at present, but early evidence suggests about one-third of patients with vaccine myocarditis have evidence of scar/fibrosis seen in 3 month follow up.



14. The presence of scar, or fibrosis in the heart has potential long term consequences. A systemic review of the literature found that the presence of scar by cardiac MRI is associated with an increased risk of death, heart failure, the need for cardiac transplantation, and serious cardiac arrhythmias. (<https://www.ahajournals.org/doi/10.1161/CIRCIMAGING.120.011492>)

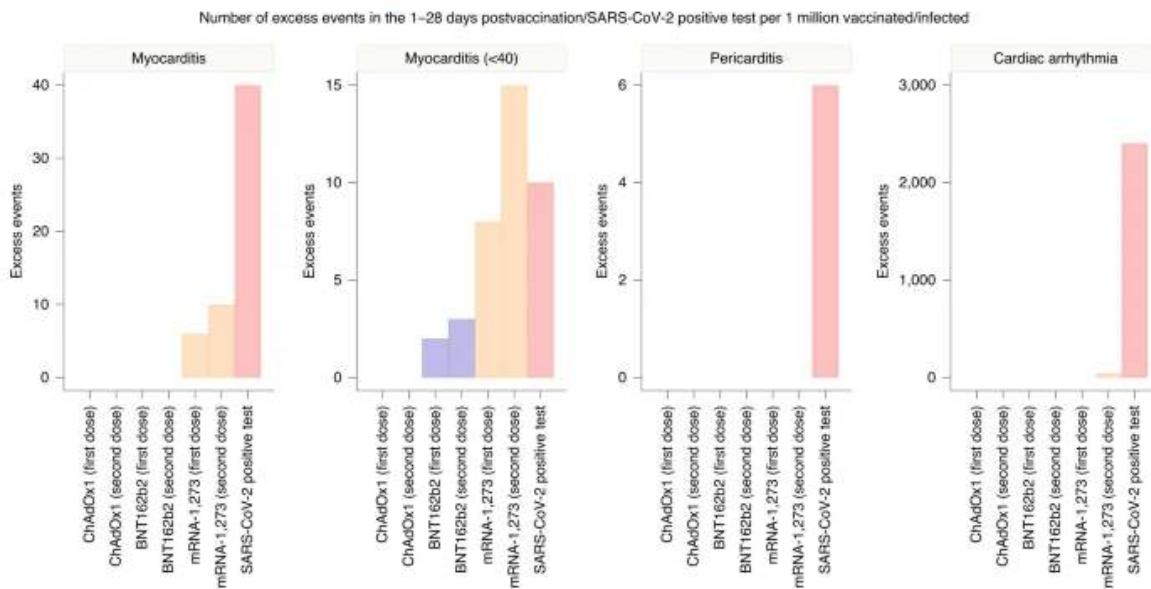
15. It has been suggested that the risk of myocarditis from contracting Sars-COV2 is higher than the risk of myocarditis from the mRNA vaccines. But, importantly, a study in the Journal of the American Medical Association (<https://jamanetwork.com/journals/jama/fullarticle/2782900>) that required a diagnosis of myocarditis to have supportive laboratory and imaging data showed

the diagnosis of myocarditis peaked only after widespread vaccine administration.



16. A recent nature study (<https://www.nature.com/articles/s41591-021-01630-0>) also suggests that the risk of myocarditis varies by type of vaccine, with the highest risk noted after the second dose of the Moderna vaccine. Importantly, rates of myocarditis related to a second dose of a Moderna vaccine are higher than rates of myocarditis related to SARS-COV2 infection.

**Fig. 2: Number of excess events due to exposure per 1 million exposed, as reported in Supplementary Table 10.**



When IRR did not show a significant increase of incidence over the 1–28 days postvaccination or a SARS-CoV-2 positive test, absolute measures are not given.

17. In summary, vaccine related myocarditis is a potentially serious medical condition that can lead to fibrosis in heart muscle. Fibrosis and scarring found within the heart muscle has been associated with long term complications related to cardiac arrhythmias and even sudden cardiac death. It is not yet known what the long-term sequelae will be for those patients who have developed scarring and fibrosis related to vaccine myocarditis. Rates of vaccine myocarditis in certain sub-populations may exceed the risks from SARS-Cov2 associated myocarditis.

18. I declare under penalty of perjury under the laws of the United States of America that, to the best of my knowledge, the foregoing is true and correct this 20<sup>th</sup> day of December, at Philadelphia, Pennsylvania.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Anish Koka', with a long horizontal line extending to the right from the end of the signature.

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Dr. Anish Koka, M.D.  
Doctor of Internal Medicine and Cardiology