

mRNA vaccinations vs COVID-19 risk in teens: Vaccinations are safer

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Case Western Reserve University researchers have demonstrated that the risk for myocarditis/pericarditis (heart inflammation) among male teens (12-17) diagnosed with COVID-19 is nearly 6 times higher than their

combined risk following first and second doses of an mRNA COVID-19 vaccination.

The risk for myocarditis/pericarditis among girls (ages 12-17) is 21 times greater from COVID-19 than from vaccines.

"Comparative risk can complicate decisions for parents in such highly charged health debates. But our study shows that for parents concerned for their teens about myocarditis/pericarditis (heart inflammation), the safer choice is vaccination," said Mendel E. Singer, Ph.D., MPH, associate professor, and vice chair for education in the Department of Population and Quantitative Health Sciences, Case Western Reserve University School of Medicine.

Singer and his colleagues made their paper public through medRxiv on July 27, 2021. The paper is not peer-reviewed but is based on readily available data.

This study is based on [electronic health records](#) pulled from aggregated data across 48 large US health systems within the TriNetX Research Network. The authors pulled data to match demographics of patients highlighted in recent stories about vaccine side effects in male teens, ages 12-17, from the Vaccine Adverse Events Reporting System (VAERS) with reported mRNA vaccine adverse reactions.

Data from more than 6,800 males, ages 12-17 (diagnosed with COVID-19) matches the demographics of patients (males, ages 12-17) from VAERS reports that have caused concern. The authors also pulled data on females, ages 12-17 (diagnosed with COVID-19), with a sample size of 7,300 from the TriNetX database.

"I am a pediatrician and a father, and like many parents, I was concerned," said co-author David Kaelber, MD, Ph.D., MPH, Professor

of Internal Medicine and Pediatrics, Case Western Reserve University School of Medicine and Chief Medical Information Officer, MetroHealth System, Cleveland, Ohio.

"Even with our calculations made to qualify possible gaps in the data from this large dataset, our findings still point to a higher risk of myocarditis/pericarditis among teens who get COVID-19," said Kaelber. "Based on our findings, on my daughter's 12th birthday, we went to get her a COVID-19 vaccination to be sure she is protected, and to protect other members of our family. With the highly contagious Delta variant going around, and the new school year around the corner, this is a good time for parents to be reassured that vaccination is safer for their kids than getting COVID-19."

Study co-author Ira B. Taub, MD, echoes his colleagues' sentiments. "I am a pediatric cardiologist and have been asked for guidance from concerned parents. Our findings point to higher risk from COVID-19, and our study only looks at one condition—heart inflammation. There are other consequences from getting COVID-19, including the risk that teens can carry the disease to vulnerable family members. I emphasize as well that vaccination is safer than getting COVID-19." Taub is a pediatric cardiologist with Akron Children's Hospital Heart Center in Akron, Ohio.

The full methods section can be found in the paper when it runs on MedRxiv.

Provided by Case Western Reserve University

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