

Health Advisory

Reports of Myocarditis and Pericarditis after mRNA COVID-19 Vaccination May 28, 2021

The Centers for Disease Control and Prevention (CDC) has been monitoring a recent increase in reports of heart inflammation (myocarditis and pericarditis) occurring after mRNA COVID-19 vaccination in the United States. These include both Pfizer-BioNTech and Moderna COVID-19 vaccines. Myocarditis is inflammation of the heart muscle and pericarditis is inflammation of the tissue lining the outside of the heart. Cases have been detected through vaccine safety monitoring systems.

Reports remain very rare compared to the number of vaccine doses administered. The cases have occurred predominantly in adolescents and young adults, more often in males, typically within four days after vaccination, and more often after the second vaccine dose. Most cases have been mild.

The CDC is actively reviewing these cases to determine if there is any causal relationship with COVID-19 vaccination. Thus far, rates of myocarditis and pericarditis in the window following COVID-19 vaccination have not differed from expected baseline rates. Myocarditis and pericarditis are most commonly caused by viral infections. However, it is important that providers are aware of these reports, and any cases are reported promptly to the **Vaccine Adverse Event Reporting System (VAERS)**.

Providers should consider myocarditis or pericarditis in patients presenting with chest pain, shortness of breath, lower extremity edema, or arrhythmia and ensure they receive prompt emergency care. Patients may have a prodrome of viral symptoms or non-specific symptoms such as fatigue, headache, body aches, fever, or diarrhea. Infants and children may present with fast breathing or fainting. There may not be symptoms early in the illness or if the case is mild. Patients can usually return to normal activity with improvement in symptoms, but may be advised not to participate in rigorous or competitive athletic activity for at least three months.

The CDC continues to recommend COVID-19 vaccination for everyone 12 years of age and older, recognizing that the significant risk of COVID-19 illness and its complications greatly outweigh this potential vaccine-related risk. Known COVID-19 complications include myocarditis associated with the infection or as part of a condition called Multisystem Inflammatory Syndrome in Children (MIS-C) that can occur within 4 weeks after infection.

Additional Information

- [Vaccine Adverse Event Reporting System \(VAERS\)](#)
- [Vaccine Safety Datalink \(VSD\)](#)
- [Clinical Considerations: Myocarditis after mRNA COVID-19 Vaccines | CDC](#)
- [Myocarditis and Pericarditis Following mRNA COVID-19 Vaccination | CDC](#)
- [COVID-19 VaST Technical Report May 17, 2021 | CDC](#)
- [Myocarditis - Symptoms and causes - Mayo Clinic](#)
- [Pericarditis - Symptoms and causes - Mayo Clinic](#)

Information adapted from the above sources.

SUMMARY POINTS

- Rare cases of heart inflammation (myocarditis and pericarditis) have been detected after mRNA COVID-19 vaccination through vaccine safety monitoring systems.
- The cases have mostly occurred in adolescent males within four days after the second dose.
- A causal relationship to COVID-19 vaccination has not been determined and case rates have not differed from expected baseline rates.
- Cases of myocarditis or pericarditis occurring after vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS).
- The CDC continues to strongly recommend COVID-19 vaccination for everyone 12 years of age and older, recognizing the risk of COVID-19 infection and associated complications.