

HIGH-RISK: HEART DISEASE

Why should I care that I have a high-risk condition?

Those with heart disease or various other cardiovascular problems are at a much higher risk of developing a severe COVID-19 infection, leading to hospitalization and/or death.

When your lungs are damaged and cannot supply your body with enough oxygen, your heart has to work even harder [1]. If your heart is weak or experiencing other problems, this puts you at even greater risk of death. Those with high blood pressure also may have damaged or weak blood vessels, which increase the likelihood of unwanted blood clots to form [2]. **Those with hypertension are 2.5X more likely to develop severe COVID-19 and those with cardiovascular disease are 3.1X more likely.** It has also been shown that younger individuals that have these conditions are at greater risk than older individuals with the same condition [3]. **Overall, about 10% of patients with pre-existing cardiovascular disease (CVD) will die if they contract COVID-19 [4].**

How does COVID-19 affect the cardiovascular system?

SARS-CoV-2, the virus that causes what we know as COVID-19, is a respiratory virus. While many viruses primarily infect the upper respiratory system (nose, mouth), SARS-CoV-2, can also infect the lower respiratory system (lungs), leading to pneumonia and/or acute respiratory distress syndrome (ARDS), which are deadly in and of themselves. However, severe COVID-19 infection can also cause inflammation in other organs leading to multi-organ failure. **30% of COVID-19 deaths are due to heart, liver, or kidney failure [5].** Much of this multi-organ damage can be linked to blood clots, which can lead to heart attacks or strokes. Inflammation can cause blood clots to form and starve organs of oxygen. When people are ill, they may be lying in bed for extended periods of time. This immobility makes the likelihood for clots even worse [6]. **In the ICU, upwards of 20% of COVID-19 patients develop blood clots [7].**



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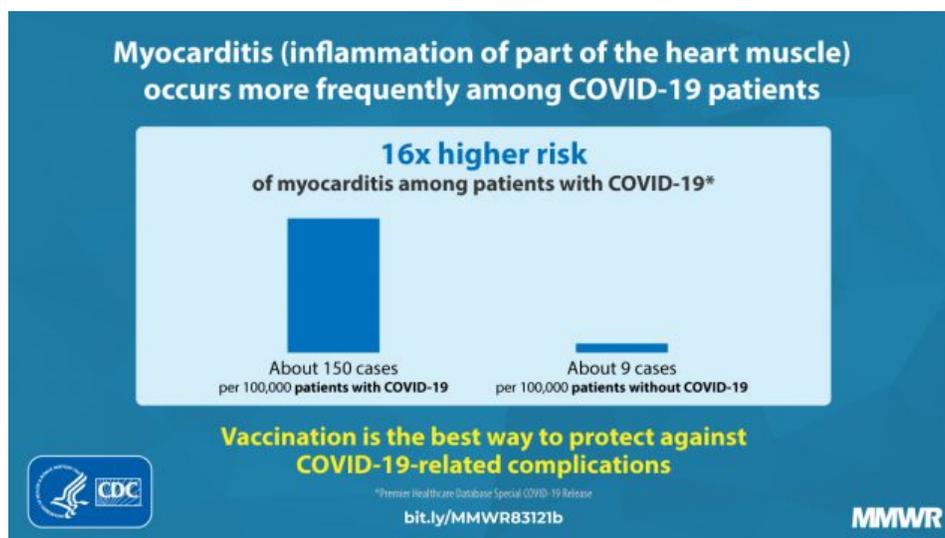
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What can I do?

There are plenty of ways to reduce your risk for COVID-19 infection including vigilant masking, hand washing, and social distancing. It is also important to keep up with your heart health through healthy eating, exercising, good sleep, and monitoring your blood pressure [8]. Talk with your doctor about your current medications and make sure to stick with it. While all of these options help, **vaccination is your best option when it comes to the extra protection your body needs to fight off the virus if you do become infected.** Be proactive; vaccination is a vital step in protecting yourself when you have a high-risk health condition.

What about myocarditis and blood clots that have been reported after vaccination?

There have been reported cases of myocarditis/pericarditis (heart inflammation) in male adolescents and young adults 16 years and older after the second dose of Pfizer or Moderna. Not only are these cases **extremely rare**, but they are also generally mild and resolve quickly with medicine and rest [9]. Blood clots that have been linked to women between the ages of 30-49 who have taken the Johnson & Johnson vaccine, are even more rare [7]. Keep in mind, COVID-19 infection has also led to myocarditis, blood clotting, other cardiovascular issues at a much greater rate than vaccination [10,11]. **As of January 31, 2022, more than 539 million doses of the COVID-19 vaccine have been given in the United States. There have been 57 confirmed cases related to severe blood clotting and 1,277 confirmed cases related to myocarditis [12].**



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