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The Beat Goes On

Despite the “COVID fatigue” we are all struggling with, we continue to learn new and important things about COVID-19 and its short-term and long-term effects on even the healthiest of athletes. Everybody knows the symptoms to look for: cough, fever, shortness of breath, fatigue, sore throat, loss of smell/taste, and nausea/vomiting, to name a few. However, a diagnosis that is not as commonly discussed is myocarditis.

Myocarditis is an inflammation of the heart muscle, which can alter the function of the heart and its ability to pump blood. It is most commonly caused by infection. Specifically, we are seeing athletes infected by the virus that causes COVID-19 also being diagnosed with myocarditis. Even athletes who are asymptomatic or have mild COVID-19 infections have been diagnosed with myocarditis.

Inflammation of the heart muscle can cause the heart to pump abnormally and affect training, endurance and conditioning. If the heart is not functioning properly you may experience decreased oxygen in the blood and decreased delivery of vital nutrients to the muscles and organ systems, which is going to affect your ability to exercise. Symptoms of myocarditis that you might experience while exercising include chest pain, shortness of breath, excessive fatigue and heart palpitations. It can even cause abnormal heart rhythms and a diagnosis as serious as sudden cardiac death. Myocarditis can resolve quickly, or it can possibly linger long after COVID-19 symptoms have resolved.

There are many stories of professional athletes who have contracted COVID-19 and have developed myocarditis. One prominent example is Major League Baseball pitcher Eduardo Rodriguez. He reported initial symptoms of COVID-19 for more than a week and then felt as though he had recovered. But when he returned to pitching and play, he had continued symptoms of fatigue, decreased performance and shortness of breath. He was eventually diagnosed with myocarditis. He took more time off, but his symptoms persisted and he opted out of the remainder of the season.

High school, college, professional and recreational athletes have had similar experiences. There are very few studies evaluating myocarditis post-COVID-19 infection in athletes, but we are slowly gaining more information. One study of college athletes who tested positive for COVID-19 and had no symptoms or mild symptoms determined that about 15% had myocarditis. A study in Germany showed high rates of myocarditis in mildly symptomatic athletes who were previously healthy.

As you can see, myocarditis can be a serious setback for an athlete. Prevention against COVID-19 is the first best defense. Proper handwashing, personal protective equipment and social distancing are of utmost importance. If you are experiencing any symptoms of COVID-19, get tested and alert anyone you have had direct, unmasked contact with. If you have contracted COVID-19, it is important to follow guidelines on returning to exercise and sports. These guidelines continue to evolve as we learn more about post COVID-19 myocarditis. They are based on the best science and guidance from medical associations across the world.

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I know this may be difficult for many of you, but one of the most important recommendations is to NOT exercise for at least 2 weeks after a positive COVID-19 result. After initial symptoms of the infection have resolved, you need to closely monitor for fatigue, chest pain and shortness of breath because they can be associated with myocarditis. Besides symptoms, there are a few screening tools that can evaluate for myocarditis post-infection. They are an electrocardiogram (ECG) and echocardiogram. An electrocardiogram evaluates the electrical function of the heart for any rhythm or function abnormalities. An echocardiogram is an ultrasound of the heart to look for inflammation and abnormal heart tissue. Recovery from myocarditis can be quick. But if the inflammation of the heart is more severe, it could be 3 months, 6 months or even longer before the heart recovers and you can return to exercise.

Here are current recommended guidelines (subject to change as we obtain more information) regarding return to exercise and sport:

Asymptomatic athletes who test positive:

- Rest/no exercise for 2 weeks from positive result
- Closely monitor for delayed onset of symptoms after 2 weeks
- **Slowly** resume exercise after 2 weeks with physician clearance
- Consider an electrocardiogram prior to return to exercise

Mild symptomatic athletes who test positive:

- Rest/no exercise for 2 weeks after resolution of symptoms
- Evaluation by a physician prior to return to exercise
- Electrocardiogram
- Consider echocardiogram
- If abnormal testing, evaluation by sports cardiologist
- After physician clearance and if testing is normal, **slowly** resume exercise
- Monitor closely for any myocarditis symptoms or inability to return to normal exercise

Significant symptomatic/hospitalized athletes who test positive:

- Rest/no exercise while symptomatic and a minimum of 2 weeks after symptoms resolve
- Close follow-up and evaluation by a physician prior to a return to exercise
- Evaluation by sports cardiologist prior to return to exercise
- Electrocardiogram
- Echocardiogram
- Very close monitoring for any worsening symptoms or inability to return to normal exercise

The bottom line is that we are learning more about COVID-19 and its long-term and short-term effects every day. It is vitally important to follow guidelines and continue working to slow the spread. Myocarditis can be a significant set-back to your exercise and nothing to take lightly for both your short term and long-term health.

If you have any questions or concerns regarding a return to exercise after a COVID-19 infection, injury or pain, please reach out to one of our experienced sports medicine

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physicians at Corewell Health Medical Group Orthopedics at (616) 267-8860. You can also find more information about our orthopedic program and providers on our [website](#).

If you have any symptoms of COVID-19, you can be screened and schedule an appointment for testing by downloading the Corewell Health app, through MyChart at mychart.spectrumhealth.org or by calling (833) 559-0659.
