

Sauk Prairie Healthcare Sports Medicine Advisory Statement on COVID-19 Positive Athletes

Situation: With increased prevalence of COVID-19 cases in our communities, it is inevitable that some of our student athlete population will contract COVID-19 and when that happens, we need a clear and consistent way to assess their recovery and health prior to return to sports. Currently, there are multiple return to play guidelines from different prestigious national medical organizations that are not consistent between each other so Sauk Prairie Healthcare Sports Medicine has taken the initiative to adopt and recommend a return to play guidelines that is evidence based and easy to implement to optimize safe return to play for our athletes recovering from SARS-CoV2 infection.

Background: From the beginning of the pandemic, cardiac injury due to SARS-CoV2 virus has been well documented. Individuals, especially those in the older adult population, who have recovered from COVID-19 have shown signs of myocardial damage and increased likelihood of sudden cardiac arrest^{1,2}. Currently, there is very little known about the cardiac effects on our athletes who have tested positive for SARS-CoV2 and wish to return to physical activity and competition. Concerns became widely known to the general public, when the University of Wisconsin and the Big 10 Conference deferred a normal start to the season citing MRI studies being conducted on COVID-19 positive collegiate athletes. Prior to publication, preliminary study results were quoted noting 30% of student athletes who had recovered from COVID-19 showed MRI findings consistent with myocarditis, the 4th most frequent cause of sudden cardiac arrest in athletes³. The subsequently published study did demonstrate cardiac MRI signs of myocarditis in 15% of Ohio State SARS-CoV2 positive athletes though the true magnitude of the problem has been questioned since the sample size was small (N =26) and those athletes with myocarditis had no biochemical marker of cardiac damage nor did they have cardiac symptoms⁴. Fortunately, as of the date this document, there has not been a confirmed case of sudden cardiac arrest or death linked to an athlete who had recovered from SARS-CoV2 infection; however, careful consideration should be taken before allowing athletes to return to play given the limited medical evidence we have to date.

Assessment: We currently do not have adequate or consistent guidelines for safe return to play for our athletes who are recovering from COVID-19. Sauk Prairie Healthcare Sports Medicine has adopted the recommendations outlined by Kim et al. published in the Journal of the American Medical Association – Cardiology on October 26, 2020 with several clarifications and additions to allow for easy implementation.

Recommendation:

1. We advise continued emphasis and education on SARS-CoV2 transmission mitigation protocols and behavior.
2. Require reporting of symptoms, testing and positive cases by athletes and families. Use standardized questions such as those outlined by the CDC to identify those positive cases early and effectively. Use reporting tools to explicitly ask screening questions on a daily basis such as a paper checklist or electronic forms such as HealthyRoster™ to improved detection rates. Note: Student athlete populations should be held at a higher standard than the general student body due to the fact that increased cardiovascular strain associated with sports may increase the risk of sudden cardiac arrest associated with myocarditis.
3. Get to the point: “If you get COVID-19, you are OUT for AT LEAST 10 days AND all symptoms have to be RESOLVED.”
 - a. The standard 10-day isolation period from symptoms onset applies to ALL.
 - b. ****NOTE**** Consider a 14-day^{*} isolation period for athletes who are <15 years of age per JAMA recommendation which would change the statement above to “If you get COVID-19, you are OUT for AT LEAST 21 days from competition”. The longer the isolation period is, the lower the risk becomes of adverse effects of SARS-CoV2 infection so implementing a 14-day isolation period or even longer for all athlete groups is reasonable.
 - c. CDC guidelines for return to school where symptoms must be “improved.” However, athletes must have COMPLETE resolution of symptoms.
 - d. ALL COVID-19 positive student athletes require Athletic Trainer (ATC) evaluation for determination of symptom resolution and disease severity prior to return to sports.
 - i. Distinguishing between Mild and Moderate symptoms include the following:

Mild	Moderate
<ul style="list-style-type: none"> • Anosmia • Ageusia • Headache • Mild fatigue • Mild URI Symptoms • Mild GI Symptoms 	<ul style="list-style-type: none"> • Fever, chills, myalgias, • Lethargy • Dyspnea • Chest tightness • CV symptoms <ul style="list-style-type: none"> • Dyspnea, • Exercise intolerance • Chest tightness • Dizziness / syncope • Palpitations

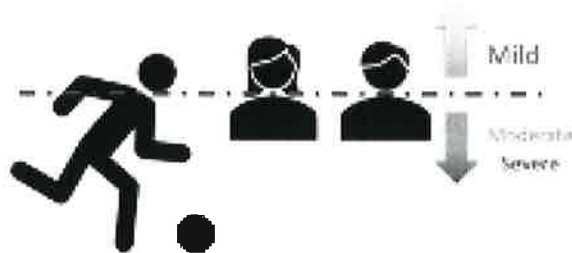


Figure 1: "Symptoms above or below the neck" rule of thumb

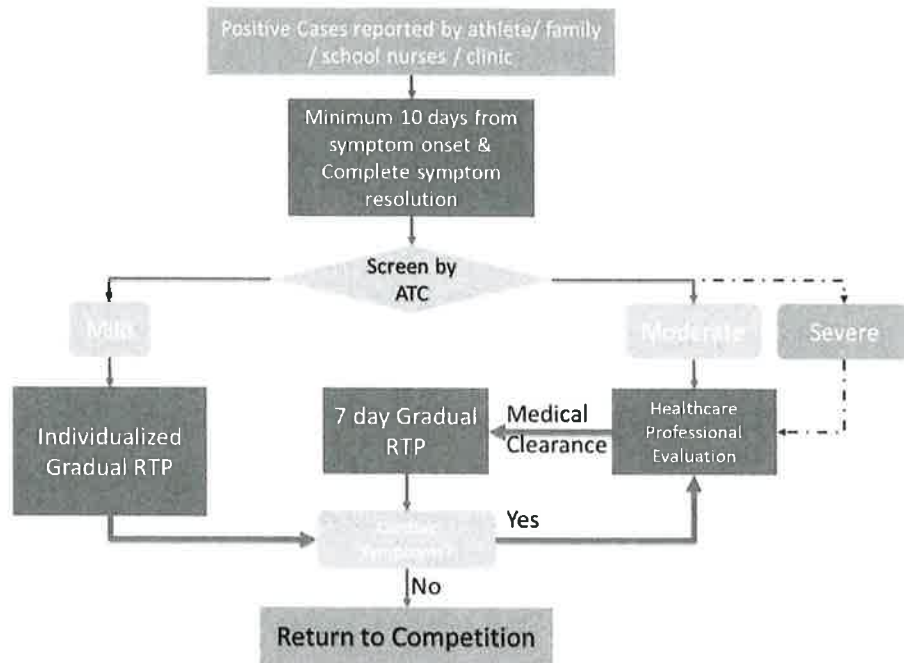
- e. Athletes recovering from an Asymptomatic or Mild course of disease can start the Graduated Return to Play (GRTP) Protocol under the guidance of an ATC
 - i. In general, a majority of cases so not need medical evaluation in the clinic by a medical professional such as an MD, DO, NP or PA. However, all cases should be assessed individually and if an ATC has concerns regarding a specific case, they are to restrict return to play and refer to a medical professional for evaluation.
- f. Athletes who had a moderate, severe or prolonged disease course and those who required hospitalization require medical evaluation, clearance and signed letter to start the GRTP protocol.

4. Graduated Return to Play (GRTP) Protocol:

- a. GRTP is recommended for those who had Asymptomatic or Mild COVID-19 but should be individualized and under the supervision of a certified athletic trainer (ATC).
 - i. Factors to be considered include baseline fitness levels and short-term athletic goals
 - ii. Return to competition on the first day of return is highly unlikely and should be discouraged.
 - iii. Some time (1 – 7 days) should be spent gradually returning to sports specific practices and return to competition should be joint decision including the athlete, coach and ATC.

- b. GRTP Protocol will take at a MINIMUM 7 days for those who recovered from Moderate to Severe COVID-19 (The 7-day GRTP period starts after completing the 10-day isolation period and only if symptoms are completely resolved. If symptoms are not resolved, the GRTP protocol could start beyond 10-days and will still require the full additional 7 days to complete GRTP protocol.)
- c. GRTP protocol should be done under the supervision of a certified athletic trainer (ATC)
- d. ATCs should be protected as a first line COVID-19 healthcare provider with the highest level of PPE (N95, face shields, gloves) and space that has adequate space, ventilation and is isolated from the rest of the student athlete populations must be provided to complete the protocol. The ATC may need to arrange space that meets these requirements with their employing hospital system and time to perform the GRTP protocol may need to be coordinated with athletes and ATCs individually.
- e. If athletes are in a younger age group where an athletic trainer is not accessible through the school, then parents should contact their local clinic or Sauk Prairie Healthcare Sports Medicine for instructions on the graduated return to play protocol so that it can be complete at home under parental guidance.
- f. If at any point the athlete develops cardiac symptoms during the GRTP protocol the athlete will be asked to seek medical evaluation and a signed letter for clearance will be required to resume the GRTP protocol.

5. Summary Algorithm:



6. Graduated Return to Play Protocol for Athletes who recovered from Moderate to Severe COVID-19



References:

1. Puntmann VO, Carerj ML, Wietersl, et al. Outcomes of cardiovascular magnetic resonance imaging in patients recently recovered from coronavirus disease 2019 (COVID-19). *JAMA Cardiol.* July 27, 2020.
2. Baldi E, Sechi GM, Mare C, et al. Out-of-Hospital Cardiac Arrest during the COVID-19 Outbreak in Italy. *N Engl J Med.* 2020
3. Maron BJ Thompson PD, Ackerman MJ, et al. Recommendations and considerations related to preparticipation screening for cardiovascular abnormalities in competitive athletes: 2007 update: a scientific statement from the American Heart Association Council on Nutrition, Physical Activity, and Metabolism: endorsed by the American College of Cardiology Foundation. *Circulation.* 2007;115(12)
4. Rajpal S, Tong MS, Borchers J, et al. Cardiovascular Magnetic Resonance Findings in Competitive Athletes Recovering From COVID-19 Infection [published online ahead of print, 2020 Sep 11]. *JAMA Cardiol.*