ARS-CoV-2, the novel coronavirus that causes COVID-19 illness, presents unique health issues that should be considered in student-athletes prior to a return to sports and exercise. While the vast majority of young persons afflicted with the coronavirus have mild symptoms or remain asymptomatic, the infection can cause direct injury or inflammation to the heart and lungs, especially in patients ill enough to require hospitalization. Cardiopulmonary concerns from COVID-19 arise from data in severely ill adult patients, where approximately 1 in 5 hospitalized patients suffers from cardiac or thromboembolic (clotting) complications.\(^9,13\) However, evidence on the prevalence and risks of these complications in adolescents and in individuals who have had a milder form of the illness remains limited.\(^7\)

An expert task force was formed from the National Federation of State High School Associations (NFHS) and the American Medical Society for Sports Medicine (AMSSM) to provide guidance for the medical assessment of student-athletes with prior COVID-19 illness before sports participation. The task force recommends that schools consider a supplemental questionnaire addressing medical issues specific to COVID-19 (Figure 1). Any positive response from the survey should trigger an evaluation by a medical provider prior to sports participation.

**PRIOR COVID-19 ILLNESS**

- **Confirmed diagnosis:** Every student-athlete with a prior confirmed diagnosis (positive test) for COVID-19 should undergo an evaluation by one’s medical provider prior to sports participation (Figure 2). Ongoing symptoms related to COVID-19 should be explored, including the presence of chest pain or shortness of breath with exertion, palpitations (heart racing), excessive fatigue, or decreased exercise tolerance. Written medical clearance is recommended prior to participation in sports.

- **Mild to moderate illness:** Student-athletes who had mild to moderate symptoms from COVID-19 that were managed at home should be seen by their medical provider for a detailed history of persisting symptoms or changes in their health status that may necessitate further testing or

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**Keywords:** cardiac; coronavirus; COVID-19; prevention; screening; sports

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The National Federation of State High School Associations (NFHS) regularly distributes position statements and guidelines to promote public awareness of certain health and safety-related issues. Such information is neither exhaustive nor necessarily applicable to all circumstances or individuals and is no substitute for consultation with appropriate health care professionals. Statutes, codes, or environmental conditions may be relevant. NFHS position statements or guidelines should be considered in conjunction with other pertinent materials when taking action or planning care. The NFHS reserves the right to rescind or modify any such document at any time. Endorsed by the American Medical Society for Sports Medicine (AMSSM) and National Federation of State High School Associations (NFHS).

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COVID-19 Supplemental Questionnaire

Any positive response should trigger an evaluation by a medical provider.

Have you had any of the following symptoms in the past 2 weeks?
- Fever
- Cough
- Shortness of breath or difficulty breathing
- Shaking chills
- Chest pain, pressure, or tightness with exercise
- Fatigue or difficulty with exercise
- Racing heart rate
- Unusual dizziness
- Loss of taste or smell
- Sore throat
- Nausea, vomiting, or diarrhea
- Unusual rash or painful discoloration of fingers or toes

Do you have a family or household member with current or past COVID-19?

Do you have moderate to severe asthma, a heart condition, diabetes, chronic kidney or liver disease, or take medication or have a medical condition that weakens your immune system?

Have you been diagnosed with or tested positive for COVID-19 infection?

Figure 1. COVID-19 supplemental questionnaire.

**NEW COVID-19 INFECTIONS**

- Schools should consider a daily tracking tool to confirm student-athletes are appropriately self-monitoring and have not developed symptoms of COVID-19. In addition, it is suggested that schools establish a COVID-19 response team to help develop and implement policies and procedures for a safe return to sport in their school and to assist in COVID-19 symptom screening, reporting, and contact tracing.

- Student-athletes should not attend school, sports practices, or competitions if feeling ill and should be referred to their medical provider for possible COVID-19 testing if they present with any of the following symptoms: fever, new cough, difficulty breathing, shaking chills, chest pain, gastrointestinal symptoms (nausea, vomiting, or diarrhea), loss of taste or smell, sore throat, or an unusual rash or painful discoloration of fingers or toes.

- Student-athletes who test positive for COVID-19 with or without symptoms should be isolated per public health guidelines. No exercise is recommended for at least 14 days from diagnosis and 7 days after all symptoms have resolved.

- After symptom resolution and prior to sports participation, student-athletes should be evaluated by a medical provider to assess for residual symptoms and the need for additional testing. Written medical clearance prior to sports participation is recommended.
EMERGENCY ACTION PLAN

Every school is reminded to have a well-rehearsed emergency action plan (EAP) for every sport at every venue to facilitate a coordinated and efficient response to SCA.4,11,14

- Every school should maintain an on-site automated external defibrillator (AED) program that allows retrieval and use of an AED within 3 minutes of collapse at school athletic venues and buildings.
- Potential first responders to SCA, including coaches, are encouraged to be trained in cardiopulmonary resuscitation (CPR), the recognition of SCA, and use of an AED.
- Each school should conduct and document an annual EAP practice drill for SCA among anticipated first responders (ie, athletic trainers, school nurses, coaches, and administrators).
- AED devices should be maintained according to manufacturer guidelines, including monthly readiness checks and scheduled battery or lead replacement.

REFERENCES

2. Baggish AL, Levine BD. Icarus and sports after COVID 19: too close to the sun? Circulation [published online May 12, 2020]. doi:10.1161/CIRCULATIONAHA.120.048340