

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

High transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials	Masking strategies for officials
Acrobatics and Tumbling [emerging sport]	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	No testing.	Masks during competition and while on-site.
Basketball (more than one game and one team per week)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	PCR or antigen test three times per week on nonconsecutive days. Testing begins one week before first competition.	Masks while on-site and masks while interacting with participants and coaches.
Basketball (one or two games per week with same team, not separated by more than one day)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	<ul style="list-style-type: none"> • PCR test within three days before scheduled game, or, if two games, before second scheduled game; or • Antigen/rapid PCR test same day as each scheduled game. 	<ul style="list-style-type: none"> • PCR test within three days before scheduled game, or, if two games, before second scheduled game; or • Antigen/rapid PCR test same day as each scheduled game. 	Masks while on-site and masks while interacting with participants and coaches.
Football	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	Testing once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	Testing before competition: <ul style="list-style-type: none"> • PCR: Within three days before scheduled competition for that week. • Or antigen/rapid PCR: Same day as each competition. 	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Ice Hockey (more than one game and one team per week)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	PCR or antigen test three times per week on nonconsecutive days. Testing begins one week before first competition.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

High transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials during regular and postseason	Masking strategies for officials
Ice Hockey (one or two games per week with same team, not separated by more than one day)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	<ul style="list-style-type: none"> • PCR test within three days before scheduled game, or, if two games, before second scheduled game; or • Antigen/rapid PCR test same day as each scheduled game. 	<ul style="list-style-type: none"> • PCR test within three days before scheduled game, or, if two games, before second scheduled game; or • Antigen/rapid PCR test same day as each scheduled game. 	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Rugby [emerging sport]	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	Testing once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	No testing.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Volleyball (without masks)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	No testing.	Masks during competition and while on-site.
Water Polo	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	No testing.	Masks during competition and while on-site.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

High transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials during regular and postseason	Masking strategies for officials
Wrestling (Men's)	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	<ul style="list-style-type: none"> • PCR: Within three days before any scheduled meet/competition, or within three days of the second meet if back-to-back. • Antigen/rapid PCR: Within 1-day before each competition. 	Masks during competition and while on-site.
Wrestling (Women's) [emerging sport]	25%-50% surveillance testing every one to two weeks.	Once weekly by PCR testing or three times weekly by antigen/rapid PCR testing.	PCR or antigen test three times per week on nonconsecutive days.	<ul style="list-style-type: none"> • PCR: Within three days before any scheduled meet/competition, or within three days of the second meet if back-to-back. • Antigen/rapid PCR: Within 1-day before each competition. 	Masks during competition and while on-site.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

Intermediate transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials during regular and postseason	Masking strategies for officials
Baseball	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	Officials not behind home plate: No testing, if masking maintained. Home plate officials: • PCR: Within three days before first scheduled competition for that week; or • Antigen/rapid PCR test same day as each competition.	Officials not behind home plate: Masks during competition and while on-site. Home plate: Masking as tolerated; masks when interacting with participants and coaches.
Fencing (no face mask)	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks during competition and while on-site.
Field Hockey	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Indoor Track and Field	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks during competition and while on-site.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

Intermediate transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials during regular and postseason	Masking strategies for officials
Men's Lacrosse	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing if masking maintained.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Women's Lacrosse	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing if masking maintained.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Rowing (sculls of two or more people)	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks during competition and while on-site.
Soccer	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.
Softball	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	Officials not behind home plate: No testing. Home plate officials: • PCR: Within three days before first scheduled competition for that week; or • Antigen/rapid PCR test same day as each competition.	Officials not behind home plate: Masks during competition and while on-site. Home plate: Masking as tolerated; Masks when interacting with participants and coaches.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

Intermediate transmission risk sports	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials during regular and postseason	Masking strategies for officials
Volleyball (with masks)	Testing performed in conjunction with a school plan for all students.	25%-50% surveillance testing every one to two weeks.	25%-50% surveillance testing every one to two weeks.	No testing.	Masks during competition and while on-site.
Low Transmission Risk	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials	Masking strategies for officials
Bowling	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Cross Country	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Equestrian [emerging sport]	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Fencing (if face mask is worn under protective gear)	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

Low Transmission Risk	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials	Masking strategies for officials
Golf	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Gymnastics	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Outdoor Track and Field	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Rifle	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Rowing (single scull)	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.

Appendix. Sport Transmission Risk, Sample Testing, and Masking Strategies

Low Transmission Risk	Athlete and Tier 1 testing during out-of-season activities	Athlete and Tier 1 testing during preseason activities	Athlete Tier 1 testing beginning one week before competition and during regular and postseason	Testing of officials	Masking strategies for officials
Skiing	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Swimming and Diving	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site. May need to have multiple masks due to humidity.
Tennis	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site. Ball handlers: Masks when interacting with participants.
Triathlon [emerging sport]	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.
Volleyball (Beach)	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	Testing performed in conjunction with a school plan for all students.	No testing.	Masks during competition and while on-site.

*Travel may pose a transmission risk independent of sport practice and competition. If travel cannot take place with physical distancing and masking, then consider PCR test within three days before travel departure for away competitions, or antigen/rapid PCR within one day before travel departure for away competitions. Such testing may already be part of the cadence for some sports, but it may need to be considered for sports in which testing is not otherwise considered.

Resocialization of Collegiate Sport: Developing Standards for Practice and Competition, Second Edition (Updated)

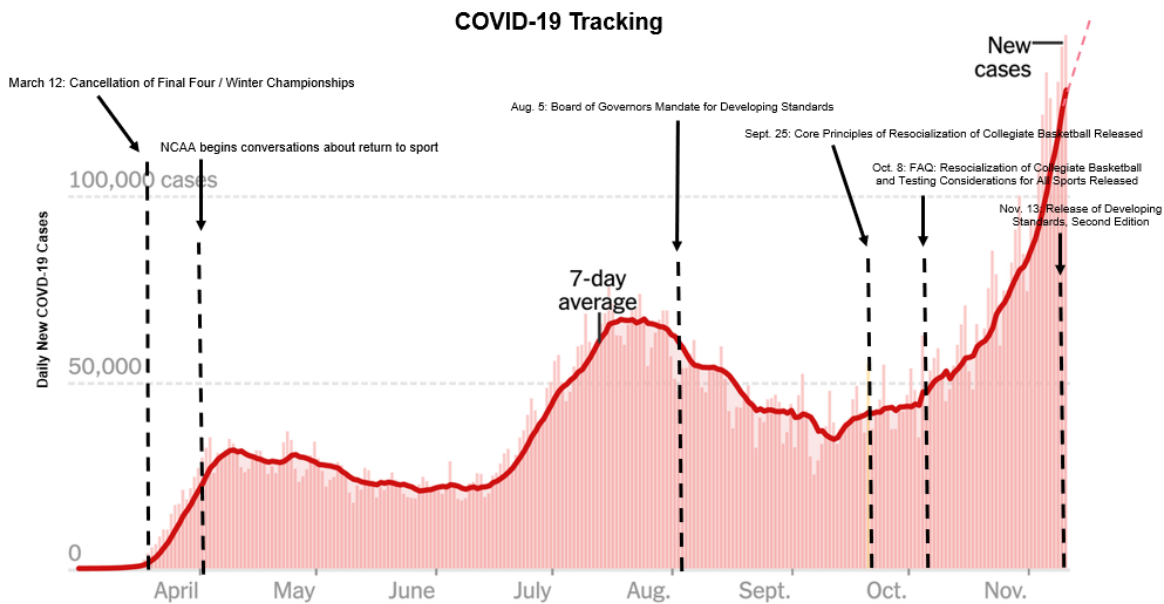
Original release: November 13, 2020

Updated: December 15, 2020

This document (Updated Second Edition) incorporates certain updates to the previously published Resocialization of Collegiate Sport: Developing Standards for Practice and Competition, Second Edition. Relevant changes are highlighted in yellow throughout and are intended to reflect the most current learning about the prevention, mitigation and treatment of COVID-19. This document should be considered the most current starting reference point for student-athletes in fall, winter and spring sports practice and competition. This document is the sixth NCAA publication regarding resocialization of collegiate sport:

1. [Core Principles](#) of Resocialization of Collegiate Sport (May 1, 2020).
2. Resocialization of Collegiate Sport: [Action Plan Considerations](#) (May 28, 2020).
3. Resocialization of Collegiate Sport: [Developing Standards](#) for Practice and Competition (July 16, 2020, updated Aug. 14, 2020).
4. Core Principles of [Resocialization of Collegiate Basketball](#) (Sept. 25, 2020).
5. Resocialization of Collegiate Sport: [Developing Standards for Practice and Competition, Second Edition](#) (Nov. 13, 2020).
6. Resocialization of Collegiate Sport: Developing Standards for Practice and Competition, Updated Second Edition (Dec. 11, 2020).

These documents were published at important points in time with respect to knowledge of COVID-19 and student-athlete practice and competition timelines. This Updated Second Edition document is written at another important time: As the figure below indicates, the United States **has entered** a third wave of COVID-19 spread, with some predicting a “dark winter” of rampant COVID-19 societal spread.



The information in this **Updated** Second Edition was developed in consultation with the [NCAA COVID-19 Medical Advisory Group](#), the [American Medical Society for Sports Medicine COVID-19 Working Group](#) and the [Autonomy 5 Medical Advisory Group](#) and takes into consideration available recommendations from the Centers for Disease Control and Prevention. The federal government has not yet published uniform federal guidance related to certain activities that occur within college athletics. However, through continued review and evaluation of available research data, anecdotal evidence and related analysis and discussion, these advisory groups have identified certain practices that should be highlighted for more focused consideration by member schools. While the materials encourage consideration of various factors and actions, they do not speak to every possible scenario, and in no event should members fall below national or public health standards set by their local communities.

As with prior NCAA publications, these materials are meant to be consistent with guidance published by the federal government and its health agencies and reflect the relevant scientific and medical information available at the time of print. These materials should not be used as a substitute for medical or legal advice. Rather, they are intended as a resource to provide guidance for member schools to use in coordination with applicable government and related institutional policies and guidelines, and they remain subject to revision as available data and information in this space continue to emerge and evolve.

This Updated Second Edition is intended to do two things:

- Remind schools about the continuation of certain previously published NCAA Board of Governors requirements related to the conduct of fall sports championships.
- Update and extend the guidance provided in the first five resocialization publications considering new and emerging information. This information includes considerations specific to the prevention of community spread of COVID-19 in the athletics setting and examples of recommendations for COVID-19 testing in sports with a high transmission risk, differentiating outdoor from indoor sports.

Reminder About Continuing Board Requirements

Notwithstanding any updates provided in this document, the following prior [Board of Governors mandates related to the conduct of fall sports championships](#) remain in place:

Student-athlete well-being

- All member schools must adhere to federal, state and local guidelines related to COVID-19.
- All student-athletes must be provided an opportunity to opt out of participation due to concerns about contracting COVID-19, and if a student-athlete chooses to opt out, the individual's athletics scholarship commitment must be honored.
- Schools must maintain previously established eligibility-related accommodations for student-athletes who opt out of participating this fall or those whose seasons are interrupted or cut short due to COVID-19.
- While statements of personal commitment to health and safety are acceptable, member schools may not require student-athletes to waive their legal rights regarding COVID-19 as a condition of athletics participation.

Fall championships-related issues

- The conduct of NCAA championships must be in line with federal, state and local guidelines.
- NCAA fall sports championships must be conducted using the principles associated with enhanced safety for student-athletes and essential athletics personnel. Such enhanced safety includes regular testing, separation of student-athletes and essential personnel from all other nonessential personnel, and physical distancing and masking policies during all aspects of noncompetition.
- If 50% or more of eligible teams in a particular sport in a division cancel or postpone their fall season, there will be no NCAA fall championship in that sport.
- If any division elects to postpone fall sports championships, the decision to conduct the championships at later dates must be based on the scientific data available at that

time, as well as an assessment of the operational, logistical and financial impact of proceeding. When a championship is set to occur on a new date, an additional assessment must be made using the same factors (scientific data available at the time and operational, logistical and financial impact), and the division will report its determinations to the Board of Governors for its review.

- If a decision is made to move forward with fall sports championships, there must be a plan for scaling down the number of championship sites, including the possibility of single sites where appropriate, reduced bracketing, fewer competitors, and similar actions to create efficient and effective events.
- A division may allow for some fall sports championships to occur and others not be conducted based on level of risk to the student-athlete, but in all instances, decisions must comport with the Association's commitment to gender equity.

Hotline

- The NCAA has established and published a [phone number and email address](#) to allow college athletes, parents or others to report alleged failures to adhere to the obligations reflected in the resocialization standards or allegations that the school is otherwise engaged in behavior that puts student-athletes at risk for COVID-19. Upon receiving a concern, the NCAA notifies the campus athletics health care administrator and conference office about the concern. The athletics health care administrator is expected to take immediate reasonable measures to review the concern and notify the NCAA of action taken, if action is necessary.

Updates and Extensions to Previously Published Guidance

As noted in the [Requirements for Each Division Related to the Conduct of Fall Sports and Championships: FAQs](#) published in August, the requirement for schools to adhere to the original Developing Standards materials applied through Oct. 27, 2020. That mandate has expired. Given the additional knowledge within the broader medical community about the prevention, mitigation and treatment of COVID-19 in student-athletes, **the requirements set forth in that original Developing Standards document and the guidance in prior resocialization documents are now replaced by the guidance set forth in this **Updated** Second Edition document.**

Risk of Transmission of COVID-19

As reported by the CDC, the primary and most important mode of transmission of COVID-19 is through close contact from person to person. Based on data from lab studies on COVID-19 and what the medical community knows about similar respiratory diseases, it may be possible that people can get COVID-19 by touching a surface or object that has

the virus on it and then touching their own mouth, nose or eyes, but current medical guidance from the CDC is that surface transmission is not the main way the virus spreads.¹

The CDC states:²

- The closer you are to other people who may be infected, the greater your risk of getting sick.
- Spending more time with people who may be infected increases your risk of becoming infected.
- Spending more time with people increases their risk of becoming infected if there is any chance that you may already be infected.
- Indoor spaces are more risky than outdoor spaces where it might be harder to keep people apart and there's less ventilation. Indoor areas with good ventilation are better, and outdoor areas are best. Thus, consider that COVID-19 spread is most likely when individuals are in prolonged close contact in an indoor area with poor ventilation, which has implications for both indoor sport training and sport competition planning.

While available data indicates that it is much more common for the virus that causes COVID-19 to spread through close contact with a person who has COVID-19 than through

These
In this
scenario, the people who infected others were in the same space during the same time or shortly after the person with COVID-19 had left.¹

CDC guidance notes the risk of COVID-19 transmission increases when an individual has had close contact with an infected person, regardless of whether the infected person has symptoms. The CDC defines close contact as someone who was within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period* starting from two days before illness onset (or, for asymptomatic patients, two days before test specimen collection) until the time the patient is isolated.

** Individual exposures are added together over a 24-hour period (for example, three five-minute exposures for a total of 15 minutes). Data is limited, making it difficult to precisely define "close contact." However, 15 cumulative minutes of exposure at a distance of 6 feet or less can be used as an operational definition for contact investigation. Factors to consider when defining close contact include proximity (closer distance likely increases exposure risk), the duration of exposure (longer exposure time likely increases exposure risk), whether the infected*

¹ [cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html](https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html)

² [cdc.gov/coronavirus/2019-ncov/daily-life-coping/deciding-to-go-out.html](https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/deciding-to-go-out.html)

individual has symptoms (the period around onset of symptoms is associated with the highest levels of viral shedding), if the infected person was likely to generate respiratory aerosols (for example, was coughing, singing, shouting), and other environmental factors (crowding, adequacy of ventilation, whether exposure was indoors or outdoors). Because the general public has not received training on proper selection and use of respiratory personal protective equipment, such as an N95, the determination of close contact should generally be made irrespective of whether the contact was wearing respiratory personal protective equipment. At this time, differential determination of close contact for those using fabric face coverings is not recommended.³

Asymptomatic spread of COVID-19 is of significant concern among the college sport environment because, like the broader student body, it is largely composed of younger adults (18-29 years of age). Even if these individuals remain asymptomatic or are minimally symptomatic after being infected with SARS-CoV-2, they are still capable of spreading the virus that causes COVID-19. If they infect another younger adult, the risk of an adverse outcome is low, although the long-term consequences to cardiopulmonary health to themselves or other younger adults remain unknown. In contrast, contact with that same asymptomatic/minimally symptomatic individual presents a potentially lethal risk for high-risk category individuals who are far more likely to have an adverse outcome if infected with the coronavirus that causes COVID-19 (see below). Relatedly, pre-symptomatic spread is also a concern, as these individuals are infected with COVID-19 but have not yet developed symptoms or signs of this disease.

The CDC has emphasized that, among adults, the risk for severe illness from COVID-19 increases with age, with 8 out of 10 deaths related to COVID-19 in the United States being reported in adults 65 years and older and the greatest risk for severe illness from COVID-19 being those 85 or older.⁴

In addition, the CDC recently updated its information pertaining to risks related to COVID-19 in adults and children with certain medical conditions.⁵ The lists below are not to be considered exhaustive, and the CDC website should be consulted for updates about the conditions described. It has been established that adults with the following underlying medical conditions are at increased risk:

³ [cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/appendix.html](https://www.cdc.gov/coronavirus/2019-ncov/php/contact-tracing/contact-tracing-plan/appendix.html)

⁴ [cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html](https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html)

⁵ [cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html](https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html)

- Cancer.
- Chronic kidney disease.
- COPD (chronic obstructive pulmonary disease).
- Heart conditions, such as heart failure, coronary artery disease (including silent disease with elevated [coronary calcium scores](#)) or cardiomyopathies.
- Immunocompromised state (weakened immune system) from solid organ transplant.
- Obesity (body mass index of 30 kg/m² or higher but less than 40 kg/m²).
- Pregnancy.
- Severe Obesity (BMI of 40 kg/m² or higher).
- Sickle cell disease.
- Smoking.
- Type 2 diabetes mellitus.

The CDC further advises that based on what we know at this time, adults of any age with the following conditions might be at an increased risk for severe illness from the virus that causes COVID-19:

- Asthma (moderate to severe).
- Cerebrovascular disease (affects blood vessels and blood supply to the brain).
- Cystic fibrosis.
- Hypertension or high blood pressure.
- Immunocompromised state (weakened immune system) from blood or bone marrow transplant, immune deficiencies, HIV, use of corticosteroids or use of other immune weakening medicines.
- Neurologic conditions, such as dementia.
- Liver disease.
- Overweight (BMI greater than 25 kg/m², but less than 30 kg/m²).
- Pulmonary fibrosis (having damaged or scarred lung tissues).
- Thalassemia (a type of blood disorder).
- Type 1 diabetes mellitus.

Finally, while children have been less affected by COVID-19, children can be infected with the virus that causes COVID-19, and some children develop severe illness. Children with underlying medical conditions are at increased risk for severe illness. Current evidence on which underlying medical conditions in children are associated with increased risk is limited, but the CDC has identified certain scenarios that may result in increased risk for severe illness.⁶

⁶ [cdc.gov/coronavirus/2019-ncov/daily-life-coping/children/symptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/children/symptoms.html)

While the majority of students and student-athletes will not fall into these higher-risk categories and may be unlikely to have complications from COVID-19, certain student-athletes may have some of the identified medical condition risk factors. For example, sports such as football may have an overrepresentation of student-athletes (for example, football linemen) who meet the high-risk criteria as it relates to obesity. For this reason, prevention and testing strategies should recognize that some athletes may have an increased risk for severe illness from COVID-19.

Similarly, those students and student-athletes who are not themselves part of a higher-risk category can still represent a significant threat to any high-risk category individuals, including friends, roommates, family members, professors, coaches and others, with whom they may have unprotected contact. These risks must be considered as schools, student-athletes and their parents or guardians continue to evaluate the risks and benefits of participating in collegiate sport.

Mitigating Risk With Daily Self-Health Checks

Every student-athlete and all athletics personnel should practice at least daily self-health evaluations before participating in any aspect of in-person athletics activities.

The CDC has published a nonexhaustive list of symptoms that may indicate COVID-19 infection.⁷ Individuals with any of the following are encouraged to contact the designated physician, athletic trainer or other athletics health care representative by telephone or virtual visit before coming on campus or to any athletics facility:

- Fever or chills.
- Cough.
- Shortness of breath or difficulty breathing.
- Fatigue.
- Muscle or body aches.
- Headache.
- New loss of taste or smell.
- Sore throat.
- Congestion or runny nose.
- Nausea or vomiting.
- Diarrhea.

⁷ [cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)

In addition, the CDC has directed individuals who identify any of the following life-threatening symptoms, or any other symptoms that are severe or concerning, to **seek emergency medical care immediately**.⁷

- Trouble breathing.
- Persistent pain or pressure in the chest.
- New confusion.
- Inability to wake or stay awake.
- Bluish lips or face.

Mitigating Risk With Face Coverings and Physical Distancing

In addition to hand washing with soap and water for at least 20 seconds, or using hand sanitizer with at least 60% alcohol, coupled with other sanitization practices, physical distancing and universal masking are the most effective strategies for preventing COVID-19 spread at the community level. Emerging science affirms that cloth face coverings are a critical tool in the fight against COVID-19 that could reduce the spread of the disease. In particular, cloth face coverings help prevent people who have COVID-19 from spreading the virus to others^{8,9}.

In sport, the practice of universal masking would mean that all individuals engaged in athletics activities (student-athletes and athletics personnel) would wear a mask/cloth face covering during all phases of activity that involve proximity to other individuals. This practice could present a physical challenge to the student-athlete during activities when there is contact to the head or face, strenuous exercise is involved, or the mask is likely to get wet. Where a mask/cloth face covering cannot be safely tolerated, schools should consider implementing physical distancing protocols that encourage at least 6 feet between individuals.

If a team can successfully implement universal masking and distancing practices during athletically related activities, these techniques could reduce the risk of spread in the event of contact with an infected team member. **While the CDC does not, at this time, account for the use of a face covering in determinations of what was or was not a high-risk contact, some local public health authorities do. In those local situations, contract tracers may determine that a high-risk contact did not occur in situations where the proximity between an infected and uninfected individual was less than 6 feet, but where both individuals were covering the mouth and nose with a mask / cloth face covering.** In other words, in addition to lowering the risk of transmission, universal masking practices may potentially ease the operational burden that would otherwise accompany managing a community or

⁸ [cdc.gov/media/releases/2020/p0714-americans-to-wear-masks.html](https://www.cdc.gov/media/releases/2020/p0714-americans-to-wear-masks.html)

⁹ [cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html](https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html)

team outbreak. This consideration is likely to be in flux as we understand better the operational considerations for “prolonged exposure” and “close contact in sport.”

NOTE: Although face shields were referenced in the original Developing Standards materials, the CDC does not currently recommend use of face shields as a substitute for masks. This would include face shields that have been developed for football helmets and ice hockey helmets and are made to affix to the helmet’s rigid face mask. Similarly, the CDC does not recommend masks with exhalation valves as a method of preventing the person wearing the mask from spreading COVID-19 to others.¹⁰

Mitigating Risk: Outdoor Training and Proper Ventilation

The risk of COVID-19 transmission is greater in indoor spaces with poor ventilation. Indoor spaces with good ventilation are better, and outdoor spaces are best. This means, to the extent possible, schools should consider maximizing outdoor activity during training as another strategy to mitigate COVID-19 risk.

When outdoor training is not feasible, or for indoor sports, it is important to mitigate risk with masking whenever feasible, including during training. Further, schools should consider evaluating the effectiveness of ventilation systems, including whether air flow is being maximized, and how best to implement and maintain physical distancing wherever possible. The CDC and Environmental Protection Agency have published various recommendations on these points including, among others:¹¹

- Consider taking steps to improve ventilation in the building, in consultation with an HVAC professional, based on local environmental conditions (temperature/humidity) and ongoing community transmission in the area:
 - Increase the percentage of outdoor air (for example, using economizer modes of HVAC operations), potentially as high as 100% (first verify compatibility with HVAC system capabilities for both temperature and humidity control, as well as compatibility with outdoor/indoor air quality considerations).
 - Increase total airflow supply to occupied spaces, if possible.
 - Disable demand-control ventilation controls that reduce air supply based on temperature or occupancy.
 - Consider using natural ventilation (for example, opening windows if possible and safe to do so) to increase outdoor air dilution of indoor air when environmental conditions and building requirements allow.
 - Improve central air filtration:

¹⁰ [cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html](https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html)

¹¹ [cdc.gov/coronavirus/2019-ncov/community/office-buildings.html](https://www.cdc.gov/coronavirus/2019-ncov/community/office-buildings.html)

- > Increase air filtration to as high as possible without significantly diminishing design airflow.
- > Inspect filter housing and racks to ensure appropriate filter fit and check for ways to minimize filter bypass.
- Consider running the HVAC system at maximum outside airflow for two hours before and after occupied times, in accordance with industry standards.
- Generate clean-to-less-clean air movements by re-evaluating the positioning of supply and exhaust air diffusers and/or dampers and adjusting zone supply and exhaust flow rates to establish measurable pressure differentials. Have staff work in “clean” ventilation zones that do not include higher-risk areas such as visitor reception or exercise facilities (if open).
- Consider using portable high-efficiency particulate air fan/filtration systems, known as HEPA systems, to help enhance air cleaning, especially in higher-risk areas.
- Ensure exhaust fans in restroom facilities are functional and operating at full capacity when the building is occupied.
- Consider using ultraviolet germicidal irradiation as a supplemental technique to inactivate potential airborne virus in the [upper-room](#) air of common occupied spaces, in accordance with industry guidelines.

Continued Relevance of Return to Campus Considerations

It remains that the first two weeks after any return to campus (for example, after a winter or spring break) deserve special consideration because student-athletes are converging from multiple parts of the country and may be asymptomatic, pre-symptomatic or symptomatic carriers of COVID-19. As athletics departments continue to develop and refine protocols related to student-athlete reentry to campus, including testing athletes upon campus return, the following considerations identified in the [Action Plan](#) document remain relevant and may warrant consideration of additional testing based on the athlete’s timeline:

- Confirmation of no high-risk exposure to COVID-19 for at least two weeks before returning to campus.
- Absence of typical COVID-19 symptoms.
- Assessment of risk factors involved in traveling back to school.
- Management of infected individuals in accordance with local public health **authorities**, CDC and institutional guidance.

Continued Relevance of Transition Period and Return to Activity Considerations

It also remains that the structure of activity during identified transition and acclimatization periods (for example, after material breaks from physical activity) warrants careful consideration. COVID-19 has increased the complexities and will continue to impact health and safety considerations related to returning to athletics and preseason activities. Traditional transition and acclimatization considerations (for example, cardiovascular conditioning, heat, altitude) are still very relevant, and when coupled with the physical and nonphysical impacts related to COVID-19, they can create complex re-entry challenges for student-athletes.

Recommendation No. 3 of the NCAA's [Interassociation Recommendations: Preventing Catastrophic Injury and Death in Collegiate Athletes](#) (Catastrophic Materials) speaks to the vulnerability of student-athletes during the first week of activity of a transition period in training and the importance of establishing a seven- to 10-day initial transition period during which student-athletes are afforded the time to properly progress through the physiologic and environmental stresses placed upon them as they return to required activities.

In addition to the NCAA guidance that can be found on the [NCAA Coronavirus Resource Page](#), various evidence-based resources have been published by professional organizations in sports medicine and strength and conditioning. These resources may help inform member schools as they design and implement evaluation activities, physical conditioning and practice sessions during these transition periods impacted by COVID-19. Schools are encouraged to leverage all available resources and information as they plan for a return to campus and athletics activities. A nonexhaustive list of some of these materials is included for reference:

- [American Medical Society for Sports Medicine](#).
- [College Athletic Trainers' Society](#).
- [Collegiate Strength and Conditioning Coaches Association](#).
- [Korey Stringer Institute](#).
- [National Athletic Trainers' Association](#).
- [National Strength and Conditioning Association](#).

Discontinuing Isolation for People With COVID-19

If a student-athlete or athletics staff member becomes newly infected with COVID-19, proper isolation protocols must be followed. However, the CDC has updated its guidance on this topic, relying on new scientific evidence to inform its recommendations related to the duration of isolation after infection and precautions to prevent transmission of SARS-CoV-2, while limiting unnecessary prolonged isolation and unnecessary use of laboratory

testing resources. Following are the updated CDC recommendations for discontinuing isolation after a new infection with COVID-19.¹²

Infected asymptomatic individuals — People infected with SARS-CoV-2 who never develop COVID-19 symptoms may discontinue isolation and other precautions 10 days after the date of their first positive test for SARS-CoV-2.

Infected symptomatic individuals — People with COVID-19 who have symptoms and were directed to care for themselves at home or at school may discontinue isolation when all of the following conditions have been met:

- At least 10 days have passed since symptom onset.
- At least 24 hours have passed since resolution of fever without the use of fever-reducing medications.
- Other symptoms have improved.

Other Considerations Related to Resumption of Activities After Positive Tests

The CDC has identified other information that athletics departments should consider as part of their development of protocols related to the discontinuation of isolation for infected individuals after positive test results.¹³ For example, for certain populations, including those with conditions that may weaken their immune system, a longer post-infection isolation time frame may be desired to minimize the chance of prolonged shedding of the virus. People who are severely ill may need to stay home for up to 20 days. Similarly, it should be noted that recommendations for discontinuing isolation in people known to be **infected** with COVID-19 are different than CDC recommendations on when to discontinue quarantine for people known to have been **exposed** to COVID-19. For example, the CDC still recommends 14 days of quarantine after high-risk exposure based on the time it could take to develop illness if infected. Thus, it is possible that a person known to be infected could leave isolation earlier than a person who is quarantined because the possibility of infection remains for 14 days from the date of last exposure.

The CDC has emphasized that local public health authorities should determine and establish the quarantine options for their jurisdictions. Even though the CDC is still currently recommending 14 days of quarantine following a close contact, it has simultaneously stated that, based on local circumstances and resources, the following options to shorten quarantine¹⁴ are acceptable alternatives (although not without residual risk):

¹² [cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html)

¹³ [cdc.gov/coronavirus/2019-ncov/if-you-are-sick/end-home-isolation.html](https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/end-home-isolation.html)

¹⁴ [cdc.gov/coronavirus/2019-ncov/more/scientific-brief-options-to-reduce-quarantine.html](https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-options-to-reduce-quarantine.html)

- Quarantine can end after day 10 without testing and if no symptoms have been reported during daily monitoring.
- *When diagnostic testing resources are sufficient and available*, then quarantine can end after day seven if a diagnostic specimen tests negative, and if no symptoms were reported during daily monitoring. The specimen may be collected and tested within 48 hours before the time of planned quarantine discontinuation (for example, in anticipation of testing delays), but quarantine cannot be discontinued earlier than after day seven. NOTE: The CDC does not specify type of test; the local public health authority should determine the type of test to be used.

The CDC has stated that reliance on either of these alternatives can occur only if all of the following criteria are met:

- No clinical evidence of COVID-19 has been elicited by daily symptom monitoring during the entirety of quarantine up to the time at which quarantine is discontinued.
- Daily symptom monitoring continues through quarantine day 14.
- People are counseled regarding the need to adhere strictly through quarantine day 14 to all recommended nonpharmaceutical interventions (nonpharmaceutical interventions*, aka mitigation strategies). They should be advised that if any symptoms develop, they should immediately self-isolate and contact the local public health authority or their health care provider to report this change in clinical status.

*Correct and consistent mask use; physical distancing; hand and cough hygiene; environmental cleaning and disinfection; avoiding crowds; ensuring adequate indoor ventilation; self-monitoring for symptoms of COVID-19 illness.

Cardiac and Exercise Considerations for Resumption of Exercise After COVID-19 Infection

The COVID-19 virus can potentially negatively impact any endothelial structure, including the heart and lungs, thereby posing a potential risk to individuals who return to exercise post-infection. Although preliminary data suggested that athletes with prior COVID-19 infection should undergo cardiac screening,^{15,16} follow-up publications have recommended a tiered approach based on severity of symptoms.¹⁷

¹⁵ jamanetwork.com/journals/jamacardiology/fullarticle/2766124

¹⁶ bjsm.bmj.com/content/early/2020/06/18/bjsports-2020-102516

¹⁷ jamanetwork.com/journals/jamacardiology/fullarticle/2772399

Based on emerging evidence, a group of experts from the American Medical Society for Sports Medicine and the American College of Cardiology have developed an algorithm of considerations and recommendations related to pre-participation cardiac screening, testing and exercise, which is available on the [AMSSM website](#).

Exercise Considerations During Quarantine

As student-athletes are placed in quarantine after contact tracing reveals that the athlete meets the criteria for a close contact with someone who has COVID-19, athletic departments may consider the following with respect to individuals in quarantine:

- Individual exercise in quarantine may be appropriate where such exercise does not cause cardiopulmonary symptoms.
- Group exercise in quarantine is not recommended.
- Individuals monitor for symptom development during quarantine.
- If symptoms develop, with or without exercise, test for SARS-CoV-2.
- Under some circumstances, continued exercise during quarantine may allow the athlete to shorten or avoid a more significant transition period before returning to play after quarantine.

Strength and Conditioning Considerations

Because of the number of respiratory droplets that are distributed into the air during a typical strength and conditioning workout, athletics departments should consider the potential risk mitigation benefits of implementing universal physical distancing and masking practices with all student-athletes and strength and conditioning and other personnel during such sessions, including conducting sessions outdoors where feasible. See also “Mitigating Risk With Outdoor Training” and “Mitigating Risk With Face Coverings and Physical Distancing” above.

Team Practice Considerations

Available data supports the idea that, although sport has many positive effects, group practice activities have the potential to increase the risk of COVID-19 spread if proper distancing and/or masking practices are not implemented, and if air flow or ventilation is compromised. As athletics departments account for and plan to address these risks, they should consider the following:

- Face coverings during team practice activities — See “Mitigating Risk With Face Coverings and Physical Distancing” above.
- Working in functional units — Schools should consider the establishment of “functional units” as a strategy to minimize the potential spread of COVID-19. A functional unit may be composed of two to 10 or more individuals, all members of the same team, who consistently work out and participate in activities together. Assuming that these individuals observe appropriate sanitization, physical distancing and universal masking practices at all other times and do not otherwise place themselves in high contact risk scenarios (for example, attending off-campus social events), the individuals would only be considered high risk to one another. A similar strategy is to have one unit of a team always train against another unit of a team. For example, the first unit of the football team always training against the third unit of the football team; and the second and fourth units always training together. This means that if an individual from one of those units does become infected, the entire team may not be impacted, and contact tracing may be more manageable than it would be otherwise in the event of an infection.
- Electronic whistles or whistle covers — Schools **and conferences** should consider the use of electronic whistles in practice **and competition** scenarios as a strategy to avoid the deep breath and forced burst of droplet-filled air that result from the use of a traditional whistle. Alternatively, schools should consider the use of a whistle with a complete covering (bag, pouch or cover) that prevents displacement of spit into the air.

Impact of Activities Outside Athletics

Student-athletes are students first. Although they may be under relatively strict team rules during their daily commitments to athletics, they will be making choices about how to spend their remaining hours (for example, in classrooms, in the dorms, at the dining facilities, at parties, at home over the holidays). For this reason, campus policies coupled with a commitment from each student-athlete to practice infection control are integral to the successful mitigation of the risk of COVID-19 spread within and outside the athletics department. Without the broader campus policies and practices to guide their behavior when away from athletics, student-athletes may incur more risk through their everyday activities than they might as a participant in a sport with high contact risk. Before assuming that the implementation of sanitization, distancing and masking practices are an effective strategy for mitigating risks within the athletics setting, a school should consider whether and to what extent those mitigation practices are successfully occurring outside athletics activities and whether and how testing protocols may provide an effective supplement to those practices.

Testing Methodologies and Strategies

The polymerase chain reaction test, which amplifies nucleic acid of the SARS-CoV-2 virus, with sample(s) obtained with a nasopharyngeal swab, remains the primary standard. However, testing paradigms are still rapidly changing, and other strategies are becoming available. For example, rapidly emerging testing strategies include the use of nasal swab or salivary samples rather than nasopharyngeal swabs. In addition, emerging point-of-care PCR (rapid PCR) testing will provide results immediately, as compared to typical laboratory-based PCR testing, which usually involves a 24-hour or longer wait. For the purposes of this document, rapid PCR is considered in the same manner as point-of-care antigen testing (see below) because of similar uncertainty regarding sensitivity and specificity in asymptomatic populations. Finally, pooled sampling allows for multiple samples to be assessed simultaneously, which can be an effective strategy for surveillance testing, including testing strategies for asymptomatic athletes.

Point-of-care antigen testing assesses for the presence of a viral protein. With this method, up to 50 tests or more can be performed in one hour and can selectively identify any positive results without having to rerun the tests (as is typical for other types of bulk batch testing). Point-of-care antigen testing currently has relatively low sensitivity, meaning it could miss some positive cases, but the sensitivity has been improving over time. Point-of-care antigen testing has a specificity of about 98%, meaning that the test may produce a false-positive result in about two cases for every 100 tests performed. Although this may seem low, it means that there is the potential for athletes to be assumed infectious when in fact they are not. For this reason, it is common practice for positive point-of-care antigen tests to be followed by a confirmatory PCR test. The confirmatory PCR test is considered the final test result.

Point-of-care antigen testing costs less than typical lab-based PCR testing. Because such testing may allow a combination of increased testing frequency combined with rapid speed of reporting, this may provide a benefit for surveillance testing that outweighs high sensitivity tests that are coupled with delayed (for example, more than 48 hours) reporting.¹⁸

Serology testing, either using IgG or IgM antibodies, has not been sufficiently validated at this time to warrant its use for diagnostic testing purposes or for the purpose of permitting exclusion from quarantine. Antibody testing may be considered to screen for possible previous exposure to SARS-CoV-2 but should not be used as the sole method to determine potentially infected individuals.

Diagnostic testing refers to either PCR or point-of-care antigen testing to confirm or negate the presence of infection with COVID-19.

¹⁸ medrxiv.org/content/10.1101/2020.06.22.20136309v2

Surveillance testing is used to track patterns of spread in a community setting. Typically, a percentage of the population, or the entire population of a defined group, is tested without regard to whether the individual is symptomatic or may be engaged in high contact risk behavior. Surveillance testing may be used to help mitigate risk of an outbreak due to the sport activity.

The CDC does not recommend repeat surveillance testing for infected individuals within the 90-day window following infection. However, these individuals should continue to follow all risk mitigation strategies.¹² If such individuals develop COVID-19 symptoms during this 90-day window, testing should be considered if an infectious disease or infection control expert cannot account for another explanation for the symptoms. To date, reinfection appears to be uncommon during the initial 90 days after symptom onset of the preceding infection, and viral shed can continue beyond three months after COVID-19 illness onset. Recent publications have introduced the idea that neutralizing antibodies to SARS-CoV-2 are stably produced for at least five to seven months after infection and that robust cellular immunity persists for at least six months after even mild or asymptomatic SARS-CoV-2 infection.^{19,20,21} For the combined reasons of ongoing viral shed — and therefore possible false positive PCR tests — and ongoing immunity for at least five months, **not** retesting previously infected individuals who are asymptomatic may be considered for up to 150 days from when the initial infection occurred. **Such** decisions should be made in consultation with the team physician and local public health **authority** recommendations and should align with school and conference recommendations. Individuals who develop symptoms between 90 and 150 days after initial infection should be retested. Regardless of the retesting strategy, and in keeping with CDC guidance, such individuals should be quarantined and otherwise managed in accordance with established school protocols after the 90-day post-infection window.

Diagnostic testing in athletics may be considered a combination of surveillance testing, testing individuals and groups engaged in high-risk exposure, and testing individuals with suspected COVID-19 infection. At present, scientific studies do not provide clear guidance on the following:

- Test sensitivity in asymptomatic people.
- Prediction rules for estimating the pretest probability of infection for asymptomatic individuals to allow calculation of post-test probabilities after positive or negative results.

¹⁹ [cell.com/immunity/fulltext/S1074-7613\(20\)30445-3](https://www.cell.com/immunity/fulltext/S1074-7613(20)30445-3)

²⁰ [biorxiv.org/content/10.1101/2020.11.01.362319v1](https://www.biorxiv.org/content/10.1101/2020.11.01.362319v1)

²¹ [bmj.com/content/bmj/371/bmj.m4257.full.pdf](https://www.bmj.com/content/bmj/371/bmj.m4257.full.pdf)

- Thresholds for ruling out infection for a variety of clinical situations, including sport. Therefore, the testing strategies for asymptomatic athletes noted below are based on consensus recommendations and are subject to change as more data emerges.²²

For the purposes of this document, based on current evidence and standards, PCR testing, or antigen testing that is performed with a regular cadence, should be considered the standard testing methods for both baseline and ongoing surveillance testing. Testing strategies are always contingent on the availability of ample testing supplies, laboratory capacity and the adequacy of turnaround time and access to testing.

Sport Transmission Risk Classification Update

The categorization of sport by transmission risk, which was previously noted in the original [Action Plan](#) document and [FAQ: Principles of Resocialization of Collegiate Basketball and Testing Considerations for All Sports](#), is based on consensus from the NCAA COVID-19 Medical Advisory Group, the AMSSM COVID-19 Working Group, and the Autonomy 5 Medical Advisory Group. Sport transmission risk is based on the projected probability of respiratory droplet and/or aerosolized spread during vigorous exercise when physical distancing and masking are not applied or are not possible. Sport classification reflects sport-specific training and competition and not cross-training or other aspects of training. For example, swimming and diving is a low contact risk sport, but dryland training activities such as trampoline, stretching and tumbling may be associated with higher risk activity if risk-mitigating strategies noted above are not in place. Sport classification also does not account for other activities that are not uniquely or commonly part of sport training or competition. Again, using the swimming and diving example, if swimmers who are not actively competing are congregating in a poorly ventilated room without physical distancing and masking, then risk of disease spread increases independent of the sport-specific aspect of swimming. **These considerations mean that the training and competition environments should be considered beyond the transmission risk classification of sport.**

The transmission risk assessment has now been updated below to include all NCAA-sponsored sports, including both winter and spring sports. Importantly, this risk assessment differs from the National Federation of State High School Associations and the United States Olympic and Paralympic Committee and also may differ from state or local risk categorization guidance. This update also differentiates outdoor from indoor sport, as emerging evidence in professional and collegiate football and professional soccer reveal that on-field risk of infection is low in these outdoor sports, with infections being sourced primarily to off-field social situations. Given the uncertainties and lack of

²² [nejm.org/doi/full/10.1056/NEJMp2015897](https://doi.org/10.1056/NEJMp2015897)

data for indoor sports that are not played in a bubble, concern remains about the possibility of increased risk of infection spread in the indoor sport setting. Table 1 summarizes identified transmission risk by sport. The appendix provides transmission risk of sports with testing strategies for student-athletes and Tier 1 individuals, including officials.

Table 1. Sport Transmission Risk Summary

Sport	Indoor/Outdoor	Current Transmission Risk	Proximity to Other Competitors
Acrobatics and Tumbling [emerging sport]	Indoor	High	Can consistently maintain distance among competitors. However, frequent, very close contact among teammates.
Baseball	Outdoor	Intermediate	Intermittent, short-lived contact between fielders and base runners. Proximity between catcher and hitters.
Basketball	Indoor	High	Frequent close contact among all competitors during play.
Bowling	Indoor	Low	Can consistently maintain distance among competitors and teammates.
Cross Country	Outdoor	Low	Close proximity at the start and potentially throughout the race among competitors. Risk mitigation strategies can be employed, especially at the start and finish of competition.
Equestrian [emerging sport]	Outdoor	Low	Can consistently maintain distance among competitors and teammates.
Fencing	Indoor	Low (if face mask is worn under protective face gear) Intermediate (if no face mask is worn)	Frequent close contact between two competitors at a time during competition. Protective gear covers face but is not a mask.
Field Hockey*	Outdoor	Intermediate	Frequent, short-lived proximity among competitors during play.
Football	Outdoor	High	Frequent, short-lived close contact among competitors during play.
Golf	Outdoor	Low	Can consistently maintain distance among competitors and teammates.
Gymnastics	Indoor	Low	Can consistently maintain distance among competitors and teammates.
Ice Hockey	Indoor	High	Frequent close contact among competitors during play.
Indoor Track and Field	Indoor	Intermediate	Close proximity at the start and potentially throughout the running events among competitors. Competitors in frequent proximity throughout events.
Lacrosse* (Women's)	Outdoor	Intermediate	Frequent, short-lived proximity among competitors during play.

Sport	Indoor/Outdoor	Current Transmission Risk	Proximity to Other Competitors
Lacrosse* (Men's)	Outdoor	Intermediate	Frequent, short-lived close contact among competitors during play.
Outdoor Track and Field	Outdoor	Low	Close proximity at the start and potentially throughout the running events among competitors.
Rifle	Indoor/Outdoor	Low	Can consistently maintain distance among competitors and teammates.
Rowing (sculls of two or more people)	Outdoor	Intermediate	Can consistently maintain distance among competitors. However, in sculls of two or more people, there is prolonged close contact for all teammates in the scull. <i>Training indoors also may involve risk if physical distancing and masking are not observed.</i>
Rowing (single scull)	Outdoor	Low	Can consistently maintain distance among competitors and teammates. <i>Training indoors also may involve risk if physical distancing and masking are not observed.</i>
Rugby [emerging sport]	Outdoor	High	Frequent close contact between two competitors at a time.
Skiing	Outdoor	Low	Can consistently maintain distance among competitors and teammates.
Soccer*	Outdoor	Intermediate	Frequent, short-lived proximity among all competitors.
Softball	Outdoor	Intermediate	Intermittent, short-lived contact between fielders and base runners. Proximity between catcher and hitters.
Swimming and Diving	Indoor and Outdoor	Low	Proximity at the start and potentially throughout the swimming events among competitors. Risk mitigation strategies can be further used for those not actively competing.
Tennis	Outdoor	Low	Can consistently maintain distance between competitors and teammates.
Triathlon [emerging sport]	Outdoor	Low	Proximity at the start and potentially throughout the swimming, running and cycling events among competitors.
Volleyball	Indoor	Intermediate (if face mask is worn) High (if no face mask is worn)	Intermittent contact among competitors. Frequent touching of shared equipment.
Volleyball (Beach)	Outdoor	Low	Intermittent contact among competitors. Frequent touching of shared equipment.
Water Polo	Indoor/Outdoor	High	Frequent close contact among all competitors.

Sport	Indoor/Outdoor	Current Transmission Risk	Proximity to Other Competitors
Wrestling (Men's)	Indoor	High	Frequent close contact between two competitors at a time.
Wrestling (Women's) [emerging sport]	Indoor	High	Frequent close contact between two competitors at a time.
*If played indoors, assumes similar transmission risk if arena size <u>and</u> ventilation/air flow approximate outdoors. If arena size is small and/or ventilation/air flow is compromised, then assumes transmission risk will be higher; however, all decisions regarding arena size and ventilation/air flow capacity should be made in consultation with local public health authorities.			

Testing and Masking Strategies Based on Sport and Travel Transmission Risk

Testing strategies should align with institutional and local/state public health guidance and take into consideration factors specific to transmission risk. Because of emerging information regarding the differential risk of outdoor and indoor sport, testing strategies for high transmission risk sports may differ based on whether the sport is held indoor or outdoor.

Testing strategies are designed to be directed toward student-athletes and athletics personnel who have regular, close contact with student-athletes. This group of individuals is considered Tier 1, which is the highest exposure tier. Following is a summary explanation of Tier 1, Tier 2 and Tier 3 risk categories, which is based on information in a recently published scientific article.²³

- **Tier 1** — This is the highest exposure tier and consists of individuals for whom physical distancing and face coverings are not possible or effective during athletic training or competition. Examples of relevant individuals include student-athletes, coaches, athletic trainers, physical therapists, medical staff, equipment staff and officials.
- **Tier 2** — This is a moderate exposure tier and consists of individuals who come into close contact with Tier 1 individuals but can reasonably maintain physical distance and use face coverings. Examples of relevant individuals include certain team staff (for example, administrators) and certain operational staff (for example, security, event staff and league staff).
- **Tier 3** — This is the lowest exposure tier and includes individuals who provide event services but do not come into close contact with Tier 1 individuals (and should this occur, would be reclassified into Tier 2). Examples of relevant individuals include certain operational staff (for example, housekeeping, catering, sanitation and transportation) and media or broadcast workers.

²³ bjsm.bmj.com/content/early/2020/10/08/bjsports-2020-103227

In daily practice, schools should consider how best to eliminate any unnecessary interaction among the different tier groups. Universal physical distancing and masking should be considered for all individuals in Tier 2 and Tier 3 at all times, including during competitions, and for individuals in Tier 1 where they cannot avoid interaction with Tier 2 or Tier 3 individuals. [Guidance and Recommendations for Game Day Operations - Basketball](#) provides more detailed considerations for basketball operations, including guidance for interaction among the three tiers and spectators, if applicable. Although this document is basketball-specific, the general guidance includes considerations that may be applicable to other sports.

Team Travel

Because public and private travel may pose logistical challenges related to potential exposure and appropriate risk mitigation independent of sport, testing strategies that take into account team travel may help mitigate such risk. Schools should continue to evaluate the current data regarding risks related to commercial plane and other travel, and travel protocols should be considered that include physical distancing, as possible, and universal masking for all individuals traveling with others by private car, van, chartered bus or chartered plane. Schools should also plan for proper communication of all travel rules, protocols and expectations to everyone in the travel party. When feasible, schools should aim to travel and play the same day to avoid overnight stays. For overnight stays or same-day travel, prepackaged meals or room service should be considered. If restaurant dining is the only option, consider take-out food or outdoor eating as preferable alternatives.

To date, no COVID-19 outbreaks/superspreader events originating from air travel have been publicly reported. This may be the result of masking enforcement coupled with high-quality ventilation systems. On the other hand, there have been reports of superspreader events from prolonged team travel in a van. This may have been the result of a combination of limited masking and poor ventilation. Based on these available facts, it is reasonable to conclude that bus/van travel may not necessarily be a lower COVID-19 transmission risk than air travel and may pose a greater risk. To mitigate COVID-19 transmission risk during bus/van travel, universal masking and physical distancing should be in place when feasible, individuals should wear a mask/face covering, and windows should be opened when feasible.

Following are additional considerations for travel:

- Use of and adherence to assigned seating charts, as applicable, for all modes of travel.

- Strategic placement of individuals for all travel, e.g., cohort previously uninfected individuals with those who have been previously infected/recovered within the prior 150 days; maintain pods and tiers that are used during practice.
- To avoid un-masked time, limiting unnecessary meals and/or food.
- Before eating, washing hands with soap and water for at least 20 seconds or using hand sanitizer that contains at least 60% alcohol.
- Limiting group meals or using outdoor locations for group meals.
- Using “grab and go” meals where possible.
- If group meals must occur:
 - Using “grab and go” options.
 - Limiting mealtime.
 - Staggering flow and controlling spacing in food service lines.
 - Seating charts with strategic placement of individuals.
 - Physical distancing whenever feasible.
 - Prohibiting lingering in meal spaces.
 - Requiring masks except while eating.
- When drinking indoors or during travel, using a straw under the mask.
- Limiting time in locker rooms.
 - Using outdoor spaces or spacious indoor spaces to tape, prepare, and/or dress before entering locker room.
- Adhering to social activity safety measures at all times.

Testing Strategies

Following are examples of testing strategies that may be considered for student-athletes and other Tier 1 individuals. These strategies should be evaluated with consideration toward applicable local and state guidelines and other factors impacting institution-level decision-making and may be updated consistent with emerging evidence. Because travel may be a risk independent of sport participation, travel recommendations are listed for each sport classification. Strategies also should take into consideration the timing of test results and the need to secure and review results as necessary before the start of travel, practice or competition, as applicable. The appendix provides transmission risk of sports with testing strategies for student-athletes and Tier 1 individuals, including officials.

Low transmission risk sports

- Testing performed in conjunction with a school plan for all students, plus additional testing for symptomatic and high infection risk individuals as warranted.
- If travel cannot take place with physical distancing and masking, then PCR testing within three days before travel departure, or antigen/rapid PCR testing within one day before travel for away competitions.

Intermediate transmission risk sports

- Out-of-season athletics activities — Testing performed in conjunction with a school plan for all students, plus additional testing for symptomatic and high infection risk individuals as warranted.
- **Regular and postseason** — Surveillance PCR or antigen testing, for example, 25%-50% of athletes and Tier 1 nonathlete personnel every one to two weeks if physical distancing, masking and other protective features are not maintained, plus additional testing for symptomatic and high infection risk individuals as warranted.
- If travel cannot take place with physical distancing and masking, then PCR testing within three days before travel departure, or antigen/rapid PCR testing within one day before travel for away competitions.

High transmission risk sports

- Out-of-season athletics activities — Surveillance PCR **or antigen** testing, for example, 25%-50% of athletes and Tier 1 nonathlete personnel every one to two weeks if physical distancing, masking and other protective features are not maintained, plus additional testing for symptomatic and high infection risk individuals as warranted.
- Preseason — Testing of athletes and Tier 1 nonathlete personnel once weekly by PCR testing, or three times weekly by antigen testing.
- Regular and postseason, **outdoor sports** — Testing of athletes and Tier 1 nonathlete personnel once weekly by PCR testing (within three days before the competition), or three times weekly by antigen/rapid PCR testing.
 - If travel cannot take place with physical distancing and masking, then PCR testing within three days before travel departure, or antigen/rapid PCR testing within one day before travel for away competitions.
 - Regular and postseason, **indoor sports** — Testing (PCR/antigen/rapid PCR testing) of athletes and Tier 1 nonathlete personnel three times weekly on nonconsecutive days, beginning one week before the first competition. If all training and competition are done with universal masking and adherence to infection risk mitigation, then testing in a manner consistent with outdoor high transmission risk sports.
 - If travel cannot take place with physical distancing and masking, then PCR testing within three days before travel departure, or antigen/rapid PCR testing within one day before travel for away competitions.
 - For the special scenario in which high transmission risk indoor sports are competing once weekly within a conference or specified geographic locale:
 - > If a single game — PCR test within three days before the game, or antigen/rapid PCR test the day of the game.

- > If back-to-back games against the same team (for example, Friday-Saturday) — PCR test within three days before the second game, or antigen/rapid PCR **within one** day of each game.
- > If two games against the same team are separated by one day (for example, Thursday-Saturday) — PCR test within three days before the second game, or antigen/rapid PCR test **within one** day of each game.
- > **These scenarios do not apply to multiple teams meeting in one location, and they do not apply to wrestling.**

With respect to competition with other schools, athletics departments should consider how best to secure reasonable assurance that the same risks have been adequately evaluated and addressed by the other team. Schools should consider how to share testing results and related safety assurances with opposing teams before the start of an event in a manner consistent with applicable health information and education privacy laws. Further, in conjunction with local public health **authorities** and contact tracers, schools should consider the process through which they will notify other schools should an athlete from one team test positive within 48 hours after competition with another team.

Clinical-based testing and isolation

In addition to routine surveillance and pre-competition testing, schools and conferences should contemplate protocols that include clinical evaluation for student-athletes and/or other athletics personnel who develop COVID-19 symptoms after pre-competition testing, including testing for the presence of the virus (PCR or antigen). If a student-athlete or staff member becomes symptomatic between testing and competition, protocols should be considered that include isolating the student-athlete or staff member until repeat results are available, in each case in a manner consistent with applicable state, local and institutional recommendations.

Game officials

Officials and referees may operate in proximity to student-athletes and school personnel during or as part of competition events. As a result, they may create risk for these individuals and may also be at risk for contracting the disease from student-athletes. Athletics departments should consider how best to plan for and address these additional risks. For example, schools should consider the implementation of appropriate distancing and masking practices, as well as the use of electronic whistles or whistles with a pouch or covering, and should consider how best to ensure that officials are aware of any other competition-specific practices or expectations that will be implemented for risk mitigation purposes (for example, teams not swapping benches between periods). Schools and conferences also should consider whether travel restrictions, including quarantine, will have an impact on a game official's participation.

Table 2 provides risk considerations and examples of testing and masking strategies that may be considered for officials in all sports. The appendix provides transmission risk of sports with testing strategies for student-athletes and Tier 1 individuals, including officials. These strategies should be evaluated with consideration toward applicable local and state guidelines and other factors impacting institution-level decision-making and may be updated consistent with emerging evidence. [Guidance and Considerations for Men's and Women's Basketball Officiating](#) provides more detailed considerations for basketball officials. Although this document is basketball-specific, the general guidance includes considerations that may be applicable to other sports.

Table 2. Examples of Testing and Masking Strategies for Officials, and Proximity to Competitors

Sport	Testing and Masking Strategies	Officials' Proximity to Competitors
Acrobatics and Tumbling <i>[emerging sport]</i>	No testing. Masks during competition and while on-site.	Seated at judges table near the competition area but no direct contact with participants.
Baseball	For officials not behind home plate: No testing if masking maintained. For any official who works behind home plate, regardless of mask wearing by official and catcher: <ul style="list-style-type: none"> • PCR: Within three days before first scheduled competition for that week. • Antigen/rapid PCR: Same day as each competition. Preferential use of hand signals and masking if tolerated.	For officials not behind home plate: On the field of play near participants but can distance and be universally masked. Potential for occasional close contact but would be momentary (close call at a base/plate). For home plate officials: Prolonged close contact between official and catcher.
Basketball (more than one game and one team per week)	PCR or antigen test three times per week on nonconsecutive days. Masks as feasible during competition. Masks while on-site and masks while interacting with participants and coaches.	On the court near student-athletes.

Sport	Testing and Masking Strategies	Officials' Proximity to Competitors
Basketball (one or two games per week with same team, not separated by more than one day)	PCR test within three days before scheduled game, or if two games, before second scheduled game. Or Antigen/rapid PCR test same day as each scheduled game. Masks as feasible during competition. Masks while on-site and masks while interacting with participants/coaches.	On the court near student-athletes.
Bowling	No testing. Masks during competition and while on-site.	Behind the approach area (15 feet). Will be distanced most of the time, except short interactions to notify of infractions.
Cross Country	No testing. Masks during competition and while on-site.	On the course (mainly start and finish areas) near participants but can distance most of the time from participants. Clerking positions interact with student-athletes.
Equestrian [emerging sport]	No testing. Masks during competition and while on-site.	Judges can be distanced from participants.
Fencing	No testing. Masks during competition and while on-site.	Judges distanced from range and contact with participants.
Field Hockey	No testing. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the field near participants.
Football	Testing before competition: <ul style="list-style-type: none"> • PCR: Within three days before scheduled competition for that week. • Antigen/rapid PCR: Same day as each competition. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the field of play near participants.
Golf	No testing. Masks during competition and while on-site.	Can distance from participants.
Gymnastics	No testing. Masks during competition and while on-site.	On the gymnastics floor near the apparatus but no direct contact with participants.

Sport	Testing and Masking Strategies	Officials' Proximity to Competitors
Ice Hockey (more than one game and one team per week)	PCR or antigen test three times per week on nonconsecutive days. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the ice near participants.
Ice Hockey (one or two games per week with same team, not separated by more than one day)	PCR test within three days before scheduled game, or, if two games, before second scheduled game. Or antigen/rapid PCR test same day as each scheduled game. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the ice near participants.
Indoor Track and Field	No testing. Masks during competition and while on-site.	On the track near participants but can distance from participants. Brief conversations with participants. Clerking positions interact with participants.
Lacrosse (Men's and Women's)	No testing if masking maintained. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the field near participants.
Outdoor Track and Field	No testing. Masks during competition and while on-site.	On the track near participants but can distance most of the time from participants. Clerking positions interact with participants.
Rifle	No testing. Masks during competition and while on-site.	Judges distanced from range and participants.
Rowing	No testing. Masks during competition and while on-site.	Officials can distance from participants.
Rugby [emerging sport]	No testing. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the field of play near participants.
Skiing	No testing. Masks during competition and while on-site.	Judges distanced from competition area and participants.

Sport	Testing and Masking Strategies	Officials' Proximity to Competitors
Soccer	No testing. Masks while on-site. Masks as feasible during competition and masks when interacting with participants and coaches.	On the field near participants.
Softball	For officials not behind home plate: No testing if masking maintained. For any official who works behind home plate, regardless of mask wearing by official and catcher: <ul style="list-style-type: none"> • PCR: Within three days before first scheduled competition for that week. • Antigen/rapid PCR: Same day as each competition. Preferential use of hand signals and masking if tolerated.	For officials not behind home plate: On the field of play near participants. Can distance and be universally masked. Potential for occasional close contact but would be momentary (close call at a base/plate). For home plate officials: Prolonged close contact between official and catcher.
Swimming and Diving	No testing. Masks during competition and while on-site. May need to have multiple masks due to humidity.	On the pool deck near participants; however, could distance and maintain brief periods of time near participants.
Tennis	No testing. Masks during competition and while on-site.	Official on perch courtside. Line judges also distanced from court and participants and can be universally masked. Ball handlers may encounter closer but brief contact with participants.
Triathlon [emerging sport]	No testing. Masks during competition and while on-site.	Officials distanced from competition area and participants.
Volleyball	No testing. Masks during competition and while on-site.	Up official courtside (above net). Down official on sideline but can distance from participants. Line judges typically farther away from players.
Volleyball (Beach)	No testing. Masks during competition and while on-site.	Up official courtside (above net). Down official on sideline but can distance from participants. Line judges typically farther away from participants.
Water Polo	No testing. Masks during competition and while on-site.	On the pool deck distanced from participants and can be universally masked. Ball handlers and goal judges may encounter closer but brief contact with participants.

Sport	Testing and Masking Strategies	Officials' Proximity to Competitors
Wrestling (Men's)	<ul style="list-style-type: none"> • PCR: Within three days before any scheduled meet/competition, or within three days of the second meet if back-to-back. • Antigen/rapid PCR: Within one day before each competition. <p>Masks during competition and while on-site.</p>	<p>On the mats near participants. Can maintain distancing around the mat, but officials on the mat are in close proximity to participants.</p>
Wrestling (Women's) [emerging sport]	<ul style="list-style-type: none"> • PCR: Within three days before any scheduled meet/competition, or within three days of the second meet if back-to-back. • Antigen/rapid PCR: Within one day before each competition. <p>Masks during competition and while on-site.</p>	<p>On the mats near participants. Can maintain distancing around the mat, but officials on the mat are in close proximity to participants.</p>

Universal masking

As part of agreed-upon competition protocols, schools and conferences should contemplate universal masking for all coaches and other personnel who are present at the event. This can help prevent the unwitting spread of infection to others with whom they may have close contact, especially when talking at a close physical distance as is so common on the sidelines or bench area. Similarly, because wearing a mask/face covering will not adequately protect a coach from infection by an unmasked infectious athlete, schools and conferences should contemplate a policy of universal masking for all student-athletes when they are not playing and when they move from the court or field to the sidelines for timeouts or between-period strategy discussions.

Updated Contact Tracing Considerations

Effective contact tracing is critical in breaking the chain of transmission and limiting the spread of infection for infectious diseases such as COVID-19. However, there is no federal oversight of contact tracing programs, and the number of contact tracers in this country is currently inadequate to effectively manage disease spread among individuals and groups of people with high contact risk exposure. As a result, athletics departments, in consultation with institutional leadership, should consider evaluating the availability of and accessibility to local contact tracing resources. Where the availability of local contact tracing resources is identified as inadequate, schools should consider the need for and benefit of training on-site personnel through accepted courses such as the [Coursera class](#) and other [CDC-endorsed trainings](#). Staff who complete formal training in contact tracing

can be an invaluable resource with respect to institutional risk-management efforts and resources.

Contact tracing is important in deciding who should be placed in quarantine because of a close contact with a person infected with COVID-19. Local public health authorities oversee contact tracing, including when contact tracing is initiated by school personnel who have been trained as contact tracers. Because decision-making criteria may vary in different municipalities, schools should consider developing a professional relationship with local public health authorities as it can be helpful for such authorities to understand the school's risk-mitigation strategies, including the role of school personnel as contact tracers. It is also important for schools to understand expected protocols from local public health authorities after a new COVID-19 case, which can facilitate timely decisions regarding which Tier 1 individuals who have been placed in immediate quarantine as a precaution because another Tier 1 individual tested positive will ultimately remain in quarantine.

Considerations After a Positive Test Result

When an athlete tests positive for COVID-19, local public health authorities must be notified, and required contact tracing protocols must be followed. Schools should consider the 14-day quarantine requirement (or shortened quarantine in conjunction with local public health authorities) for individuals with high risk of exposure as per CDC guidance. This may include members of opposing teams after competition. Determining which individuals had a high risk of exposure can be difficult, and in some cases, this could mean quarantining an entire team (or teams). Proximity monitoring devices and/or review of practice or game film may be helpful when available. As noted in the above section "Risk of Transmission of COVID-19," the CDC defines a close contact requiring quarantine as someone who was within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period starting from two days before illness onset (or for asymptomatic patients, two days before test specimen collection) until the time the patient is isolated.³

Ultimately, high risk exposure and "close contact" determinations and resulting quarantine decisions will be made in coordination with local public health authorities and applicable contact tracers. Athletics departments and schools should consider establishing a relationship with the applicable local and state public health officials and, in particular, explaining the COVID-19 risk mitigation strategies in place. Supplemental contact tracers from athletics departments and schools report to local public health authorities but are in a unique position to begin contact tracing protocols immediately, with firsthand information regarding potential close contact individuals.

Considerations Related to the Discontinuation of Athletics

At the time of this writing, the [rate of spread of COVID-19](#) has been increasing in many regions of the country. Because of this increase, it may become impossible to practice and/or play sports, especially high contact risk sports, safely in some areas. In conjunction with public health officials, schools should consider pausing or discontinuing athletics activities when local circumstances warrant such consideration. Some examples of such local circumstances that might trigger a conversation with local public health **authorities** include the following:

- A lack of ability to isolate new positive cases or quarantine high contact risk cases on campus.
- Unavailability or inability to perform symptomatic, surveillance and pre-competition testing when warranted and as per recommendations in this document.
- Campuswide or local community test rates that are considered unsafe by local public health **authorities**.
- Inability to perform adequate contact tracing consistent with governmental requirements or recommendations.
- Local public health **authorities** stating that there is an inability for the hospital infrastructure to accommodate a surge in hospitalizations related to COVID-19.