



COVID-19 Interim Guidance: Return to Sports and Physical Activity

This guidance applies to children and adolescents who are participating in and/or returning to physical activity, inclusive of but not limited to, organized sports and physical education class within school. Pediatricians should consider any children or adolescents who participate in any physical activity, organized or not, to fall within the context of this guidance.

This update provides an overview of ongoing repercussions from lack of athletic/physical fitness opportunities for youth, stresses the importance of high-yield risk mitigation strategies, clarifies recommendations for face mask use in sports, modifies post-illness medical clearance, and encourages people to receive a COVID-19 vaccine as soon as eligible.

Approximately 35 to 45 million youth 6 to 18 years of age participate in some form of athletics. The COVID-19 pandemic has affected many aspects of the lives of children and families, including youth sport activity. As children present for health supervision visits and preparticipation physical evaluations, parents and athletes likely will ask questions about how best to ensure safety when considering a return to sports participation and physical activity. This guidance is intended for pediatricians to inform families on how to mitigate risk and prevent the spread of severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, to others within sports and other physical activities. Pediatricians should also refer to their state regulations and guidance associated with return to sports as states are allowing practice and competition to resume at different stages.

FAMILY CONSIDERATIONS

What are the benefits of returning to sports and physical activity for children and adolescents?

Re-engaging in sports and physical activity with friends has both physical and psychological health benefits for children and adolescents. Participating in sports and physical activity allows youth to improve their cardiovascular health, strength, body composition, and overall fitness. Mentally, youth may experience benefits from the increased socialization with friends and coaches as well as from the return to a more structured routine. These psychological and physical benefits can help support their developmental growth. Exercise also has immune system benefits.

The AAP strongly recommends that opportunities for children and adolescents to participate in sports and/or physical fitness activities resume as soon as SARS-CoV-2 transmission mitigation strategies are in place and local authorities approve. A detailed description of transmission mitigation strategies is outlined thoroughly within this document.

What if children's sports are disrupted or canceled? How can parents support their athletes' physical and mental well-being?

During the COVID-19 pandemic, opportunities for children and adolescents to be physically active and participate in sports have been substantially reduced. In addition, millions of children have been learning in a virtual environment, which has increased sedentary time. Obesity prevalence has increased, most significantly for children 5 through 9 years of age, those whose families have lower income, and those who identified as Hispanic and non-Hispanic Black, widening the gap for disparities in these populations.

Children and adolescents who have had their sports disrupted should maintain consistent physical activity. This is especially important for athletes who are preparing to return to an organized sport. With a prolonged break from activity, athletes are at significant risk of injury when they return to sports. Apophyseal and physeal injuries are common, as are muscle strains and stress fractures. Significant increases in weight may lead to joint pain and difficulty participating in physical activities. Children and adolescents who are participating in outdoor activity may be at higher risk for heat-related illness if they are not acclimated.

Children and adolescents should be encouraged to begin a gradual return to physical activity if they have not participated in consistent physical activity for more than 1 month. Children and adolescents should start at 25% of their usual volume and intensity of activity and consider

every-other-day exercise. An increase of volume of 10% per week is recommended until the desired volume is achieved. Next, intensity of the desired exercise can be increased by 10% per week until the desired intensity is reached. Athletes who participate in sports with an emphasis on running may want to start 8 to 12 weeks prior to the season and perform a beginner running program (such as with a “Couch to 5k” or “None To Run” app) to help guide this gradual increase in impact.

Disruptions in normal routines can be challenging for everyone, especially children and adolescents. Time away from teammates and coaches can be hard on athletes both physically and mentally. Studies have confirmed that the prevalence of depression and/or anxiety is higher in adolescents since the start of the pandemic. All athletes should be monitored for changes in mood, but especially those whose sports have been disrupted. Children and adolescents who are unable to participate in milestone events, such as their final high school sports season or a state championship tournament, and those with a prior history of depression and anxiety may be affected more than others.

Should parents and other spectators attend their children’s sports practices and games?

Parents/guardians should follow current local regulations for physical distancing and use of face masks. Because indoor areas have higher rates of COVID-19 transmission, all spectators, regardless of vaccine status, should consider wearing a face mask during sporting events with limited spacing. In addition, unvaccinated spectators should wear a face mask at all times for indoor events, even with sufficient spacing. Attending outdoor events may bear less risk than indoor events with less space and poorer ventilation. No one should attend any sports function as a spectator if they are exhibiting signs or symptoms of COVID-19 or are currently in quarantine for an exposure. Parents and other spectators with high-risk health conditions should strongly consider not attending indoor events or events held outdoors where appropriate physical distancing cannot be maintained. Live streaming or recording of athletic events, when available, may allow people who are unable to attend to participate in viewing events.

What about the sports preparticipation examination and preparing for the season?

All children should have an annual health supervision visit, which ideally incorporates the [preparticipation physical evaluation \(PPE; also known as the sports physical\)](#). Pediatricians

should inquire about any known SARS-CoV-2 infections and vaccination status since the last evaluation and should document it within the patient's medical record. The AAP encourages all people who are eligible to receive the COVID-19 vaccine. Once athletes are fully vaccinated (as defined by the CDC), they should continue to follow transmission mitigation recommendations as described by the CDC for vaccinated people.

The updated [PPE History form](#) and [Physical Examination form](#) have been revised to incorporate questions regarding COVID-19 history and COVID-19 vaccination status. As part of the PPE, appropriate screening and guidance back to physical activity should be provided as outlined in this document. **Please note: Athletes who have a current Preparticipation Physical Evaluation (per state and local guidance) on file should not need to complete another examination or history form.**

TRANSMISSION MITIGATION

What are the risks of transmission for youth in sports and physical activity?

Pediatricians, policy makers, school administrators, and families must consider the mounting evidence regarding COVID-19 in children and adolescents, including the role children and adolescents may play in transmission of the infection. The preponderance of evidence indicates that children and adolescents are less likely than adults to be symptomatic or have severe disease resulting from SARS-CoV-2 infection. It appears that children younger than 10 years are less likely to become infected and less likely to spread infection to others, although further studies are needed. Data suggest adolescents may spread SARS-CoV-2 as efficiently as adults. Additional studies are needed to truly understand the infectivity and transmissibility of this virus in children and adolescents.

Because prolonged, close contact with a person infected with SARS-CoV-2 is the main driver of transmission, the sport and physical activity (number of players, spacing, and frequency and duration of contact) and setting (indoor versus outdoor, size and ventilation of facility) will influence the risk of infection. SARS-CoV-2 transmission among athletes has been documented in the sports setting, with indoor sports likely bearing the greatest risk, especially wrestling, ice hockey, and basketball.

Studies from outdoor contact sports, such as football and rugby, confirm low transmission risk from on-field activities. Most transmission associated with outdoor sports has been related to off-field activities, such as sharing meals and during transportation in private vehicles where people were unmasked or partially masked. SARS-CoV-2 infection rates for outdoor sports are likely to reflect local community infection rates.

The AAP recommends that decisions be made on a local level when considering cancellations, delays, or limitations in sports. However, by properly following transmission mitigation strategies of face mask use and/or physical distancing, it is anticipated that most sports can move forward safely.

How do families balance the risk versus benefit of returning to sports for children and adolescents?

Weighing the risk versus benefit of return to sport is driven by the sport and setting, local disease activity, and individual circumstances, including underlying health conditions that place the athlete or household contacts at high risk of severe disease should they contract SARS-CoV-2 infection. See the CDC for a [list of high-risk conditions](#). Parents should review the school/league COVID-19 policies and discuss them with their children, so they are aware of the expectations. Risk can be decreased but not eliminated by athletes, parents, coaches, and officials following safety protocols. Ultimately, the decision falls on parents/guardians to decide whether they will allow their children to participate in sports.

Should children have a COVID-19 test before attending sports?

Testing for COVID-19 before participating in sports is not necessary unless an athlete is symptomatic or has been exposed to someone known to be recently infected with SARS-CoV-2. Antibody testing is not currently recommended prior to sports participation. Current testing recommendations can be found in the AAP [COVID-19 Testing Guidance](#).

What modifications/strategies should be considered to reduce risk of transmission during youth sports?

To reduce risk, state and local governments as well as sports governing bodies are recommending modifications to practices, competitions, and events. The [CDC](#) recommendations for youth sports should be consulted when developing this guidance. Compliance by athletes, parents, spectators, coaches, and officials will affect the success of the

mitigation strategies. Key modifications include prioritizing noncontact activity, such as conditioning and drills where physical distance can be maintained, and proper use of a face mask as outlined in the next section. In addition, it is important to reinforce appropriate hygiene and respiratory etiquette through signage, parent/athlete education, and use of handwashing stations or hand sanitizer. Children and adolescents with any signs or symptoms of SARS-CoV-2 infection should not attend practices or competition. They should consult their pediatrician for testing guidance and notify their coach, athletic trainer, and/or school administrator of their signs/symptoms.

Maintaining practice groups in consistent pods of small sizes that do not mix youth athletes may help limit team-wide outbreaks of SARS-CoV-2 infection. Small pods allow for easier contact tracing and fewer numbers of athletes needing to be quarantined should someone test positive for SARS-CoV-2. Minimizing travel to other communities and regions is another reduction strategy. Frequently touched surfaces on the field, court, or play surface (eg, drinking fountains) should be cleaned and disinfected at least daily or between uses as much as possible. Sharing of equipment and use of communal spaces, such as locker rooms, should be reduced. When possible, athletic areas with poor ventilation (ie, weight rooms) or small spaces where distancing cannot be maintained should be avoided, because they bear greater risk for transmission of SARS-CoV-2. Considerations should be made for increased ventilation via opening doors or windows when safe. Athletes should not share food or drink. Participants should be encouraged to bring their own water bottles.

An updated [CDC science brief](#) notes that SARS-CoV-2 transmission remains highest through respiratory droplets carrying infectious virus. With risk of infection through fomite transmission remaining low, transmission mitigation strategies should focus on proper face mask use and physical distancing for athletes, coaches, officials, and spectators. Consistent and appropriate face mask use by people who are not fully vaccinated is imperative on the sidelines of a sporting event because of the mixing of people from different households, the likelihood of people projecting their voices, and the emergence of new SARS-CoV-2 variants.

The AAP anticipates sports organizations/school districts may choose to not operate sports programs given the new and frequently changing safety recommendations. Sports organizations/school systems may find the safety requirements difficult to enact, fear liability issues, or have concern for operating sports teams and increase risk of COVID-19 spread. Children and adolescents may choose to seek out other options for participating in sports within different settings or through another organization. As outlined in the AAP's [Organized Sports for Children, Preadolescents, and Adolescents](#) clinical report, fees for registration and

equipment can be barriers for sports participation. Pediatricians are encouraged to become familiar with the local programs that have mechanisms for children to play for a reduced cost or for parents to volunteer in exchange for lower fees.

When should face masks be worn?

The risks and benefits of indoor sports, in addition to the current community prevalence of COVID-19, should be carefully considered when making decisions about continuing or resuming indoor sports. Face masks have been shown to decrease transmission rates of SARS-CoV-2, including in the context of indoor sports. Proper use of a face mask for all indoor sports training, competition, and on the sidelines is strongly recommended for people who are not fully vaccinated, except in the case where the mask bears a safety risk, as outlined below. Proper face mask use during indoor sports decreases risk of SARS-CoV-2 transmission to rates as low as with outdoor sports.

Face masks have been shown to be well tolerated by most people who wear them for exercise; the mask may need to be removed under certain circumstances. Face masks should not be worn for competitive cheerleading (tumbling/stunting/flying) and gymnastics (while on the different apparatuses) because of the theoretical risk that the mask may get caught on objects and become a choking hazard or accidentally impair vision. During wrestling contact, a face mask could become a choking hazard and is discouraged unless an adult coach or official is closely monitoring for safety purposes. People who swim/dive/participate in water sports should not wear a face mask while they are in the water, because a wet face mask may be more difficult to breathe through. Any face mask that becomes saturated with sweat should be changed immediately. If other sport-specific scenarios arise in which a face mask may obstruct a person's view or become a choking hazard, league officials should use their discretion to determine whether risk of mask use outweighs risk of SARS-CoV-2 transmission.

Sports performed outside are lower risk for transmission of SARS-CoV-2, and a face mask may not be necessary for all sport-related activities. For outdoor sports, athletes who are not fully vaccinated should be encouraged to wear face masks on the sidelines and during all group training and competition in which there is sustained contact of 3 feet or less.

All athletes who are not fully vaccinated should always wear a face mask between practice drills, on the sidelines, arriving at or departing from the playing facility, in a locker room, while not on the playing field, and during shared transportation to/from an event. All people, regardless of vaccine status, should consider wearing a face mask in crowded indoor spaces, such as a locker room and during shared transportation. It is important that the face mask

fits the athlete well and is worn over the nose and below the chin. If the face mask is removed for a break, the athlete should remain at least 3 feet away from all other people. [Face masks](#) should be worn by coaches, officials, spectators, and volunteers at all times, unless fully vaccinated. Coaches and other club/school officials should monitor proper use and encourage all athletes to have a properly worn face mask in place in accordance with the above guidance and local regulations.

Special considerations may be appropriate when there is an increased risk of heat-related illness. Children younger than 2 years old should not wear a face mask. Younger athletes may find wearing a [face mask](#) challenging and may need to be reminded and/or assisted by parents/coaches. People should be reminded not to touch the front of the face mask and remove it from the straps whenever possible. When using cloth face coverings, they should be washed daily in hot water and not reused until cleaned.

Should my athlete/my family travel for sports competitions?

If an athlete/athlete's family is considering travel for sports competition, recommendations for minimizing risk should be provided. If anyone (athlete and/or family of athlete) has signs/symptoms consistent with COVID-19, is in quarantine for exposure, or is awaiting COVID-19 test results, they should not travel or attend any sports activities. The family should make sure to check if the area of travel requires a period of quarantine upon arrival, or if their home state requires a quarantine upon return home. Mandatory post-travel quarantine periods may affect a person's ability to attend school in person upon return home, depending on the destination's test positivity rate. Families should also review competition/tournament COVID-19 safety protocols prior to attending the event.

Important risk reduction strategies for people from different households include but are not limited to: not sharing hotel rooms/living space when away from home, not sharing transportation, not participating in unmasked social activities together away from competition (swimming in hotel pools, eating meals together, social time in hotel lobby). Recent data from the National Football League and CDC support that people from different households should not share meals and/or transportation as these were shown to be the most common causes of COVID-19 disease transmission. If shared transportation is necessary, all people should remain masked for the duration of travel together and they should avoid eating/drinking if possible. If sharing a car, opening windows when the weather allows to increase ventilation may be beneficial.

What if the youth or a family member exhibits signs or symptoms of COVID-19 or tests positive?

All parents/guardians need to report if the athlete or any household contact is exhibiting any signs or symptoms of COVID-19 or tests positive for SARS-CoV-2, even if asymptomatic. These athletes should be held out of ALL practices and games until the [CDC-recommended isolation or quarantine](#) period has expired. If the test result for SARS-CoV-2 is positive, team officials and the health department should be notified so contact tracing and appropriate quarantining can be performed. The local health department can assist in determining when it is safe for athletes and exposed contacts to return to practice, and [guidelines from the CDC](#) should be followed to determine clearance.

EVALUATION FOR RESUMPTION OF PHYSICAL ACTIVITY/SPORTS ACTIVITY FOR CHILD/ADOLESCENT WITH COVID-19

What to do if a child or adolescent who is active in sports and/or physical activity tests positive for SARS-CoV-2?

All children and adolescents who test positive for SARS-CoV-2 should notify their pediatrician. For a child or adolescent who is SARS-CoV-2–positive who is either **asymptomatic** or **mildly symptomatic** (<4 days of fever >100.4°F, <1 week of myalgia, chills, and lethargy) a **phone or telemedicine visit with the pediatrician is recommended, at a minimum**, so appropriate guidance can be given to the family. All individuals should be instructed on proper quarantine (duration and restricting exposure to other people within the house) and the importance of not exercising while in quarantine. The SARS-CoV-2 infection should be documented within the individual's medical record.

Recent literature has reported a much lower incidence of myocarditis, 0.5% to 3%, than earlier in the pandemic. Children and adolescents who were found to have myocarditis were in the asymptomatic or mildly symptomatic category. Therefore, **the phone/telemedicine visit should include appropriate questions about chest pain, shortness of breath out of proportion for upper respiratory tract infection, new-onset palpitations, or syncope**. Any child or adolescent who reports these signs/symptoms should have an in-office visit that

includes a complete physical examination, and consideration for an EKG should be given prior to clearance to return to physical activity.

For those with **moderate** symptoms of COVID-19 (≥ 4 days of fever $>100.4^{\circ}\text{F}$, ≥ 1 week of myalgia, chills, or lethargy, or a non-ICU hospital stay and no evidence of multisystem inflammatory syndrome in children [MIS-C]), an evaluation by their primary care physician (PCP) is recommended. People who test positive for SARS-CoV-2 should not exercise until they are cleared by a physician. PCP evaluation is currently recommended after symptom resolution and completion of quarantine. The PCP will review the American Heart Association 14-element screening evaluation with special emphasis on cardiac symptoms including **chest pain, shortness of breath out of proportion for upper respiratory tract infection, new-onset palpitations, or syncope** and perform a complete physical examination and an EKG. If cardiac workup is negative, gradual return to physical activity may be initiated after 10 days have passed from the date of the positive test result, and a minimum of 10 days of symptom resolution has occurred off fever-reducing medicine. If cardiac sign/symptom screening is positive or EKG is abnormal, referral to a cardiologist is recommended. The cardiologist may consider ordering a troponin test and an echocardiogram at the time of acute infection. Depending on the patient's symptoms and their duration, additional testing including a Holter monitor, exercise stress testing, or cardiac magnetic resonance imaging (MRI) may be considered. If cardiac workup is negative, gradual return to physical activity may be allowed after 10 days have passed from the date of the positive test result, and a minimum of 10 days of symptom resolution has occurred off fever-reducing medicine.

For children and adolescents with **severe** COVID-19 symptoms (ICU stay and/or intubation) or **MIS-C**, it is recommended they be restricted from exercise for a minimum of 3 to 6 months and obtain cardiology clearance prior to resuming training or competition. Coordination of follow-up cardiology care should be arranged prior to hospital discharge. Other testing may be ordered based on the child or adolescent's sign and symptoms.

For children and adolescents with a history of SARS-CoV-2 infection who have already advanced back to physical activity/sports on their own and do not have any abnormal signs/symptoms, no further workup is necessary. It is recommended that these children and adolescents update their pediatrician's office via a phone call to ensure the history of SARS-CoV-2 infection is added to their medical record.

After testing positive for SARS-CoV-2, how should children and adolescents return to physical activity and/or sports?

The AAP recommends not returning to sports/physical activity until children or adolescents have completed quarantine, the minimum amount of symptom-free time (as outlined above) has passed, they can perform normal activities of daily living, and they display no concerning signs/symptoms. All children younger than 12 years may progress back to sports/physical education classes according to their own tolerance. For children and adolescents 12 years and older, a graduated return-to-play protocol is recommended. The progression should be performed over the course of a 7-day minimum. Consideration for extending the progression should be given to children and adolescents who experienced **moderate** COVID-19 symptoms, as outlined above.

All children and adolescents and their parents/caregivers should be educated to monitor for **chest pain, shortness of breath out of proportion for upper respiratory tract infection, new-onset palpitations, or syncope** when returning to exercise. If any of these signs and/or symptoms occur, the AAP recommends immediately stopping exercise and the athlete should see their pediatrician for an in-person assessment. Consideration should be given for pediatric cardiology consultation.

The following progression was adapted from Elliott N, et al, infographic, *British Journal of Sports Medicine*, 2020:

Stage 1: Day 1 and Day 2 - (2 Days Minimum) - 15 minutes or less: Light activity (walking, jogging, stationary bike), intensity no greater than 70% of maximum heart rate. NO resistance training.

Stage 2: Day 3 - (1 Day Minimum) - 30 minutes or less: Add simple movement activities (eg. running drills) - intensity no greater than 80% of maximum heart rate.

Stage 3: Day 4 - (1 Day Minimum) - 45 minutes or less- Progress to more complex training - intensity no greater than 80% maximum heart rate. May add light resistance training.

Stage 4: Day 5 and Day 6 - (2 Days Minimum) - 60 minutes - Normal training activity - intensity no greater than 80% maximum heart rate.

Stage 5: Day 7 - Return to full activity/participation (ie, contests/competitions).

AAP Resources

- [Preparticipation Physical Evaluation, 5th Edition Monograph](#)

- [Organized Sports for Children, Preadolescents, and Adolescents](#)
- [Overuse Injuries, Overtraining, and Burnout in Child and Adolescent Athletes](#)
- [Physical Activity Assessment and Counseling in Pediatric Clinical Settings](#)
- [COVID-19 Planning Considerations: Guidance for School Re-entry](#)
- [COVID-19 and Safe Transportation in Motor Vehicles](#)
- [COVID-19 Testing Guidance](#)
- [Cloth Face Coverings](#)
- [Supporting Healthy Nutrition and Physical Activity During the COVID-19 Pandemic](#)
- [Coding During the COVID-19 Public Health Emergency \(PHE\)](#)
- [COVID-19 Vaccine for Children](#)
- [PPE History Form](#)
- [PPE Physical Examination Form](#)

Information for Families from HealthyChildren.org

- [Cloth Face Coverings During Sports](#)
- [Mask Mythbusters: 5 Common Misconceptions about Kids & Cloth Face Coverings](#)
- [Youth Sports & COVID-19: Understanding the Risks](#)
- [Youth Sports Participation During COVID-19: A Safety Checklist](#)

Additional Information

- [American Medical Society for Sports Medicine: Interim Guidance on the Pre-participation Physical Exam for Athletes during the SARS-CoV-2 Pandemic](#)
- [Centers for Disease Control and Prevention: Consideration for Youth Sports](#)
- [World Health Organization: COVID-19 and Staying Active](#)
- [American College of Cardiology: Returning To Play After Coronavirus Infection: Pediatric Cardiologists' Perspective](#)

- [Centers for Disease Control and Prevention: When You've Been Fully Vaccinated](#)

References



Interim Guidance Disclaimer: The COVID-19 clinical interim guidance provided here has been updated based on current evidence and information available at the time of publishing. Guidance will be regularly reviewed with regards to the evolving nature of the pandemic and emerging evidence. All interim guidance will be presumed to expire on December 31, 2021 unless otherwise specified.

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