

Advise kids sidelined by pandemic to return to sports gradually

March 1, 2021

Pamela J. Lang, M.D., FAAP

Article type: [Focus on Subspecialties](#)

Topics: [COVID-19](#), [Infectious Diseases](#), [Injury, Violence & Poison Prevention](#), [Preparticipation Exam](#), [Public Health](#), [Sports Medicine/Physical Fitness](#)



The COVID-19 pandemic has altered kids' participation in sports and physical education, with more children having prolonged lapses in formal exercise. Deconditioning is a consequence of these longer periods of relative inactivity.

When returning to physical activity, children should gradually increase the frequency, duration, volume and intensity of activity to avoid injury.

Risks of rapid return to activity

Relative inactivity leads to decreased cardiorespiratory fitness, muscle strength and endurance, and loss of sport-specific skills. Increasing load and demand on the body without allowing adequate time for acclimatization and recovery raises the risk of injury. Rapid increases in training volume (duration of training session, miles, repetitions), frequency and intensity are risk factors for overuse injuries like stress fracture and tendinopathy.

In growing children, a rapid increase in activity contributes to apophyseal (e.g., Osgood-Schlatter disease, Little League elbow) and physeal stress injury (e.g., Little League shoulder, gymnast wrist). Furthermore, deconditioned athletes will have more difficulty cooling their body even at normal temperatures. This puts

them at risk for exertion-related heat illness like muscle cramps, heat-related syncope, heat exhaustion and heat stroke, as the body is required to acclimate to both the increase in physical load and the need to dissipate heat.

Importance of preparticipation physical exam

Pediatricians are well-suited to advise children and their families on the importance of a graduated return to sports and activity after a period of relative inactivity.

A preparticipation physical exam (PPE), including a thorough personal and family history, can be done prior to return to sports and physical education class to screen for risk factors for injury and sudden death. History of COVID-19 infection and symptoms also should be included in the PPE.

Any child with history of a positive COVID-19 test, regardless of whether they had symptoms, should be screened for chest pain, shortness of breath, syncope and palpitations and have a complete physical exam. Children who had moderate or severe symptoms of COVID-19 should be referred to a cardiologist, according to AAP interim guidance (<https://bit.ly/3itYJgQ>).

Assessment of physical activity can help determine current fitness level and provide a baseline for guidance on activity progression. The physical activity vital sign screening tool may be helpful in quantifying a child's physical activity (see Figure 1 at <http://bit.ly/2Mcncg6>).

Guidelines for return to sports and activity

Kids who have missed their sports and activities may be eager to try to pick up where they left off. Thus, it is important to stress the importance of a gradual increase in activity.

A preplanned schedule can guide a gradual increase in activity. Based on assessment of current and previous activity levels, children should return to activity at 25% to 50% of the volume and intensity at which they were participating previously. More relative time should be spent resting to allow adequate recovery between training activities. Each week, volume and relative work to rest time can be increased as the body becomes accustomed to the increasing demands. Any difficulty keeping up with exercise progression should serve as a sign to decrease training load.

The initial return to sports should focus on skill and movement development before adding the complexity of a scrimmage or competition to account for loss of sport-specific skills. The timeline for a child's progression to previous levels should be based on the degree of deconditioning, the demands of the sport and level of competition. Children who had longer periods of relative inactivity and are more deconditioned require slower progression.

Return to physical activity and sports after COVID-19 infection is an additional consideration. Children who were asymptomatic or had mild symptoms may begin their gradual return at least 10 days after their positive test provided they have been symptom free without fever-reducing medications for at least 24 hours. Children who had moderate to severe symptoms should obtain cardiology clearance prior to return to exercise and require longer asymptomatic periods with daily activity prior to introducing exercise, according to the AAP interim guidance.

Dr. Lang is a member of the AAP Council on Sports Medicine and Fitness Executive Committee.

Resources

- [AAP clinical report "Physical Activity Assessment and Counseling in Pediatric Clinical Settings"](#)

- [“Preparticipation Physical Evaluation,” 5th Edition](#)
- [“Joint Consensus Guidelines for Transition Periods: Safe Return to Training Following Inactivity” from the National Strength and Conditioning Association and Collegiate Strength and Conditioning Coaches Association](#)

Copyright © 2021 American Academy of Pediatrics