

BMRSD Graduated Return to Play Protocol for COVID-19 Positive Athletes

Purpose:

COVID-19 can cause myocarditis, a condition marked by inflammation of the heart muscle. Research studies have shown that COVID-19 can have adverse effects on the heart and lungs that can go undetected when the individual has a “mild” case or tests positive and has no symptoms of the virus. It has been found that the heart can develop inflammation that will not show signs and symptoms until put under stress. Common symptoms may include chest pain, abnormal heartbeat (arrhythmia), and shortness of breath. Myocarditis is one of the leading causes of sudden cardiac death in athletes. If left untreated, it can cause permanent damage to your heart and lead to serious health concerns. All youth who have had a positive COVID test must be cleared by their pediatric health care provider prior to returning to organized sports. Even those who are asymptomatic could be at risk for myocarditis.

Mildly Symptomatic or Asymptomatic Cases:

Youth with asymptomatic illness (a positive COVID-19 test with no symptoms) or with mild COVID-19 illness (including fever [oral >100.0°F] for **3 days or less**, fatigue, loss of smell/taste, nausea, vomiting, diarrhea, headache, cough, congestion, or sore throat).

- Must be at least 10 days from the date of symptom onset or the date tested if asymptomatic
- Must be symptom-free for at least 3 days during normal activities
- Must avoid exercise until cleared by a physician
 - 14-point screening evaluation
 - Complete physical examination
- If screening is normal: may begin the gradual return to play protocol
- If screening is abnormal: an EKG must be performed and the athlete must be referred to a cardiologist for evaluation and further testing

14-Point Screening:

Healthcare providers should complete this screening based on the American Academy of Pediatrics [guidelines](#).

Moderately Symptomatic Cases:

Youth with moderate COVID-19 illness (including persistent fever [oral >100.0°F] for **more than 3 days**, chills, body aches, loss of smell/taste, significant lethargy/fatigue, cough, hypoxia, pneumonia, shortness of breath, chest pain, or chest tightness)

- Must be at least 10 days from the date of symptom onset
- Must be symptom-free for at least 3 days during normal activities
- Must avoid exercise until cleared by a physician
 - EKG
 - Cardiac consult with additional testing as appropriate such as: Holter monitoring, exercise stress testing, cardiac MRI
- If consult/testing is normal: may begin the gradual return to play protocol. Consideration for extending the progression should be given to athletes who experienced **moderate** COVID-19 symptoms

Severely Symptomatic or MIS-C Cases:

Youth with severe COVID-19 illness, those who required ICU hospitalization, had abnormal cardiac testing during the acute infection, or had multisystem inflammatory syndrome in children (MIS-C)

- May not exercise for at least 3-6 months
- Must be cleared by a cardiologist
- Extensive cardiac testing should include but is not limited to: troponin tests, echocardiogram, and cardiac MRI

Graduated Return to Play Protocol

Stage 1:

Day 1 _____ (date)

15 minutes or less of light aerobic activity (brisk walking, jogging, stationary bike). No resistance training.

If heart monitor available: no greater than 70% of maximum heart rate.

Day 2 _____ (date)

15 minutes or less of light aerobic activity (brisk walking, jogging, stationary bike). No resistance training.

If heart monitor available: no greater than 70% of maximum heart rate.

Stage 2:

Day 3 _____ (date)

30 minutes or less adding simple movement activities, e.g. running drills.

If heart monitor available: no greater than 80% of maximum heart rate.

Stage 3:

Day 4 _____ (date)

45 minutes or less progressing to more complex training. May add light resistance training.

If heart monitor available: no greater than 80% of maximum heart rate.

Stage 4:

Day 5 _____ (date)

60 minutes or less of normal training activity.

If heart monitor available: no greater than 80% of maximum heart rate.

Day 6 _____ (date)

60 minutes or less of normal training activity.

If heart monitor available: no greater than 80% of maximum heart rate.

Stage 5:

Day 1: _____ (date)

Full regular practice

If heart monitor available: no greater than 80% of maximum heart rate.

Stage 6:

Day 1: _____ (date)

No restrictions.

Adapted from Elliott N, Martin R, Heron N, et al. Br J Sports Med.

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Red flags: If the athlete develops any symptoms below, stop all activity, report symptoms to the coach overseeing practice, and consult the student's pediatrician/cardiologist:

- chest pain especially with exertion or worse when lying down
- shortness of breath
- palpitations (heart beating funny)
- dizziness/fainting ongoing fatigue
- any other unusual sign or symptoms that they have not experienced while participating prior to having COVID.

If symptoms occur, physicians must be consulted for further evaluation prior to resuming the protocol.

AGE	MAX HR	80%	70%
13	207	165	145
14	206	165	145
15	205	164	144
16	204	163	143
17	203	162	142
18	202	161	141

References:

<https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/covid-19-interim-guidance-return-to-sports/>

<https://bjsm.bmj.com/content/bjsports/early/2020/06/22/bjsports-2020-102637.full.pdf>