RETURN TO PLAY AFTER COVID-19

Considerations for athletes

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The COVID-19 pandemic has necessitated large changes to group gatherings including suspension or cancellation of recreational and competitive sports. With vaccine rollout and the subsequent lifting of regulations, what do we need to know to facilitate a safe return to play for athletes who have had a COVID-19 infection?

What are the risks to athletes to return to play after COVID-19?

Current evidence on the effects of COVID-19 is evolving rapidly and stems mainly from preliminary research, consensus statements and clinical expertise. One main concern for the cardiovascular system is the potential for cardiac injury either directly due to viral myocarditis or indirectly through the development of cytokine storms (isolated to severe cases)[1,2]. The majority of data on cardiac injury from COVID-19 is from severely ill patients who were hospitalized[1-3]. The incidence of myocarditis in those who were asymptomatic or had mild to moderate cases of COVID-19 is unclear[1,3]. Nevertheless, this is important as exercising in the presence of myocarditis is associated with increased morbidity and mortality[3].

The long-term respiratory effects of COVID-19 are not currently known; however, it is important to note that survivors of the 2003 SARS-CoV epidemic reported persistent complications in lung function and exercise capacity[4]. There have been many instances of athletes, including those with mild cases of COVID-19, reporting prolonged symptoms such as a persistent cough and dyspnea, made worse by exercise[3]. In the majority of mild to moderate cases, symptoms typically resolve within

Key Notes & Recommendations:

- After COVID-19 infection, there is concern of potential cardiac injury and respiratory effects for athletes, depending on the severity of the illness.
- Athletes should wait until they are 10-days symptom-free and receive medical clearance before starting a return to play program. (& meet Public Health Guidelines)
- Each stage of the program should last a minimum of 24-48 hours and include monitoring for subjective symptoms (e.g., excessive fatigue, breathlessness).

weeks[3], but may indicate pulmonary-vascular complications such as pulmonary embolism, concomitant pneumonia or post-inflammatory bronchoconstriction should they be "progressive, non-resolving or worsening"[1].

How do I know when an athlete can safely return to training?

Current recommendations suggest that a progressive return to sport program should be considered **only after the athlete is 10-days symptom-free and their local public health quarantine period is completed,** as the course of severe deterioration from COVID-19 infection occurs after approximately one week after the onset of symptoms[1,5] (including but not limited to: shortness of breath, new, persistent dry cough, fever, GI symptoms such as nausea and diarrhea and loss of taste/smell). According to the English and Scottish Institute of Sport[5], in addition to the above, before beginning the program, the athlete should:

- Be able to complete regular activities of daily living,
- Be able to walk ~500m on the flat without excessive fatigue or breathlessness,

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- Be off all medicinal treatment related to COVID-19 infection (e.g., paracetamol)

It is recommended for competitive athletes who tested positive for COVID-19, regardless of symptoms, to complete a medical history and physical examination. Athletes who experienced more severe cardiac symptoms during their illness such as chest pain, palpitations, severe breathlessness or syncope warrant further cardiac and pulmonary tests (i.e. 12-lead ECG, spirometry)[1-3,6]. Those who have had more severe infections and/or required hospitalization should have a full medical assessment before beginning any return to sport program, which may include blood testing for inflammatory markers and/or renal hematological monitoring, other cardiac monitoring such as an ECHO or cardiac MRI, and further pulmonary tests such as a chest x-ray[3,5-6]. Athletes with other medical conditions such as diabetes, cardiovascular disease or renal disease should also have a medical assessment before starting any return to sport program[5].

What are the stages to return to play after COVID-19?

Similar to any return to play protocol, the program after COVID-19 should be progressive and include monitoring of symptoms at every stage. Following medial clearance, the athlete may begin a stepwise program that increases in training frequency, duration, and intensity. If any symptoms return, including excessive fatigue, the athlete should return to the previous stage and only progress after a minimum of 24 hours of rest without symptoms[5]. See the infographic below for current recommendations for athletes by Elliott et al. 2020.

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