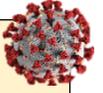


BEST PRACTICE GUIDELINES FOR RETURN TO PLAY AFTER COVID-19

Considerations for Athletes



[As of May 2021]

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 hospitalized¹⁻³. 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 mortality³.

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 capacity⁴. 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 exercise³. 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).

weeks³, 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 Sport⁵, 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,

- 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 program⁵.

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 medical 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 symptoms⁵. See the info-graphic below for current recommendations for athletes by Elliott et al. 2020.

REFERENCES:

1. Salman D, et al. BMJ. [2021 Jan 8;372](#).
2. Baggish A, et al. BJSM. [2020 Oct;54\(19\):6-8](#).
3. Wilson MG, et al. BJSM. [2020 Oct 1;54:1157-61](#).
4. Barker-Davies RM, et al. BJSM. [2020 Aug 1;54\(16\):949-59](#).
5. Elliott N, et al. BJSM. [2020 Oct 1;54\(19\):1174-5](#).
6. Phelan D, et al. JAMA Cardiology. [2020 Oct 1;5\(10\):1085-6](#).

GRADUATED RETURN TO PLAY PROTOCOL

UNDER MEDICAL SUPERVISION

	STAGE 1 10 DAYS MINIMUM	STAGE 2 2 DAYS MINIMUM	STAGE 3A 1 DAY MINIMUM	STAGE 3B 1 DAY MINIMUM	STAGE 4 2 DAYS MINIMUM	STAGE 5 EARLIEST DAY 17	STAGE 6
ACTIVITY DESCRIPTION	MINIMUM REST PERIOD	LIGHT ACTIVITY	FREQUENCY OF TRAINING INCREASES	DURATION OF TRAINING INCREASES	INTENSITY OF TRAINING INCREASES	RESUME NORMAL TRAINING PROGRESSIONS	RETURN TO COMPETITION IN SPORT SPECIFIC TIMELINES
EXERCISE ALLOWED	WALKING, ACTIVITIES OF DAILY LIVING	WALKING, LIGHT JOGGING, STATIONARY CYCLE, NO RESISTANCE TRAINING	SIMPLE MOVEMENT ACTIVITIES E.G. RUNNING DRILLS	PROGRESSION TO MORE COMPLEX TRAINING ACTIVITIES	NORMAL TRAINING ACTIVITIES	RESUME NORMAL TRAINING PROGRESSIONS	
% HEART RATE MAX		<70%	<80%	<80%	<80%	RESUME NORMAL TRAINING PROGRESSIONS	
DURATION	10 DAYS	<15 MINS	<30 MINS	<45 MINS	<60 MINS	RESUME NORMAL TRAINING PROGRESSIONS	
OBJECTIVE	ALLOW RECOVERY TIME, PROTECT CARDIO-RESPIRATORY SYSTEM	INCREASE HEART RATE	INCREASE LOAD GRADUALLY, MANAGE ANY POST VIRAL FATIGUE SYMPTOMS	EXERCISE, COORDINATION AND SKILLS/TACTICS	RESTORE CONFIDENCE AND ASSESS FUNCTIONAL SKILLS	RESUME NORMAL TRAINING PROGRESSIONS	
MONITORING	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	

ACRONYMS: I-PRRS (INJURY - PSYCHOLOGICAL READINESS TO RETURN TO SPORT); RPE (RATED PERCEIVED EXERTION SCALE)

NOTE: THIS GUIDANCE IS SPECIFIC TO SPORTS WITH AN AEROBIC COMPONENT

COVID-19 RETURN TO PLAY PASSPORT INFORMATION

Dear Athletes, Parents and Coaches,

Eramosa Physiotherapy Associates is dedicated to supporting the safe and successful transition to returning to sport following COVID-19 infection. COVID-19 is an illness that can affect many organs of the body including the heart and lungs. In addition, there is evidence of athletes reporting symptoms that may persist weeks to months after COVID-19 infection. **It is therefore important that immediately after testing positive for COVID-19 to FIRST: rest and self-isolate according to public health guidelines, and SECOND: receive medical clearance to begin a gradual return to regular sport activities once the infection has cleared.**

The current understanding of protocols for return to play following COVID-19 infection is quickly evolving. The recommendations are subject to change as more information on recovery from COVID-19 for athletes becomes available. Any return to play considerations must be accompanied by a medical doctor's approval and will also require your team trainer's approval in coordination with a registered health professional. Below is a summary of what to expect over the next few weeks:

- **Return to Play Stages***: There are 6 stages that will be monitored by your medical doctor and/or physiotherapist. Before beginning the return to play program, it is important that you no longer test positive for COVID-19 and that you have been symptom free and met your local public health guideline symptom-free quarantine period. It is recommended that you have at **minimum 10 days of symptom free rest**, with only gentle activities (e.g. walking, household chores) before proceeding into the stages of activity. Receiving medical clearance from your doctor to begin the program will work towards your rest period.
- Each stage requires a minimum of 24-48 hours before moving on to the next stage. Any return of symptoms (including excessive fatigue) results returning to the previous stage and progress again after a minimum of 24 hours' period of rest with no reoccurrence of symptoms.

Stage 1	Minimum symptom free rest period of 10 days to allow for recovery, in adherence with public health guidelines
Stage 2	Light activity to increase heart rate. (2 days minimum)
Stage 3A	Increase frequency of training to gradually increase the exercise load and manage fatigue.
Stage 3B	Increase duration of training to improve exercise coordination and skills.
Stage 4	Increase intensity of training to restore confidence and assess functional skills. (2 days min)
Stage 5	Resume normal training progressions.
Stage 6	Return to play – completion of the COVID-19 Passport will be required to return to full practice in sport-specific timelines.

*Stages recommended by: Elliott et al. Br J Sports Med [2020;0:1-2](https://doi.org/10.1136/bjsports-2020-101121).

Athlete Name: _____ Sport/Activity: _____

COVID-19 RETURN TO PLAY PASSPORT

Level of Activity: _____ Date of Last Positive COVID-19 PCR Test: _____

Date of Last COVID-19 Antigen Test (if available): _____

Stage*	Return of Symptoms? Yes/No	Completion Date Or Estimation	Responsible/ Initial
Stage 1 - REST: Initial Medical Clearance before proceeding <i>Activities at this time can include walking, gentle yoga/stretching and light activities of daily living (e.g. household chores)</i>	10 DAYS MIN		
Stage 2: Light Activity <i>E.g., Walking, light jogging, stationary cycle, no resistance training</i>	2 DAYS MIN		
Stage 3A: Increase Frequency of Training <i>I.e., Simple movement activities such as running drills</i>	1 DAY MIN		
Stage 3B: Increase Duration of Training <i>I.e., Progression to more complex training activities</i>	1 DAY MIN		
Stage 4: Increase Intensity of Training <i>I.e., Resume normal training activities</i>	2 DAYS MIN		
Stage 5: Resume Normal Training Progressions	EARLIEST 21 Days		
Stage 6: Return to Play			

- Any return of symptoms (including excessive fatigue) results in the athlete returning to previous stage and progress again after a minimum of 24 hours' period of rest without symptoms.
- In addition to symptoms, monitoring may also include: resting heart rate, rated perceived exertion, levels of sleep, stress, fatigue, and muscle soreness.

*Stages recommended by:
Elliott et al. Br J Sports Med
[2020;0:1-2.](#)
See Reverse for Details

GRADUATED RETURN TO PLAY PROTOCOL

UNDER MEDICAL SUPERVISION

	STAGE 1 10 DAYS MINIMUM	STAGE 2 2 DAYS MINIMUM	STAGE 3A 1 DAY MINIMUM	STAGE 3B 1 DAY MINIMUM	STAGE 4 2 DAYS MINIMUM	STAGE 5 EARLIEST DAY 17	STAGE 6
ACTIVITY DESCRIPTION	MINIMUM REST PERIOD	LIGHT ACTIVITY	FREQUENCY OF TRAINING INCREASES	DURATION OF TRAINING INCREASES	INTENSITY OF TRAINING INCREASES	RESUME NORMAL TRAINING PROGRESSIONS	RETURN TO COMPETITION IN SPORT SPECIFIC TIMELINES
EXERCISE ALLOWED	WALKING, ACTIVITIES OF DAILY LIVING	WALKING, LIGHT JOGGING, STATIONARY CYCLE, NO RESISTANCE TRAINING	SIMPLE MOVEMENT ACTIVITIES E.G. RUNNING DRILLS	PROGRESSION TO MORE COMPLEX TRAINING ACTIVITIES	NORMAL TRAINING ACTIVITIES	RESUME NORMAL TRAINING PROGRESSIONS	
% HEART RATE MAX		<70%	<80%	<80%	<80%	RESUME NORMAL TRAINING PROGRESSIONS	
DURATION	10 DAYS	<15 MINS	<30 MINS	<45 MINS	<60 MINS	RESUME NORMAL TRAINING PROGRESSIONS	
OBJECTIVE	ALLOW RECOVERY TIME, PROTECT CARDIO-RESPIRATORY SYSTEM	INCREASE HEART RATE	INCREASE LOAD GRADUALLY, MANAGE ANY POST VIRAL FATIGUE SYMPTOMS	EXERCISE, COORDINATION AND SKILLS/TACTICS	RESTORE CONFIDENCE AND ASSESS FUNCTIONAL SKILLS	RESUME NORMAL TRAINING PROGRESSIONS	
MONITORING	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	SUBJECTIVE SYMPTOMS, RESTING HR, I-PRRS, RPE	

ACRONYMS: I-PRRS (INJURY - PSYCHOLOGICAL READINESS TO RETURN TO SPORT); RPE (RATED PERCEIVED EXERTION SCALE)

NOTE: THIS GUIDANCE IS SPECIFIC TO SPORTS WITH AN AEROBIC COMPONENT



INFOGRAPHIC CREATED BY UK HOME COUNTRIES INSTITUTES OF SPORT; ELLIOTT, N. ELLIOTT, J. BISWAS, A. MARTIN, R. HERON, N.

From: Elliott et al. Br J Sports Med [2020;0:1-2.](https://doi.org/10.1136/bjsports-2020-101422)