COVID-19 AND SPORT
With risk of cardiological, renal, respiratory and haematological complications, it is best practice to follow steady resumption of training, paying attention to physical and psychological factors after COVID-19 infection.

SCOPE OF THIS INFOGRAPHIC
This guidance takes into account public health guidelines in the UK (although we hope its content is relevant more widely) and available expert opinion at time of publication and is for use by healthcare practitioners. It is applicable to performance athletes who have had mild to moderate illness. Those requiring hospital admission merit further assessment.

COVID-19 CLINICAL GUIDANCE
If an athlete develops an illness with symptoms of COVID-19, they should follow national guidance, speak to their sports medicine doctor, and undertake appropriate quarantine, testing and tracing.

They should maintain good hydration, a balanced diet and, if symptoms worsen or persist beyond 7 days, seek further medical review.

Quarantine when living with others includes practical aspects such as isolating within rooms not accessed by other persons, maintaining supplies of food and water, use of a different toilet and washing dirty linen and clothes regularly.

GRADUATED RETURN TO PLAY (GRTP) PROTOCOL
A GRTP is a progressive programme that introduces physical activity and sport in a stepwise fashion.

Key considerations
► Before considering GRTP, the athlete must be able to complete activities of daily living and walk 500m on the flat without excessive fatigue or breathlessness.
► They should have at least 10 days’ rest and be 7 days symptom-free before starting.
► Less aerobically intense sports like golf may progress quicker. Experience suggests that some athletes take over 3 weeks to recover.

Some monitoring may add value, which could include
► Resting heart rate.
► Rated perceived exertion.
► Sleep, stress, fatigue and muscle soreness.
► Injury-Psychological Readiness to Return to Sport.

If any symptoms occur (including excessive fatigue) while going through GRTP, the athlete must return to the previous stage and progress again after a minimum of 24 hours’ period of rest without symptoms.

ATHLETES WITH COMORBIDITIES
Athletes diagnosed with COVID-19 and who have medical conditions such as diabetes, cardiovascular disease or renal disease should have a medical assessment before commencing GRTP.

FURTHER ASSESSMENTS
Athletes who have a complicated or prolonged COVID-19 illness may need further investigations, including
Infographic

► Blood testing for markers of inflammation (high sensitivity-Troponin, Brain Natriuretic Peptide and C reactive protein).3 4

► Cardiac monitoring (12-lead ECG, echocardiogram, exercise tolerance test and cardiac MRI).3 4

► Respiratory function assessment (spirometry).

► Renal and haematological monitoring.

Sports Medicine, Sportscotland Institute of Sport, Stirling, UK
Sports Medicine, NHS Tayside, Dundee, UK
Sports Medicine, Sport Wales, Cardiff, UK
Sport and Exercise Medicine, Cwm Taf Morgannwg University Health Board, Abercynon, UK
Sports Medicine, Sports Institute Northern Ireland, Newtownabbey, UK
Queen’s University Belfast Centre for Public Health, Belfast, UK
Faculty of Medicine Health and Life Sciences, Queen’s University Belfast, Belfast, UK
Sports Medicine, English Institute of Sport, Manchester, UK

Correspondence to Dr Niall Elliott, Sports Medicine, Sport Scotland Institute of Sport, Stirling FK9 5PH, UK; niall.elliott@sisport.com
Twitter Niall Elliott @dundeesportsmed and Jonathan Elliott @jelliott1989

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References