






# Infographic. Clinical recommendations for return to play during the COVID-19 pandemic

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## COVID-19 AND RETURN TO PLAY

The world of sport has recently returned to training and competition following suspension due to the COVID-19 pandemic. It is concerning that a number of athletes have tested positive for COVID-19 after returning to competition.<sup>1</sup> Numerous authors have attempted to address return to play given the importance and complexity of the issue, with notable attention on possible cardiac implications.<sup>2-6</sup>

## SCOPE OF THE INFOGRAPHIC

The specific recommendations shown in the present infographic (figure 1) have been generated by a panel of international experts and represent a compilation of the numerous approaches used to inform resumption of regular sports during the COVID-19 pandemic. Despite the different regulations around the world and the particular characteristics of each sport, it is essential to provide informative, consistent and specific guidance for safe return to training and competition at this most difficult time.

## RECOMMENDATIONS

COVID-19 is a systemic disease affecting the endothelium and all organs, especially the heart and lungs with more severity and clinical significance. Therefore, our recommendations for safe return to sport are based on a comprehensive clinical evaluation (ie, cardiac and respiratory) and have been designed for six different groups according to the level of exposure to COVID-19. These groups are based on a previous report by Phelan *et al*,<sup>3</sup> which are applicable to both leisure time and professional athletes. It is imperative that group allocation is determined beforehand through a medical examination performed in cooperation with a respiratory physician and/or cardiologist. Specific recommendations for each group are provided based on current evidence and expert opinion (see table 1).

## SPECIAL CONSIDERATIONS

The resumption of sporting activity should be determined on a case-by-case basis and consider the individual situation of the athlete, including pre-existing conditions, as well as the type of sport and the risk of infection from other athletes (eg, increased

risk in contact/team sports). Ideally, the final decision to return to play will be based on the results of the individual assessment in consultation with the sport and exercise medicine physician, specialists in pulmonary medicine and sport cardiologists (or extended multidisciplinary team), coaches

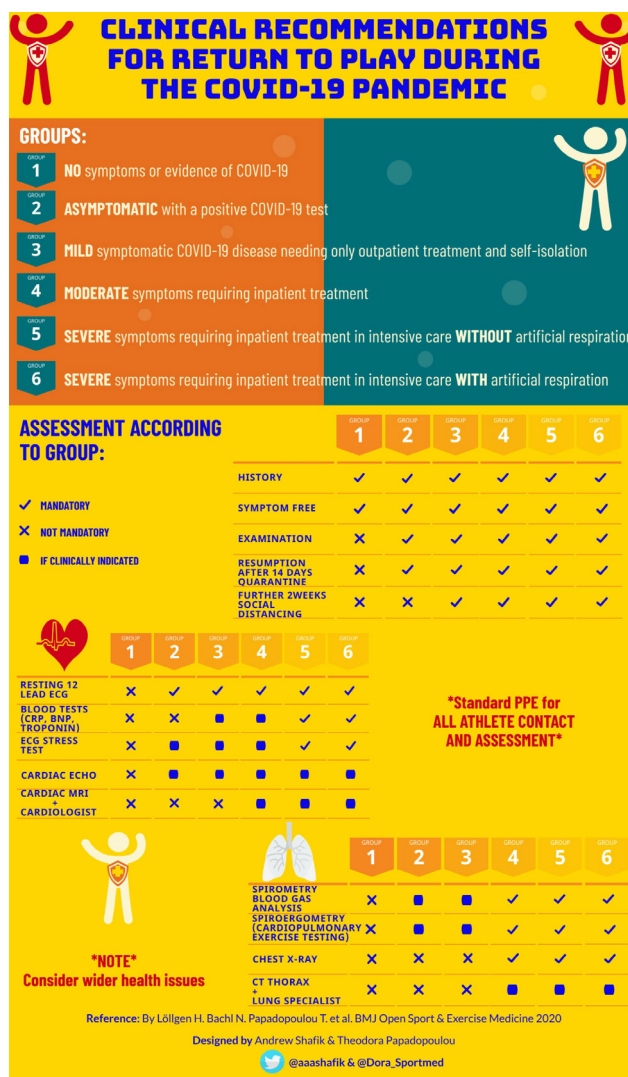


Figure 1 Recommendations for return to sport during the COVID-19 pandemic. BNP, brain natriuretic peptide; CRP, C-reactive protein.

**Table 1** Clinical recommendations for testing individual groups

Recommendations	Groups					
	1	2	3	4	5	6
Tested randomly or by finding antibodies. Only possible PPE or standard exam	X					
Need for usual check-up including ECG and echo		X				
Tested following contact with somebody who was positive or tested because having typical signs and symptoms and out of hospital treatment		X				
In-hospital treatment but quarantine at home			X	X		
For diagnosis only			X			
Treatment with close monitoring due to symptoms but normal ward with isolation and quarantine				X		
Need thorough preparticipation exam, CPET, echo and other necessary assessments			X	X		
Serious illness with difficult progression and intensive care unit without artificial ventilation					X	X
Artificial ventilation						X
Need thorough examination before discharge (eg, MRI)					X	X

CPET, cardiopulmonary exercise testing; PPE, pre-participation evaluation.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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**To cite** Löllgen H, Bachl N, Papadopoulou T, *et al.* *Br J Sports Med* Epub ahead of print: [please include Day Month Year]. doi:10.1136/bjsports-2020-102985

Accepted 22 August 2020

*Br J Sports Med* 2020;0:1–2.  
doi:10.1136/bjsports-2020-102985

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and training specialists. After a prolonged period of interruption in sport caused by more severe health issues, increments in training should be gradual, individualised and supervised by periodic monitoring of cardiac and respiratory markers to detect potential signs and symptoms. Although the present recommendations are focused primarily on pulmonary and cardiac assessments, given the wider health-related issues caused by COVID-19, more comprehensive evaluation including psychological status, examination of muscular function and other suspected collateral issues should be considered to provide more detailed and thorough information for safe return to play.

**FURTHER ESSENTIAL READING**

For more detailed description of the risk factors and symptoms that could inform the decision to return to sport as safely as possible, consult Baggish *et al.*,<sup>5</sup> Carmody *et al.*<sup>7</sup> and Niess *et al.*<sup>8</sup>

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**Correction notice** This article has been corrected since it published Online First. Ref 8 has been corrected.

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**Contributors** All authors contributed significantly and in line with the instructions to authors to merit publication.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.