

# COVID-19: looking to the future

## *COVID-19: una mirada al futuro*

**Miguel del Valle**

*Escuela de Medicina del Deporte. Universidad de Oviedo.*

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Due to its great virulence and ease of transmission, the COVID-19 pandemic has affected the health of many of the people who have contracted the illness, and despite drastic measures being taken to slow the spread by preventing many everyday activities, the number of positive cases and deaths continue to grow. This health crisis - with its unprecedented evolution - has generated lifestyle changes among society on an international scale, reducing the quality of life we enjoyed just a year ago.

We know that this highly contagious and potentially lethal virus is mainly transmitted through respiratory droplets, aerosols and contact, requiring close human contact for its spread. This justifies the measures that have been taken, and until mass vaccination has been deployed, physical distancing is a necessary regulation in place to slow or prevent the propagation of COVID-19.

Among the social and personal repercussions that this pandemic has caused until now, those suffered on a sporting level must be highlighted, revealing (I believe for the first time in the history of humanity) the huge influence that sport has on our lives.

COVID-19 has posed an obstacle to performing sport on an international level, as most organised sporting events have been cancelled or postponed; professional football, basketball, handball and rugby leagues have never suffered such a paralysis, nor have mass participation events such as athletics or youth sports, school or university championships. The sporting restrictions placed on the population - in particular on children and teenagers during the confinement - have resulted in a short and long-term reduction in their physical and mental health, with repercussions still on-going. However, all these decisions, taken on a sporting level to protect the health of athletes and people involved in sport, have been necessary. In the past few months, sports have begun to return, though most events are taking place without spectators, with social distancing measures and with many precautions.

The crisis and economic instability that professional sport is undergoing is also unprecedented. The lack of audiences at competitions has meant that funding has plummeted drastically, leaving club, team and association funds at bare minimum, which is also taking its toll on athletes. These restrictions have forced some professional teams to

close completely, encompassing the entire sporting sphere, including technicians, support staff, and sports medicine professionals.

The consequences of this pandemic have just begun to develop, and the most probable outcome is that many will not return to how they were; we cannot imagine what will happen in the near future as everything is still changing.

People linked to the healthcare of athletes (doctors, physiotherapists, podiatrists, psychologists, etc.), just like other healthcare professionals, have had to adapt to the situation we are living in to perform all activities safely. Sports consultancies and medical centres must adhere strictly to the regulations, including the use of face masks, gloves, personal protective equipment that must comply with the UNE-EN 14126:2004 standard, and even remodel working spaces.

Sports Medicine and Sciences professionals are facing an uncertain future, requiring on-going research. We have abundant consensus and protocol documents about many aspects linked to practising safe sport, regarding how athletes should be reincorporated into performing physical exercise and competition sport (Guide to Reincorporation into Sporting Practice in Competition Sport, Guidelines for performing medical examinations on athletes that have suffered an illness, SEMED, CGCOM) after confinement. There are some related studies to the possible side effects associated with the use of face masks, during intensive training, which appear to indicate that a slight increase in CO<sub>2</sub> takes place during exhalation (when the N95 mask is used), though despite these repercussions being minimal, more research is required.

We do not know how this pandemic will affect the future of the Sports Medicine Specialisation. Our responsibilities include ensuring safe training sessions and competitions: physical distancing measures, the use of face masks, the use of biomarkers and other diagnostic strategies.

New doors are also opened on a scientific level. Although many research studies have been performed in record time linked to the repercussions of COVID-19 on sports, much more research is required. Evidence about the most effective measures that should be taken is limited, and recommendations require more research. What is evident, is that the pandemic has uncovered the faults and weaknesses in the healthcare system.

**Correspondence:** Miguel del Valle

E-mail: miva@uniovi.es

Athletes of all levels that have suffered from COVID-19 to any degree of affectation, must undergo a sporting aptitude medical examination before returning to training, aimed at detecting any emerging post-COVID-19 findings, with particular attention paid to the respiratory and cardiovascular system. An ECG and echocardiogram are recommended, as well as an exertion test, heart MRI scan or heart bio-marker measurements, if required. Depending on the results, a physical exercise programme may be prescribed, aimed at improving cardio-respiratory function.

There is not enough data regarding the degree of affectation of professional athletes that have suffered from COVID-19. Some studies have found up to 10% change in pulmonary function tests at 5-6 months follow up (in patients that required oxygen during acute treatment), and cardiovascular changes have also been discovered, but we do not yet know the long-term after-effects, or if athletes that have undergone the illness have a deterioration in physical, pulmonary, cardiovascular, muscular-skeletal, or nervous system function, or in other vital organs, or reduced quality of life.

Existing data regarding the recovery time needed by an athlete who has suffered pulmonary complications to fully regain respiratory capacity, is insufficient. The same occurs with cardiovascular problems.

In turn, there are many knowledge voids, such as how people should return to sport, and especially, high-performance sport in a safe way, after suffering from the illness. As such, we are still not completely sure if athletes that have been affected by COVID-19 recover their full sporting performance, or if some of this is lost. Nor is there data about whether an early return to intensive sport can hold a greater risk of cardio-respiratory complications, but it is clear that athletes should not train until their symptoms disappear. They should start with low-intensity exercises and make gradual increases under medical surveillance.

How long must we continue taking the careful measures we have adopted to prevent infections? How much longer must personal protection equipment be used? It is possible that these regulations will be in place for a long time.

From this point on, sporting-medical examination protocols will probably have to be changed, and we will have to look for cardiovascular and respiratory repercussions or other side-effects of the COVID-19.

Sport contributes to economic and social development and is a great tool for building bridges between generations and communities. This healthcare crisis has enabled us to gauge a deeper understanding

of how physical exercise and sports help us maintain healthy bodies and minds. This could be an opportunity to increase participation in sporting activities, and to reduce the high level of sedentary behaviour that already existed before the pandemic, but which has now increased even further.

The search for the causes of the rapid spread of COVID-19 has led us to reflect upon whether the current model and use of our cities has influenced this in some way, with large agglomerations of people when travelling, on the streets and squares, or in recreational and leisure areas. This negative experience we are undergoing must lead us to create healthier and safer cities, avoiding overcrowding, promoting improved sporting infrastructures, the use of cycle paths, parks and play areas for children (which should be designed to activity, not sitting waiting for someone to move them), pedestrian networks, pathways, etc. In short, we must encourage healthy and safe physical exercise, with outdoor activities aimed at more vulnerable people, ensuring the health and quality of life of the population and increasing healthcare efficiency.

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