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SPORTS, EXERCISES: DURING AND AHEAD OF THE COVID-19 PANDEMIC

ABSTRACT

Coronavirus disease 19 (COVID-19) was first identified in December 2019 in China and caused clusters of respiratory illnesses. The highly transmittable viral infection is caused by the virus known as the severe acute respiratory syndrome coronavirus. The continuing COVID-19 epidemic is a global disaster on a scale never seen before in modern history, and its spread can be slowed with proper cleanliness and physical distancing.

Establishing and repeatedly emphasizing the importance of hygiene and physical distancing measures is essential to minimize disease transmission. The overall goal of reducing disease transmission has had a significant impact on sports and exercise. Geographic limits on outdoor exercise and the necessity to stay at home have lowered physical activity and increased sedentary behavior on an individual level. Within the sporting community, all forms of organized sport have been either canceled or postponed. These include everything from mass participation events like marathon races to financially successful football leagues and even the pinnacle of athletic achievement, the Summer Olympic Games. As the pandemic progresses, questions about exercise safety, resumption of sports activities, and managing infected athletes remain.

To lower the danger of COVID-19 infection, a researcher attempted to describe the importance of personal hygiene, social separation, and keeping a healthy lifestyle in a recent document. While sticking to pandemic limits, physical activity is advocated due to its undeniable physical and mental advantages. Those contemplating long-distance endurance activities, such as marathon running, should use caution to avoid overtraining.

Untrained individual may experience a potential loss in immunity as a result of high intensity activities. It is a crucial opportunity to underscore the vital importance of regular exercise and the staggering consequences of inactivity.

During the current pandemic, the closing of communal sporting facilities such as swimming pools and gymnasiums has significantly reduced exercise options, leading to an increase in sedentary behavior. Individuals should be urged to avoid inactivity wherever possible, rather than just encouraging them to exercise.

In this document, the Authors also elaborate on the impact of COVID-19 on elite athletes.COVID-19 testing is recommended for athletes who have symptoms or have been confirmed to have been exposed to the virus, with resource availability driving decisions on universal testing. Given the likelihood

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of false-negative results, athletes with persistent symptoms should have their blood tested again. It is sensible to retest symptomatic athletes with negative tests. As the number of COVID-19 tests increases in various nations, the number of false-negative tests will rise as well. Even when a test kit's diagnostic sensitivity exceeds 99 percent, universal testing in population of one million reveals at least 10,000 people who were mistakenly diagnosed as disease-free, putting public health and safety at risk.

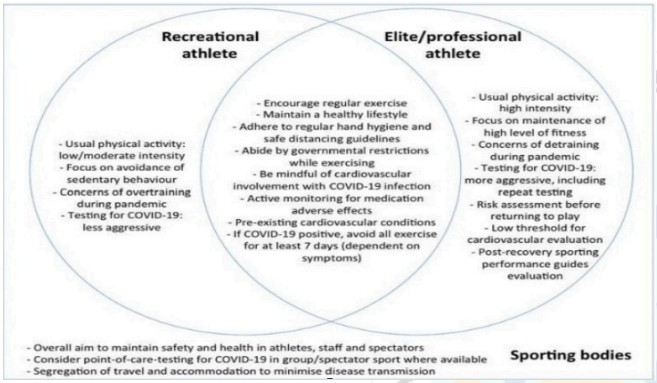

Figure 1. Considerations for sport and exercise amidst the COVID-19 pandemic.

Following that, the authors make recommendations for physical training following an acute infection. Athletes who have had a positive test should not exercise for at least seven days. Following resolution of symptoms for seven days, progressive return to training over an additional seven days is advised. It is recommended that athletes with cardiovascular symptoms have their cTn measured to rule out myocardial damage and myocarditis. Existing guidelines can be utilized to guide management if myocarditis is confirmed following diagnostic examination.

Athletes with respiratory tract illnesses could resume low-intensity training 2–3 days before COVID-19, even after outbreaks of Severe Acute Respiratory Syndrome (SARS) in 2002, H1N1 influenza in 2009, and Middle Eastern Respiratory Syndrome in 2012. In comparison, the proposed duration of rest and subsequent resumption of training after COVID-19 infection is substantially longer than before. This is in line with previous predictions of 2 weeks from the commencement of the condition to medical recovery. Given COVID-19's proclivity for cardiovascular involvement, using cTn to aid early identification and treatment of potentially harmful cardiac problems seems recommended while on lockdown, physical activity needs to be maintained as it is incredibly beneficial to the body and mind. It is essential for controlling many of the diseases. Maintaining bone strength and muscle tone through exercise is essential, as regular outdoor activity is curtailed during the COVID -19 pandemic. Exercise also helps boost immunity, reduces the risk of mental health issues like depression and stress. Exercises like walking for short periods such as 10 minutes, practicing yoga routines, or Interval training, depending on age, pre-existing health conditions, are always advisable.

Exercise is beneficial for older persons, who are more susceptible to infection in general and have been identified as a vulnerable population during the COVID-19 outbreak. It is also documented that there is no data regarding the effect of exercise on the Coronavirus; we must try to maintain our activity levels as per recommended guidelines. Whereas, it is also documented that exercise helps boost the immune system and slight modification of nutritional changes.

Nutritional strategies to boost the immune system should be incorporated. For instance, increase intake of carbohydrates and polyphenols. During prolonged and intense exercise, carbohydrate intake is associated with reduced stress hormones, diminished blood levels of neutrophils and monocytes, and dampened inflammation, whereas polyphenols exert various antiviral, anti-inflammatory anti-oxidative, and immune cell signaling effects. Also, as athletes these days are in home confinement, with disruption in high-intensity training, they should reduce excess calorie consumption with a reduction in macronutrient portion sizes, increase protein intake, incorporate foods to boost the immune system, with adequate sources of Vitamin C, B12, Iron, and Zinc, reduce the use of dietary supplements, and avoid processed foods.

The impact of COVID-19 beyond the pan

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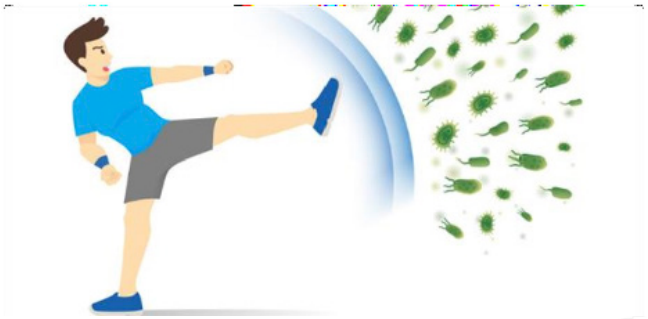
demic on physical activity and well-being has also been tried to describe. The global outbreak of COVID-19 has resulted in the closure of gyms, stadiums, pools, dance and fitness studios, physiotherapy centers, parks, and playgrounds. As a result, many people are unable to engage in their normal solo or group sporting or physical activities outside of their homes. Many people become less physically active, have more screen time, have unpredictable sleep patterns, and eat inferior diets as a result of these circumstances, leading to weight increase and a loss of physical fitness. Low-income families are particularly prone to the negative consequences of stay-at-home rules because they often have substandard lodgings and smaller spaces, making physical activity harder.



The World Health Organization advises 150 minutes of moderate-intensity exercise or 75 minutes of vigorous-intensity exercise per week. The effects of such regular exercise have been demonstrated to be quite beneficial, particularly during times of anxiety, crisis, and panic. As a result, there are fears that, in the event of a pandemic, a lack of access to regular sporting or exercise routines may pose a threat to the immune system and physical health, such as by causing the onset of or exacerbating existing disorders linked to a sedentary lifestyle.

Lack of access to exercise and physical activity can also have mental health impacts, which can compound stress or anxiety that many will experience in the face of isolation from everyday social life. Possible loss of family or friends from the virus and the impact on one's economic well-being and access to nutrition will exacerbate these effects. Exercising at home without any equipment or in a small space is still a viable option for many people. If you spend much time sitting at home, there are ways to stay active during the day, like stretching, doing housekeeping, ascending the stairs, or dancing to music. There are also numerous free materials available, particularly for people with internet access, on how to stay active throughout the epidemic. Physical fitness games, for example, can appeal to individuals of all ages and can be played in confined settings. Another critical aspect of maintaining physical fitness is strength training which does not require large spaces but helps maintain muscle strength, especially for older persons or persons with physical disabilities. The global community has quickly adapted by providing online material customized to diverse groups, ranging from free social media tutorials to family-friendly stretching, meditation, yoga, and dance workshops. Educational institutions provide online learning tools for students to use at home. Many fitness facilities provide discounted memberships to apps as well as online video and audio classes of varying lengths that change on a daily basis. On social media sites, there are a plethora of live fitness demos. Many of these classes do not require special equipment, and some feature everyday household objects instead of weights.

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