

Hosting international sporting events during the COVID-19 pandemic: lessons learnt and looking forward

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It is the ethical responsibility of the sports and exercise medicine (SEM) community to ensure that the health of participants at sporting events is protected.¹ The COVID-19 pandemic impacted the delivery of such events, initially stopping them completely, and then, adding layers of complexity in the delivery of health programmes to ensure participant safety. Any mass gathering, most notably those held indoors, risks cross-infection and contagion with SARS-CoV-2. In addition, the COVID-19 pandemic has exposed and magnified inequity in resources

between high-income and low-income and middle-income countries, including those hosting mass sporting events. It has also increased the mental health burden suffered by athletes.² Together, these difficulties make the safe and pragmatic hosting of sporting events an urgent priority. As the pandemic evolves, what lessons have we learnt and how should we adapt our health and safety programmes to mitigate COVID-19-related health risks at sporting events in the future?

LESSONS LEARNT

We can learn from the outcomes of sporting events held during the COVID-19 pandemic in the professional leagues, international

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federations and the summer and winter Olympic Games.³ For example, at the Tokyo Olympic Games, impactful countermeasures included (1) physical distancing, hand hygiene, mask wearing and enhanced room ventilation; (2) rigorous testing, contact tracing and isolating of positive cases and (3) a worldwide vaccination distribution programme for National Olympic Committees. Ultimately, there were 33 COVID-19-positive athletes, 34 cases in team officials and 417 confirmed close contacts; only 7 of whom tested positive (<2%).⁴ Notably, 96% (Tokyo) and 95% (Beijing) of close contacts, who were isolated and monitored, but not placed in quarantine hotels, continued to train and compete. The genomic sequencing of positive cases showed that there was no evidence of spread between international and domestic populations. Most importantly, the local subvariants were not discovered in countries beyond Japan or China after the Olympic Games, confirming that returning participants did not bring COVID-19 infection back to their home countries. These results demonstrate that with appropriate resourcing and mitigation measures in place, large sporting events could be held safely. However, while isolation hotels for infected participants stemmed the spread of COVID-19, unintended outcomes emerged with lack of access to fresh air, designated training space, adequate nutrition, mental health support and medication for those with pre-existing conditions. Little opportunity to socialise further intensified pandemic stress and the loss of the 'Games experience',⁵ in addition to the emotional toil of the lost opportunity to compete. Greater flexibility in clinical reasoning and policy making, particularly for healthy athletes in low-risk (minimal contact/outdoor) environments, may reduce these unintended outcomes.

LOOKING FORWARD WITH FLEXIBILITY

COVID-19 has not gone away and although cases have risen again globally, severity has reduced with fewer hospitalisations and deaths, almost certainly due to vaccinations, natural immunity, improved diagnostics and treatment options and the evolution of SARS-CoV-2 variants.⁶ Many countries are moving away from an active COVID-19 response to a strategy of 'living with COVID-19' with a decrease in public health measures, testing and travel restrictions. The perceived risk to international sporting events has reduced and the focus now is on how to safely remove COVID-19 mitigation measures. At the same time, it is recognised that these measures have reduced the risk of COVID-19 at major sporting events, and have reduced the prevalence of other infectious diseases such

as respiratory illnesses and norovirus infections.⁷ Thus, it is important that the benefits of an increased focus on infectious disease prevention are not lost.

Moving forward, international team physicians and public health officials should partner with organising committees in creating infectious disease prevention and management protocols. The scale and scope of precautions should match the risk assessment and adapt to risk changes. The focus of these precautions should be on public health measures that can easily be implemented at events as well as a more tiered approach to testing, monitoring of symptoms, isolating and returning to sport that is risk-based, rather than the blanket approach that was originally used for COVID-19. Policy and guidance may need to change and cannot be fixed months ahead.

GUIDING PRINCIPLES

The 'lessons learnt' arise from real-life experience. As studies to evaluate the efficacy of interventions were not ethically feasible, decisions on COVID-19 mitigation strategies were made by leaders in SEM based on the best available data at the time. Despite this limitation, valuable lessons have been learnt that inform the way forward: risk of infection and disease outcome vary considerably, and public health measures are effective, however a blanket approach may result in unintended adverse outcomes for the athlete. It is important to continue the preventive measures supported by evidence, while remaining flexible to tailor our mitigation strategies to an evolving pandemic. We pose the following biosecurity recommendations to guide team physicians, governing sport medicine committees and host event organisers and medical teams:

- ▶ Include public health expertise on sport governing body and host medical committees.
- ▶ Develop a predetermined risk-based pandemic mitigation strategy with contingency planning that is communicated in advance of the event to all stakeholders.
- ▶ Ensure provision of financial and logistical resources across all participants to support the strategy.
- ▶ Apply public health principles that have proven effective (handwashing, masks, physical distancing, vaccination).
- ▶ Facilitate individual responsibility by educating event participants on public health principles relating to infectious disease mitigation (prevention, detection, management).

- ▶ Ensure adequate access to training, nutrition, mental and physical health support of participants in isolation.
- ▶ Evaluate the effectiveness of COVID-19 mitigation protocols with robust scientific rigour.

Looking forward, a key guiding principle promoted by WHO should be adopted by the SEM community: 'Be smart, be safe, be kind'.⁸ Strategic and flexible clinical reasoning allow us to achieve all three.

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