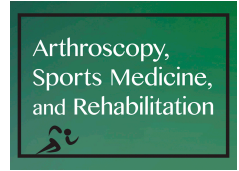


# Journal Pre-proof



COVID-19, Medicine, and Sports

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**COVID-19, Medicine, and Sports**

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1 **Commentary**

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**COVID-19, Medicine, and Sports**

4 **Abstract:**

5 The COVID-19 outbreak has brought our lives to a sudden and complete lockdown. While the  
6 numbers of confirmed cases and deaths continue to rise, people around the world are taking  
7 brave actions to mitigate transmission and save lives. The role sports play in this pandemic is  
8 unprecedented, fascinating, and reveals the immense impact sports has on every aspect of  
9 our lives. We must all do our part to keep each other safe until this outbreak subsides and  
10 sports and humanity are back to being greater than ever.

11 Level of Evidence: Level V

12

13 **Editorial:**

14 COVID-19 has swiftly changed humanity as we know it. The ramifications of COVID-19 on our  
15 global civilization have just begun to unfold and will most probably continue to do so for the  
16 next several decades. It is probably more than we can comprehend or imagine at this time.  
17 Looking around corners has become particularly challenging and assumptions about the future  
18 change on a daily if not hourly basis.

19 With our world coming to a complete stop in a sudden and unprecedented way, most  
20 organized sports activities have all but vanished. We understand now more than ever the  
21 leadership role sports plays in our society. Big sports events that resumed during the midst of  
22 the COVID-19 outbreak are now being referred to as huge “biological bombs” due to  
23 spreading of the virus during these events. One example is the soccer game between Atalanta  
24 (from Italy) and Valencia (from Spain) that was held in Bergamo, Italy, in February 19, 2020.  
25 Experts assume that the 45,792 fans attending this UEFA Champions League exchanged the  
26 virus and contributed to the massive outbreak of the virus in Italy and Spain. Adam Silver, the  
27 commissioner of the National Basketball Association (NBA), was of the first to respond to the  
28 migration of the pandemic in the United States, with his crucial decision to postpone the rest  
29 of the NBA season. His decision might have been the “tipping point”, turning the United States  
30 from passive to active mode. After that, many more sporting events throughout the world  
31 were postponed or cancelled, including the 2020 Tokyo Olympics. Since then, virtually every  
32 organized sport at any level and any age has been cancelled and indefinitely postponed. With  
33 the rise in identified cases and death toll, most countries worldwide are increasing their “stay  
34 at home” restrictions and many citizens are under mandatory confinement. Consequentially,  
35 recreational athletes and “weekend warriors” have also been benched during these turbulent  
36 times. Not many possibilities for resuming sports activities are available, given the  
37 combination of social distancing with the closure of parks, gyms, and sports venues. Notably,  
38 it is difficult to imagine what exactly has to happen to allow athletes to safely engage in  
39 physical contact and furthermore, to allow fans to gather in a fashion similar to what we have  
40 come to enjoy for thousands of years.

41 Health care providers specializing in sports medicine who attend to all types of athletes must  
42 quickly adapt to this new and hopefully transient situation. First and foremost, practices are

43 now finding the safest way to continue to serve their community to the best of their ability. It  
44 starts with keeping up to date with the rapidly changing Center for Disease Control (CDC)  
45 instructions and implementing these to keep staff and patients safe. Efforts should be made to  
46 maximize the use of “telemedicine” to continue providing care to patients and to identify  
47 essential problems that require being seen in clinic, a physical examination, imaging for  
48 definitive assessment, emergency department triage, and defining and treating conditions  
49 that require urgent and time-sensitive surgical care. Staff should be stringent with their own  
50 protection at all times, as they can easily become “super-spreaders”, infecting whole  
51 communities (including their co-workers and families). As of today, most protocols include  
52 strategies that mirror universal precautions including wearing of a surgical mask by all in the  
53 healthcare setting.

54 The financial crisis had already and will continue to take its toll for the foreseeable future.  
55 There is no business model for a company losing (close to all) income immediately, while the  
56 world is financially shut down for an unknown period of time. Millions have or will lose their  
57 jobs, be laid off, or furloughed with the prospects of returning to work at the proper time.  
58 That is also true to sports medicine health care providers and related businesses. The  
59 restriction on participation in all team sports and many other individual sports, together with  
60 restrictions on elective surgery and other revenue-producing services has left many  
61 institutions on the verge of financial bankruptcy. We must stay positive and (virtually)  
62 together during these times and believe that this is only temporary, and we will prevail. Many  
63 institutions are attempting to downsize to a versatile “skeleton” that can continue to provide  
64 high-end medical services at minimum expenses with the ability to remain nimble and flex  
65 upwards to incorporate back all former services and manpower as this outbreak subsides.

66 There are many unanswered questions and many more will arise as we better understand our  
67 circumstances. For example, whether players affected by COVID-19 will endure any long-term  
68 effects on their health or game performance is unknown. Are we prepared to treat the many  
69 new patients with injuries due to unconditioned musculature? How should we brace for the  
70 next winter or the one after that? Will “telemedicine” affect the role of the hands-on physical  
71 examination? How do we weigh risk-vs-benefit in the care of essential or urgent  
72 musculoskeletal cases during this outbreak? Tests regulations? Vaccines? And so many more...

73 We understand now more than ever that sports are what keeps our body and mind healthy  
74 and what brings us together. We are confident we and our patients will return to play sports,  
75 there will be injuries and persistent need for our services, and we will do what we love to do:  
76 to get them back to doing what they love to do.

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