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Most Runners Are Not At a Greater Risk for Knee Osteoarthritis

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We thank Drs. Zeng, Chen, and Ni for their letter to the editor. In their letter, they express a concern that the relationship between running and knee osteoarthritis (OA) may be intensity dependent and recommend increased awareness of this possibility in both competitive athletes and the general population. By allowing us to respond to their letter, they have provided us with an opportunity to weigh in on this perspective while considering the breadth of existing literature on this topic, which now also includes our study [1].

In the supplemental table to our article, we summarized the existing literature focused on the association of running with knee OA, similar to what was done in the recent review by Ni [2]. We found most studies focused on elite or high-level runners [3–11]. Although these studies had modest sample sizes and not all the findings were consistent, the overall message is that there is minimal to no negative effect of high levels of running on knee health.

Prior to our study, there had been few publications that have evaluated runners who participated at a lower level [12–14]. Of these, only one used standardized films and questionnaires to ascertain radiographic features and symptoms of knee OA in a systematic way, but this study was not able to identify enough runners to adequately evaluate the association between running and knee OA [12]. This is the gap in the literature that our study helps to fill. In our study, we included 2,637 participants, of which 778 reported a history of running at some time in their lives. These participants were recruited from the community, not based on running status. To highlight this point, for each age range (12–18, 19–34, 35–49, and 50), only 18%, 11%, 10%, and 8% of the people who were runners in those age ranges, participated at a competitive level. In this population, at a more common leisure activity level of running, running was not associated with more knee symptoms, radiographic OA, or the combination of the two.

Therefore, the existing evidence fails to identify a harmful effect of running and our study supports that lower levels of running do not increase the risk and may in fact decrease the risk for symptoms. An important caveat is that all studies included in this commentary have only included self-selected runners. Thus, there is always the possibility that those who are

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not runners may have tried running but had pain and subsequently choose not to run any more. The impact of compulsory running on knee OA is unknown.

In a day and age when there is a growing concern about the progressive trend of increasingly sedentary lifestyles and its impact on overall health, it is important to identify safe and low cost exercise options for the public. Recreational running is one option and that despite concerns initially raised in studying elite athletes, the existing body of evidence suggests that running is safe and well-tolerated by most recreational-level runners.

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