

Meek RMD, Treacy R, Manktelow A, Timperley JA, Haddad FS. Sport after total hip arthroplasty: undoubted progress but still some unknowns. *Bone Joint J.* 2020;102-B(6):661-663.

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Sir,

In the June issue of the BJJ, an annotation¹ you co-authored surprised me by its content. This paper explored different aspects of the mechanics of total hip arthroplasty and sport including bone-preserving arthroplasty, robotic assistance, fixation type, and previous spinal fusion, but there was only one sentence about bearing materials.

Since 1977, we have used ceramic-on-ceramic bearings for our young active patients. These patients were not asked to restrict their physical activities and many of them who had their operation more than 20 or 30 years ago are still happily involved in sports, including rugby, tennis, running, and skiing, without any problems.² We do not limit sporting activity after the first six months.

What is interesting in the debate about bearing materials is not the mechanics of the hip but the biological response of living tissue to the act of implanting a foreign material. In different papers, we reviewed data from the Australian and New Zealand registries,³ and the papers of Hernigou et al,^{4,5} which compared the long-term clinical results of patients who had different materials implanted in each hip. We found increased stability when the bearing materials were ceramic-on-ceramic. A recent MRI study⁶ which compared fibrous tissue around well-functioning hips operated on using different materials proved statistically that those operated with a ceramic-on-ceramic bearing had a capsule which was nearly twice as thick as those with a ceramic-on-polyethylene bearing.

The biomechanics of a total hip arthroplasty do not wholly determine its stability.⁷ Head size, previous spinal fusion, and type of approach may play a significant part in the postoperative period, but after one or two years, biology takes a predominant role. A 28 mm head, even made of ceramic, may result in some initial instability, and in time cause impingement and metallosis, but with a head of 32 mm or more, this risk nearly disappears. Why the healing of the capsule differs between different implanted materials remains unclear. Our hypothesis is that with less inflammation, there is less fluid expansion in the joint and a smaller effective joint space.

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Conflict of Interest:

Laurent Sedel is CEO of CC/Contact society. No relation to this letter.