Reviewer's report

Title: Surgical Options for the Young Patient with an Arthritic Knee

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Reviewer: Teemu Moilanen

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MS Surgical options for the young patient with an arthritic knee.
Review by Teemu Moilanen, MD, PhD,
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This is a review article covering the topic of surgical interventions on a young patient with osteoarthritic knee problems. The manuscript contains no original research data and it does not cite to the authors' original publications.

The topic as such is controversial with no clear-cut algorithms or treatment recommendations. Therefore there clearly is a need to summarize the existing data and a place for presenting personal views. The manuscript is, however somewhat superficial, and I think some parts of it would require more thorough handling of the subject to be more interesting and useful for the readers.

Major compulsory revisions

The standard operative treatment of end stage osteoarthritis in elderly patient is without any doubt total knee replacement. The manuscript briefly discusses the problems with longevity of TKR in younger patients. I would like to have a more thorough and systematic description of the results of TKR in young patients, as this is the treatment against which the alternative methods are compared. Especially I ask the authors to include a section dealing with the functional outcome of TKR in young individuals, as this is in many cases suboptimal. The logic of avoiding TKR until the later age needs to be given evidence based background instead of being old orthopedic practice. Furthermore I would ask the question: Is there any difference in knee function of TKR compared with the presented alternative operative methods. This should be addressed as the alternative methods are scrutinized.

Another point requiring clarification is the difference between generalized idiopathic osteoarthritis and focal cartilage lesions. The osteoarthritic changes confined to one compartment of the knee is a clearly different problem from a focal cartilage defect with limited size. The focal cartilage defects in truly young individuals have often a traumatic or e.g. osteochondral disease origin. The treatment of such lesions should be written with clear distinction to generalized OA, although these lesions may be the initiation of the OA process. This part of the text needs also more detailed analyses of the studies reported and also more
recent references.

Taken together, I consider the topic of this review manuscript interesting and actual, provided that the policy of BMC Medicine includes reviews on controversial issues. I propose, that the manuscript be considered for publication in BMC Musculoskeletal Disorders after revised according to suggestions described above.

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests