

Stats Comments on: Arthroscopic surgery for degenerative knee arthritis and meniscal tears: a clinical practice guideline

Overall comment:

This is not clear cut at all. It is unclear even based on the summaries presented as there are several long-term outcomes for which the region where the effect might lie (95%CI) could be clinically meaningful. The blanket recommendation that this applies across all populations also gives me a bit of worry. Would need to have information about subgroup analyses presented as appendices for the recommendation or some way of justifying that this is valid.

Again, I think that this piece would need to be accompanied by at least PICO pieces of the other two SRs. These would also benefit from showing at least the summary Forest plots of the main outcomes shown in the Summary of findings so that anyone interested could assess a) effects across studies and b) heterogeneity levels. Personally, I would like to have a look at both reviews to assess the information provided in the main paper.

Specific points:

Table: It is not clear to me if this paper presents evidence/recommendations for partial meniscectomy

Figure 1: This figure could be extremely misleading as it says population adjusted trends and it also refers to percent change from year 2000. Unclear exactly what this means.

The Evidence: It is unclear how the Control group from the new RCT published in the BMJ (2016) compares to that from other studies of arthroscopy. Comment/clarification required.

I would like to check how evidence from Observational studies has been incorporated into the SRs. Some information might need to be added to the main piece or maybe better to have it in the PICO companion (see Overall comment above).

The MID's SR is critical to the overall recommendation. No idea how this was carried out nor if the methods used are similar to those for basic SR of therapies.

I believe that recent reviews of GRADE's reliability suggest that the statement: "It is unlikely that new information will change interpretation for the key outcomes on pain, knee function and quality of life (GRADE high to moderate quality of evidence)." is unlikely to hold but happy to be refuted.

From the reviewers' comments to this piece, the main issue they highlight is how credible is that this evidence is applicable across all conditions. The SR PICO summary should emphasise the populations that have been evaluated to back this assertion.

Infographic 2: Range of trial means for Number of enrolled patients seems to me an incorrect label. Might need a clarification/adjustment. Same Infographic, BMI and rows below. I imagine these are across studies but it is unclear what they mean. Range of means as above? Same Infographic: Meniscal tears ",Mmost" typo.

Future research: I have to say that after reading the recommendations these two key research ideas were not the first ones that came to mind. Unclear if it is possible to raise these as issues earlier on as they came as a bit of a surprise to me.

Statistician report on third revision BMJ 036168.R3 FEB 27

Rafael Perera

The current version of the manuscript is basically the same as the one I revised as .R2

There was a teleconference with the author group where we seemed to agree that the information I requested as a requirement to understand the recommendations presented will be included as part of the supplementary material (other reviews looking at the estimated effect as well as the MID's in this case).

Unfortunately I still do not have access to this material and therefore I cannot evaluate it

. This is a requirement before I can agree that the present manuscript is adequate for publication.

I now have had access to the two systematic reviews (MID and effects) that underpin these recommendations. These reviews will now appear in the BMJ Open and therefore the questions I had regarding the basis for the recommendations have been answered.

I have no further queries and believe that the current manuscript is scientifically accurate and informative

Referee report Alexander Liddle BMJ 036168.R3 27 #FEB

Thank you for asking me to review this manuscript again. I thank the authors for making the changes as suggested by myself and other reviewers.

Briefly, for the Editor rather than for the authors, I am still very surprised that the journal has not provided us with the systematic reviews which form the basis of these recommendations - whilst the information given to us in the author feedback helps us to assess the evidence base a bit better, it is very hard to review a paper like this which is based on two unpublished studies to which we have no access. It leaves us rather exposed as reviewers to have to make recommendations without access to the primary data.

In terms of the paper, and with this caveat, the reviewers have addressed my concerns satisfactorily. There are a couple of minor changes which need to be made I think:

1. Caption for figure one only needs to describe the contents of the graph. The following line: "arthroscopic knee surgery remains frequently performed despite accumulating evidence suggesting little benefit" is misleading as this graph is all arthroscopies including those excluded by this study and it is widely agreed that there is a lot of "arthroscopic knee surgery" which has important benefits. Could this passage be removed please.

2. In "what you need to know" there is the line "further research is unlikely to alter this recommendation" - this goes against the previous passage entitled "future research" which describes two groups of patients where further research is needed to assess benefit. Also, I know of very few questions within medicine which I could consider to be definitively answered and in which there is no place for future research; certainly, the study question, which covers a diverse group of procedures in a diverse group of patients, is likely to generate further research in future.

"I have now had the chance to look at the source systematic reviews; many thanks for sending them. The methodology of the reviews is excellent as one might expect and issues such as MID and missing data are dealt with very well. The inclusion criteria are strict and on the face of it the studies included are of very high quality. The sensitivity analysis looking at patients with and without radiographic evidence of OA is interesting; from looking at the source data it appears that in all the studies with <50% having ROA, actually not a single patient had KL>2 or equivalent, suggesting that the recommendation that the lack of ROA is not a factor could be made rather stronger than it is."