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Arthroscopic Debridement of the Knee: OHTAC Recommendation

Ontario Health Technology Advisory Committee

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Conflict of Interest Statement

All authors in the Evidence Development and Standards branch at Health Quality Ontario are impartial. There are no competing interests or conflicts of interest to declare.

About Health Quality Ontario

Health Quality Ontario (HQO) is an arms-length agency of the Ontario government. It is a partner and leader in transforming Ontario's health care system so that it can deliver a better experience of care, better outcomes for Ontarians, and better value for money.

Health Quality Ontario strives to promote health care that is supported by the best available scientific evidence. The Evidence Development and Standards branch works with advisory panels, clinical experts, developers of health technologies, scientific collaborators, and field evaluation partners to provide evidence about the effectiveness and cost-effectiveness of health interventions in Ontario.

To conduct its systematic reviews of health interventions, the Evidence Development and Standards branch examines the available scientific literature, making every effort to consider all relevant national and international research. If there is insufficient evidence on the safety, effectiveness, and/or cost-effectiveness of a health intervention, HQO may request that its scientific collaborators conduct economic evaluations and field evaluations related to the reviews. Field evaluation partners are research institutes focused on multicentred clinical trials and economic evaluation, as well as institutes engaged in evaluating the safety and usability of health technologies.

About the Ontario Health Technology Advisory Committee

The Ontario Health Technology Advisory Committee (OHTAC) is a standing advisory subcommittee of the Board of Directors of Health Quality Ontario. Based on the evidence provided by Evidence Development and Standards and its partners, OTHAC makes recommendations about the uptake, diffusion, distribution, or removal of health interventions within the provincial health system. When making its recommendations, OHTAC applies a unique decision-determinants framework that takes into account overall clinical benefit, value for money, societal and ethical considerations, and the economic and organizational feasibility of the health care intervention in Ontario.

Publishing Health Quality Ontario Research

When the evidence development process is nearly completed, draft reviews, reports, and OHTAC recommendations are posted on HQO's website for 21 days for public and professional comment. For more information, please visit: http://www.hqontario.ca/evidence/evidence-process/evidence-review-process/professional-and-public-engagement-and-consultation.

Once finalized and approved by the Board of Directors of Health Quality Ontario, the research is published as part of the *Ontario Health Technology Assessment Series*, which is indexed in MEDLINE/PubMed, Excerpta Medica/Embase, and the Centre for Reviews and Dissemination database. Corresponding OHTAC recommendations and associated reports are also published on the HQO website. Visit http://www.hqontario.ca for more information.

When sufficient data are available, OHTAC tracks the ongoing use of select interventions it has previously reviewed, compiling data by time period and region. The results are published in the Ontario Health Technology Maps Project Report.

Disclaimer

This report was prepared by the Evidence Development and Standards branch at Health Quality Ontario or one of its research partners for the Ontario Health Technology Advisory Committee and was developed from analysis, interpretation, and comparison of scientific research. It also incorporates, when available, Ontario data and information provided by experts and applicants to HQO. The analysis may not have captured every relevant publication and relevant scientific findings may have been reported since the development of this recommendation. This report may be superseded by an updated publication on the same topic. Please check the Health Quality Ontario website for a list of all publications: http://www.hqontario.ca/evidence/publications-and-ohtac-recommendations.

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Background

The Evidence Development and Standards branch at Health Quality Ontario conducted an evidence-based analysis update[1] of the 2005 report titled Arthroscopic Lavage and Debridement for Osteoarthritis of the Knee. (1) The updated report (2) answered the following research question:

What is the effectiveness of arthroscopic debridement with or without meniscectomy for patients with osteoarthritis of the knee or with meniscal injury from degenerative causes?

This update was the result of an expert advisory panel consulted for work on developing an episode of care for the HQO clinical handbook on arthroscopic debridement (3) informing Health Quality Ontario of new evidence being published in the area of arthroscopic debridement since the original evidence-based analysis in 2005. This expert advisory panel was consulted throughout the course of the project.

[1] **Evidence update:** Evidence updates are conducted upon request when new evidence is published that changes the findings of a previous HQO analysis. The evidence could provide new information on the safety, efficacy, effectiveness, or cost-effectiveness of the intervention, or it could provide higher-quality evidence, thereby increasing confidence in the findings.

Conclusions

The updated report on arthroscopic debridement of the knee (2) concluded the following:

- Moderate-quality evidence shows no significant difference in pain or functional status among patients with osteoarthritis of the knee or degenerative causes of meniscal injury who received arthroscopic debridement with or without meniscectomy compared with placebo (sham surgery).
- Low-quality evidence shows no significant difference in pain or functional status among patients with osteoarthritis of the knee or degenerative causes of meniscal injury who received arthroscopic debridement with or without meniscectomy compared with usual care (physical therapy).

Decision Determinants

OHTAC has developed a decision-making framework that consists of 7 guiding principles for decision making and a decision determinants tool. When making a decision, OHTAC considers 4 explicit main criteria: overall clinical benefit, consistency with expected societal and ethical values, value for money, and feasibility of adoption into the health system. For more information on the decision-making framework, please refer to the *Decision Determinants Guidance* document available at: http://www.hqontario.ca/evidence/evidence-process/evidence-review-process/decision-making-framework.

Appendix 1 provides a summary of the decision determinants for this recommendation.

On the basis of the decision determinants criteria, OHTAC weighted in favour of the criteria on the evidence.

OHTAC Recommendations

- OHTAC recommends against arthroscopic debridement for patients with uncomplicated (without meniscal tears) osteoarthritis of the knee.
- OHTAC also recommends against arthroscopic surgery as a first line of treatment for patients with degenerative meniscal tears with or without osteoarthritis. However, OHTAC recommends a field evaluation be conducted to determine the clinical effectiveness and cost effectiveness of arthroscopic meniscectomy as an alternative to ongoing nonsurgical management (e.g., physical therapy) for patients who do not improve sufficiently after an initial 6-month period of nonsurgical management. Pending the results of the field evaluation, OHTAC recommends that, if nonsurgical treatment for at least 6 months fails, arthroscopic meniscectomy be considered.

Appendices

Appendix 1: Decision Determinants

Table A1: Decision Determinants for Knee Arthroscopy for Osteoarthritis of the Knee or Degenerative Causes of Meniscal Injury

Decision Criteria	Subcriteria	Decision Determinants Considerations
Overall clinical benefit How likely is the health technology/intervention to result in high, moderate, or low overall benefit?	**Effectiveness** How effective is the health technology/intervention likely to be (taking into account any variability)?	▪ There is no evidence of superiority of arthroscopic debridement with or without meniscectomy for OA of the knee or degenerative meniscal injury, versus placebo (sham surgery) or usual care (physical therapy). (2)
	Safety How safe is the health technology/intervention likely to be?	▪ Arthroscopy is a simple outpatient procedure with minimal recovery. ▪ Patients undergoing arthroscopy face little risk from infection or from complications of anesthesia.
	Burden of illness What is the likely size of the burden of illness pertaining to this health technology/intervention?	▪ Estimated incidence of OA of the knee in Ontario is about 16,000 (130 per 100,000 people aged 45–64); the prevalence is 125,000. (1) ▪ 68.4% of arthroscopies currently conducted in Ontario are for OA or degenerative knee injury (*Based on FY 20012/2013).* (3)
	Need How large is the need for this health technology/intervention?	▪ TKRs, or alternatives such as physical therapy, are not easily accessible to all patients because of geography and time and financial constraints.
Consistency with expected societal and ethical values[a] How likely is adoption of the health technology/intervention to be congruent with societal and ethical values?	**Societal values** How likely is the adoption of the health technology/intervention to be congruent with expected societal values?	▪ Experts report that patients have subjective improvements in pain and function after receiving arthroscopic knee surgery. Some patients prefer arthroscopy, because TKRs have longer recovery times and because alternatives such as physical therapy may not be easily accessible. ▪ Experts report that MRIs capture meniscal tears in every arthritic knee, which can lead to unnecessary arthroscopic procedures in unsuitable patients. ▪ There is currently potential bias in the remuneration and available operating room time in Ontario. Experts report that hospitals cap the number of TKRs surgeons can conduct per year but not the number of arthroscopic surgeries.
	Ethical values How likely is the adoption of the health technology/intervention to be congruent with expected ethical values?	▪ There are ethical concerns with providing surgery that has no evidence of superiority over less invasive alternatives. However, there are also ethical concerns about denying patients access to a potentially effective treatment.
Value for money How efficient is the health technology likely to be?	**Economic evaluation** How efficient is the health technology/intervention likely to be?	No economic evaluation was conducted.

Decision Criteria	Subcriteria	Decision Determinants Considerations
Feasibility of adoption into health system How feasible is it to adopt the health technology/intervention into the Ontario health care system?	**Economic feasibility** How economically feasible is the health technology/intervention? **Organizational feasibility** How organizationally feasible is it to implement the health technology/intervention?	Knee arthroscopic surgeries are currently conducted and funded in Ontario.

Abbreviations: MRI, magnetic resonance imaging; OA, osteoarthritis; TKR, total knee replacement.
[a]Anticipated or assumed common ethical and societal values held in regard to the target condition, target population, or treatment options. Unless scientific sources describe ethical and societal values, expected values are considered.

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