Ontario Health

Robotic-Assisted Hysterectomy for Endometrial Cancer in People With Obesity: Recommendation

Final Recommendation

Ontario Health, based on guidance from the Ontario Health Technology Advisory Committee, recommends publicly funding robotic-assisted hysterectomy for endometrial cancer in people with obesity.

Rationale for the Recommendation

The Ontario Health Technology Advisory Committee reviewed the findings of the health technology assessment.[1] The committee made the above recommendation after considering the clinical and economic evidence, as well as patient and provider preferences and values evidence.

The clinical evidence showed that among people undergoing minimally invasive hysterectomy (i.e., laparoscopic or robotic-assisted) for endometrial cancer, a higher proportion of individuals with a very high body mass index (i.e., ≥ 40 kg/m^2) will require conversion (i.e., switching) to an open procedure (an invasive surgery with a larger incision) when starting with a laparoscopic procedure than when starting with a robotic-assisted procedure. Complication rates were similarly low (< 3.5%) for both laparoscopic and robotic-assisted hysterectomy. The cost-effectiveness of robotic-assisted hysterectomy is unknown. Publicly funding disposables for robotic-assisted hysterectomy for people with endometrial cancer and obesity is estimated to increase costs to the province by about $1.14 million over 5 years.

Committee members considered the lived experience of people with endometrial cancer and obesity, who reported valuing the minimally invasive surgical option that robotic-assisted hysterectomy offered. Participants who had undergone a minimally invasive procedure (i.e., laparoscopic or robotic-assisted) reflected on their quick recovery and short hospital stay and reported minimal scarring and no postoperative complications. Committee members also noted the advantages of robotic-assisted hysterectomy for endometrial cancer in people with obesity reported by the gynecological cancer surgeons interviewed for this health technology assessment. These advantages included enhanced visualization, dexterity, and precision, as well as improved ergonomics, mindset, and confidence.

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Laparoscopic hysterectomy to treat endometrial cancer is a technically challenging surgical procedure to perform in people with obesity. Accordingly, people with obesity are often required to undergo an open procedure, which is more invasive, poses greater surgical risks, and is associated with both more frequent and more serious postoperative complications compared with minimally invasive procedures. Committee members recognized that because of this, people with obesity may not be afforded the chance of achieving similar clinical outcomes as those of people without obesity who undergo laparoscopic hysterectomy. The committee decided that robotic-assisted hysterectomy provides a minimally invasive surgical option for people with obesity and endometrial cancer that may allow them to achieve clinical outcomes similar to those of people without obesity who undergo laparoscopic hysterectomy. The use of robotic-assisted hysterectomy thus represents a differential distribution of treatments and resources that may more equitably improve health outcomes.

In keeping with the funding of other operating room technologies in Ontario, this funding recommendation does not include the capital costs of robotic systems (i.e., the purchase of new or replacement robotic systems).

Decision Determinants for Robotic-Assisted Hysterectomy for Endometrial Cancer in People With Obesity

Overall Clinical Benefit

Effectiveness

How effective is the health technology/intervention likely to be (taking into account any variability)?

Compared with laparoscopic hysterectomy:

- For people with a body mass index ≥ 30 kg/m^2, robotic-assisted hysterectomy may have little to no effect on the rate of conversion to an open procedure, but the evidence is very uncertain (Grading of Recommendations, Assessment, Development and Evaluations [GRADE]: Very low)
- For people with a body mass index ≥ 40 kg/m^2, robotic-assisted hysterectomy may reduce the rate of conversion to an open procedure, but the evidence is very uncertain (GRADE: Very low)

Safety

How safe is the health technology/intervention likely to be?

Compared with laparoscopic hysterectomy, robotic-assisted hysterectomy may have little to no effect on perioperative complications (GRADE: Very low).

Burden of Illness

What is the likely size of the burden of illness pertaining to this health technology/intervention?

Obesity is a strong risk factor for endometrial cancer. Statistics Canada reported that the proportion of women in Canada who were overweight or obese in 2018 was 43.6% among those aged 20 to 34 years, 59.2% among those aged 35 to 49 years, and 63.1% among those aged 50 to 64 years. For these data, however, Statistics Canada did not provide a definition for "overweight" or "obese."[2]

In 2016, the incidence rate of endometrial cancer in women aged 30 to 49 years was 11.3 per 100,000 and for postmenopausal women was 81.9 per 100,000.[3] For both age groups, the proportion of women with obesity is unknown.

Need

How large is the need for this health technology/intervention?

Because of the limitations of laparoscopic hysterectomy, people with endometrial cancer and obesity are often limited in their surgical options to an open procedure. However, compared with minimally

invasive procedures (i.e., laparoscopic and robotic-assisted), open hysterectomy is associated with higher rates of postoperative infection and cardiac complications, each of which typically requires a longer hospital stay.

Patient Preferences and Privacy

Patient Preferences and Values

Do patients have specific preferences, values, or needs related to the health condition, health technology/intervention, or life impact that are relevant to this assessment?

The participants interviewed for this health technology assessment were aware of the increased risk that open surgery poses for people with obesity. They reported valuing having a minimally invasive surgical option that allows for a quicker recovery, a reduction in postoperative complications, and a shorter hospital stay compared with open hysterectomy. Participants reported looking to their care team to guide their decision-making about the most appropriate surgical option. All participants viewed robotic-assisted hysterectomy positively and felt it should be made widely available. Those who had undergone robotic-assisted hysterectomy reported positively on its value as a surgical option, particularly in terms of the ease of recovery.

Autonomy, Privacy, Confidentiality, and/or Other Relevant Ethical Principles as Applicable

Are there concerns regarding accepted ethical or legal standards related to patient autonomy, privacy, confidentiality, or other ethical principles that are relevant to this assessment?

Participants reported valuing the autonomy to make well-informed health care decisions, as well as safety when undergoing a surgical procedure. The surgeons interviewed reflected on the ethical challenge of not being able to provide people with endometrial cancer and obesity a safe, effective minimally invasive surgical option when both the technology and expertise to provide that option are available but sufficient public funding is not.

Equity and Patient Care

Equity of Access or Outcomes

Are there disadvantaged populations or populations in need whose access to care or health outcomes might be improved or worsened that are relevant to this assessment?

Participants interviewed reported experiencing stigma and discrimination in their interactions with the health care system owing to their weight. People with endometrial cancer and obesity sometimes experience treatment delays because of cancelled or abandoned surgeries at centres with inadequate resources to manage the complexities of surgery for a person with obesity. Referrals for minimally invasive procedures are often redirected to large urban centres, which can pose barriers to people unable to afford the out-of-pocket costs associated with travelling for treatment (e.g., hotels, parking).

Patient Care

Are there challenges in the coordination of care for patients or other system-level aspects of patient care (e.g., timeliness of care, care setting) that might be improved or worsened that are relevant to this assessment?

Robotic-assisted hysterectomy is a minimally invasive surgical option for people with obesity who would otherwise have access only to open hysterectomy, which poses greater risks than minimally invasive procedures. The use of robotic-assisted hysterectomy for people with endometrial cancer and obesity thus represents a differential distribution of treatments and resources that may more equitably improve health outcomes, allowing people with obesity to obtain outcomes similar to those of people without obesity who receive laparoscopic hysterectomy.

Cost-Effectiveness

Economic Evaluation

How efficient is the health technology/intervention likely to be?

The cost-effectiveness of robotic-assisted hysterectomy is unknown. A primary economic evaluation was not conducted. Results from existing published economic studies were not applicable to the Ontario context.

Feasibility of Adoption Into Health System

Economic Feasibility

How economically feasible is the health technology/intervention?

Publicly funding robotic-assisted hysterectomy would likely lead to an increase in the volume of robotic-assisted hysterectomy procedures performed. We estimate that the 5-year budget impact of publicly funding robotic-assisted hysterectomy for people with endometrial cancer and obesity would be $1.14 million. Ontario Health confirmed funding, starting April 1, 2022, for robotic-assisted hysterectomy for people with endometrial cancer and a high body mass index (i.e., ≥ 35 kg/m^2), which will undergo evaluation.

Organizational Feasibility

How organizationally feasible is it to implement the health technology/intervention?

Provincial structures are in place to support the expanded use of robotic-assisted hysterectomy. However, existing third-generation robotic surgical systems in use in Ontario will need to be replaced by fourth-generation systems within the next few years.

References

(1) Ontario Health. Robotic-assisted hysterectomy for endometrial cancer in people with obesity: a health technology assessment. Ont Health Technol Assess Ser [Internet]. 2023 Oct;23(6):1–70. Available from: https://hqontario.ca/evidence-to-improve-care/health-technology-assessment/reviews-and-recommendations/robotic-assisted-hysterectomy-for-endometrial-cancer-in-people-with-obesity

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(3) Cancer Care Ontario. Cancer fact: endometrial cancer starting to rise in younger women in Ontario [Internet]. Toronto (ON): Cancer Care Ontario; 2019 Oct [cited 2023 Apr 5]. Available from: https://www.cancercareontario.ca/en/cancer-facts/endometrial-cancer-starting-rise-younger-women-ontario

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