

# Preoperative Cardiac Stress Tests for Noncardiac Surgery: OHTAC Recommendation

Ontario Health Technology Advisory Committee

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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, OHTAC 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.

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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>.

# Table of Contents

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<b>Background .....</b>	<b>5</b>
<b>Conclusions.....</b>	<b>6</b>
<b>OHTAC Recommendations .....</b>	<b>7</b>
<b>References.....</b>	<b>8</b>

# Background

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The Evidence Development and Standards branch at Health Quality Ontario conducted a rapid review (1) to answer the following research question:

- What is the prognostic accuracy of preoperative, noninvasive cardiac stress testing prior to intermediate-risk, noncardiac, elective surgery?

Rapid reviews are developed in response to an urgent need to provide evidence, and in some cases develop OHTAC recommendations, in support of provincial initiatives. For information on the rapid review methodology, please see the full report. (1)

# Conclusions

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- All noninvasive cardiac stress tests provide modest prognostic information in patients undergoing intermediate-risk, noncardiac, elective surgery (GRADE: Very low).
- Noninvasive cardiac stress testing is associated with improved 1-year survival and length of hospital stay in patients undergoing intermediate-risk, noncardiac, elective surgery (GRADE: Very low).
  - These benefits largely apply to patients who are at high risk for cardiac complications on the basis of 3 or more clinical risk factors, using the Revised Cardiac Risk Index.

# OHTAC Recommendations

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- OHTAC does not recommend the routine use of noninvasive cardiac stress tests for preoperative screening purposes prior to noncardiac, intermediate-risk, elective surgery.
- OHTAC recommends that the selective use of these tests be guided based on patients' clinical risk factors for perioperative cardiac complications, as well as whether information from the test would inform clinical decision-making.

# References

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- (1) McMartin, K. Preoperative cardiac stress tests for noncardiac surgery: a rapid review. Toronto: Health Quality Ontario; 2014 March. 19 p. Available from:  
<http://www.hqontario.ca/evidence/evidence-process/appropriateness-initiative#cardiac-stress-test>.



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