

# Health Quality Ontario

The provincial advisor on the quality of health care in Ontario

## Skin Testing for Allergic Rhinitis: OHTAC Recommendation

### ONTARIO HEALTH TECHNOLOGY ADVISORY COMMITTEE RECOMMENDATION

- OHTAC recommends that skin tests for allergic rhinitis continue to be publicly funded.

### BACKGROUND

Allergic rhinitis (also known as hay fever) is a symptomatic disorder of the nose that develops when the body's immune system becomes sensitized and overreacts to airborne allergens. (1) This condition affects 10% to 40% of people worldwide (2) and 20% to 25% of Canadians. (3) In January 2015, the Ontario Ministry of Health and Long-Term Care asked Health Quality Ontario to conduct a health technology assessment to review the accuracy of skin tests for allergic rhinitis.

### SUMMARY OF FINDINGS

The health technology assessment completed by Health Quality Ontario is available separately (4). A completed decision determinants framework is included in this report.

The key findings of the health technology assessment were:

- Based on evidence of moderate quality, skin-prick testing is reasonably accurate in identifying patients with allergic rhinitis. Because of the small number of studies on intradermal testing and their small sample sizes, additional studies are needed to evaluate the accuracy of that method of skin testing for allergic rhinitis.
- The expected budget impact of skin testing for allergic rhinitis in Ontario is between \$2.5 million and \$3.0 million per year.

### OHTAC DELIBERATIONS

The Ontario Health Technology Advisory Committee accepted the findings of the health technology assessment.

Given the reasonable accuracy of skin-prick testing, the finding from the Ontario Drug Policy and Research Network that allergen immunotherapy is effective, (5) and the relatively small budget impact, OHTAC recommended in favour of continued public funding of skin testing for allergic rhinitis.

## Decision Determinants for Diagnostic Accuracy of Skin Testing for Allergic Rhinitis

Decision Criteria	Subcriteria	Decision Determinants Considerations
<b>Overall clinical benefit</b> How likely is the health technology/intervention to result in high, moderate, or low overall benefit?	<b>Effectiveness/Accuracy</b> How effective is the health technology/intervention likely to be (taking into account any variability)?	A review of systematic reviews done by the Ontario Drug Policy and Research Network suggests that allergen immunotherapy is more effective than placebo in reducing symptoms and medication score and improving disease-specific quality of life. Allergy testing is required for immunotherapy.
	How accurate is the health technology likely to be (taking into account any variability)?	Moderate quality of evidence suggests that skin-prick testing is reasonably accurate in diagnosing allergic rhinitis. The pooled sensitivity and specificity was 88.4% and 77.1%, respectively.
	<b>Safety</b> How safe is the health technology/intervention likely to be?	Skin tests are known to be very safe.
	<b>Burden of illness</b> What is the likely size of the burden of illness pertaining to this health technology/intervention?	About 2 million skin tests for allergic rhinitis are performed annually in Ontario.
	<b>Need</b> How large is the need for this health technology/intervention?	In 2013, about 61,835 patients were skin tested for allergic rhinitis in Ontario.
<b>Consistency with expected societal and ethical values</b> How likely is adoption of the health technology/intervention to be congruent with societal and ethical values?	<b>Societal values</b> How likely is the adoption of the health technology/intervention to be congruent with expected societal values?	Very likely.
	<b>Ethical values</b> How likely is the adoption of the health technology/intervention to be congruent with expected ethical values?	Very likely.
<b>Value for money</b> How efficient is the health technology likely to be?	<b>Economic evaluation</b> How efficient is the health technology/intervention likely to be?	The efficiency of skin testing is unknown.
<b>Feasibility of adoption into health system</b> How feasible is it to adopt the health technology/intervention into the Ontario health care system?	<b>Economic feasibility</b> How economically feasible is the health technology/intervention?	The cost of skin testing is between \$2.5 million and \$3.0 million per year and is not expected to be a substantial burden to the health care system.
	<b>Organizational feasibility</b> How organizationally feasible is it to implement the health technology/intervention?	Very feasible. The technology is currently being used and publicly funded in Ontario.

<sup>a</sup>The anticipated or assumed common ethical and societal values held in regard to the target condition, target population, and/or treatment options. Unless there is evidence from scientific sources to corroborate the true nature of the ethical and societal values, the expected values are considered.

## REFERENCES

- (1) Bousquet J, Khaltaev N, Cruz A, Denburg J, Fokkens W, Togias A, et al. Allergic Rhinitis and its Impact on Asthma (ARIA) 2008. *Eur J Allergy Clin Immunol*. 2008;63(s86):8-160.
- (2) World Allergy Organization. WAO white book on allergy: update 2013 executive summary. Milwaukee (WI): WAO; 2013 [cited 2015 Jul 28]. 242 p. Available from: [http://www.worldallergy.org/definingthespecialty/white\\_book.php](http://www.worldallergy.org/definingthespecialty/white_book.php).
- (3) Keith PK, Desrosiers M, Laister T, Schellenberg RR, Wasserman S. The burden of allergic rhinitis (AR) in Canada: perspectives of physicians and patients. *Allergy Asthma Clin Immunol*. 2012;8(7):1-11.
- (4) Health Quality Ontario. Skin testing for allergic rhinitis: a health technology assessment. *Ont Health Technol Assess Ser* [Internet]. 2016 May;16(10):1-45. Available from: <http://www.hqontario.ca/Evidence-to-Improve-Care/Journal-Ontario-Health-Technology-Assessment-Series/rhinitis-testing>.
- (5) Wells GA, Elliot J, Kelly S, Johnston A, Skidmore B, Kofsky J. Allergen immunotherapy for the treatment of allergic rhinitis and/or asthma: final systematic review report. Toronto (ON): Ontario Drug Policy Research Network; 2015 [cited 2015 Sept 23]. 52 p. Available from: [http://odprn.ca/wp-content/uploads/2015/10/Allergen-Immunotherapy\\_Systematic-Review-Report\\_Oct-1-2015.pdf](http://odprn.ca/wp-content/uploads/2015/10/Allergen-Immunotherapy_Systematic-Review-Report_Oct-1-2015.pdf).

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