

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

Tomography in Eye Examinations: Guidelines

Service Line: Rapid Response Service
Version: 1.0
Publication Date: April 8, 2019
Report Length: 6 Pages

Authors: Camille Dulong, Kelly Farrah

Cite As: *Tomography in Eye Examinations: Guidelines*. Ottawa: CADTH; 2019 April. (CADTH rapid response report: reference list).

Disclaimer: The information in this document is intended to help Canadian health care decision-makers, health care professionals, health systems leaders, and policy-makers make well-informed decisions and thereby improve the quality of health care services. While patients and others may access this document, the document is made available for informational purposes only and no representations or warranties are made with respect to its fitness for any particular purpose. The information in this document should not be used as a substitute for professional medical advice or as a substitute for the application of clinical judgment in respect of the care of a particular patient or other professional judgment in any decision-making process. The Canadian Agency for Drugs and Technologies in Health (CADTH) does not endorse any information, drugs, therapies, treatments, products, processes, or services.

While care has been taken to ensure that the information prepared by CADTH in this document is accurate, complete, and up-to-date as at the applicable date the material was first published by CADTH, CADTH does not make any guarantees to that effect. CADTH does not guarantee and is not responsible for the quality, currency, propriety, accuracy, or reasonableness of any statements, information, or conclusions contained in any third-party materials used in preparing this document. The views and opinions of third parties published in this document do not necessarily state or reflect those of CADTH.

CADTH is not responsible for any errors, omissions, injury, loss, or damage arising from or relating to the use (or misuse) of any information, statements, or conclusions contained in or implied by the contents of this document or any of the source materials.

This document may contain links to third-party websites. CADTH does not have control over the content of such sites. Use of third-party sites is governed by the third-party website owners' own terms and conditions set out for such sites. CADTH does not make any guarantee with respect to any information contained on such third-party sites and CADTH is not responsible for any injury, loss, or damage suffered as a result of using such third-party sites. CADTH has no responsibility for the collection, use, and disclosure of personal information by third-party sites.

Subject to the aforementioned limitations, the views expressed herein do not necessarily reflect the views of Health Canada, Canada's provincial or territorial governments, other CADTH funders, or any third-party supplier of information.

This document is prepared and intended for use in the context of the Canadian health care system. The use of this document outside of Canada is done so at the user's own risk.

This disclaimer and any questions or matters of any nature arising from or relating to the content or use (or misuse) of this document will be governed by and interpreted in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein, and all proceedings shall be subject to the exclusive jurisdiction of the courts of the Province of Ontario, Canada.

The copyright and other intellectual property rights in this document are owned by CADTH and its licensors. These rights are protected by the Canadian *Copyright Act* and other national and international laws and agreements. Users are permitted to make copies of this document for non-commercial purposes only, provided it is not modified when reproduced and appropriate credit is given to CADTH and its licensors.

About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Questions or requests for information about this report can be directed to requests@cadth.ca

Research Questions

1. What are the evidence-based guidelines for the administration of a tomography exam in conjunction with a regular eye examination in individuals aged 0 to 19, 20 to 64, or 65 years or older?
2. What are the evidence-based guidelines for administration of a tomography exam in conjunction with a regular eye examination in individuals with a family history of diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration?
3. What are the evidence-based guidelines for administration of a tomography exam in conjunction with a regular eye examination in individuals diagnosed with diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration?

Key Findings

Ten evidence-based guidelines were identified relating to the administration of tomography examinations in conjunction with regular eye exams for relevant patient populations.

Methods

A limited literature search was conducted on key resources including MEDLINE (via Ovid), the Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. A methodological filter was applied to limit retrieval guidelines. The search was also limited to English language documents published between January 1, 2014 and April 2, 2019. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	<p>Q1: Individuals aged 0 to 19, 20 to 64, or 65 years or older</p> <p>Q2: Individuals with a family history of diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration</p> <p>Q3: Individuals diagnosed with diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration</p>
-------------------	---

Intervention	Tomography (i.e., Heidelberg retinal tomography or optical coherence tomography) in combination with a standard eye examination
Comparator	Not applicable
Outcomes	Guidelines
Study Designs	Guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. However, due to the nature and scope of the report, only guidelines were included in the main body of the report.

Ten evidence-based guidelines were identified in the literature search pertaining to tomography examinations in conjunction with regular eye exams for various patient populations.

Additional references of potential interest are provided in the appendix.

Guidelines and Recommendations

Adult Population

1. AOA Evidence-Based Optometry Guideline Development Group. Comprehensive adult eye and vision examination. (Evidence-based clinical practice guideline). St. Louis (MO): American Optometric Association; 2015: <https://www.aoa.org/optometrists/tools-and-resources/evidence-based-optometry/evidence-based-clinical-practice-guidelines/evidence-based-clinical-practice-guideline-adult-eye-and-vision-examination->. Accessed 2019 Apr 8.
See: Section g. Supplemental Testing, Page 20

Paediatric Population

2. AOA Evidence-Based Optometry Guideline Development Group. Comprehensive pediatric eye and vision examination. (Evidence-based clinical practice guideline). St. Louis (MO): American Optometric Association; 2017: <https://www.aoa.org/optometrists/tools-and-resources/evidence-based-optometry/evidence-based-clinical-practice-guidelines/evidence-based-clinical-practice-guideline-comprehensive-pediatric-eye-and-vision-examination>. Accessed 2019 Apr 8.
See: Section b. Imaging, Page 25

Patients with Age-Related Macular Degeneration

3. Ontario Health Technology Advisory Committee (OHTAC). Optical coherence tomography monitoring strategies for A-VEGF–treated age-related macular degeneration: OHTAC recommendation. Toronto (ON): Health Quality Ontario; 2014 Aug: <https://www.hqontario.ca/Evidence-to-Improve-Care/Health-Technology-Assessment/Reviews-And-Recommendations/Optical-Coherence-Tomography-Monitoring-Strategies-for-A-VEGF-Treated-Age-Related-Macular-Degeneration>. Accessed 2019 Apr 8.

Patients with Diabetic Retinopathy

4. Grauslund J, Andersen N, Andresen J, et al. Evidence-based Danish guidelines for screening of diabetic retinopathy. *Acta Ophthalmol*. 2018 Dec;96(8):763-769.
[PubMed: PM30311394](#)
5. Wong TY, Sun J, Kawasaki R, Ruamviboonsuk P, Gupta N, Lansingh VC, et al. Guidelines on diabetic eye care: the International Council of Ophthalmology recommendations for screening, follow-up, referral, and treatment based on resource settings. *Ophthalmology*. 2018 Oct;125(10):1608-1622.
[https://www.aaojournal.org/article/S0161-6420\(17\)33523-6/fulltext](https://www.aaojournal.org/article/S0161-6420(17)33523-6/fulltext). Accessed 2019 Apr 8.
See: Screening, Referral, Follow-up, Page 1610
6. AOA Evidence-Based Optometry Guideline Development Group. Eye care of the patient with diabetes mellitus. (Evidence-based clinical practice guideline). St. Louis (MO): American Optometric Association; 2014:
<http://aoa.uberflip.com/i/374890-evidence-based-clinical-practice-guideline-diabetes-mellitus>. Accessed 2019 Apr 8.
See: Supplemental Testing, Page 29

Patients with Glaucoma

7. National Institute for Health Care and Excellence. Glaucoma: diagnosis and management (*NICE guideline NG81*). London (GB): NICE; 2017 Nov:
<https://www.nice.org.uk/guidance/ng81/resources/glaucoma-diagnosis-and-management-pdf-1837689655237>. Accessed 2019 Apr 8.
See: Section 1.1.1 Case-finding, Page 5
8. MacIver S, MacDonald D, Prokopich CL. Screening, diagnosis, and management of open angle glaucoma: an evidence-based guideline for Canadian optometrists. *Can J Optom*. 2017;79(Suppl 1): 1-71.
https://opto.ca/sites/default/files/resources/documents/cjo_glaucoma_lores.pdf. Accessed 2019 Apr 8.
See: Pachymetry, Page 16
9. Glaucoma Preferred Practice Pattern Panel. Primary open-angle glaucoma (*Preferred Practice Pattern*). San Francisco (CA): American Academy of Ophthalmology; 2016:
[https://www.aaojournal.org/article/S0161-6420\(15\)01276-2/pdf](https://www.aaojournal.org/article/S0161-6420(15)01276-2/pdf). Accessed 2019 Apr 8.
See: Population Screening for Glaucoma, Page 17
10. Glaucoma referral and safe discharge: a national clinical guideline (*SIGN publication no. 144*). Edinburgh (GB): Scottish Intercollegiate Guidelines Network (SIGN); 2015:
<https://www.sign.ac.uk/assets/sign144.pdf>. Accessed 2019 Apr 8.
See: Section 4.4 Assessment of Anterior Chamber Angle, Page 17

Appendix — Further Information

Previous CADTH Reports

11. Optical coherence tomography for the calculation of intraocular lens power: clinical and cost-effectiveness and guidelines. (*CADTH Rapid response report: reference list*). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/optical-coherence-tomography-calculation-intraocular-lens-power-clinical-and-cost-effectiveness-0>. Accessed 2019 Apr 8.

Clinical Practice Guidelines – Methodology Not Specified

Adult Population

12. Optometric practice reference. Toronto (ON): College of Optometrists of Ontario; 2016: https://www.collegeoptom.on.ca/images/pdfs/030_id_COO_OPR_book_WEB.pdf. Accessed 2019 Apr 8.
See: Clinical Guidelines, Page 56

Patients with Diabetic Retinopathy

13. Diabetes Canada Clinical Practice Guidelines Expert Committee, Altomare F, Kherani A, Lovshin J. Retinopathy. *Can J Diabetes*. 2018 Apr;42(Suppl 1):S210-S216. [https://www.canadianjournalofdiabetes.com/article/S1499-2671\(17\)30837-7/pdf](https://www.canadianjournalofdiabetes.com/article/S1499-2671(17)30837-7/pdf). Accessed 2019 Apr 8.
14. Lisa Little Consulting. Meeting the eye health and vision care needs of Canadians: a workforce analysis. Ottawa (ON): Canadian Association of Optometrists; 2018: https://opto.ca/sites/default/files/resources/documents/workforce_analysis_final_april_2018.pdf. Accessed 2019 Apr 8.
See: Diabetic Retinopathy, Page 6