

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

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

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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>
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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