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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.

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Research Questions

1. What are the evidence-based guidelines for administration of automated perimetry or electroretinography in conjunction with a regular eye examination in individuals aged 0 to 19, 20 to 64, or ≥65 years?

2. What are the evidence-based guidelines for administration of automated perimetry or electroretinography 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 automated perimetry or electroretinography 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

Six evidence-based guidelines were identified regarding automated perimetry or electroretinography for visual field testing in eye examinations.

Methods

A limited literature search was conducted on key resources including PubMed, 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. Methodological filters were applied to limit retrieval to guidelines. The search was also limited to English language documents published between January 1, 2014 and April 17, 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 | Q1: Individuals aged 0 to 19, 20 to 64, or ≥65 years  
|            | Q2: Individuals with a family history of diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration  
|            | Q3: Individuals diagnosed with diabetes, hypertension, ocular hypertension, cataract(s), glaucoma, and/or age-related macular degeneration  |
| Intervention | Automated perimetry (e.g., short wavelength automated perimetry [SWAP], frequency doubling technology perimetry [FDT], high-pass resolution perimetry [HPRP], or motion automated perimetry [MAP]) or electroretinography in combination with a standard eye examination  |
| Comparator | No comparator  |
| Outcomes | Guidelines  |
| Study Designs | Evidence-based guidelines  |
Results

Six evidence-based guidelines were identified regarding automated perimetry or electroretinography for visual field testing in eye examinations.

Additional references of potential interest are provided in the appendix.

Guidelines and Recommendations

   See: Additional Tests, page 9


Glaucoma or Ocular Hypertension

   See: 4.3.1 Automated visual field analysis,* page 10

   See: Monitoring patients with ocular hypertension, page 6.
Appendix — Further Information

Systematic Reviews and Meta-Analyses – Neurological Conditions

   PubMed: PM30200926

Guidelines and Recommendations – Alternative Population

   PubMed: PM27635960

Clinical Practice Guidelines – Methodology Unspecified

Glaucoma


Review Articles

   PubMed: PM30144606

    PubMed: PM29256895