

# Review of the Canadian Association of Optometrists Frequency of Eye Examinations Guideline – Summary An Evidence-Based Approach

## FINAL REPORT

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## EXECUTIVE SUMMARY

Expert opinion has traditionally been used to develop frequency of eye examination guidelines, but the emergence of evidence-based health care has led many to feel that it is time to evaluate these guidelines using evidence-based techniques. The primary objective of this study was to provide a document based on current evidence and expert opinion supporting a “frequency of eye examinations guideline” for individuals across the age spectrum in Canada. This guideline is for typical optometric eye examinations as outlined by the Canadian Association of Optometrists (CAO). The purpose of this guideline is to inform individuals who are either asymptomatic or have symptoms they do not recognize as being eye-related. Therefore, this guideline is meant to aid in the early detection of visual disorders in order to prevent

or reduce future vision loss.

Development of the guideline occurred through a series of methodological steps:

**STEP 1:** Finding existing evidence-based guidelines or recommendations for the frequency of eye examinations in addition to the Canadian Ophthalmological Society (COS) guidelines.

The search focused on countries with similar optometric education and practice standards to Ontario. In addition to the rest of Canada - Australia, New Zealand, Great Britain and the United States were targeted. An internet search was completed to find all national and provincial/state professional associations and regulatory bodies for both optometry and ophthalmology. No additional evidence-based guidelines emerged from this review.

**STEP 2:** Comprehensive research literature review for articles related to screening for the five major causes of visual impairment or loss including refractive errors, glaucoma, diabetic retinopathy, macular degeneration and cataracts.

The leading medical, health sciences and vision specific journal article databases were searched. Search strategies were designed for screening, prognosis/course of disease or condition, prevention, and the economic benefit of

or the cost/impact of not screening. Searches strategies to locate research pertaining to screening for refractive errors, glaucoma, diabetic retinopathy, macular degeneration and cataracts were developed for each of the five conditions.

**STEP 3:** Sorting articles from Step 2 using an online bibliographic management program (Refworks). All articles identified in Step 2 (N = 10943) were sorted using an online bibliographic management program – Refworks. Articles were deemed ‘accepted’ or ‘rejected’ based on specific inclusion and exclusion criteria. Articles placed in the ‘Accepted’ folder were further separated into either a ‘Screening Articles’ folder (*studies examining screening interventions*), or an ‘Epidemiology Articles’ folder (*studies examining the prevalence, incidence and risk factors of eye disease*).

**STEP 4:** Article Charting from Step 3 and Evaluation of the Evidence.

All accepted articles in the ‘Screening Articles’ folder and the ‘Epidemiology Articles’ folder were charted and summarized into a preset data extraction form. From these forms, comprehensive written summaries of the evidence were prepared for the screening articles and the epidemiology articles separately. For the purposes of the workshop (see Step 5 below) these summaries were shortened so as

to the present the data in a more easily comprehensible form. A method similar to that used by the Canadian Task Force on Preventative Health Care (Zaza et al., 2000) was used to judge the quality of the published evidence. A detailed critical appraisal of all articles used to develop the guideline recommendations was completed.

### STEP 5: Recommendations for the Canadian Association of Optometrists Guideline Workshop

An expert committee consisting of 15 members of the optometric profession was selected to attend the workshop. The committee was comprised of representatives from across Canada including Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, P.E.I, and Newfoundland. Each committee member received a summary of the literature review prior to the workshop date. This summary contained the frequency of eye examination recommendations based on the available evidence, outlined where evidence currently exists for the frequency of eye examinations, and detailed where there are gaps in the evidence. The purpose of the workshop was to vote on and discuss the appropriateness of guideline and to reach consensus on eye examination recommendations for each age group using both evidence from the literature and the clinical experience of the expert committee. The committee was also responsible for reaching consensus in areas where evidence does not currently exist for the frequency of eye examinations.

Age Group	Recommendation*
Infants and Toddlers (Birth to 24 months)	Infants and toddlers should undergo their first eye examination between the ages of 6 and 9 months.
Preschool Children (2 to 5 years)	Preschool children should undergo at least one eye examination between the ages of 2 and 5 years.
School Age Children (6 to 19 years)	School children aged 6 to 19 years should undergo an eye examination annually.
Adults (20 to 39 years)	Adults aged 20 to 39 years should undergo an eye examination every 2 to 3 years.
Adults (40 to 64 years)	Adults aged 40 to 64 years should undergo an eye examination every 2 years.
Adults (65 years or older)	Adults aged 65 years or older should undergo an eye examination annually.

\* *Guidelines are not appropriate for all clinical situations. The decision to follow or not follow the guideline must be made by the health professional on an individual basis, taking into account the specific condition of the patient. Deviations from guidelines for specific reasons are possible [Schwartz et al. (1999). The legal implications of medical guidelines – A task force of the European Society of Cardiology. Eur Heart J, 20(16)].*

### STEP 6: External Review

An external review of the guideline was conducted with a sample of optometric patients as well a panel of optometric professionals who did not attend the previous workshop. From this external review, one modification was made to the guideline. Specifically, for the age group of infants and toddlers, the wording of the recommendation was modified to improve comprehension and clarity.

The final guideline for the frequency of typical optometric eye examinations in Canada is provided above.

This final report is extensive, with transparent and defensible methodology. This report clearly shows where evidence exists and the level of evidence that is available for each recommendation. This report identifies where such evidence is lacking and points out where further research is needed. Further dissemination of the results and any further review of the frequency of eye examinations guideline reported in this document will be the responsibility of the Canadian Association of Optometrists.

**To obtain the complete report visit: [opto.ca](http://opto.ca).**