



Quick Reference Guide:
Evidence-Based Clinical Practice Guideline
First edition, 2015

Comprehensive Adult Eye and Vision Examination



AMERICAN OPTOMETRIC ASSOCIATION

1. GOALS OF THE COMPREHENSIVE ADULT EYE AND VISION EXAMINATION

- Evaluate the functional status of the eyes and visual system
- Assess ocular health and related systemic health conditions
- Establish a diagnosis and formulate a treatment and management plan
- Counsel and educate the patient regarding visual, ocular, and related systemic health status
- Provide recommendations for prevention, treatment, management, or future care.

(See Appendix Figure 1 Comprehensive Adult Eye and Vision Examination: A Flowchart)

2. POTENTIAL COMPONENTS OF THE COMPREHENSIVE ADULT EYE AND VISION EXAMINATION*

(For patients 18 years of age or older)

**The examination may include, but is not limited to, the procedures listed. Professional judgment and individual patient symptoms and findings may significantly influence the nature and course of the examination.*

A. PATIENT HISTORY

- Nature and history of presenting problem/chief complaint
- Visual /ocular/general health history, including social history and review of systems
- Family ocular and health histories
- Medication/supplements/complimentary drug usage and documentation of medication allergies

Consensus-Based Action Statement:

Any systemic medication or supplement used by patients should be investigated by their eye doctor for ocular risk factors or side effects.

- Vocational/avocational visual requirements
- Name of and contact information for patient's other health care providers.

B VISUAL ACUITY

- Distance and near visual acuity testing
- Pinhole acuity testing, when indicated
- Testing at vocational/avocational working distances.

C. PRELIMINARY EXAMINATION

- General observation of patient
- Pupil size and pupillary responses
- Eye movements
- Near point of convergence
- Ocular alignment
- Stereopsis
- Color vision.

D. REFRACTION

- Measurement of most recent optical correction
- Objective/subjective measurement of refractive status.

E. OCULAR MOTILITY, BINOCULAR VISION, AND ACCOMMODATION

- Evaluation of ocular motility
- Assessment of heterophorias, vergence ranges and facility
- Testing for suppression
- Measurement of accommodative amplitude and facility.

F. OCULAR AND SYSTEMIC HEALTH ASSESSMENT

- Evaluation of ocular anterior segment and adnexa
- Evaluation of ocular posterior segment

Consensus-Based Action Statement:

Pharmacologic dilation of the pupil is generally required for thorough stereoscopic evaluation of the ocular media, retinal vasculature, macula, optic nerve, and the peripheral retina.

- Measurement of intraocular pressure

Evidence-Based Action Statement:

Because of possible variations in measurements obtained when using various intraocular pressure (IOP) testing instruments/techniques, eye doctors should consider taking more than one reading with the same instrument to reduce measurement error. (Evidence Grade: C/Recommendation)

- Evaluation of ocular media
- Visual field testing

Evidence-Based Action Statement:

Eye doctors should not rely on a single, normal confrontation visual field test result as proof that a field loss is not present and should conduct threshold visual field testing on patients if there is a clinical suspicion of a visual field defect. (Evidence Grade: B and C/Recommendation)

- Systemic health assessment (e.g., blood pressure measurement, carotid artery assessment, laboratory testing, imaging, cranial nerve assessment).

G. SUPPLEMENTAL TESTING

- As needed to confirm or rule out differential diagnoses, enable more in depth assessment, or provide alternative means of evaluation of patients. Procedures may include, but are not limited to, optical coherence tomography (OCT); threshold visual field testing; gonioscopy; fundus photography, keratometry; pachymetry; glare testing; contrast sensitivity testing; dry eye assessment.

H. ASSESSMENT AND DIAGNOSIS

- Evaluate data to establish a diagnosis and formulate a treatment and management plan
- Further assessment and /or treatment by another eye doctor, the patient's primary care physician, or another health care provider may be needed.

I. POTENTIAL BENEFITS AND HARMS OF TESTING

- Benefits may include optimizing visual function; improving quality of life; detecting systemic disease; counseling and educating patients.

- Harms may include patient anxiety about testing; adverse ocular and/or systemic reactions; temporary visual disturbances; missed or misdiagnosis; unnecessary referral or treatment.

J. PATIENT COUNSELING AND EDUCATION

- Patients' level of health literacy needs to be considered when communicating with them about their eye and/or vision condition.
- Eye care providers need to make reasonable accommodations to ensure that written and spoken information is clear and understandable to individuals with disabilities.

Consensus-Based Action Statement:

At the conclusion of an eye and vision examination, the eye doctor should explain the diagnosis to the patient, relate it to the patient's symptoms, and discuss a treatment plan and prognosis.

Consensus-Based Action Statement:

Persons who will undergo or have undergone ocular surgery or other specialty care should be counseled by their eye doctor regarding their ongoing need for periodic comprehensive eye and vision examinations.

Evidence-Based Action Statement:

Eye doctors should ask about and document their patients' smoking status and inform them about the benefits to their eyes, vision, and overall health, through smoking cessation. (Evidence Grade: B/Recommendation)

Consensus-Based Action Statement:

Individuals performing high-risk activities, monocular persons, and those with previous eye trauma or eye surgery should be strongly advised by their eye doctor to wear appropriate eye protection with impact resistant properties.

Consensus-Based Action Statement:

Eye doctors should advise their adult patients about the benefits of the regular use of sunglasses that effectively block at least 99 percent of UVA and UVB radiation and the use of hats with brims when outdoors.

Consensus-Based Action Statement:

Eye doctors should be aware of their patients' dietary and supplementation practices and counsel them on good nutrition for eye health.

Evidence-Based Action Statement:

Individuals 60 years of age and older with central and/or peripheral vision loss should be counseled by their eye doctor about the potential for an increased risk of falls. (Evidence Grade: B/Recommendation)

K. COORDINATION AND FREQUENCY OF CARE

The nature and severity of the problem(s) diagnosed determines the need for an optical correction, prescription or nonprescription medication, surgery, or referral (e.g., ocular or systemic disease, vision rehabilitation, vision therapy, specialty contact lenses) and the frequency of follow-up for additional evaluation or treatment.

Consensus-Based Action Statement:

Comprehensive eye and vision examinations are recommended at least every two years for asymptomatic, low-risk persons ages 18 through 39 to evaluate changes in eye and visual function, and provide for early detection of sight-threatening eye and systemic health problems.

Evidence-Based Action Statement:

Annual comprehensive eye and vision examinations are recommended for persons 65 years of age or older for the diagnosis and treatment of sight-threatening eye conditions and the timely correction of refractive errors (Evidence Grade: B/Strong Recommendation)

Evidence-Based Action Statement:

Comprehensive eye and vision examinations are recommended at least every two years for asymptomatic, low-risk persons 40 through 64 years of age to evaluate changes in eye and visual function, and provide for the early detection of eye diseases, which may lead to significant vision loss, and systemic conditions that may affect health or vision. (Evidence Grade: B/Recommendation)

Consensus-Based Action Statement:

Adult patients should be advised by their eye doctor to seek eye care more frequently than the recommended re-examination interval (Table 1) if new ocular, visual, or systemic health problems develop.

**TABLE 1
RECOMMENDED EYE EXAMINATION FREQUENCY FOR
ADULT PATIENTS**

EXAMINATION INTERVAL

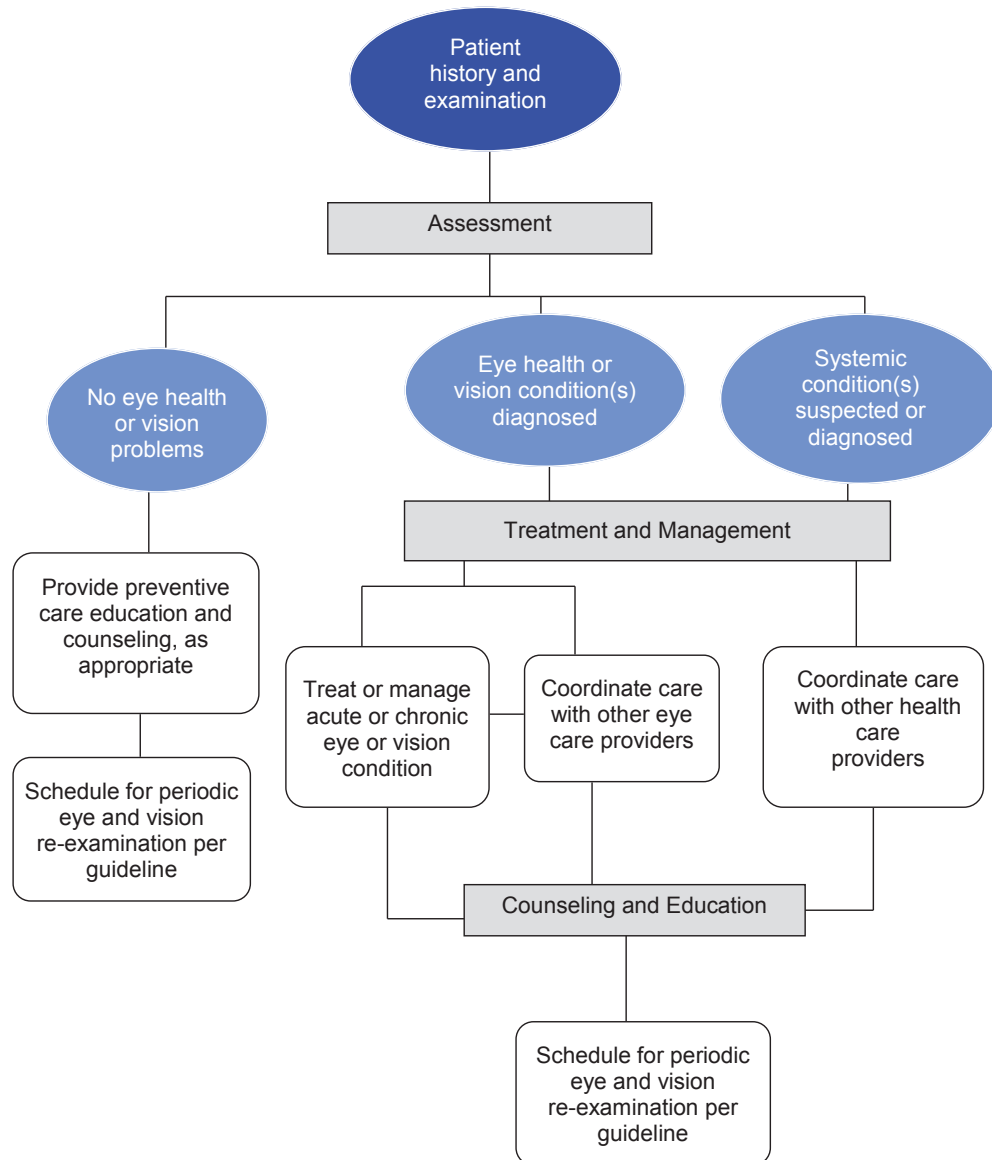
PATIENT AGE (YEARS)	ASYMPTOMATIC/LOW-RISK	AT RISK*
18 through 39	At least every two years	At least annually or as recommended
40 through 64	At least every two years	At least annually or as recommended
65 and older	Annually	At least annually or as recommended

*Patients at risk include those with a family history of ocular disease; systemic health conditions with potential ocular manifestations; belonging to certain racial or ethnic groups; working in occupations that are highly demanding visually or eye hazardous; taking prescription or nonprescription drugs with ocular side effects; having high or progressive refractive error; wearing contact lenses; previous eye surgery or eye injury; having functional vision in only one eye; and those with other eye-related concerns or conditions.

THE FOLLOWING TABLE PROVIDES THE GRADING SYSTEM USED FOR RATING ACTION STATEMENTS

Key to Strength of Evidence and Clinical Recommendation Grading	
Grade	Strength of Evidence
A	Data derived from well-designed, randomized clinical trials (RCTs); systematic reviews; meta-analyses; or diagnostic studies (Grade A) of relevant populations with a validated reference standard. Grade A diagnostic studies do not have a narrow population, or use a poor reference standard, and are not case control studies of diseases or conditions.
B	Randomized clinical trials (RCTs) with weaker designs; cohort studies (retrospective or prospective); or diagnostic studies (Grade B). Grade B diagnostic studies have only one of the following: a narrow population, or the sample does not reflect the population to whom the test would apply, or uses a poor reference standard, or the comparison between the test and reference standard is not blinded, or are case-control studies of diseases or conditions.
C	Studies of strong design, but with substantial uncertainty about conclusions or serious doubts about generalizations, bias, research design, or sample size. Nonrandomized trials; case control studies (retrospective or prospective); or diagnostic studies (Grade C). Grade C diagnostic studies have at least 2 or more of the following: a narrow population, or the sample does not reflect the population to whom the test would apply, or uses a poor reference standard, or the comparison between the test and reference standard is not blinded, or are case-control studies of diseases or conditions.
D	Cross sectional studies; case reports/series; reviews; position papers; expert opinion; or reasoning from principal.
Clinical Recommendation Levels	
Strong Recommendation: Eye doctors should follow this recommendation unless clear and compelling rationale for an alternative approach is present. The quality of evidence provides a clear reason to make a recommendation.	
Recommendation: Eye doctors should generally follow this recommendation, but should remain alert for new information. The quality of evidence is not as strong, but the benefits exceed the harms or vice versa.	
Consensus Recommendation: Eye doctors should be aware of this recommendation, but be flexible in their clinical decision-making and remain alert for new information. No clear advantage has been demonstrated for one approach versus another. There is lack of pertinent evidence and an unclear balance between benefit and harm.	

**APPENDIX FIGURE 1:
COMPREHENSIVE ADULT EYE AND VISION EXAMINATION: A FLOWCHART**



NOTE: This Quick Reference Guide should be used in conjunction with the [Evidence-Based Clinical Practice Guideline on Comprehensive Adult Eye and Vision Examination \(2015\)](#). It provides summary information and is not intended to stand alone in assisting the clinician in making patient care decisions. Refer to the supporting references in the Guideline for all Evidence-Based Action Statements.