



Ametropia / Ophthalmic Optics CAP Assessment Syllabus
Form II, September 2022

SECTION 1: REFERENCE-BASED QUESTIONS (questions 1-14)

These questions are based on the references listed below, which emphasize new practice guidelines, landmark studies, and new information relevant to optometry within the area of Ametropia and Ophthalmic Optics.

See pages 3-4 for learning objectives for each topic area.

Topic: Evidence-based guidelines for adult eye and vision examinations (questions 1-5)

Evidence-based Clinical Practice Guideline: Comprehensive Adult Eye and Vision Examination, American Optometric Association, 2015.

Note: Focus on pages 10-30, with emphasis on action statements

<https://aoa.uberflip.com/i/578152-aoa-clinical-practice-guidelines-adult-eye-exam>

Topic: Myopia control (questions 6-11)

Clinical Report: Myopia Management, American Optometric Association, 2021.

<https://aoa.uberflip.com/i/1388672-ebo-myopia-clinical-report-no-spread/0?>

Topic: Effects of blue light (questions 12-14)

Downie, L. Blue light filtering ophthalmic lenses: To prescribe, or not to prescribe? Ophthalmic Physiol Opt. 2017 Oct. <https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12414>

Lawrenson JG, Hull CC, Downie LE. The effect of blue-light blocking spectacle lenses on visual performance, macular health and the sleep wake cycle: a systematic review of the literature. Ophthalmic Physiol Opt. 2017 Nov.

<https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12406>

SECTION 2: FUNDAMENTAL KNOWLEDGE QUESTIONS (questions 15-25)

These questions are considered “fundamental knowledge” within the areas of Ametropia and Ophthalmic Optics. This is information that has not changed substantially in the past 5-10 years, and with which all optometrists should be familiar or be able to access quickly.

The following outline is provided as a guide for this section.

- I. Spectacle correction of ametropia
 - a. Distribution of refractive errors based on age, ethnicity
 - a. Patient education on safety factors of eyewear and materials
 - b. Spectacle lens designs or optical materials recommendations
 - c. Prismatic correction (slab off, induced prism)
 - d. Troubleshooting issues due to spectacle lens fabrication or frame selection
 - e. Interpretation of basic exam findings



- f. Vertex distance and effective power
- g. Basic frame adjustments
- II. Vision rehabilitation/low vision
 - a. Collection of specific patient history and demographic data
 - b. Specific testing to assess visual status and determine management plan
 - c. Treatments offered by primary care optometrists (high adds, simple magnifying devices, lighting recommendations, lifestyle changes)
 - d. Knowledge of treatment/management techniques used by vision impairment/low vision specialists

The following references are recommended as a review of general concepts for this section, but not required.

AOA Consensus-Based Clinical Practice Guidelines

Care of the Patient with Myopia (CPG 15)

Care of the Patient with Visual Impairment (Low Vision Rehabilitation) (CPG14)

Brooks C, Borish I. System for ophthalmic dispensing, 3rd ed. Butterworth-Heinemann, 2007.

Benjamin, W. Borish's Clinical Refraction, 2nd ed. Butterworth-Heinemann, 2006.



The following learning objectives are provided as a guide to aid in navigating through the references and preparing for the reference-based section of the assessment.

Reference 1: Evidence-based Clinical Practice Guideline: Comprehensive Adult Eye and Vision Examination, American Optometric Association 2015. <http://aoa.uberflip.com/i/578152-aoa-clinical-practice-guidelines-adult-eye-exam>

Learning objectives

The learner will be able to:

- I. Discuss the epidemiology of eye and vision disorders in adults
- II. Identify the components of adult vision examinations and articulate the potential benefits and harm of testing
- III. Describe techniques for improving accuracy of IOP measurement and confrontation field testing
- IV. Discuss the recommended frequency of comprehensive eye and vision examinations, taking into consideration the patient's age, symptoms and level of risk
- V. Discuss issues that affect doctor-patient communications, including language and cultural differences, patient anxiety, and patient's level of health literacy
- VI. Articulate the accommodations for patients with disabilities required by the ADA
- VII. Identify patient lifestyle modifications that can reduce risk of vision loss, including:
 - a. Dietary and nutritional effects on eye health
 - b. Smoking cessation
 - c. Use of UV protection
 - d. Trauma protection
- VIII. Identify the vision changes that are likely to increase fall risk, especially in older patients

Reference 2: Clinical Report: Myopia Management, American Optometric Association, 2021. <https://aoa.uberflip.com/i/1388672-ebo-myopia-clinical-report-no-spread/0?>

Learning objectives

The learner will be able to:

- I. Discuss the factors influencing the development of myopia, including genetic factors and visual environment
- II. Articulate the classification of myopia, based on amount and age of onset
- III. Identify the complications associated with myopia and the effect of slowing myopic progression on the prevalence of those complications
- IV. Identify the risk factors for development/progression of myopia



- V. Describe how the rate of axial elongation varies with age and the onset of myopia
- VI. Identify the tests and equipment needed for appropriate myopic management
- VII. Discuss the factors to consider when initiating a myopia control program, including when to initiate treatment, the expected results of treatment, and rebound effects
- VIII. Discuss the use of atropine in the management of myopia, including the primary findings in the ATOM and LAMP studies.
- IX. Discuss the effects of different concentrations of atropine, including side effects, myopia progression, and rebound.
- X. Discuss the use of multifocal SCL in myopia control, including lens design and add power.
- XI. Discuss the use of orthokeratology in myopia control and articulate the pros and cons of OrthoK compared to other methods
- XII. Discuss the use of spectacle lenses in myopia control, including lens design and power.
- XIII. Identify the behavior modification strategies that will help prevent myopic progression.
- XIV. Describe the appropriate follow-up regimen based on treatment.
- XV. Discuss the factors to consider with cessation of treatment and the expected outcome measures.

References 3 and 4

Downie, L. Blue light filtering ophthalmic lenses: To prescribe, or not to prescribe? *Ophthalmic Physiol Opt.* 2017 Oct. <https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12414>

Lawrenson JG, Hull CC, Downie LE. The effect of blue-light blocking spectacle lenses on visual performance, macular health and the sleep wake cycle: a systematic review of the literature. *Ophthalmic Physiol Opt.* 2017 Nov. <https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12406>

Learning Objectives

The learner will be able to:

- I. Define the “blue-light hazard” and identify its source.
- II. Discuss the potential benefits of blue light filters (marketing claims).
- III. Discuss the potential adverse effects of blue light filters.
- IV. Discuss the current evidence of photoreceptor damage due to blue light and the limitations of that evidence.
- V. Describe the international safety limits for short wavelength light exposure and compare the limits to current levels of exposure to LED, CFL and use of digital devices
- VI. Articulate the additional research studies that are needed to support the marketing claims for blue blocking lenses.