

# COA Ophthalmic Tech Practice Exam (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

**Remember:** successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## **1. Start with a Diagnostic Review**

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## **2. Study in Short, Focused Sessions**

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## **3. Learn from the Explanations**

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## **4. Track Your Progress**

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## **5. Simulate the Real Exam**

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## **6. Repeat and Review**

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## Questions

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- 1. When the Amsler Grid is viewed correctly, each square subtends an angle of how many degrees?**
  - A. One**
  - B. Two**
  - C. Three**
  - D. Four**
  
- 2. What happens to the cornea's anterior stroma in photorefractive keratectomy?**
  - A. It is removed using a laser**
  - B. It is replaced with synthetic material**
  - C. It is converted to a gel-like substance**
  - D. It remains untouched during the procedure**
  
- 3. What effect do anticholinergics have in patients with narrow-angle glaucoma?**
  - A. Increase intraocular pressure**
  - B. Decrease intraocular pressure**
  - C. Dilate pupil**
  - D. Constrict pupil**
  
- 4. Which elements are considered important during social history taking?**
  - A. Family history, genetic disorders, allergies**
  - B. Smoking, alcohol, and drug use**
  - C. Medical history, occupational hazards, diet**
  - D. Vision problems, sleep patterns, exercise habits**
  
- 5. Which disease is characterized as a chronic autoimmune condition affecting nerve transmission in skeletal muscles?**
  - A. Multiple Sclerosis**
  - B. Myasthenia Gravis**
  - C. Amyotrophic Lateral Sclerosis**
  - D. Guillain-Barré Syndrome**

- 6. Which instrument measures the radius of curvature, or base curve, of a spectacle lens surface in diopters?**
- A. Lensometer**
  - B. Geneva lens clock**
  - C. Cylinder gauge**
  - D. Refractometer**
- 7. Which practice helps prevent cross-contamination in an ophthalmic setting?**
- A. Using dished-out vials for medication**
  - B. Ensuring gloves are worn at all times when examining patients**
  - C. Having patients share equipment**
  - D. Using the same instruments for different patients**
- 8. During A-Scan ultrasonography, what occurs due to corneal compression?**
- A. Longer than actual axial length measurement**
  - B. Shorter than actual axial length measurement**
  - C. No effect on measurement**
  - D. Inconsistent results**
- 9. What symptom would suggest a retinal detachment?**
- A. Sudden increased sensitivity to light**
  - B. Flashes of light in the vision**
  - C. Persistent eye pain**
  - D. Loss of peripheral vision**
- 10. Which condition causes a gradual loss of accommodation leading to difficulties with near vision?**
- A. Astigmatism**
  - B. Myopia**
  - C. Presbyopia**
  - D. Hyperopia**

## Answers

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1. A
2. A
3. A
4. B
5. B
6. B
7. B
8. B
9. B
10. C

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## **Explanations**

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**1. When the Amsler Grid is viewed correctly, each square subtends an angle of how many degrees?**

- A. One**
- B. Two**
- C. Three**
- D. Four**

The Amsler Grid is a tool used primarily to assess central visual field function and is particularly beneficial for detecting macular degeneration. Each square on the grid is designed to subtend an angle of one degree at the eye. This means that when a person views the grid at the recommended distance (typically 30 cm), they are able to effectively gauge any distortions or changes in their central vision. In practical terms, since one degree of visual angle corresponds to a small portion of what the eye can see, each square being one degree ensures that any visual anomalies can be detected accurately. This design choice is crucial in helping clinicians evaluate the patient's vision, as it allows for a detailed assessment of any central vision changes. By focusing on just this one degree per square, it facilitates not only patient self-checks but also provides valuable data for eye care professionals monitoring the patient's visual health.

**2. What happens to the cornea's anterior stroma in photorefractive keratectomy?**

- A. It is removed using a laser**
- B. It is replaced with synthetic material**
- C. It is converted to a gel-like substance**
- D. It remains untouched during the procedure**

In photorefractive keratectomy (PRK), the procedure involves the precise removal of a portion of the cornea's anterior stroma using an excimer laser. This specific layer of the cornea is targeted to reshape its curvature, which is essential for correcting refractive errors such as myopia, hyperopia, and astigmatism. The use of a laser allows for a highly controlled and accurate removal of the tissue, which helps to minimize trauma to the surrounding corneal structures and promotes a better healing response in the post-operative phase. By carefully targeting the anterior stroma, the procedure works to alter the cornea's refractive properties, thus improving vision without the need for synthetic materials or altering the cornea into a gel-like state. This understanding underscores the focus on the laser's role in removing tissue rather than leaving it untouched or substituting it with artificial components, which are not methods employed in PRK.

**3. What effect do anticholinergics have in patients with narrow-angle glaucoma?**

- A. Increase intraocular pressure**
- B. Decrease intraocular pressure**
- C. Dilate pupil**
- D. Constrict pupil**

Anticholinergic medications work by blocking the action of acetylcholine on muscarinic receptors, which has several physiological effects. In the context of narrow-angle glaucoma, the use of anticholinergics can indeed lead to an increase in intraocular pressure. In narrow-angle glaucoma, the angle between the iris and the cornea is already compromised, leading to difficulties in the outflow of aqueous humor. Anticholinergics cause pupil dilation (mydriasis), which can exacerbate the angle closure, further obstructing the drainage of aqueous humor through the trabecular meshwork. As a result, this increased resistance contributes to elevated intraocular pressure, which can lead to damage to the optic nerve and exacerbate the condition. The ability of anticholinergics to dilate the pupil is significant in understanding their impact on patients with narrow-angle glaucoma. Therefore, the correct answer relates directly to the adverse effect these medications can have by increasing intraocular pressure in such patients.

**4. Which elements are considered important during social history taking?**

- A. Family history, genetic disorders, allergies**
- B. Smoking, alcohol, and drug use**
- C. Medical history, occupational hazards, diet**
- D. Vision problems, sleep patterns, exercise habits**

In social history taking, understanding an individual's lifestyle and habits is crucial for assessing potential health risks and developing a comprehensive patient profile. Smoking, alcohol consumption, and drug use are key elements because they directly influence a person's overall health and can significantly impact the development or progression of various medical conditions, including those related to the eyes. For instance, smoking is linked to an increased risk of cataracts and age-related macular degeneration. Similarly, alcohol abuse can lead to nutritional deficiencies that may affect vision and ocular health. Drug use can also lead to a range of health issues, including those that affect vision and eye health. While other choices include important health aspects, the specific focus on lifestyle habits related to smoking, alcohol, and drug use provides critical insights into risks associated with a patient's social habits and overall wellness, making it particularly relevant for social history taking.

**5. Which disease is characterized as a chronic autoimmune condition affecting nerve transmission in skeletal muscles?**

- A. Multiple Sclerosis**
- B. Myasthenia Gravis**
- C. Amyotrophic Lateral Sclerosis**
- D. Guillain-Barré Syndrome**

Myasthenia Gravis is a chronic autoimmune condition that specifically targets the communication between nerves and muscles, leading to muscle weakness. This condition is caused by antibodies that block or destroy nicotinic acetylcholine receptors at the neuromuscular junction, which impairs the nerve signals that stimulate muscle contractions. As a result, individuals with Myasthenia Gravis typically experience an increase in muscle weakness with activity, which can improve with rest. The focus on nerve transmission to skeletal muscles is key to understanding this condition, distinguishing it from others, such as Multiple Sclerosis, which affects the central nervous system and can impact various physical functions, or Guillain-Barré Syndrome, which is characterized by rapid-onset muscle weakness due to the immune system attacking peripheral nerves. Amyotrophic Lateral Sclerosis also affects muscle control but does not primarily involve the same autoimmune mechanism affecting the neuromuscular junction as seen in Myasthenia Gravis. Thus, Myasthenia Gravis accurately describes the chronic autoimmune disruption of nerve transmission to skeletal muscles.

**6. Which instrument measures the radius of curvature, or base curve, of a spectacle lens surface in diopters?**

- A. Lensometer**
- B. Geneva lens clock**
- C. Cylinder gauge**
- D. Refractometer**

The instrument that measures the radius of curvature, or base curve, of a spectacle lens surface in diopters, is the Geneva lens clock. This tool is specifically designed to provide the curvature measurement of the front or back surface of the lens, which is critical for ensuring proper fitting and optical performance in eyewear. The lens clock operates on the principle of an arc that corresponds to the curve of the lens surface. It typically has two contact points that touch the surface of the lens. The differences in height between these points help determine the curvature, which can then be converted into a diopter measurement. The result indicates how steep or flat a lens surface is, directly related to its prescription and optics. In contrast, while the lensometer is used primarily to measure the prescription of finished spectacle lenses, and the refractometer measures the refractive index of materials, neither is designed to specifically measure the base curve of a lens. The cylinder gauge, typically used to measure the thickness of a lens, does not provide curvature information either. Thus, the Geneva lens clock stands out as the appropriate tool for this specific measurement.

**7. Which practice helps prevent cross-contamination in an ophthalmic setting?**

**A. Using dished-out vials for medication**

**B. Ensuring gloves are worn at all times when examining patients**

**C. Having patients share equipment**

**D. Using the same instruments for different patients**

Wearing gloves at all times when examining patients is a critical practice in preventing cross-contamination in an ophthalmic setting. Gloves act as a barrier between the healthcare provider and the patient, significantly reducing the risk of transferring pathogens. This is especially important in ophthalmology, where the eyes are highly sensitive and prone to infections. By consistently using gloves, ophthalmic technicians minimize the possibility of carrying contaminants from one patient to another, which helps maintain a sterile environment and ensures patient safety. Other practices that do not contribute to preventing cross-contamination, such as sharing equipment between patients or using the same instruments for different patients, pose significant risks and can lead to outbreaks of infections or other complications. Thus, the implementation of gloves is a straightforward yet effective measure to uphold hygiene standards in clinical settings.

**8. During A-Scan ultrasonography, what occurs due to corneal compression?**

**A. Longer than actual axial length measurement**

**B. Shorter than actual axial length measurement**

**C. No effect on measurement**

**D. Inconsistent results**

During A-Scan ultrasonography, corneal compression leads to a shorter than actual axial length measurement. This happens because the A-Scan technique relies on the speed of sound traveling through the eye structures, including the cornea. When the cornea is compressed, it reduces the distance that the sound waves must travel, which consequently alters the calculated axial length of the eye. Specifically, the sound waves take less time to return to the transducer than they would if the cornea were not compressed, leading to an underestimated measurement. This is significant for the accuracy of biometry in preparations for cataract surgery or other ocular procedures. Understanding this effect is crucial for ophthalmic technicians, as it emphasizes the importance of ensuring proper positioning and handling during the A-Scan to obtain reliable measurements. This phenomenon underscores the necessity for careful technique during ultrasonography to avoid inaccuracies in eye length assessments.

## 9. What symptom would suggest a retinal detachment?

- A. Sudden increased sensitivity to light
- B. Flashes of light in the vision**
- C. Persistent eye pain
- D. Loss of peripheral vision

Flashes of light in vision, known as photopsia, are a classic symptom of retinal detachment. This phenomenon occurs when the retina is stimulated by either traction from the vitreous gel pulling away from the retina or when there are changes in the retina itself due to the detachment. Patients may describe seeing brief, bright flashes, which usually happen in their peripheral vision. This symptom is a critical indication as it suggests that the retina may be in distress, potentially leading to a more severe complication if not evaluated and treated promptly. Sudden increased sensitivity to light, persistent eye pain, and loss of peripheral vision may not specifically indicate a retinal detachment. Increased sensitivity can occur due to various issues like inflammation or glare but isn't directly tied to retinal detachment. Persistent eye pain could be related to several other eye conditions, and loss of peripheral vision can arise from different retinal issues or optic nerve problems. Therefore, while these symptoms may warrant an eye examination, they do not serve as the hallmark signs of retinal detachment like flashes of light do. Understanding the specific symptoms of retinal detachment is crucial for timely intervention and to prevent vision loss.

## 10. Which condition causes a gradual loss of accommodation leading to difficulties with near vision?

- A. Astigmatism
- B. Myopia
- C. Presbyopia**
- D. Hyperopia

Presbyopia is the condition characterized by a gradual loss of accommodation, resulting in difficulties with near vision. This condition typically begins in early to mid-forties as the eye's lens becomes less flexible, making it harder to focus on close objects. With age, the ciliary muscles that control the shape of the lens also become less effective, further impairing the ability to accommodate. Understanding presbyopia is critical because it affects most individuals as they age, leading to the common necessity for reading glasses or multifocal lenses. Unlike other refractive errors, presbyopia is not due to a shape discrepancy in the eyeball or the cornea, but rather a natural aging process related to the lens's capability to change shape dynamically. Astigmatism, myopia, and hyperopia relate to how light is focused on the retina and typically involve distortions in vision that can affect distance or clarity, but they do not specifically involve the loss of accommodation related to age. Presbyopia distinctly highlights the loss of the eye's ability to adjust focus on nearby objects as a direct consequence of aging, making it the most appropriate answer in this context.

## Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://coaophthalmictech.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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