

# National Contact Lens Registry Advanced Certification (NCLE-AC) Practice Exam (Sample)

## Study Guide



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

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**SAMPLE**

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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

- 1. According to federal regulation, how long should a contact lens prescription be valid?**
  - A. 1 year**
  - B. 2 years**
  - C. 3 years**
  - D. Practitioner discretion**
- 2. To flatten the lens to cornea relationship in a gas permeable lens fit with parameters of 42.50-3.00 9.5, which lens should be ordered?**
  - A. 42.00-2.00 10.0**
  - B. 42.50-3.00 9.0**
  - C. 43.0-3.50 9.5**
  - D. 43.50-3.50 9.0**
- 3. A rigid lens showing apical pooling is typically an indication of what type of fit?**
  - A. Steep fit**
  - B. Alignment fit**
  - C. Flat fit**
  - D. Astigmatic fit**
- 4. What type of astigmatism is represented by the following example: K's 44.00 @180/ 44.50 @90; RX -3.00 -2.50 X 180?**
  - A. Regular astigmatism**
  - B. Lenticular astigmatism**
  - C. Corneal astigmatism**
  - D. Mixed astigmatism**
- 5. For Carol, who is fitted with GP contact lenses on flat K and has a refraction of -5.00+2.00X 90, what is the effective power of her contact lenses?**
  - A. -2.00D**
  - B. -5.00D**
  - C. -3.00D**
  - D. -4.00D**

- 6. Patients with keratitis sicca are more prone to which of the following?**
- A. Secondary infections**
  - B. Vision loss**
  - C. Cataract formation**
  - D. Corneal abrasion**
- 7. Vogt's striae occur in which layer of the cornea?**
- A. Epithelium**
  - B. Stroma**
  - C. Descemet's membrane**
  - D. Endothelium**
- 8. Poor GP insertion or recentering techniques may result in which of the following?**
- A. Arcuate staining**
  - B. Lens warpage**
  - C. Lacrimation**
  - D. Corneal abrasion**
- 9. Fluorescein is used to observe all of the following except:**
- A. Contact lens fit**
  - B. Corneal striae**
  - C. Corneal dry spots**
  - D. Punctate staining**
- 10. When adjusting the rotation for a toric lens that rotates halfway between 5 o'clock and 6 o'clock using the LARS principle, what adjustment is necessary?**
- A. 30 degrees**
  - B. 15 degrees**
  - C. 45 degrees**
  - D. No adjustment**



## **Answers**

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

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## **Explanations**

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**1. According to federal regulation, how long should a contact lens prescription be valid?**

**A. 1 year**

**B. 2 years**

**C. 3 years**

**D. Practitioner discretion**

The correct duration for the validity of a contact lens prescription according to federal regulation is typically set at one year. This timeframe is established to ensure that patients receive the most current and appropriate lens for their ocular health and vision needs. It's essential for practitioners to re-evaluate their patients' conditions and prescription requirements regularly, which is why a one-year validity is standard practice. This one-year period promotes patient safety, as it allows for any changes in vision, health, or lens technology to be addressed promptly. Regular check-ups also ensure that the prescribed lenses continue to fit well and do not cause any discomfort or adverse effects to the ocular surface. In contrast, the other duration options may not align with federal regulations, as they extend beyond the widely accepted one-year validity and may risk outdated prescriptions being used, which could lead to complications in patient care. Practitioners are encouraged to adhere to the one-year prescription limit to maintain high standards in patient management and ocular health.

**2. To flatten the lens to cornea relationship in a gas permeable lens fit with parameters of 42.50-3.00 9.5, which lens should be ordered?**

**A. 42.00-2.00 10.0**

**B. 42.50-3.00 9.0**

**C. 43.0-3.50 9.5**

**D. 43.50-3.50 9.0**

To understand why ordering a lens with the parameters of 42.50-3.00 9.0 is the appropriate choice to flatten the lens to cornea relationship in this scenario, consider the specific adjustments that need to be made to achieve the desired fit. In this case, the goal is to flatten the lens in relation to the cornea, which typically involves either increasing the base curve or reducing the power of the lens. The original lens has a base curve of 42.50, and to achieve a flatter fit, you would ideally want to maintain or decrease the curvature slightly. Ordering a lens with a base curve of 42.50 but a reduced thickness (the 9.0 measurement) retains the baseline curvature while slightly reducing the vault over the cornea, which provides a flatter relationship overall. The power is adjusted to a less negative value, which will also help achieve the intended fit. Other choices either maintain or increase the curvature or change the lens parameters in such a way that they do not effectively achieve the intended flattening. For instance, a base curve of 43.0 or 43.50 would be steeper, leading to a more pronounced fitting relationship that is the opposite of what is desired.

**3. A rigid lens showing apical pooling is typically an indication of what type of fit?**

- A. Steep fit**
- B. Alignment fit**
- C. Flat fit**
- D. Astigmatic fit**

Apical pooling occurs when there is a discrepancy between the curvature of the contact lens and that of the cornea, specifically when the lens is fitting too steeply. In a steep fit, the central portion of the lens hugs the cornea tightly, leaving a small air space at the apex of the cornea where tears can accumulate, resulting in pooling. This phenomenon can be visually observed during a fitting exam, often using fluorescein dye to highlight the areas of pooling. In contrast, an alignment fit would mean that the lens is properly contoured to the surface of the cornea, promoting even distribution of tears and minimal pooling. A flat fit occurs when the lens is too flat for the cornea, leading to inadequate centration and potentially excessive movement of the lens, which would not cause apical pooling. Astigmatic fits are more related to toric lenses designed to correct certain types of astigmatism, focusing on the lens geometry rather than the pooling effect. Hence, recognizing that apical pooling is indicative of a steep fit helps practitioners understand the relationship between lens curvature and corneal topography, essential for achieving optimal vision and comfort for contact lens wearers.

**4. What type of astigmatism is represented by the following example: K's 44.00 @180/ 44.50 @90; RX -3.00 -2.50 X 180?**

- A. Regular astigmatism**
- B. Lenticular astigmatism**
- C. Corneal astigmatism**
- D. Mixed astigmatism**

The correct answer is that this scenario represents lenticular astigmatism. Lenticular astigmatism occurs when there is an irregular curvature of the lens, as opposed to the cornea. In this case, the prescription indicates a significant cylindrical component (the -2.50 cylinder) at 180 degrees, which implies that there is an astigmatic component related to the lens rather than to the corneal surface. In interpreting K's or keratometry readings, the values of 44.00 @180 and 44.50 @90 suggest a relatively regular curvature of the cornea, indicating that any astigmatism demonstrated in the prescription is more likely stemming from the lens than the cornea itself. Regular astigmatism, for instance, is characterized by consistent and predictable curvature of the cornea, which is not the primary factor in this example. Additionally, other forms of astigmatism, such as mixed astigmatism, involve both types of refractive error and don't specifically point to lenticular issues. Since the primary description and resultant prescription predominantly involves cylindrical power that can be attributed to lens irregularities, this confirms that lenticular astigmatism is indeed the correct interpretation of the presented details.

**5. For Carol, who is fitted with GP contact lenses on flat K and has a refraction of -5.00+2.00X 90, what is the effective power of her contact lenses?**

**A. -2.00D**

**B. -5.00D**

**C. -3.00D**

**D. -4.00D**

To determine the effective power of the contact lenses for Carol, we need to take into account her refraction and the relationship between a rigid gas permeable (GP) lens and the corneal curvature represented by the flat K value. Carol's refraction is -5.00 diopters with 2.00 diopters of astigmatism at an axis of 90 degrees. The GP lens is fit on the flat K value, which generally means that the lens will be aligned closely with the corneal curvature. For lens calculations, we commonly utilize the formula that accounts for the effect of the lens on the eye's overall refractive power. In this scenario, the effective power of GP contact lenses can often be described as simply using the spherical equivalent of the refraction. The spherical equivalent is calculated by adding half of the cylinder value to the sphere. Here, half of 2.00 diopters (the cylinder) is 1.00 diopter, making the spherical equivalent:  $-5.00 + 1.00 = -4.00$  diopters. However, since we are fitting the lens to the flat K value, adjustments due to the corneal topography must be taken into account as well. The effective power

**6. Patients with keratitis sicca are more prone to which of the following?**

**A. Secondary infections**

**B. Vision loss**

**C. Cataract formation**

**D. Corneal abrasion**

Patients with keratitis sicca, also known as dry eye syndrome, experience a reduction in the quantity or quality of tears, leading to an insufficient tear film. This inadequate tear production not only results in discomfort and visual disturbances but also compromises the ocular surface defenses. The eyes rely on a stable tear film to wash away debris and provide antimicrobial properties, which are essential for maintaining eye health. As a result, individuals with keratitis sicca are more susceptible to secondary infections. A compromised tear film can lead to corneal epithelial damage or microtraumas, making the ocular surface more vulnerable to pathogens. Since these patients have fewer natural defenses against infections like bacterial conjunctivitis or keratitis, they face an increased risk of secondary infections that could exacerbate their condition and potentially lead to more severe complications. Understanding this connection highlights the importance of managing dry eye symptoms actively to protect the ocular surface and prevent secondary infections. While the other options listed may have associations with dry eyes, the direct link to increased vulnerability to infections is the most significant concern in the context of keratitis sicca.

**7. Vogt's striae occur in which layer of the cornea?**

- A. Epithelium**
- B. Stroma**
- C. Descemet's membrane**
- D. Endothelium**

Vogt's striae are lines seen in the cornea that result from stress and distortion, primarily related to the corneal stroma's response to changes in intraocular pressure or other mechanical forces. These striae represent a form of stretching that occurs in Descemet's membrane, which is the thin layer of tissue located between the corneal stroma and the endothelium. In contrast, the other layers of the cornea do not typically manifest Vogt's striae. The epithelium serves as the outer protective layer and is primarily involved in barrier functions and sensory perception. The stroma is the thickest layer and consists of collagen fibers, providing structural support but not associated with the formation of Vogt's striae. The endothelium is the innermost layer responsible for maintaining corneal clarity and fluid balance but does not exhibit these specific stress markings. Therefore, Vogt's striae being specifically associated with Descemet's membrane highlights how this particular layer can be affected by tensile forces, making it the correct response in this context.

**8. Poor GP insertion or recentering techniques may result in which of the following?**

- A. Arcuate staining**
- B. Lens warpage**
- C. Lacrimation**
- D. Corneal abrasion**

The best choice here is arcuate staining. This condition refers to the staining pattern on the cornea that can occur when a rigid gas permeable (GP) lens is improperly positioned on the eye. When the lens is not correctly centered or inserted, the edge of the lens may create points of pressure on the cornea. This can lead to staining along the areas where the lens interacts with the corneal epithelium, creating an arcuate pattern. When a GP lens is not fitting well or is off-center, it can cause uneven pressure distribution, resulting in areas of hypoxia or dryness, which contribute to this type of staining. Proper insertion and recentering techniques are essential to avoid such issues, as they help ensure that the lens maintains contact with the cornea uniformly across the entire surface. Understanding the mechanics of GP lens fitting is crucial for contact lens practitioners, as it directly impacts patient comfort and health. Recognition of signs such as arcuate staining is vital for timely intervention and adjustment of the fitting to promote better visual health outcomes.

**9. Fluorescein is used to observe all of the following except:**

- A. Contact lens fit**
- B. Corneal striae**
- C. Corneal dry spots**
- D. Punctate staining**

Fluorescein is a dye commonly used in ophthalmology to assess various conditions of the eye, particularly when evaluating the status of the cornea and the fit of contact lenses. When fluorescein is applied to the eye, it highlights areas of concern such as corneal abrasions, dryness, or irregularities in the contact lens fit by staining them, which can be observed under a blue light. In the context of the options, while fluorescein is effective for evaluating contact lens fit, corneal dry spots, and punctate staining—which typically indicates areas of epithelial damage or desiccation—it is not specifically used for corneal striae. Corneal striae are lines or folds in the corneal tissue that can occur due to various factors, such as elevation of the cornea from increased pressure or other structural changes. These striae are not indicative of surface issues that fluorescein would stain, and they typically do not require the same evaluation method. Thus, the use of fluorescein is not applicable for observing corneal striae directly, rendering this option the one for which fluorescein is not utilized.

**10. When adjusting the rotation for a toric lens that rotates halfway between 5 o'clock and 6 o'clock using the LARS principle, what adjustment is necessary?**

- A. 30 degrees**
- B. 15 degrees**
- C. 45 degrees**
- D. No adjustment**

In the context of correcting the rotation of a toric lens, the LARS principle, which stands for "Left Add, Right Subtract," is applied to determine the necessary adjustment based on the lens rotation position. When a toric lens rotates to a position that is not its intended orientation, this can lead to less-than-optimal vision correction, particularly for astigmatism. In this scenario, the lens is noted to be positioned halfway between 5 o'clock and 6 o'clock. The angular measurement between these positions is 30 degrees. According to the LARS principle, if the lens is misaligned to the left (in this case, it's oriented slightly more towards 5:30), you would need to 'add' the rotation to correct it. Therefore, since it is sitting 15 degrees between the two positions, an adjustment of 15 degrees to the right is necessary to realign it properly. This understanding illustrates how important the application of the LARS principle is in practice. The correct adjustment ensures optimal performance of the lens for the patient, leading to better vision and comfort.



## 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://ncleadvanced.examzify.com>**

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