National Contact Lens Examiners (NCLE) Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. What term describes the drooping of the upper eyelid?

- **A. Entropion**
- **B. Strabismus**
- **C. Ptosis**
- **D. Nystagmus**

2. What does the acronym "CPM" stand for regarding contact lenses?

- **A. Central Power Measurement**
- **B. Corneal Power Measurement**
- **C. Contact Lens Power Measurement**
- **D. Corneal Pressure Measurement**

3. What is the purpose of using fluorescein dye during fitting?

- **A. To enhance the color of the lenses**
- **B. To assess tear film stability and lens fitting on the eye**
- **C. To increase lens comfort**
- **D. To improve vision acuity**

4. What primary condition can a scleral lens assist with?

- **A. Near-sightedness**
- **B. Farsightedness**
- **C. Corneal irregularities**
- **D. Astigmatism**

5. Which term describes the formation of new blood vessels entering the cornea from the limbus?

- **A. Neovascularization**
- **B. Keratoconus**
- **C. Corneal edema**
- **D. Aniridia**

6. A toric soft lens with an RX of -2.00 -1.25 x 120 has the axis resting at the 5 o' clock position. What should the new axis be when the lens is ordered?

A. 90 degrees

B. 105 degrees

C. 135 degrees

D. 150 degrees

7. Why is a fitting set essential for contact lens fitting?

A. It helps determine the patient's vision needs

B. It allows for various sizes and curvatures to determine the best fit for the patient

C. It provides a guide for lens cleaning

D. It indicates the expiration date of the lenses

8. What characteristic is associated with silicone hydrogel lenses?

A. High permeability to oxygen

B. Low water content

C. Only suitable for occasional use

D. High refractive index

9. What is the current ANSI standard tolerance for a spherical lens with a power of -5.00D?

A. +/- 0.13D

B. +/- 0.15D

C. +/- 0.18D

D. +/- 0.19D

10. What should be observed in a contact lens patient's eye during an eye examination?

A. Only the cornea

B. The entire eye including conjunctiva and sclera

C. Only the lens

D. Only visual acuity

Answers

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

Explanations

1. What term describes the drooping of the upper eyelid?

A. Entropion

B. Strabismus

C. Ptosis

D. Nystagmus

The term that describes the drooping of the upper eyelid is ptosis. This condition can occur due to various reasons, including muscle weakness, nerve damage, or age-related changes. The levator palpebrae superioris muscle is primarily responsible for lifting the eyelid, and if this muscle is impaired or weakened, ptosis can result. It can affect one or both eyelids and may vary in severity. Other conditions mentioned, such as entropion, refer to the inward turning of the eyelid, strabismus involves misalignment of the eyes, and nystagmus is characterized by involuntary eye movements. While each of these terms relates to different eye conditions, ptosis specifically targets the position and function of the upper eyelid.

2. What does the acronym "CPM" stand for regarding contact lenses?

A. Central Power Measurement

B. Corneal Power Measurement

C. Contact Lens Power Measurement

D. Corneal Pressure Measurement

The acronym "CPM" stands for Corneal Power Measurement in the context of contact lenses. This term refers to the assessment of the curvature of the cornea, which is essential for determining the power required for contact lenses. Understanding the corneal shape and its refractive power is crucial in the fitting and correction capabilities of contact lenses, as this information directly influences the optical performance and comfort of the lenses worn by the patient. By accurately measuring the corneal power, practitioners can tailor the lens prescription to meet the specific refractive needs of the individual, thereby enhancing vision and comfort. This is particularly important for patients with varying degrees of refractive errors, such as myopia, hyperopia, or astigmatism. Using the correct measurement ensures that the lenses sit correctly on the eye and provide the necessary correction. The other options, while related to eye care and optics, do not accurately define "CPM" in the context of contact lenses. For instance, Central Power Measurement and Contact Lens Power Measurement might imply similar concepts but are not the standard terminology used in the field. Corneal Pressure Measurement pertains to assessments related to intraocular pressure, which is crucial for diagnosing conditions such as glaucoma but is not relevant to the power measurements associated with contact lens

3. What is the purpose of using fluorescein dye during fitting?

A. To enhance the color of the lenses

B. To assess tear film stability and lens fitting on the eye

C. To increase lens comfort

D. To improve vision acuity

Using fluorescein dye during the fitting of contact lenses is primarily for assessing the tear film stability and the way the lens fits on the eye. When fluorescein is applied, it allows the practitioner to visualize the formation of the tear film, indicating whether it is stable or has any irregularities. This is essential because a stable tear film ensures that the lens will maintain its position on the eye, providing optimal comfort and vision for the wearer. Additionally, the fluorescein helps in observing the interaction between the contact lens and the cornea, identifying any areas of excessive pressure or misalignment. These assessments are crucial in providing a proper lens fit, which contributes to the overall health of the cornea and comfort of the patient. The importance of a well-fitting lens cannot be overstated, as it affects not only comfort but also the quality of vision and the prevention of potential complications.

4. What primary condition can a scleral lens assist with?

A. Near-sightedness

B. Farsightedness

C. Corneal irregularities

D. Astigmatism

Scleral lenses are specifically designed to create a tear-filled space between the back of the lens and the cornea. This design is particularly beneficial for individuals with corneal irregularities, which can cause visual distortions and difficulties in maintaining clear vision. Conditions such as keratoconus, corneal ectasia, and severe dry eyes can benefit significantly from the use of scleral lenses. By vaulting over the irregularities of the cornea, scleral lenses provide a smooth optical surface, which can greatly improve visual acuity and comfort. They help to evenly distribute the pressure across the cornea, reducing discomfort associated with various corneal conditions. Thus, addressing corneal irregularities is the primary condition that these lenses are specifically designed to assist with. This makes scleral lenses especially valuable for patients who cannot achieve satisfactory vision with standard soft or rigid gas-permeable lenses.

5. Which term describes the formation of new blood vessels entering the cornea from the limbus?

A. Neovascularization

B. Keratoconus

C. Corneal edema

D. Aniridia

The term that accurately describes the formation of new blood vessels entering the cornea from the limbus is neovascularization. This process occurs when the cornea becomes ischemic or is otherwise lacking in oxygen, prompting the body to create new blood vessels to supply it with necessary nutrients. Neovascularization can lead to various complications, as the cornea is normally avascular (lacking blood vessels), which is essential for maintaining its transparency and overall health. Increased blood vessel growth can result from conditions such as contact lens overwear, chronic inflammation, or hypoxia. The other terms listed refer to different ocular conditions: keratoconus involves a progressive thinning and bulging of the cornea; corneal edema refers to swelling due to fluid accumulation; and aniridia is characterized by the absence of an iris. These conditions do not relate to the formation of new blood vessels, making neovascularization the correct choice.

6. A toric soft lens with an RX of -2.00 -1.25 x 120 has the axis resting at the 5 o' clock position. What should the new axis be when the lens is ordered?

A. 90 degrees

B. 105 degrees

C. 135 degrees

D. 150 degrees

In the scenario in question, the prescription for the toric soft lens includes a cylinder power and an axis. The RX given is -2.00 -1.25 x 120, indicating that the spherical component is -2.00 D and the cylindrical component is -1.25 D, positioned at an axis of 120 degrees. When the toric lens is placed on the eye, it can rotate slightly due to the natural contour of the eyeball and the fit of the lens. The condition states that the lens has settled in a position where the axis is effectively resting at the 5 o'clock position. It is important to remember that in standard anatomical positions, the clock face correlates to a 360-degree system where 12 o'clock is up, 3 o'clock is right, 6 o'clock is down, and 9 o'clock is left. Since the 5 o'clock position corresponds to 150 degrees, one must adjust this position to align with the specified cylinder axis in the prescription. For the toric lens to provide the appropriate correction as indicated by the RX, it must be ordered with an axis that aligns correctly with the cylindrical power. The original axis at 120 degrees reflects a sitting position of

7. Why is a fitting set essential for contact lens fitting?

A. It helps determine the patient's vision needs

B. It allows for various sizes and curvatures to determine the best fit for the patient

C. It provides a guide for lens cleaning

D. It indicates the expiration date of the lenses

A fitting set is essential for contact lens fitting primarily because it allows practitioners to evaluate and assess various sizes and curvatures to determine the best fit for the patient. Each person's eyes are unique in shape and size, and having a range of lenses in different curvatures and diameters enables the practitioner to identify the optimal lens that aligns well with the patient's ocular anatomy. This personalized approach ensures that the lenses provide comfort, adequate movement on the eye, and optimal vision correction. By facilitating the fitting process, a fitting set can help to prevent complications such as discomfort or poor vision that may arise from ill-fitted lenses. Therefore, utilizing a fitting set is a critical step in delivering effective and satisfactory vision solutions for contact lens wearers.

8. What characteristic is associated with silicone hydrogel lenses?

A. High permeability to oxygen

B. Low water content

C. Only suitable for occasional use

D. High refractive index

Silicone hydrogel lenses are known for their high permeability to oxygen, which is a crucial characteristic for maintaining eye health. The design of these lenses allows for significantly more oxygen to reach the cornea compared to traditional hydrogel lenses. This oxygen transmission is essential because it helps to keep the corneal tissue healthy, especially during extended wear scenarios where lenses are not removed overnight. The ability of silicone hydrogel materials to allow greater oxygen flow reduces the risk of complications such as hypoxia, which can lead to discomfort and other issues. Thus, the high oxygen permeability of silicone hydrogel lenses is a central advantage that promotes both comfort and safety for the wearer. This characteristic makes them particularly valuable for individuals who require lenses for extended periods, as they can provide the necessary oxygen supply to the eyes even during longer wear times. In contrast, the other options do not accurately represent the primary feature of silicone hydrogel lenses. While low water content is a characteristic of some silicone hydrogel lenses, it is not their defining trait. Silicone hydrogel lenses are generally suitable for continuous or extended wear, not just occasional use, and although they may have varying refractive indices, high refractive index isn't specifically associated with silicone hydrogels as a collective trait.

9. What is the current ANSI standard tolerance for a spherical lens with a power of -5.00D?

A. +/- 0.13D

B. +/- 0.15D

C. +/- 0.18D

D. +/- 0.19D

The current ANSI standard tolerance for a spherical lens with a power of -5.00D is indeed +/- 0.13D. This standard allows for a margin of error in the manufacture of contact lenses, ensuring that the power specified is within a range that offers adequate vision correction for the wearer. The specified tolerance ensures consistency and quality control in the production of lenses, acknowledging that slight variations can occur during the manufacturing process. This particular tolerance is appropriate for a lens power in the range of -5.00D, where precision is crucial for optimal visual acuity. It underscores the importance of adhering to established standards in optics, as even small deviations can impact patients' vision and comfort. The chosen tolerance demonstrates the commitment to providing effective and reliable lens prescriptions, essential for patient satisfaction and eye health.

10. What should be observed in a contact lens patient's eye during an eye examination?

A. Only the cornea

B. The entire eye including conjunctiva and sclera

C. Only the lens

D. Only visual acuity

During an eye examination of a contact lens patient, it is essential to observe the entire eye, including the conjunctiva and sclera, in addition to the cornea. The reasons for this comprehensive evaluation are multi-faceted. Firstly, contact lenses are placed directly on the cornea, and any irregularities or conditions affecting the cornea can significantly impact lens fit and comfort. Therefore, a close examination of the cornea is crucial. However, issues may also arise in the conjunctiva, such as redness or inflammation, which can indicate an adverse reaction to the contact lenses or lens solutions. The sclera should also be examined for any signs of pathology, as conditions affecting this area can influence overall eye health and the well-being of contact lens wearers. A holistic approach is necessary because contact lens wear can affect not just the cornea but the surrounding structures of the eye as well. Observing all these areas helps in identifying potential complications, ensuring that the lenses are suitable for the patient's eyes, and providing appropriate recommendations or alterations to the contact lens regimen as needed.