



## WHAT IS ABO & NCLE

The American Board of Opticianry & National Contact Lens Examiners, Inc. (ABO-NCLE) is a national, not-for-profit organization which administers voluntary competency certification examinations for dispensing Opticians and Contact Lens Technicians. ABO-NCLE is the only Opticianry Examination Organization in the United States that has received Accreditation as a Certifying Organization, pursuant to the International Organization for Standardization (ISO/IEC 17024:2012). These independent standards provide verification of the viability and credibility of the certification programs utilized for certification, including candidates for licensure.

## ABOUT THIS HANDBOOK

This handbook provides important information about the ABO-NCLE policies, processes, and procedures for those interested in taking an **ABO-NCLE Certification Examination** and an overview of information on renewing certification.

More detailed ABO-NCLE testing and renewal information, including information related to specific exams— such as test content outline, references, and other important information — can be obtained at ABO-NCLE's website at [www.abo-ncle.org](http://www.abo-ncle.org) or by calling 703.719.5800.

## NAMES OF EXAMS

The American Board of Opticianry exam is called the National Opticianry Competency Examination (NOCE) and it is for Opticians. The National Contact Lens Examiners Examination is called the Contact Lens Registry Exam (CLRE), which is for Contact Lens Technicians. When registering for an Examination, candidates need to use care in making sure that they register for the correct exam.

## WHAT IS CERTIFICATION?

Certification is the process by which a non-governmental agency or an association grants recognition to an individual who has met certain predetermined qualifications. Certification can be used for entry into practice, validation of competence, recognition of excellence, and/or for regulation. It can be mandatory or voluntary. Certification validates an individual's knowledge and skills in a defined role and clinical area of practice, based on predetermined standards.

## MISSION STATEMENT

The mission of the American Board of Opticianry & National Contact Lens Examiners, Inc., is to promote excellence in the professions of Opticianry and Contact Lens Technology through credentialing programs. ABO-NCLE's internationally renowned accredited credentialing programs certify and recognize individual Opticians and Contact Lens Technicians. It also offers approval of educational courses and materials in order to assure the continuing education of Opticians and Contact Lens Technicians. ABO-NCLE's Certification Programs enable Opticians and Contact Lens Technicians to demonstrate their expertise and validate their knowledge to employers and patients. Through targeted exams that incorporate the latest practice standards, the ABO-NCLE Certification processes



identify qualified Ophthalmic Dispensers at various levels of knowledge and proficiency for the consumer and for the ophthalmic community by (1) certifying those who pass the professionally developed examination(s) as “Certified Opticians” and/or “Certified Contact Lens Technicians” and (2) requiring approved continuing education for recertification.

## NON-DISCRIMINATION POLICY

ABO-NCLE endorses and adheres to the principles of equal opportunity. ABO-NCLE does not discriminate against any individual because of age, disability, gender, national origin, race, religion, sexual orientation or veteran status, or any other protected status.

## ELIGIBILITY REQUIREMENTS

To be eligible to take the NOCE and/or the CLRE Examinations, a candidate must (1) be at least 18 years old, and (2) have a high school diploma or GED. If the state licensing board of the state where the candidate works has regulations that are different than ABO- NCLE’s, the state requirement supersedes those of ABO-NCLE.

Certification, through administration of the NOCE and/or the CLRE is an assessment of each candidate’s knowledge base relative to the job functions and responsibilities of a typical Optician and/or Contact Lens Fitter/ Technician. Please note that considerations related to each candidate’s background, including but not limited to criminal history, are deferred to prospective employers and, where applicable, state licensing boards for individual determination. Candidates may request reconsideration of eligibility determinations. Candidates must request this reconsideration in writing, via e-mail to [exams@abo-ncle.org](mailto:exams@abo-ncle.org).

All requests for verification must be made within three (3) months of the date of denial of eligibility.

## HOW ARE EXAMS DEVELOPED?

The ABO-NCLE certification examinations are developed consistent with the technical guidelines recommended by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (AERA, APA, NCME; 1999). Each examination is developed by ABO-NCLE in cooperation with a Content Expert Panel (CEP) composed of carefully selected Subject Matter Experts (SME) in the field. CEPs analyze the professional skills and abilities from job task analyses, which provide the evidence for the test content outline (also called the test blueprint). Test questions or “items” are written by Certified Opticians and Certified Contact Lens Fitters/Technicians in their discipline who have received training by ABO & NCLE staff and Prometric in writing items. The items are then reviewed by the CEP with Prometric and pilot-tested to ensure validity and psychometric quality before being used as scored items on the actual examinations. ABO-NCLE adheres to a variety of guidelines during the development of items to ensure that the items are appropriate for the Certification exam(s). This includes editing and coding items, referencing items to the approved test content outlines and reference books, and screening items for bias and stereotypes. Items for the Certification Examinations are selected that reflect the test content outline and item distributions. The validity and reliability of the exams are monitored by ABO-NCLE staff. Certification examinations are updated approximately every three years.



## OVERVIEW OF THE NOCE AND CLRE

General Information	
Eligibility	Candidates must be 18 years of age or older and high school degree or GED
Target group	Opticians and Contact Lens Technicians who work in any type of practice site in the U.S.
Test Delivery	More than 300 Prometric Test Centers and ProProctor remote testing (more information below)
Number of times per year that exam is offered	Monthly, January-March, April-June, July-September, October-December
Fee to change exam testing window, date, time or location.	\$75.00 – the candidate is responsible for paying the fee themselves.
Exam Format	Secure computer-based exam
Number of questions	125 multiple-choice questions. A portion of these questions may not be scored and are pretested for use on future exams.
Quality Assurance	
Length of exam	2 hours
Exam based on practice analysis	YES – conducted 2019
Advice/oversight by panel of experts	YES
Committed to following Standards of Education and Psychological Testing published by the American Educational Research Association, American Psychological Association and the National Council on Measurement in Education	YES
Exam items approved by panel with wide range of experience in the field	YES
All exam items pretested	YES
Complete item analysis conducted for all exams	YES



## Exam Security

Eligibility verified at time of exam	Pre-registration required; approved government-issued photo identification must be shown at test center.
Procedure for rotating and retiring items	YES
Procedure for equating multiple versions of the exam to assure that they present equal challenge to candidates	YES
Proctors trained to follow procedures and to handle emergency situations	YES
Stringent computer encryption programming	YES
Exams sent to site before the day of the exam	No; the exam, sent in a secure, encrypted format is downloaded at the center only after the candidate checks in and their identification is verified
Extra printed exams must be accounted for and destroyed if not used	No, this is not necessary because the exam is computer-generated only.

## Services for Candidates and Others

Candidates with disabilities accommodated in compliance with ADA	YES; here is the <a href="#">form</a> to submit your accommodation request. More information on submitting the form can be found on page 6.
Website for exam information	<a href="http://www.abo-ncle.org">www.abo-ncle.org</a>
Exam results reported to candidates	Exam results are reported instantly as soon as the candidate has completed their exam. Candidates also receive an email within a couple of hours, after they have completed their exam, with their exam report. On occasion, ABO-NCLE is required to undergo “health checks” for the exams. Candidates will receive a preliminary indication of their exam results after submission. Official results will be released after appropriate analysis and review is completed by the exam company.
Exam registration/cancellation	Only the candidate can register and/or cancel exam.



## THE EXAMINATIONS

The two-hour multiple-choice examinations are written by groups of Certified Opticians and Certified Contact Lens Fitters/Technicians with assistance from the testing service, Prometric. The purposes of the NOCE and CLRE are to evaluate the knowledge and skills associated with the performance of tasks required for the professional practice of Opticianry and/or Contact Lens Technology.

The examinations are developed for Opticians and Contact Lens Technicians from all practice settings in the United States. They are based on hands-on knowledge from many different optical situations.

There is nothing tricky about the examination. Questions are created to test the ability of a candidate to recall knowledge and to apply that knowledge to specific dispensing functions. Exam questions fall into three general types: 1) those that require immediate recognition of the correct response from the four choices; 2) those that require understanding and application of the information presented to answer the question; and 3) those that require candidates to understand and reorganize material presented to make the correct choice.

## EXAM REGISTRATION

- A. **Completion of the registration form.** The NOCE and CLRE are offered at over 300 testing centers Monthly, in January-March, April-June, July-September, October-December. Candidates must register on the ABO-NCLE website ([www.abo-ncle.org](http://www.abo-ncle.org)) The locations of the centers can be found on the Prometric website and information about ProProctor remote testing. To schedule your exam, you must first register and pay for the exam on the ABO-NCLE website. You will receive a confirmation email for the exam for which you registered. You need to save that confirmation. 24-48 hours after registering, you will be able to schedule your exam at one of over 300 Prometric testing centers or ProProctor remote testing by using the scheduling link found on the email confirmation. Only the candidate can register for an exam and the candidate is the only one that can schedule an exam.
- B. **Information Required.** Candidates must provide their full legal name, address, telephone numbers, e-mail address and demographic information. Candidates should also indicate whether they qualify for special accommodations under the Americans with Disabilities Act. There is a special accommodation form on our website to submit electronically and request the available accommodations. **Giving an accurate e-mail address and telephone number are mandatory.**
- C. **Payment.** The exams cost is \$225 each and are payable by credit card at the time the candidate registers online. It is an ABO-NCLE Board policy that the exam fees are **non-refundable**.
- D. **Transferring/Rescheduling of Exam.** Candidates who are unable to take the exam(s) after paying and registering, can transfer to the next available testing window. Candidates are required to call the ABO-NCLE office and pay a \$75 transfer fee before the last day of the current testing window they are originally registered for. After scheduling an exam, if a candidate needs to reschedule that exam, the candidate must contact the ABO-NCLE office and pay a fee of \$75.00. Only the candidate can make scheduled changes. There are NO refunds or exceptions.



- E. **Cancellation by Prometric.** Testing centers may close without notice in the case of inclement weather, a state of emergency or other unforeseen events. In this case, the candidate will be allowed to reschedule at a convenient time and location with the exam fee credited to the future exam appointment. Candidates should verify that the center is open by calling Prometric before the appointment day and time. Or, confirming their scheduled appointment online through Prometric.
- F. **Special Testing Accommodations.** ABO-NCLE and its testing vendor make every effort to reasonably accommodate candidates with documented disabilities as defined by the Americans with Disabilities Act (ADA). If you have a disability as defined under the ADA, you must notify ABO-NCLE by submitting the special accommodations form through this [link](#), or located on the ABO-NCLE website, regarding your request signed by your physician or a qualified healthcare professional. Special Accommodations Form must be submitted at the same time of the exam registration to allow appropriate time to review and add the required accommodations to the registration. A follow up email will be sent to the candidate, once it has been approved and different instructions on scheduling the exam with the accommodations.

The letter must list the following information in order to be considered:

- A specific diagnosis and date of your diagnosis
- Specific and current findings that support your diagnosis
- A description of your substantial day-to-day functional limitations resulting from your stated disabilities
- Specific recommendations for your testing accommodation(s) including a detailed explanation of why the accommodation is needed. If the accommodation includes extra time, please indicate the amount of additional time requested.

*Important Note: Additional information may be requested after a review of your information.*



# National Opticianry Competency Examination (NOCE) Basic Test Specifications (100 questions)

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## **Domain I. Ophthalmic Optics (25 questions)**

1. Terminology
2. Prescriptions
  1. Format and content of prescription
  2. Relationship between prescription measurements and finished product
  3. Transposition of a prescription
  4. Common prescription irregularities (e.g., missing signs, opposite signs, incomplete notation)
3. Lens characteristics (e.g., centration, optical centers, major reference points, base curves, thickness, absorption, index of refraction, magnification, reflection, dispersion, impact resistance, abbe value)
4. Lens powers (e.g., plus, minus, spherical, compound, prism)
5. Lens types (i.e., single vision, multifocals)
6. Various lens materials (e.g., low index, mid index, high index, ultra-high index)
7. Effect of changes in base curve and thickness
8. Calculating prismatic effects
9. Effect of lens materials and design on thickness, weight, and dispersion (e.g., aspheric, digital surfacing)
10. Measurement systems and conversions (e.g., Imperial, metric, box)
11. Lens options for various occupations and other lifestyle activities
12. Usable accommodation and the range of vision with various lens powers
13. Neutralization of lenses



#### 14. Ophthalmic Formulas

1. Prentice's rule
2. Vertical imbalance
3. Vertex compensation
4. Centration (e.g., horizontal and vertical)
5. Power in oblique meridians
6. Magnification/minification
7. Anisometropia/antimetropia
8. Aniseikonia

### **Domain II. Ocular Anatomy, Physiology, Pathology, and Refraction (10 questions)**

#### 1. Structure of the Eye and Function

1. Anterior Adnexa
  - a. Eyelids
  - b. Muscles
  - c. Lacrimal apparatus
2. Anterior Segment
  - a. Sclera
  - b. Cornea
  - c. Iris
  - d. Pupil
  - e. Aqueous humor
3. Posterior Segment
  - a. Lens
  - b. Ciliary body
  - c. Vitreous humor
  - d. Retina
  - e. Fovea/macula
  - f. Rods and cones
  - g. Optic nerve
  - h. Visual pathway

#### 2. Pathology

1. Facial configurations (anomalies)
2. Glaucoma (intraocular pressure)
3. Macular degeneration
4. Scotoma
5. Cataracts
6. Diabetes
7. Amblyopia
8. Pseudophakia and aphakia



- 9. Nystagmus
- 10. Strabismus

### 3. Refraction

- 1. Refractive Errors
  - a. Visual acuity
  - b. Myopia
  - c. Hyperopia
  - d. Presbyopia
  - e. Astigmatism (simple and compound)
- 2. Prism Imbalance
  - a. Muscle imbalance
  - b. Diplopia
  - c. Phorias and tropias (e.g., cover/uncover test)
  - d. Convergence / divergence

## **Domain III. Ophthalmic Products (20 questions)**

- 1. Frames
  - 1. Availability (e.g., colors and sizes, wrap, materials)
  - 2. Uses, limitations, and liabilities
  - 3. Frame parameters
- 2. Lenses
  - 1. Availability (e.g., base curves, segment styles and sizes, materials, tints, coatings, polarization, edge treatments and other special processes)
  - 2. Uses, limitations, and liabilities (e.g., traditional and digitally designed lenses)
  - 3. Lens parameters
- 3. Low Vision Aids
- 4. Preassembled eyewear (i.e., over the counter eyewear)

## **Domain IV. Instrumentation (15 questions)**

- 1. Use of lens power measuring devices (e.g., focimeter, lensmeter)
- 2. Use of Lens Measurement Devices
  - 1. Lens clock
  - 2. Calipers
  - 3. Millimeter ruler
  - 4. Circumference gauge
- 3. Dispensing Instrumentation



1. Corneal reflex pupillometer
2. Distometer
3. Hand tools used to adjust eyewear (e.g., pad pliers, angling pliers, etc.)
4. Digital measurement system

**Domain V. Dispensing Procedures (20 questions)**

1. Patient History
  1. Lifestyle visual needs and wants of patient
  2. Cosmetic/pathological/therapeutic needs of patient
  3. The effect of the patient's physical characteristics on frame and lens performance
2. Fitting, Adjusting, and Measuring
  1. Fitting or adjusting of frames (e.g., size, vertex distance, pantoscopic tilt)
  2. Proper positioning of multifocals, optical centers, and major reference points
  3. Differences between new and previous eyewear that may create visual problems (e.g., lens type, enhancements, power, axis)
  4. Frame measurements (e.g., eyesize, bridge size, temple length, distance between lenses and effective diameter).
  5. Frame alignment and the fitting triangle
  6. Properties and handling of frame materials
  7. Procedures used to adjust eyewear (e.g. facial structure, facial asymmetry, weight distribution and pressure)
  8. The optical effects of pantoscopic/retroscopic tilt, face form, and vertex distance
  9. Lens parameters (e.g., circumference, blank size, centration, distance between centers, major reference points)
  10. Coordination of eye and head movements
  11. The effects of changes in lens power, design, and material (e.g., visual field limitations, peripheral distortions, customer/patient orientation)

**Domain VI. Laws, Regulations, and Standards (10 questions)**

1. Product performance and limitations (e.g., "duty to warn" requirements, UV, HEV, ASTM)
2. Applicable national guidelines, laws, regulations, and standards (e.g., OSHA, ANSI, FDA, EPA, HIPAA)
3. Universal precautions (e.g., health and safety issues)
4. Coding (CPT), EMR (electronic medical records), and related insurance requirements



# Contact Lens Registry Examination (CLRE) Basic Test Specifications (100 questions)

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## **Domain I. Ocular Anatomy, Physiology, and Pathology (12 questions)**

1. Structure and Function of the Eye as Related to Contact Lens Wear
  1. Adnexa
    - a. Quality, volume and function of tear film (e.g., layers, glands, lacrimal lake, break-up time)
    - b. Quality and function of conjunctiva (e.g., bulbar, palpebral, adverse effects of contact lens wear)
    - c. Anatomy and function of lid structure (e.g., layers, glands, tarsal plate, blink rate and effect)
    - d. Location and appearance of fornix
    - e. Function and appearance of lashes (e.g., conditions, irregularities)
    - f. Location and appearance of canthi (e.g., function, significance)
  2. Anterior Segment
    - a. Corneal anatomy (e.g., layers, dioptric power, size, radius of curvature, thickness, topography, limbal zone)
    - b. Corneal physiology (e.g., metabolism, chemical reactions, dehydration, transparency, edema, vascularization)
    - c. Anatomy, appearance, and function of the iris
    - d. Anatomy, appearance, and function of the pupil (e.g., light reaction, size, shape)
    - e. Anatomy, appearance, and function of the sclera
    - f. Anatomy, appearance, and function of the anterior chamber
  3. Posterior Segment
    - a. Anatomy, physiology, and function of the crystalline lens
    - b. Anatomy, structure and function of the retina (macula, visual perception, abnormalities)
    - c. Anatomy and function of the choroid
    - d. Anatomy, appearance, and function of the posterior chamber
2. Pathology
  1. Drugs and Diseases/Viruses Affecting Contact Lens Wear
    - a. Alcohol



- b. General medications
  - c. Recreational drugs
  - d. Thyroid
  - e. Sjogren's Syndrome
  - f. Diabetes
  - g. Arthritis
  - h. HIV/AIDS
2. Contact Lens Related Conditions and Pathology
- a. Keratoconus
  - b. Neovascularization
  - c. Bullous keratopathy
  - d. Corneal dystrophies
  - e. Corneal edema
  - f. Corneal infiltrates and ulcers
  - g. Corneal scarring
  - h. Keratoplasty
  - i. Refractive surgeries
  - j. Microbial keratitis (e.g., viral, bacterial, fungal, acanthamoeba)
  - k. Herpes simplex and zoster
  - l. Pterygium
  - m. Pinguecula
  - n. Conjunctivitis
  - o. Giant papillary conjunctivitis (GPC)
  - p. Blepharitis
  - q. Ptosis
  - r. Iris defects (e.g., coloboma, aniridia)
  - s. Albinism
  - t. Nystagmus
  - u. Exophthalmus
  - v. Media opacities
  - w. Motility problems (e.g., extropion, entropion)

## **Domain II. Refractive Errors (5 questions)**

1. Ametropias and Optical Conditions Related to Contact Lenses
  1. Myopia
  2. Hyperopia
  3. Astigmatism (e.g., irregular, against the rule, with the rule, oblique)
  4. Presbyopia



5. Anisometropia
6. Aniseikonia
7. Amblyopia
8. Aphakia
9. Pseudophakia

2. Principles of Optics and Terminology as Related to Contact Lenses

1. Refraction
2. Diffraction
3. Prismatic effects
4. Residual astigmatism
5. Lacrimal lens
6. Accommodation
7. Transposition of prescription
8. Spherical equivalent
9. Sagittal depth (e.g., base curve and diameter)
10. Vertex distance

**Domain III. Instrumentation for Measurement and Observation (12 questions)**

1. Measurement

1. Keratometer (ophthalmometer) (e.g., calibration, procedures, readings, interpretation)
2. Corneal topography (e.g., procedures, readings, map interpretation)
3. Optical coherence tomography (e.g., anterior segment evaluation, contact lens clearance, landing zones)
4. Normal and abnormal findings based on instrument readings and test/evaluation outcomes
5. Schirmer's tests #1 and #2
6. Tear film break-up time (BUT)

2. Observation

1. Slit lamp (biomicroscope) operation (e.g., focus, illumination, procedures)
2. Slit lamp (biomicroscope) evaluation with contact lens (e.g., fluorescein pattern, external observations)
3. Slit lamp (biomicroscope) evaluation without contact lens (e.g., staining patterns, pathology)



### 3. Lens Modification/Verification

1. In-office modifications (e.g., polish lenses, taper edges)
2. Fluorescent tubes used to determine proper blend on bevel of contact lens
3. Radiuscope (optic spherometer) (e.g., operation, evaluation, verification)
4. Lensometer (focimeter) (e.g., operation, evaluation, verification)
5. Other Verification Instruments (e.g., thickness gauge, measuring magnifier, diameter gauge)
6. Evaluation of parameters and compliance with all ANSI Z80 standards (e.g., base curve, power, diameter)

## Domain IV. Prefitting (15 questions)

### 1. Evaluation of Data

1. Factors Relevant to Successful Contact Lens Wear
  - a. Lifestyle (e.g., occupation, environment, hobbies, wear schedule)
  - b. Medical (e.g., adnexa, diseases, medications, allergies, gender, age)
  - c. Motivation
  - d. Relationship between corneal measurements, patient prescription, and current lens parameters

### 2. Material and Design

1. Special lens designs (e.g., lenticular, torics, bifocal/multifocal, aspheric, hybrid, scleral, quadrant specific, orthokeratology)
2. Lens material and design recommendations based upon prefit evaluation
3. Properties of Contact Lens Materials
  - a. Oxygen permeability (Dk)
  - b. Thermal conductivity
  - c. Transmissibility (Dk/t)
  - d. Durability and stability
  - e. Wetting angle
  - f. Water content/resistance to dehydration
  - g. Silicone hydrogel
  - h. Modulus
  - i. Surface treatments (e.g., plasma, HydroPEG)
4. Characteristics of Contact Lens Materials and Designs
  - a. Prescription limitations
  - b. Color (tint)
  - c. Design limitations
  - d. Manufacturing limitations



5. Determination of Lens Parameters
  - a. Central posterior curve (CPC, base curve)
  - b. Peripheral curves (e.g., IPC, PPC)
  - c. Diameter
  - d. Thickness
  - e. Power
  - f. Edge design

#### **Domain V. Diagnostic Fitting (11 questions)**

1. Lens selection procedures
2. Lens application
3. Fluorescein pattern evaluation procedures
4. Aspects of contact lens wear and fit (e.g., movement, centration, overall stability/axis rotation)
5. Evaluation of patient subjective responses (e.g., patient comfort/discomfort, visual acuity)

#### **Domain VI. Dispensing (20 questions)**

1. Wear
  1. Wearing schedules (e.g., daily, flexible, extended/continuous)
  2. Replacement intervals
  3. Adaptation
  4. Patient compliance
2. Care
  1. Solution compatibility with various contact lens types
  2. Use of specific solutions for various procedures (e.g., soaking, wetting, rewetting, lubricating, disinfecting, weekly cleaning)
  3. Lens Cleaning and Disinfection
    - a. Chemical disinfection
    - b. Thermal/UV/mechanical devices
    - c. Hydrogen peroxide disinfection/neutralization
    - d. Protein removers
    - e. Surfactant cleaners



- f. Solution sensitivities and incompatibilities
- g. How to address adverse reactions to lenses and solutions

### 3. Handling

- 1. Basic and alternate insertion and removal techniques for rigid and soft lenses
- 2. Emergency responses to patient insertion and removal problems
- 3. Appropriate solutions for lens insertion
- 4. Hygiene and personal care products (e.g., soaps and skin-care products, cosmetics, storage containers)

## Domain VII. Follow-Up (20 questions)

### 1. Subjective Findings

- 1. Dryness
- 2. Lens awareness
- 3. Fluctuating or blurry vision
- 4. Pain
- 5. Photophobia

### 2. Objective Findings

- 1. Steep lens, rigid and soft
- 2. Flat lens, rigid and soft
- 3. Everted lens
- 4. Corneal/conjunctival staining
- 5. Injection
- 6. Corneal edema
- 7. Discharge
- 8. Vision loss
- 9. Lid problems (e.g., swelling, Giant papillary conjunctivitis [GPC], ptosis)
- 10. Superior Epithelial Arcuate Lesion (SEAL)
- 11. Contact Lens Associated Red Eye (CLARE)
- 12. Vascularized Limbal Keratitis (VLK)
- 13. Superior Limbic Keratitis (SLK)
- 14. Contact Lens Peripheral Ulcer (CLPU)
- 15. Dimple veiling
- 16. Smile staining
- 17. Mucin Balls
- 18. Microbial Keratitis



19. Acanthamoeba keratitis
20. Dendritic ulcer
21. Corneal infiltrates
22. Corneal dellen
23. Corneal staining (e.g., arcuate 3 & 9 o'clock, foreign body, and superficial punctate keratitis [SPK])
24. Corneal molding/warpage

### 3. Assessment

1. Techniques of conducting a gross evaluation of proper contact lens movement without the use of instrumentation
2. Normal and abnormal adaptation findings based on instrumentation readings and test/evaluation outcomes
3. Types of fluorescein evaluation procedures (e.g., ocular staining, tarsal plate evaluation, fluorescein patterns)
4. Visual acuity and overrefraction

### 4. Plan

1. Standard Follow-Up Protocols
  - a. Daily wear
  - b. Therapeutic
  - c. Extended/continuous wear
  - d. Postsurgical
  - e. Pathology
  - f. Psychologically unstable or apprehensive personalities
2. Changing lens parameters (e.g., size, base curve, thickness, sagittal depth of soft or rigid)
3. Purpose of follow-up visits and importance to long-term patient success
4. Document patient records

## **Domain VIII. Regulatory and Administrative (5 questions)**

### 1. Administrative

1. Proper record retention and retrieval
2. Methodology used to document patient charts and identify changes (e.g., lens parameters and care system, ocular health and disease progression)
3. Availability of product and diagnostic tools
4. Product inventory techniques
5. Ordering procedures



## 2. Laws and Regulations/Legal Obligations

1. Regulatory and manufacturer's guidelines regarding disinfection, storage, care, and maintenance of lenses and contact lens supplies
2. Persons who may prescribe contact lenses (original prescriber)
3. Follow-up procedures to verify patient's visit to original prescriber
4. Appropriate recall procedures
5. Federal guidelines (e.g., CDC, OSHA, FDA, FTC, FCLCA, ANSI)
6. Professional guidelines and regulations concerning the confidentiality of patient records (e.g., patient consent, HIPPA, PHI, FCLCA)
7. Federal Regulations governing the release of records (e.g., glasses, contact lenses)



## NOCE SAMPLE QUESTIONS AND ANSWERS

1. If the eyelashes rub on back surface of the lenses, the best choice below for the optician is to?
  - a. **increase the vertex distance**
  - b. raise the frame
  - c. spread the temples
  - d. spread the nose pads
  
2. Given: +1.00 +1.00 X090, how much of the +1.00 cylinder is an effect at axis 090.
  - a. 100%
  - b. 90%
  - c. 50%
  - d. **0%**
  
3. Given an Rx of Plano +1.00 X090, when ground, the resulting lens is prescribed for which of the following conditions"
  - a. Simple Myopic Astigmatism
  - b. Simple Hyperopia
  - c. **Simple Hyperopic Astigmatism**
  - d. Compound Hyperopic Astigmatism
  
4. A +3.00D lens has the following prismatic effect 8mm below the optical center:
  - a. **2.4^BU**
  - b. 2.4^BD
  - c. 2.4^BO
  - d. 2.4^ BI
  
5. The tolerance of the cylinder axis of the right lens is:  
Rx: OD +2.00 +2.00 X090  
OS +3.00 +1.00 X095  
ADD +2.00 OU FT - 25
  - a. 7 Degrees
  - b. 5 Degrees
  - c. 3 Degrees
  - d. **2 Degrees**



## CLRE SAMPLE QUESTIONS AND ANSWERS

1. Which one of the following prescriptions indicates against-the-rule astigmatism?
  - a.  $-4.50 +1.00 \times 075$
  - b.  $-4.50 +1.00 \times 180$**
  - c.  $-4.50 -1.00 \times 165$
  - d.  $-4.50 -1.00 \times 180$
  
2. A patient currently wears a lens with the following properties:  
Base curve: 42.50      Power:  $-2.25$       Overrefraction:  $-0.75$   
The fitter refits the patient with a new base curve of 43.00. The power of the new lens should be:
  - a.  $-2.75$  D
  - b.  $-3.00$  D
  - c.  $-3.50$  D**
  - d.  $-4.00$  D
  
3. To use the slit lamp with retroillumination, the light beam is bounced or reflected off the:
  - a. ciliary body.
  - b. macula.
  - c. cornea.
  - d. iris.**
  
4. A contact lens was ordered with a CPC of 43.00 D. Verification reveals that the lens received is actually 42.00 D. In comparison to the lens ordered, the lens received is:
  - a. 0.50 D flatter
  - b. 1.00 D flatter**
  - c. 0.50 D steeper
  - d. 1.00 D steeper
  
5. Which of the following disinfecting agents is recommended for a soft contact lens patient with a history of allergic reactions?
  - a. Benzalkonium chloride
  - b. Hydrogen peroxide**
  - c. Chlorhexidine
  - d. Thimerosal



## EXAMINATION DETAILS

### How to Become Eligible

You must have registered and paid for your examination(s) with American Board of Opticianry and National Contact Lens Examiners prior to scheduling your testing appointment at a Prometric Testing Center. Please carefully review the information contained in your Confirmation Notice. If any of the information is incorrect or if the information has changed, please contact American Board of Opticianry and National Contact Lens Examiners at 1.800.296.1379, e-mail: [exams@abo-ncle.org](mailto:exams@abo-ncle.org)

There are now two ways to take your exam. Depending on the exam you are eligible to take, you have the option to take your exam either in a Prometric Testing Center or through a remotely proctored internet enabled location of your choice where you must provide a computer with a camera, microphone and an internet connection.

Your Eligibility ID is still required to schedule your exam.

### Schedule Your Exam

1. To schedule your exam at a Prometric Testing Center

You can schedule an examination appointment at any time online or by calling 1-800-977-3926 between 8 a.m. and 9 p.m. (ET), Monday through Friday.

**Notice: The following exams must be taken in a Prometric Testing Center. These exams cannot currently be taken by remote proctor:**

- American Board of Opticianry Practical Exam ABOP
- National Contact Lens Examiners Practical Exam NCLEP

To schedule online:

2. Select **"Schedule"** from the options on the left hand side under **"Actions"**.
3. Enter your eligibility number and the first 4 characters of your last name.
4. Select Test Center, Date & Time for your exam – This completes the scheduling process.
5. Select complete appointment.

**After scheduling your exam, please review and save your appointment confirmation email to ensure that you have the correct exam, date, time, and testing location.**



## To Schedule a Remotely Proctored Exam

**Notice:** The following exams can be taken in Prometric Testing Centers or by remote proctor:

- National Opticianry Competency Exam Basic - NOCE Basic
- National Opticianry Competency Exam Basic - NOCE Basic (Spanish)
- National Opticianry Competency Exam Advanced - ABOAC
- Contact Lens Registry Exam Basic –CLRE Basic
- Contact Lens Registry Exam Basic – CLRE Basic (Spanish)
- Contact Lens Registry Exam Advanced -NCLAC

Confirm your computer's compatibility to allow remote proctoring first. Remote exams are offered using Prometric's ProProctor™ application online. For a remotely proctored exam, you must supply a computer which must have a camera, microphone and an internet connection and be able to install a lightweight app prior to the test event. You will be able to take the exam online while a Prometric proctor is overseeing the examination process remotely.

To confirm that your computer and network will allow testing through ProProctor™, [click here](#).

It is highly recommended that you view the ProProctor™ User Guide, [click here](#). Please make sure to review all the required documents, before proceeding with scheduling your remote exam.

If at any time you attempt to launch your remotely proctored exam and run into any technical issues, please review this [FAQ form](#), to help resolve some of those issues. You can also chat with a technical support, that will be available when launching your remote exam.

### If you select to take a remotely proctored exam:

- If a bathroom break is taken, the timer continues to run, and your exam will be reviewed by ABO-NCLE and any suspicious activity may reverse your exam results.
- You may use a white board during a remotely proctored exam. You must supply your own white board, up to 3 dry erase marker(s) and eraser. The white board must be white in color and no larger than 8 ½ x 11 inches. You must erase all notes at the end of the exam. The Proctor will check to ensure all notes are erased.

***Notice: Before you schedule your exam by remote proctor, you must verify with your state licensing board that taking a remotely proctored exam has been approved for licensing purposes.***



### **What to Bring to the Testing Center**

You will be required to present one valid, government-issued photo ID with a signature (e.g., driver's license or passport). If you are testing outside of your country of citizenship, you must present a valid passport. If you are testing within your country of citizenship, you must present either a valid passport, driver's license, national ID or military ID. The identification document must be in Latin characters and contain your photograph and signature. All other personal items must be locked in a locker for test security purposes, so please limit what you bring to the testing center.

### **What to Expect on Exam Day**

We have enhanced the exam layout to improve navigation through the exam. We recommend you become familiar with the new layout prior to your exam date. A tutorial is now available to preview the navigation functions including the highlight feature, the strikeout feature, the calculator and marking questions for review. To access this tutorial, please visit [www.prometric.com/TakeSurpassTutorial](http://www.prometric.com/TakeSurpassTutorial)

### **Important Test Day Reminders**

Review your appointment confirmation email to confirm your appointment time.

Arrive at the testing center at least 30 minutes prior to your appointment time to allow time for check-in procedures. If you are late in arriving, you will not be allowed to test and will forfeit your exam fee.

Review driving directions. Allow sufficient travel time including traffic, parking, locating the test center, and checking in. Depending on the location of the testing facility, additional parking fees may apply. Prometric does not have the ability to validate parking.

Bring a valid, non-expired government-issued ID in Latin characters with a current photo and signature. The name on the identification must be the same as the name that appears on your exam application.

Consider bringing your own soft earplugs or use the test center-provided headphones.

No breaks are scheduled during the exam. Candidates may take a break as needed but may not leave the testing facility and will not be given extra time on the exam.

### **Reschedule/Cancel Policy**

If you wish to change your exam date or time, you will be charged a \$75 fee each time you change the date and time of your exam prior to your appointment. You must contact the ABO-NCLE office to pay the rescheduling fee over the phone.

### **Scheduling Online**

In order to schedule online, you must provide an e-mail address. Prometric will send you an e-mail confirming your appointment. If you do not have an e-mail address, please call the appropriate Regional Registration Center.



Computer-based testing options include the ability to navigate forward and backward through the exam, mark items for further review and then review answered, unanswered and marked items.

Items must be reviewed or changed prior to the expiration time. Once an exam has ended, candidates cannot return to the questions. The examination screen contains a timer showing the time remaining for the current exam.

A listing of completed questions, incomplete questions, and marked items can be accessed by clicking the “Flag” button.

Candidates end the exam by clicking “Finish Section.” **Once “Finish Section” is clicked, the candidate will not be able to return to any part of the exam.** Note: there is a pop-up box to confirm that the candidate truly wishes to end the section. Clicking “No” will return the candidate to the current section so you can review the current section. At the end of the time limit (2 hours) the exam section closes and takes you to the survey section. There is a countdown clock at the top center of the page. You will also receive a 30-minute left, 15-minute left, and 5-minute left notice.

Questions left unanswered will be considered incorrect. When there are unanswered items, additional time will not be allowed for completion, nor will there be any refund of fees or credit toward future fees.

## THE DAY OF THE EXAM

### What to Bring

When you arrive at the test center, you must present one form of acceptable identification from the list below:

- Driver’s license issued by the Department of Motor Vehicles in one of the 50 states of the United States, the District of Columbia, or one of the U.S. territories
- State identification (non-driver) issued by the Department of Motor Vehicles in one of the 50 states of the United States, the District of Columbia, or one of the U.S. territories
- Passport
- U.S. military identification

Your identification must be valid (unexpired) and contain both your signature and a recent (no more than 10 years old) photograph. The name appearing on the valid identification must appear exactly as you registered for the exam. All identification must be in English and signed in English. If you are currently serving in the U.S. military and are testing outside the United States, the District of Columbia, and/or the U.S. territories, then you are required to provide valid U.S. military identification. If your valid military identification does not have both your signature and a recent photograph, you will need to provide additional identification that meets the aforementioned requirements. The only identification acceptable in test centers outside of the United States, the District of Columbia, and/or the U.S.



territories is a valid passport for candidates who cannot provide valid U.S. military identification.

If you do not bring acceptable ID, you will not be admitted to the test and your eligibility window will end. You will be required to submit additional documentation and fees to schedule a new testing date. Please contact ABO- NCLE for details.

It is not necessary for you to bring the ABO-NCLE Authorization to Test Notice to the test center, and it will not be counted as an acceptable form of identification.

Candidates should report promptly to the assigned center at least 30 minutes prior to their appointed time. This allows time for completing the registration process which includes verifying ID. Candidates who arrive 15 minutes or more after their appointment time will be considered tardy and will not be permitted to test and there will be no refund or credit toward future fees.

In the online examination process, the candidate will be asked to attest to having read the Candidate Handbook, including the full Agreement at the end of this booklet, and to agree to be bound by the conditions listed.

During the exam, candidates must comply with directions/instructions of the test proctors. Those who do not follow the instructions may be subjected to dismissal from the center and/or having his/her examination invalidated.

Personal items, such as cell phones, any PDAs, or any other electronic devices, pagers, writing instruments or paper, purses, hats, bags, books are not allowed in the testing room. Sweaters and jackets must be worn if taken into the exam room. Prometric testing center locations provide a secure locker for the Candidate's belongings. However, the Candidate is responsible for the security of his or her belongings.

Candidates are prohibited from communicating with other candidates by any means, verbal or written, for any purpose.

Candidates must conduct themselves in a civil manner at all times when on the premises of the testing center. Exhibiting abusive behavior towards other candidates or staff members may result in criminal prosecution.

Persons not scheduled to take a test are not permitted to wait in the test center.

Candidates will not be permitted to continue testing if they violate any of the provisions or rules established by ABO- NCLE or the test centers.

Occasionally, problems occur during the administration that may impede the examination process. Weather problems, mechanical failures, hardware and software problems, and human errors have the potential of interfering with all or part of the exam process. When such problems occur, ABO-NCLE will review all information at its disposal. An opportunity for re-examination may be offered at the discretion of ABO-NCLE. A re-examination shall be the candidate's sole remedy.



ABO-NCLE shall not be liable for inconvenience, expense or other damage caused by any problems in the administration or scoring of an examination, including the need for retesting or delays in score reporting. Under no circumstances will ABO-NCLE reduce its standards as a means of correcting a problem in the examination administration.

Candidates who experience incidents or irregularities during the testing must immediately inform the Prometric on-site proctors. If it is determined that an incident or irregularity had the potential of influencing a candidate's performance, the candidate will have two options: (1) to be retested during the next exam administration; or, (2) to have the examination scored.

## RULES FOR TAKING THE ABO and/or NCLE EXAMS

- Sufficient time has been provided for you to respond to all questions. You are advised not to spend an inordinate amount of time on individual questions until you have had an opportunity to respond to every question. Time is not intended to be a factor in the examination.
- There is no penalty for guessing; you are encouraged to respond to every examination question.
- Computer-based examinations DO allow you to mark questions you are unsure about and go back to them later.
- All instructions given by the proctor must be followed in order to ensure proper processing of your examination results.
- All candidates will be checked-in at the test site prior to being admitted to the examination room. You are required to place all personal possessions in a designated area.
- All ABO-NCLE exams are "closed book." Books, paper, PDAs, cell phones, or electronic (or other) devices or resources are not allowed. Failure to follow these instructions can result in your scores being revoked and may prohibit you from retesting or taking any other ABO-NCLE certification examinations.
- There is an "on-screen" scientific calculator that can be utilized during the exam.
- No test materials, documents, or memoranda of any sort may be removed from the examination room or retained. You may not copy any test questions or make any notes regarding the content of the examination. If you attempt to do so, your results will be invalidated, and you may be prohibited from retesting or taking any other ABO-NCLE certification examinations.
- No food or drink, including water, may be taken into the testing room. You may leave the testing room to use the restroom or get a drink of water, but you will need to sign out according to the instructions that will be explained at the test site. Your testing time will not be increased to accommodate a break. If you have a medical condition and cannot comply with this rule, you must apply for special testing accommodations.



- Please verify that you have been given the correct examination that you are eligible to take.
- You may not ask questions concerning content of the examination during the examination period.
- During the examination, you must not give help to or receive help from others. Proctors are required to report any incident in which there is evidence of irregular behavior. Any such reports could result in the invalidation of your test scores and/or other sanctions.

## HOW ARE EXAMS SCORED?

ABO-NCLE examinations are criterion-referenced tests, which means that a Candidate's performance on the examination is not compared to that of other Candidates in determining the Candidate's pass/fail status. In a criterion referenced test, a Candidate must achieve a score equal to or greater than the minimum passing score for the examination. The minimum passing score represents the absolute minimum standards that the Candidate must achieve to demonstrate the ability to practice the profession safely and competently. With the guidance of a measurement expert (e.g., a psychometrician), a panel of Subject Matter Experts in the field of Opticianry and Contact Lens Technology set the minimum passing score for each ABO-NCLE examination. In setting the minimum passing score, ABO-NCLE uses the Modified Angoff Method, which is well-recognized within the measurement field.

Each exam contains at least 85-100 scored test items plus a number of pilot test items that do not count towards the final score. For specific information on the number of items each exam contains, please refer to the test content outline associated with that exam.

## EXAMINATION RESULTS

Exam results are reported instantly as soon as the candidate has completed their exam. Candidates also receive an email within a couple of hours, after they have completed their exam, with their exam report. On occasion, ABO-NCLE is required to undergo "health checks" for the exams. Candidates will receive a preliminary indication of their exam results after submission. Official results will be released after appropriate analysis and review is completed by the exam company. State licensing boards will receive rosters of Candidates from their state that have passed and not passed the exams. If candidates want their results sent to another state's licensing board, they need to contact ABO-NCLE to make this request.

If you do not meet the passing standard, your score report will include diagnostic information for each content area of the exam. A certificate suitable for framing will be mailed, approximately 6-8 weeks from the release of the official exam results, to those candidates who pass the exam using the name given when they registered.



## RECORDS MANAGEMENT AND RETENTION

ABO-NCLE Record Retention Policy is to collect and maintain all records necessary to fulfill the legal requirements for record retention and disposition. This includes all information submitted in support of initial certification and certification renewal. The names of candidates for an exam or names of individuals not passing an exam, or individual test scores are not released.

Certificant and Candidate information and certification examination results are maintained indefinitely in the ABO-NCLE Certification database. The records are password protected and accessible only to staff involved with the certification process. Applications for examination are all completed electronically, and securely stored in an electronic format. In the unlikely event that any hard copy applications or supporting documents are received, information is manually entered into the ABO-NCLE Certification database and the hard copies are maintained for a minimum of five years, and are subsequently destroyed in a secure fashion. In addition, ABO-NCLE maintains electronic records of all customer activity and online applications within its database system.

## MAINTAINING YOUR CONTACT INFORMATION

### Change of Address

It is critical that you inform ABO-NCLE of any modification to your e-mail address, since that is the official method of communication with Certificants.

If you have attained Certification with ABO-NCLE, and need to change any of your contact information, please log into your account at [www.abo-ncle.org](http://www.abo-ncle.org). If you are an exam candidate, please log into your exam log-in, through the appropriate link, and make any necessary modifications in that database.

### Change of Legal Name

Requests for legal name change due to marriage, divorce, or a court-approved legal name change must be sent in writing with a copy of the marriage certificate, divorce decree, or court-approved legal name change document. For Opticians or Contact Lens Fitters/Technicians who have applied in the past under one name and are currently applying under a different name, please note that ABO-NCLE requires copies of legal name change documents before proceeding with the application process.

Send a request for legal name change, by mail, with accompanying documentation to:

ABO-NCLE Certification  
ATTN: Name Change  
217 North Upper Street Suite 201  
Lexington, KY 40507

If you are currently Certified and have already been issued a wall certificate but wish to order a duplicate wall certificate with your new legal name, please contact ABO-NCLE at 703.719.5800 to obtain a new certificate and pay the appropriate fees.



## RETESTING

The examination's regularly administered examination periods are January-March, April-June, July-September, October-December. ABO-NCLE believes that it is important for candidates who fail an examination to have adequate time to properly review the study materials and prepare themselves for the examination. In order to assure both the security of the examination itself, and to assure adequate preparation time for the candidates, if a candidate fails an examination they must wait **ninety (90) days**, from the date they completed it, in order to be eligible to register and retake that examination.

## RENEWING YOUR CERTIFICATION

In order to maintain your certification, you must renew your certification every 3 years. The purpose of certification renewal is to provide evidence that you have continued to expand your professional knowledge to demonstrate evidence of continual competence in your certification specialty. It also allows you to continue to use your ABO-NCLE credentials.

The current renewal requirements are available at [www.abo-ncle.org](http://www.abo-ncle.org).

### Helpful Hints:

- Visit the ABO-NCLE website on a regular basis to download the most current renewal requirements. Certification renewal criteria can change to reflect changes in practice or regulatory requirements.
- Develop a plan to show evidence of continual competence requirements for certification renewal.
- Provide ABO-NCLE with any changes to your contact information including a preferred email address.

### Warning:

**There is only a 90 day grace period after your certification(s) has expired. Please submit the complete application in a timely manner. When you renew, submitting a partial or incomplete renewal package will only delay approval of your certification renewal.**

## CERTIFICATION REINSTATEMENT

A lapsed or expired ABO-NCLE Certification may be reactivated. The procedure to reactivate your ABO-NCLE Certification depends upon the state in which you reside, the status of any state board licensing criteria, whether the state licensing board requires continuing education, and whether you have maintained continuing education throughout the time period of your expiration. Information explaining the reinstatement policies and procedures can be found on the ABO-NCLE website [www.abo-ncle.org](http://www.abo-ncle.org) under the "reinstatement" tab. If you are eligible for reinstatement, you will need to pay the appropriate fees set forth in the policies and procedures. Applications received without the correct fees and supporting documentation are considered incomplete and will delay the reactivation process.

## APPEALS

Candidates receiving a non-passing result may request that the examination result be verified. Candidates must request this result verification in writing, via e-mail to [exams@abo-ncle.org](mailto:exams@abo-ncle.org). All requests for verification must be made within three (3) months of publication of the examination score.



## DENIAL, SUSPENSION, AND REVOCATION OF CERTIFICATION

Certification can be denied, suspended, or revoked for cause, including but not limited to the following:

- Failing to complete or provide evidence of completion of the requirements for initial certification, certification renewal, or reactivation of certification
- Failure to maintain the required continuing education
- Determination that initial certification or certification renewal was improperly granted or that certification was improperly reactivated
- Falsification or misstatement of information on any Certification-related document
- Providing false or misleading information
- Misrepresentation
- Cheating or assisting others to cheat
- Causing, creating, or participating in an examination irregularity
- Assisting others to wrongfully obtain initial Certification or to renew or reactivate Certification
- Failure to comply with the scope and standards of practice in an area in which ABO-NCLE Certification is held
- Conduct unbecoming of the Opticianry and Contact Lens Technology professions

## REPORTING REVOCATION

- To Licensing Authorities: Suspension and revocation of certification is reported to licensing authorities.
- To Others: ABO-NCLE may report suspension or revocation of certification to employers, legal authorities, and other third parties, including but not limited to, law enforcement officers or agencies.

## MISREPRESENTATION OF THE ABO-NCLE CREDENTIAL

If an individual is identified or recognized as misrepresenting themselves as Certified when in fact they are not, the Board of Directors of the ABO & NCLE has an obligation to take appropriate steps to protect the credential and will undertake all appropriate measures to assure such misrepresentation is dealt with promptly.



## CANDIDATE AGREEMENT

**By taking this examination, I hereby acknowledge that I understand the following:**

1. That these examinations are the exclusive property of the American Board of Opticianry & National Contact Lens Examiners, Inc.
2. That these examinations and items contained therein are protected by federal copyright law. No part of these examinations may be copied, reproduced in part or whole by any means whatsoever, including memorization.
3. That the theft or attempted theft of any examination material is punishable as a felony.
4. That my participation in any irregularity occurring during this examination, such as giving or obtaining authorized information or aid, as evidenced by observation or subsequent statistical analysis, may be sufficient cause to terminate my participation, invalidate the results of my examination or take other appropriate action.

***Candidate agrees that by registering for the ABO and/or NCLE Examinations, the Candidate acknowledges receipt and review of this Certification Examination Handbook and agrees to be bound by its terms as of the date of registration and as of the date of examination.***