

Cutting Edge Eye Care: A Showcase of New Technology

2.0 hrs

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Course Description:

Test drive cutting-edge eyecare innovations in this fast-paced review of a curated selection of technologies, followed by no-pressure, hands-on demonstrations to determine what may work for you and your patients. Technologies such as the latest breakthroughs in wearables, advanced color vision monitoring, OCT-A/AI-based diagnostics, ultra-widefield imagers, handheld electro-diagnostics, biomicroscopes, virtual reality & objective perimeters, direct SLT, light therapies, refractors, IPL, radiofrequency, dry eye devices, and more are planned.

Learning Objectives:

- Review the science behind & clinical applications of the latest diagnostic advances with perimeters
- Review advanced color vision testing and its ability to assist with diagnosis and management of ocular disease
- Review the science behind & clinical ophthalmic applications of optical coherence tomography angiography and AI-enabled algorithms
- Review the science behind & clinical ophthalmic applications of ultra-widefield imaging and advances with refractors and wearables
- Review the science behind & clinical applications of direct selective laser trabeculoplasty, other light-based therapies (e.g. IPL, LLLT), radiofrequency technology, and thermal/ pulsation therapies for ocular surface disease/dry eye syndrome and more
- Provide hands-on demonstrations of ophthalmic equipment that utilizes various technologies covered

Course Outline:

- I. Color Vision Assessment
 - a. Color Vision Deficiency
 - i. Functional Classifications
 1. Protan
 2. Deutan
 3. Tritan
 4. Achromatopsia
 - ii. Congenital Inheritance Pattern/Incidence/Prevalence
 - iii. Acquired

1. Anterior Segment Etiologies
 2. Posterior Segment Etiologies
- b. Color Vision Assessment Options
 - i. Advanced Testing Diagnostics
 1. Miscellaneous (Farnsworth, Anomaloscope, etc.)
 2. Computer Aided (Waggoner, Rabin Cone Contrast, etc.)
 - ii. Disease Management
- c. Coding & Billing Considerations
- d. Commercially Available Devices
- II. Optical Coherence Tomography (OCT) Advances
 - a. Time Domain OCT
 - b. Swept Source OCT
 - c. OCT Angiography (OCT-A)
 - d. Clinical Applications
 - e. AI-Aided Data Interpretation
 - f. Coding & Billing Considerations
 - g. Commercially Available Instruments
- III. Ultra-widefield Ophthalmic Imaging
 - a. Comparison to Traditional Fundus Photography
 - b. Limitations
 - c. Coding & Billing Considerations
 - d. Commercially Available Instruments
- IV. Hand-held ERG Electrodiagnostics
 - a. Science
 - b. Clinical Utility (Diabetes, Glaucoma, Others)
 - c. Data interpretation
 - d. Coding & billing considerations
- V. Innovative Perimetry
 - a. Science
 - i. Virtual Reality-Based Perimeters
 - ii. Objective Field Analyzers
 - b. Clinical Validity vs. Traditional Perimetry
 - c. Pros & Cons vs. Traditional Perimetry
 - d. Coding & billing considerations
 - e. Commercially Available Instruments
- VI. Direct Selective Laser Trabeculoplasty (DSLTL)
 - a. Surgery Terms & Definitions
 - b. Laser Overview
 - c. Surgery Protocols
 - d. Equipment Options
 - e. Coding & billing considerations
- VII. Innovations in Refractive Measurement

- a. Standalone Equipment/Instruments
- b. Wavefront Aberrometers
- c. Guided Refraction
- d. Equipment Options
- VIII. Intense Pulsed Light (IPL) Therapy
 - a. Science
 - b. Aesthetic ophthalmic applications
 - c. Therapeutic ophthalmic applications
 - d. Equipment Options
 - e. Coding & billing considerations
- IX. Radiofrequency (RF) Technology
 - a. Science
 - b. General medical applications & instrument settings
 - c. Invasive Ophthalmic Applications
 - d. Non-invasive Ophthalmic Applications
 - i. Therapeutic
 - ii. Aesthetic
 - e. Procedure Considerations
 - f. Equipment Options
 - g. Coding & billing considerations
- X. Procedural Interventions for Dry Eye & Ocular Surface Disease
 - a. Thermal Expression &/or Pulsation Therapy
 - b. Biofilm/fornix Irrigation
 - c. Punctal Occlusion Therapy
 - d. Meibography
 - e. Miscellaneous
 - f. Equipment Options
 - g. Coding & billing considerations

(Hands-On)

- XI. Hands-on Demonstration Stations
 - a. At each station, an expert on that station's instrument/device/technology (e.g. cone contrast testing; AI-OCT/OCT-angiography; ultrawidefield imaging; virtual reality/objective perimetry; handheld ERG; etc.) will be present with the device in order to perform the testing in real-time on attendees so they can experience it from the patient's perspective.
 - b. Attendees will then have the opportunity to perform/administer the test to see what's involved from the staff/doctor/patient viewpoints
 - c. Relevant settings, testing options, indications & suggestions for performing the procedure, tips for interpreting the data, and coding & billing considerations will be also discussed
 - d. Attendees will have opportunity for Q&A throughout each station's rotation

- e. At the end of each rotation, time will be called and attendees will rotate to another station to repeat the process on a different type of diagnostic/therapeutic technology
- f. Multiple pieces of equipment from different manufacturers are planned for each station, and models will vary depending on when the course is given and what equipment has been made available for use, but general expectations are listed below
 - i. Station #1 – e.g. Color Vision Testing such as Rabin Cone Contrast & Waggoner Computerized Color Vision Test, and ERG from manufacturers such as LKC, Diopsys, etc.
 - 1. Intro to Equipment
 - 2. Review of Settings
 - 3. Demonstration of Device(s) as Patient
 - 4. Demonstration of Device(s) as Operator
 - 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 - 6. Coding & Billing Considerations
 - 7. Q&A
 - ii. Station #2 – e.g. AI-OCT/OCT-angiography equipment from manufacturers such as Zeiss, Topcon, Optovue, etc.
 - 1. Intro to Equipment
 - 2. Review of Settings
 - 3. Demonstration of Device(s) as Patient
 - 4. Demonstration of Device(s) as Operator
 - 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 - 6. Coding & Billing Considerations
 - 7. Q&A
 - iii. Station #3 - e.g. Ultrawidefield imagers & novel slit lamps from companies such as Optos, Zeiss, Topcon, etc.
 - 1. Intro to Equipment
 - 2. Review of Settings
 - 3. Demonstration of Device(s) as Patient
 - 4. Demonstration of Device(s) as Operator
 - 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 - 6. Coding & Billing Considerations
 - 7. Q&A
 - iv. Station #4 - e.g. Direct SLT and RF devices from companies such as Alcon, Sonique, etc.
 - 1. Intro to Equipment
 - 2. Review of Settings

3. Demonstration of Device(s) as Patient
 4. Demonstration of Device(s) as Operator
 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 6. Coding & Billing Considerations
 7. Q&A
- v. Station #5 - e.g. Virtual reality perimeters & objective field analyzers from manufacturers such as Olleyes, MicroMedical Devices, Glaukos/Radius Vision, Topcon, Oculus, Virtual Field, Heru, Konan, etc.
1. Intro to Equipment
 2. Review of Settings
 3. Demonstration of Device(s) as Patient
 4. Demonstration of Device(s) as Operator
 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 6. Coding & Billing Considerations
 7. Q&A
- vi. Station #6 -e.g. IPL & LLLT devices from manufacturers such as InMode, Lumenis, Alcon/LumiThera, etc.
1. Intro to Equipment
 2. Review of Settings
 3. Demonstration of Device(s) as Patient
 4. Demonstration of Device(s) as Operator
 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 6. Coding & Billing Considerations
 7. Q&A
- vii. Station #7 -e.g. Fornix irrigation, punctal occlusive therapies, & innovative refractors from manufacturers such as Rinsada, Lacrifill, Topcon, etc.
1. Intro to Equipment
 2. Review of Settings
 3. Demonstration of Device(s) as Patient
 4. Demonstration of Device(s) as Operator
 5. Interpretation of Data (if Diagnostic) or Assessment of Outcome (if Therapeutic)
 6. Coding & Billing Considerations
 7. Q&A

XII. Summary and Conclusion / Final Questions