What’s New in Cornea and Contact Lenses?
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Course description:
The world of cornea and contact lenses is constantly evolving. This course will provide the primary care practitioner with the latest information and innovations in the cornea and contact lens world, including information on new lens materials, designs, and solutions, as well as new anterior segment diagnostic and treatment innovations. Unique considerations for future product development will also be discussed.

Course objectives:
-To introduce the practitioner to recent soft and GP contact lens innovations, product releases and upgrades.
-To introduce the practitioner to new innovations in contact lens solutions, product releases and upgrades.
-To introduce the practitioner to new innovations in the diagnosis and treatment of dry eye and other anterior segment conditions.
-To introduce the practitioner to possible future developments in contact lenses including myopia control products and “smart” contact lenses.
Contact Lenses:

Daily disposable soft contact lens innovations
- Dailies Total One (Alcon)
  - water gradient lens technology
- MyDay (Cooper)
  - Smart Silicone material
- Miru (Menicon)
  - green approach
  - thin packaging
  - hygienic platform
- Clariti 1-Day (Saflon/Cooper)
  - FreshDay (Vision Source)
  - hydrogel + UV

Monthly replacement soft contact lens innovations
- Ultra (Bausch + Lomb)
  - MoistureSeal, increased PVP for comfort
  - not blink activated (digital device use lowers blink rate)
  - aspheric optics
  - currently not extended wear approved
- PureVision2 Multifocal (Bausch + Lomb)
  - 3-zone progressive design
  - new, thinner edge design
  - new fitting guide
  - extended wear approved
- Toric lens expansions: Acuvue Oasys for Astigmatism, Biofinity Toric coming soon

Tinted soft contact lens innovations
- Air Optix Colors (Alcon)
  - direct fit from Air Optix Aqua (Alcon)
  - 3-1 color technology
  - color selections: subtle and vibrant
  - virtual “try-on”
  - upcoming: plus powers, multifocal, toric

Custom soft contact lens materials
- New custom silicone hydrogel options
  - Definitive 6S (Contamac) latheable SiHy
  - Lagado LSH (Menicon) latheable SiHy

Contact lens solutions / care technologies
- Clear Care (Alcon) packaging update
  - Red, flip-top cap; new dimensions
- Peroxiclear (Bausch + Lomb)
  - 4 hour minimum soak time
  - unique case design
Hybrid contact lenses
Ulrahealth (SynergEyes)
- High Dk materials
- Reverse geometry GP design
- New landing zone design
Duette Progressive (SynergEyes)
- Distance asphere + near center aspheric add zone
- 3 add powers available
- No fitting set needed
Duette (SynergEyes)
- No fitting set needed – order empirically
- Lens application no longer requires fluid

Irregular cornea soft lenses
FlexLens ARC (X-Cel)
- Fit like a soft toric
- Thickness differential (0.50T and 0.30T options)
Kerasoft (Bausch + Lomb) – various labs
- MoRoCCoVA app available for fitting help chairside
Other options available in this category: Novakone (Alden), Revitaleyes (Metro)

Scleral lens options
ZenLens (Alden)
- “Smart Curve” – modify only the parameter you want
- Fitting webinars available for certification
Genesis Scleral (Metro Optics)
- Highly customizable
Toric periphery options and fitting sets available (various labs)
- Can improve fit, comfort
Multifocal options expanding (various labs)
- Design is lens dependent

GP Multifocal lens releases
mPower! (Art Optical)
- Front surface simultaneous design
Expert Progressive (Essilor)
- Translating design with no vision compromise
- Slab-off technology for uniform edge thickness

Anterior segment imaging developments
Sagittal depth measurements via topographer, OCT
- Useful in scleral lens fitting
Eaglet-Eye Eye Surface Profiler (ESP)
- “Profilometry”
Lipiview System
- Absolute tear film thickness from interferometry images
Meibography imaging
- Instruments utilize non-contact digital IR photography + software analysis
Orthokeratology for myopia control
Latest study results
Cho Optom Vis Sci 2014
Bullimore Ophth Phys Optics 2014

What’s on the horizon? Future developments/possibilities:
“Smart” contact lenses
glaucoma – Sensimed Triggerfish
diabetes – Google prototype
drug elution – allergy, glaucoma trials
Myopia control
Cooper MiSight lens
soft multifocal options

Cornea:
Dry eye / Blepharitis
Diagnostics
lid-parallel conjunctival folds (LIPCOF) correlate with dry eye symptoms
lid wiper epitheliopathy (LWE) requires vital dye and lid eversion associated with discomfort/dryness in CL and non-CL wearing patients
Meibomian gland expression grade and assess improvement over time line of Marx staining, location assessment
InflammaDry (Nicox) 10 minute in-office diagnostic test evaluates MMP-9 levels in tears

Therapy
Advanced i-Lid Cleanser (NovaBay) 0.01% pure hypochlorous acid in saline solution
Blephex (RySurg) medical grade microsponge tips remove scurf and debris
Cliradex (Biotissue) 4-terpienol cleansing pads with cooling sensation for lids, lashes, face
Lipiview/Lipiflow therapy imaging followed by thermal pulsation treatment heat applied to inner eyelids intense pulsed light (IPL) therapy in-office treatment followed by gland expression

Sjogren’s
Sjö Test (Nicox) in-office finger prick blood test evaluates 7 inflammatory bio-markers for Sjogren’s
**Amniotic membrane technology (sutureless amniotic membranes / SAMs)**

Biologic corneal bandage device using amniotic tissue

Indications: anterior seg inflammation, keratitis, erosion, ulcer, burn, trauma, OSD

- AmbioDisk (IOP Ophthalmics)
- Prokera (Biotissue)

**Corneal Cross-Linking (CXL) approval**

FDA regulatory update

**LASIK**

Pre-op use of genetic testing

- Avellino DNA test for granular corneal dystrophy Types I and II (Avellino Labs)

**What’s on the horizon? Future developments/possibilities:**

- New drug treatments in clinical trials
  - No new DES therapeutics since Restasis (2003)
    - lifitegrast, bromfenac, other trials
    - Cyclosporine competitors being developed
- Other future DES treatments
  - Nanotechnology applications
    - Surface coatings
    - Drug absorption, retention advances
    - Adjunctive therapy