Prescribing for the Presbyope (2 hours)

Mile Brujic, O.D
1409 Kensington Blvd
Bowling Green, OH
43402
419-261-9161
brujic@prodigy.net

Summary

Presbyopic patients require a unique perspective to appropriately correct their visual needs. This course will discuss the ocular physiology, anatomical considerations, new pharmaceutical advancements and also review the most recent developments in multifocal lens technologies to help optimize vision for this demographic of patients.

Learning Objectives

1) Understand the health of the ocular surface and its influence on successful contact lens wear for the presbyope
2) Understand ocular features that are critical to consider with multifocal lens wear
3) Discuss pharmaceutical agents that are currently being developed and their effect on presbyopes and contact lens wear
4) Understand current soft lens designs and appropriate selection
5) Discuss contemporary rigid gas permeable and hybrid lens technologies
6) Understand how to integrate these technologies appropriately into your practice

Outline

1) Contact Lens discomfort
   a. Greater than 50% of patients experience contact lens discomfort
   b. Is the number one reason for contact lens discontinuation
   c. Greater than 50% of patients discontinuing lens wear is primarily due to discomfort
   d. Patients often times become complacent with contact lens wear and uncomfortable wear associated with it
   e. Requires solicitation of symptoms
      i. Questionnaire – discuss various strategies
2) Understanding the Pathophysiology
   a. Understanding the causes:
      i. Poor aqueous production
      ii. Deficient mucin layer
      iii. Deficient lipid layer
      iv. Understand the combined effects of the issues described
         1. DEWS II
   b. Understanding the creation of a hyperosmotic tear film
i. The creation of a pro-inflammatory environment

c. Understand the inflammatory consequences
d. Discuss potential effects the conjunctiva and cornea and ultimately

3) Dry eye

a. Case History
b. Diagnostic work up
   i. Anterior segment examination
      1. Eyelashes – observe for debris and / or collarettes
         a. Differentiate demodex blepharitis
      2. Eyelid blinking dynamics
      3. Eyelid Margins
      4. Meibomian glands
   ii. Fluorescein assessment
      1. Fluorescein stain applied to eye
      2. Assess the anterior segment
         a. Tear film break up time (TBUT)
         b. Symptomatic Non-Invasive TBUT (SNIBUT)
         c. Corneal staining
         d. Lid wiper epitheliopathy / Upper lid margin staining
   iii. Point of Care tests
      1. Tear Osmolarity
      2. Inflammadry

4) Treatment

a. Environmental modifications
b. Artificial Tears
c. Supplements
d. Prescription Treatment
   i. Oral antibiotics
   ii. Cyclosporine 0.05%
   iii. Lifitegrast 5%
e. Meibomian gland function
   i. Thermal treatments
   ii. Topical therapy
   iii. Essential fatty acids
   iv. Role of cyclosporine
   v. Role of lifitegrast
f. Punctal plugs
   i. Review of the current literature – understanding when to perform punctal occlusion

5) Understand the unmet need with our presbyopic population

   a. Increased need for visual correction
      i. This demographic has the highest percentage of visual correction needs and the lowest rates of contact lens wearers
   b. Decrease in contact lens wear
i. Are patients decreasing their interest? The research suggests otherwise
   1. Once multifocal lenses were discussed, 75% of CL wearers and 60% of spectacle wearers were interested in trying them

ii. Do patients prefer monovision over multifocals? The research suggests otherwise

   c. Many interested when educated about it
      i. Increased functionality
      ii. Perceived cosmetic benefits

d. Treating patients appropriately
   i. Understanding the unmet need
   ii. Prioritizing contact lenses for presbyopes

  e. Relationship with improved practice profitability
   i. Always do what is in the best interest of the patient and it will lead to what is in the best interest of the practice

6) Physiological characteristics of the aging eye past the ocular surface

   a. Pupil
      i. Over time pupil becomes miotic
      ii. Pupil is critical for multifocal lens fitting
      iii. Smaller pupil
         1. Difficult for multiple optical zones to enter through a small pupil appropriately
      iv. Larger pupil
         1. Allows for more optical properties of the lens to appropriately enter the pupil
         2. Different consideration for soft multifocals and rigid gas permeable (RGP) multifocals
            a. Soft lenses – simultaneous design
            b. RGP lenses – depend more on appropriate translation of lens

   b. Lenticular changes
      i. Natural lens changes cause reduction in optical quality
      ii. Lenticular opacification will decrease light penetration and increase light scatter to the retina
      iii. Clinical considerations of lenticular changes in conjunction with pupil size is critical

   c. Line of sight
      i. Most patients do not have a line of sight that is through the center of the pupil
1. This creates challenges in assessing centration of a contact lens
2. Single vision lenses are not usually affected by this discrepancy
3. Multifocal lenses are heavily dependent on this relationship
   a. The lens optics are aligned with the center of the lens
   b. The lens may decenter temporally
   c. The patients line of sight is the nasal region of the pupil
   d. This creates a disadvantageous situation
   e. This can be measured with:
      i. Topographer
      ii. Autorefractor
      iii. Penlight
      iv. Pupillometer
   ii. Most patients have a line of sight that is nasally located through the pupil

7) Pharmacological Solutions
   a. Brimonidine (0.1%, 0.15%, 0.2%)
      i. Alpha 2 Adrenergic agonist
      ii. Mitigates pupil dilation
      iii. May have a role with RGP multifocal lenses
   b. EV06 - lipoic acid choline ester 1.5%
      i. Breaks down disulfide bonds within the lens
   c. Liquid vision – Aceclidine (miotic) and tropicamide
      i. Pinhole effect correction
      ii. Carbachol/brimonidine
   d. Acetylcholine agonist / alpha 2 agonist
      i. Pinhole effect correction

8) Compare and contrast the unique visual needs of the presbyope
   a. Difficulty encountered because of multi-focal demands
      i. Most commonly utilized lenses are simultaneous design
      ii. Deliver a combination of distance and near optics
      iii. Highly dependent on pupil size
   b. Increased interest in cosmesis and functionality
   c. Understanding how to effectively present presbyopic contact lens options to patients
      i. The critical conversation – appropriately setting expectations
      ii. The fitting process
         1. Reconsider your fitting process
         2. Assess ocular dominance
         3. After lenses placed on the eyes, demonstrate success immediately
            a. Do not test distance vision first
b. Have them view a near object – ie cell phone
4. Slowly challenge their distance vision
   a. Begin at the 20/50 line then slowly decrease the size of the line
5. Don’t forget about loose lens over-refraction
   a. Binocular
   b. Do not be surprised with additional “+” manifesting in the distance
iii. The follow up
9) Understand contemporary correction options for presbyopic patient
   a. Simultaneous designs (soft lenses)
      i. Aspheric design
      ii. Concentric ring design
   b. Rigid Gas Permeable Options
      i. Near center-distance periphery
      ii. Segmented bifocal
      iii. Scleral lens design
      iv. Hybrid lens options