Contact Lens Trends and Latest Technology
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Contact Lens Trends & Technologies:
Maximizing Your Contact Lens Patient Experience

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Lecture Objectives
• Look at contact lens history and trends that affect the profession
• Look at best practices for increasing compliance
• Create excitement/want for CL patients
• Practicing good optometry is best for patients and great for business
• Challenge: How does one maximize performance in the world of contact lenses?

Evolution of Contact Lenses
• 1887 First contact lens manufactured from glass, and fitted to cover the entire eye
• 1939 Contact lenses first made from plastic
• 1948 Plastic contact lenses designed to cover only the eye’s cornea - PMMA
• 1971 Introduction of soft contact lenses
• 1978 Introduction of GP contact lenses

Evolution of Contact Lenses
• 1981 FDA approval of new soft contact lenses for extended (overnight) wear
• 1986 Overnight wear of GP contact lenses becomes available
• 1987 Introduction of disposable soft contact lenses - 1-2 week replacement
• 1987 GP contacts available in next-generation fluorosilicone acrylate materials

Disclosures
Speaker’s Bureau for:
• Alcon
• Dioppsy
• Heidelberg
• Maculogix
• Optos
• Reichert
• Zeavision

Unique to Ubiquitous
Evolution of Contact Lenses

- **1996** Introduction of one-day disposable soft lenses
- **1998** Silicone-hydrogel contact lenses for 30 day continuous wear
- **2002** Overnight orthokeratology approved by FDA
- **2010** Custom-manufactured silicone-hydrogel lenses become available
- **2014** Water Gradient Technology

What is your contact lens strategy?

- Do you fit primarily HEMA???
- Do you fit primarily silicone???
- Do you fit 2 week lenses???
- Do you fit monthly lenses???
- Do you fit daily disposable lenses???
- Do you let the patient decide???

The contact lens market is shifting to one-day and one-month replacement

Contact Lens Compliance Studies

| Percent of Patients Compliant with Manufacturer's Recommended Replacement Frequency |
|---------------------------------------------------------|-----------------|
| Jones 2002                                             | Yee 2002        |
| Dumbleton 2009                                         | Endeman 2010    |
| Yeung 2010                                             | Jenkins 2015    |

**Replacement Schedule: One Way to Help Improve Patient Compliance**

- **Daily** has the highest compliance rate on average **79%-87%**
- **Monthly** shows next highest compliance rate on average **65%-74%**
- **2 Week** shows the least compliance averaging **30%-53%**

**References**
3. In a 2013 survey of 9,677 patients from 457 practitioners, wearers of silicone hydrogel (**SiHy**) and daily disposable contact lenses, Alcon data on file 2013.

**Practice Management Impact of Increased Compliance**
- Prescribing replacement schedules with greater compliance results in:
  - Increased contact lens product revenue
  - Increased professional fee revenue
  - Increased optical revenue
  - Greater loyalty to your practice

**“The purpose of a business is not to make a sale.”**

*Peter Drucker*

**The purpose of an optometric practice is not to make a sale.**

*The purpose of an optometric practice is to make and keep patients.*

**Patient Loyalty**

Reducing the average interval between contact lens exams from 18 months to 16 months results in a **12.5% increase** in the number of exams performed each year from existing wearer base.
Reducing the average interval between contact lens exams from 18 months to 14 months results in a **28.6% increase** in the number of exams performed each year from existing wearer base.

- **Why Fit Daily Disposables??**
  - Offering the healthiest choice stresses contacts as a medical choice vs. offering a "menu" of options
  - Daily compliance is the **highest** so patients return **yearly**
  - Patients returning yearly is best for their ocular health and best for practice profitability

- **Annual Supply is Key**
  - Take two words out of office vocabulary "boxes" and "cover"
  - Replace with "supply" and "contribution"

- **Daily Disposables Materials All the Same??**
  - HEMA-Soflens, Proclear**, Acuvue**, Focus Dailies**, ClearSight**
  - HEMA with blink activation moisture -Dailies Aquacomfort Plus**
  - HEMA to help biocompatibility -Biotrue
  - Silicone-TruEye, Clariti** (Freshday), MyDay, Oasys 1 Day
    - **available in toric
      - **DIFFERENTIATE FOR YOUR PATIENT AND TELL THEM WHY!!!**

- **Challenges for Soft Contact Lens Wearers: Dryness and Discomfort**
  - Discomfort is the #1 cause of dropout!
  - The median future value over the lifetime of a single dropout to an eye care practice in the U.S. is $21,695

**References:**

The proportion of contact lens wearers slips off markedly even as refractive need continues to increase.
Water Gradient Technology

- A new polymer of contact lens
- First time two different polymers are in a single soft contact lens
- A new era in contact lens comfort
- New criteria - Lubricity

**Comfort is the #1 reason for CL drop-out**

The First and Only Water Gradient Contact Lens

**Featuring an increase from 33% to over 80% water content from core to surface:**

**Core:**
- Silicone hydrogel material with:
  - Low water content
  - High oxygen transmissibility
  - Low modulus

**Surface:**
- Ultrasoft surface gel
- Over 80% water
- Water-loving polymer chains reduce friction, helping to minimize interaction with delicate tissues of the eye
- 6 microns thick
- Essentially no silicone present

Natural Moisture of the Cornea

- Aqueous with soluble mucins
- Glycocalyx with soluble mucins
- Corneal epithelial cells

The glycocalyx is produced by corneal epithelial surface cells, helps bind mucins and tears onto the hydrophobic corneal surface,

Water Gradient Contact Lens/Corneal Surface

Image taken from Alcon presentation.
Most Patients Are Silently Struggling with Lens Discomfort

- Among patients who bought a new supply of the same brand of contact lenses at their last eye exam.

Reference: Based on a survey of 113 contact lens patients; Alcon data on file, 2006.

Why Offer Daily Modality??

- Our industry partners are investing their R&D in daily disposables.
- Most recent breakthrough of water gradient is available only as a daily disposable lens.
- Specialty lenses - toric and now MANY multi-focal contacts are out in daily lenses; Proclear 1 Day Multifocal, Dailies Aqua Comfort Plus Multifocal, Acuvue 1D Multi, Biotrue 1Day Multi.

*silicones Clariti 1Day Multi, Dailies Total 1 Multifocal-has come!!

Why Offer Multifocal CL's?

- If you don’t…someone else will!!
  - Let your patients learn about the best technology from YOU!! Let them experience it!
- Always set up patient expectations for what is coming on the horizon
  - Let patients know why you fit them with your lens choice and that next year they will be the first to know about what’s new!

Contact lens usage drops off dramatically after age 45, while the need for vision correction steadily increases.

- DEMAND is REAL
  - 91% of current contact lens wearers age 35 to 55 are committed to continuing with contact lens wear.


2. CIBA VISION data on file, 2006.
Presbyopia = Opportunity

- Presbyopia affects approximately 90 million adults in the USA alone
- About one in four patients seen by optometrists!


Presbyopia = Opportunity/Growth

- 2.2% Bifocal or Progressive CLs
- 3.5% Monovision CLs
- 2.7% Distance CLs w/ or w/o Readers
- 53% of the 169 million people in the United States who wear vision correction are presbyopic
- Yet only 8% of presbyopes wear contact lenses as their primary mode of vision correction!

Ready or not, here we come!

- Prospective U.S. CL market expected to increase to almost 34 million over the next decade
  - Those 50 years of age and over...
    - Comprise single largest age component of this projected group
    - Projected to be 28% of all potential CL wearers by 2018
    - > 13.5 million people!!!

Ready or not, here we come!

- In the U.S. alone, 42%, or 135 million people will be presbyopic by 2020!

Ready or not, here we come!

- “Gen-X” (born 1965 - 1980)
  - Next generation of new and emerging presbyopes
  - More technologically savvy / greater task variability
  - Highly motivated to preserve both visual function and youthful appearance

Which is better…?

Monovision vs. Multifocal SCLs

  - Compared four correction alternatives for emerging presbyopes
    - Low add SiHy multifocal lenses (AIR OPTIX® AQUA MULTIFOCAL contact lenses)
    - Monovision (AIR OPTIX® AQUA contact lenses)
    - Habitual Rx (no change)
    - Optimized distance spectacle Rx
Which is better…?
Monovision vs. Multifocal SCLs

  - Assessed both objective and subjective results/ratings
    - Utilized BlackBerry® hand-held device, facilitating real-time assessment of assigned tasks
    - Objective testing – Monovision “best performer” for high- and low-contrast near vision tests
    - Subjective ratings – Monovision “lowest performer” in all ratings, multifocal contact lenses “highest performer” in 15 of 16 ratings
  - Objective testing (exam room) may not be best indicator of potential “success”

“Of those ratings that demonstrated any significant difference

Fitting Tips for Success

Managing Patient Expectations:
- Have patient state one or two visual “GOALS” and document in patient’s record for review purposes
- Discuss these visual goals
- Determine if these goals are realistic
- For instance, a patient expecting to see the microscopic print on the insert for a prescription is not a realistic goal
- Remind patients of what they can see vs. what they cannot see
- Emphasize good, direct light and the need to assess their work environment for appropriate lighting
- Emphasize that the vision typically improves after wearing the lenses for a few days
- Encourage patients to be open minded and have patience

Why Offer Multifocal Lenses??

- Baby boomers all in presbyopic years and Gen X approaching presbyopia
- Presbyopic patient base more tech savvy and has the means to meet their needs
- New lens designs offer better choices for patient adaptation
- Generates referrals without marketing!!

Need to be proactive!

- Survey of 500 presbyopic patients
  - Only 8% of current CL wearers reported being told about multifocal CLs when first complaining about their near vision
  - Once informed about multifocal contact lenses, one-third of regular CL wearers and monovision patients were likely to try them
  - One-third of respondents indicated they would likely seek services of another practitioner if their current practitioner did not inform them of multifocal options

Promote Daily Multifocals in Your Practice

- Communicate effectively
  - Would you be interested in contact lenses that would allow you to read without glasses?
  - Do your glasses hinder you when you fish, play tennis / play golf / exercise?
  - Are there times when you would like to see clearly without wearing glasses?
- Proactively discuss daily multifocal with your patients
  - Many patients may have unsuccessfully tried multifocal soft lenses or monovision in the past and are not aware of advances
Optometric Roots/Vision

• Quality vision that meets patient’s lifestyle needs is the foundation of optometry
• Utilize the latest in daily disposable contact lens technologies to excite and surpass visual demands and needs

Challenge: How does one maximize performance in the world of contacts?

A: Emphasize long-term corneal health/comfort (reason for returning regularly)
B: Increase patient compliance (daily wearers will return regularly with less complications)
C: Capture annual supply sales (will return regularly-have everything they need!!)
D: Give the "Why" and set up the "What's Next" (Always discuss technology/lens selection)

Don’t forget about UV Protection

• Educate and prescribe CL’s and sunwear

People that wear sunglasses inside have to because it’s always sunny in Doucheville.

Don’t forget about UV Protection

What’s Old is New!!!!!!!!!!!!!!!!!!!!!!!!

• Proactively discuss the use of distance center multifocal lenses when fitting younger myopes

Don’t forget about Blue Light

• Educate and prescribe indoor protection

What’s Old is New!!!!!!!!!!!!!!!!!!!!!!!!

Myopia Control

- Good science now tells us we can reduce the progression of myopia with multifocal contacts
- More effective/permanent than ortho-k
- Parents who lived through higher myopia as a child are hugely receptive to any means that can reduce myopia in their children!!

Proactively discuss the use of distance center multifocal lenses when fitting younger myopes
**Myopia Control Studies**

- In November 2013, researchers in the U.S. published the results of Soft multifocal contact lens wear (commercially available) resulted in a 50% reduction in the progression of myopia and a 29% reduction in axial elongation during the 2-year treatment period compared to a historical control group.

- Eight- to eleven-year-old children with -1.00 D to -6.00 D spherical component and less than 1.00 D astigmatism were fitted with soft multifocal contact lenses with a +2.00 D add (Proclear Multifocal “D”; CooperVision, Fairport, NY). They were age- and gender-matched to participants from a previous study who were fitted with single-vision contact lenses (1 Day Acuvue; Vistakon, Jacksonville, FL).

**Myopia Control Study Results**

- Results from this and other investigations indicate a need for a long-term randomized clinical trial to investigate the potential for soft multifocal contact lens myopia control.

- **Methods:**
  - Eighty-six myopic subjects, aged 8 to 18 years, were enrolled in the study after passing the screening examination. Subjects were randomly assigned to wear either Vistakon Acuvue 2 (single-vision soft contact lenses [SVSCLs]) or Vistakon Acuvue Bifocal (bifocal soft contact lenses [BFSCCLs]).

- **Results:**
  - The BFSCCLs significantly slowed myopia progression, with statistically significant differences between the treatment groups after 6 months. After 12 months of treatment, the SVSCL group had progressed by \(-0.79\pm0.43\)D compared with \(-0.22\pm0.34\)D for the BFSCCL group.

- **Conclusions:**
  - The distance center bifocal contact lenses tested in this study achieved greater control over myopia progression and axial elongation than the single-vision soft contact lenses with multifocal spectacles. Further studies are warranted to identify the critical factors and mechanisms underlying this myopia control effect.

**What About Hyperopia Control?**

- "As a clinician, scientist and inventor, I just think it would be very cool to prove that the same contact lens, prescribed a bit differently, could either cause a myopic eye to slow its excessive growth or could encourage a shorter, hyperopic eye to grow to a more normal size," says Dr. Aller.

- The new clinical trial, Optical Defocus to Stimulate Eye Elongation in Hyperopia or the ODSEEH trial is listed on [http://www.clinicaltrials.gov](http://www.clinicaltrials.gov) as NCT00950924.

**Myopia Control Study Results**

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- **http://contactlensupdate.com/2013/03/27/busting-myths-about-kids-and-contact-lenses/"**

**References:**

- Walline JJ, Greiner KL, McVey ME, Jones-Jordan LA. Myopia Control Studies Results.
THANK YOU!!!

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