Multifocal Contact Lenses Made Simple

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Tom Quinn’s Disclosures
- Alcon
- Allergan
- Alden Optical
- Bausch + Lomb
- CooperVision
- GPLI
- STAPLE Program
- JJVC Vistakon

Shalu Pal’s Disclosures
- Alcon Canada & US
- Allergan Canada & US
- Bausch & Lomb Canada & US
- CooperVision Canada & US
- Crystal Clear Vision
- Johnson & Johnson Vision Care Canada & US
- Konan Medical USA
- Menicon Canada & US
- Novartis Canada
- Staple Program
- TLC Vision Canada
- Truform Optics
- VisionSource Canada
Illegal CL Sales

- Contact lenses are being sold without an Rx or with an expired Rx
  - In the decorative CL segment*: 2013: 24% purchased without an Rx
  - 2014: 53% purchased without an Rx
- Email: stopillegalCLs@aoa.org
- Report suspected illegal sales
- Report adverse events from illegal CLs
- AOA reports illegal sales to appropriate authority

* American Optometric Association’s American Eye-Q consumer survey

Prevalence of Presbyopia

- 1 in 4 patients seen in an OD office is presbyopic
- 90 Million Americans are affected by presbyopia

135 Million Americans will be presbyopic by 2020

Behaviours of Presbyopes

- Denial
- Resistant to change
- Rather strain & struggle than admit they are aging
- Multiple prescription needs but too young for PALS
- Want to retain their youth & health
- Spend more money on personal care & anti-aging products
- Have more disposable income than others
- Eventually 1/3 will resort to OTCs or other's glasses

Tan, J. “Contact lens options for presbyopia.” www.siliconehydrogels.org
The Truth about our Patients

- 91% of contact lens wearers 35 - 55 years old want to stay in contact lenses as they age
- Only 8% of presbyopes have been told about soft MFs
- 1 in 3 would switch OD’s if not given the option of MFs
- 1 in 3 presbyopes would consider contact lenses.

The Opportunity is Ours

Prevalence of Presbyopia

- Contact lens wearers drop out as presbyopia sets in
- Half of all dropouts would consider contacts again
Patient Benefits from Multifocal Contact Lenses

- Cosmetics benefits
- Freedom from glasses - hands free
- Help forget the aging process
- Provide a feeling of youth
- Functionality
  - All ranges of vision
  - Peripheral vision
  - Ability to multi-task

Practice Benefits from Multifocal Contact Lenses

- Reduce self prescribing of OTC
- Filling a need and a want
- Differentiate your practice & services
- Making patients happy
- Improve Patient Retention and Loyalty
- Increase referrals
- Increase Revenue

Multifocal Fitting of Lenses

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
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<tbody>
<tr>
<td>Sphere</td>
<td>51%</td>
<td>51%</td>
</tr>
<tr>
<td>Toric</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Multifocal GPs</td>
<td>6%</td>
<td>5%</td>
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</tbody>
</table>

Presbyopic Contact Lens Options

- Multifocal Contact Lenses
- Monovision Contact Lenses
- Modified Monovision
- Distance Contacts + Reading Glasses

Patient Selection Tips

- Discuss with every presbyope
- Look for multi-taskers and active people
- Those motivated to be rid of glasses
- Those in contact lenses already
- Avoid perfectionists
- Avoid those in a rush or don’t want to pay
- Understand visual demands so you can meet their expectations

Patient Rx Selection Tips

Choose wisely:

- Emerging presbyopes
- Hyperopes & myopes great than >3D are easier to fit
- Avoid Emmetropes initially with medium to high adds
- Avoid astigmatism greater than 0.75D
To Avoid Unsuccessful Fits
Explain …

- The process, strengths and limitations
- Time line
- Fitting fees
- Complexity of visual processing
- Small changes make a big difference
- Glasses still may be needed
- Provide realistic expectations

Setting Expectations

The Sandwich Approach

Soft Multifocal Lenses
Basic Fitting Steps
Step 1: Get an Accurate Refraction
- Least Minus Power
- Least Add Power

Step 2: Determine Eye Dominance
- Sight Dominance – Hard wiring
- Sensory Dominance – Sensitivity to blur

Step 3: Determine Lens Modality
Choose 1 day, 2 week or 1 month lens design
- Based on Prescription
- Based on History
- Based on Use
- Based on Compliance
- Based on Cost

Presbyopes & Daily Disposables
- Great for part-time wear
- Convenience
- Presbyopes have dry eye issues
- Dry eyes lead to lens coating
  Dirty lenses are responsible for many contact lens problems
Benefits of Daily Disposables

- Great for part-time wear
- Convenience
- Improved safety
- Allergy management
  - Seasonal allergies
  - GPC (GLPC)
- Avoid solution sensitivity/ reactions
  - Discomfort
  - Redness
  - CIEs

Multifocal Daily Disposables

**Alcon**
- FocusDailies Progressive
  - Center near
  - One add
- Dailies AquaComfort Plus
  - Center near
  - Same optics as Air Optix Aqua Multifocal
  - Three adds

**CooperVision**
- Proclear 1 Day Multifocal
  - Center near
  - One add
- Clariti 1-Day Multifocal
  - Center near
  - Two adds
  - Silicone hydrogel material

**Bausch+Lomb**
- BioTrue ONEday for Presbyopia
  - HyperGel material
  - Center near
  - Same optics as PV2 for Presbyopia
  - 2 adds
  - Currently available only in low add
  - Qtr 3 of 2015:
    - High add
    - Expanded distance power range
Multifocal Daily Disposables

JJVC
• 1-Day AV Moist for Presbyopia
• Moist material
• Center near
• “pupil smart” design
• Changes with age
• Changes with refractive error

VTI
• NaturalVue Multifocal 1 Day
• Center distance
• Extended depth of focus
• Single add (up to +3.00 effect)

JJVC= Johnson&Johnson Vision Care
VTI= Visioneering Technologies, Inc

Step 4 : Choose Initial Lens

• Use fitting guides
• Spherical component based on Vertex Spherical Equivalent
• Choose add power based on Rx Add
• Eye dominance maybe a factor

Step 5 : Apply Lens

• Let lens settle
• Allow for adaptation
• 10 to 30 minutes
• Use this time wisely
  • Take patient to dispensary to shop
  • Get to know patient better
  • Educate on lenses
• Check Fit, Vision and Comfort
Step 6: Check Vision

- Ask open ended questions “are you doing?”
- Start with 20/40 letters
- Check binocular distance and near VAs
- Have the lights on
- Use real world tasks – phones/magazines/computers
- If there are no complaints – Stop

Step 7: Binocular Distance Over Refraction (BDOR)

- To refine a distance or near complaint
- Keep both eyes open
- Push Plus first
  - Use +0.25 flipper over right then left eye
  - If accepted then try +0.50 over each eye
- Push Minus Second
  - Use -0.25 flipper over right and left eye
  - If accepted and more help is needed try -0.50

Step 8: Further Refinement

- Make sure distance Rx is correct - BDOR
- Use the fitting guide
- Step by step process to fix distance and near issues

Step 9: Still a Problem?

- Check Monocular VAs
- Double Check your refraction
Fitting Tips

• Don’t make too many changes on the first day
• If vision is good let them go
• Give expectations for the week
• Give them homework
• Remind them lighting is important
• Remind them it’s a process

When is enough…enough.

• You’ve set the right tone
  • The Sandwich Approach
• You’ve confirmed the Rx
  • Always confirm distance Rx first - BDOR
• You’ve shared The 3 Revelations
  • “The goal is to meet most of your needs most of the time”
  • “You may need to give up a little bit of crispness for freedom”
  • “This is as good as it gets”

Wait

What about that pesky astigmatism?
The Astigmatic Component

- 0.75 DC is the "flinch level"
- Is it corneal astigmatism?

Corneal Astigmatism ≠ Spectacle Astigmatism

- Toric Soft Options
  - Monovision
  - Modified Monovision if astigmatism is in one eye
  - Toric SV Soft Distance OU with readers
  - Soft Toric Multifocal Lenses

Visual Performance of MultiFocal Toric SCL

- 20 subjects
  - 45 to 65 yo
  - 0.75DC to 2.75 DC
- Cross-over design
- Soft Toric MF vs Soft Toric MV
- 1 month wear of each design

Visual Performance of MultiFocal Toric SCL

- Results:
  - Performance of MV and MF within 1-2 letters
  - Reduced contrast sensitivity mainly at higher spatial frequency → closely linked to VA
  - Note:
    - 60% of subjects:
      - < 50 yo
      - Near add lower than +1.50
    - Astigmatic error in study population?


Corneal Astigmatism ≠ Spectacle Astigmatism

- Toric Soft Options
  - Monovision
  - Modified Monovision if astigmatism is in one eye
  - Toric SV Soft Distance OU with readers
  - Soft Toric Multifocal Lenses

- Toric GP Multifocal
  - Adaptation concerns?

Corneal Astigmatism = Spectacle Astigmatism

- A Host of Multifocal Options!
  - Toric Soft MF
  - GP MF
  - Hybrid MF
  - Scleral MF
Duette Multifocal Designs

- Duette Multifocal
- Adds:
  - Small and Large

- Duette Progressive
- Adds:
  - +1.00, +1.75, +2.50

Scleral Multifocals!

TABLE 1

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>LENS</th>
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<tr>
<td>Acra Lenses</td>
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<td>Skylens Progressive</td>
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<td>SVT Scleral</td>
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<tr>
<td>Valley Contact</td>
<td>Skylens, Ultra-Scleral</td>
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</tbody>
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VP Multifocal Developments

GP Multifocal Developments

High Eccentricity Back Surface
- Fit 4-6D steep
- Corneal molding
- Spectacle blur

Translating Design

GP Multifocal Developments

High Eccentricity Back Surface

Low Eccentricity Back Surface
- Upper lid helps
- Limited add

Translating Design

GP Multifocal Developments

Tangent Streak No-Line (Fused Contacts)
on 2D ATR cornea
GP Multifocal Developments

*Boston MultiVision (Polymer Technology/B&L)*

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Posterior Aspheric MFs

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GP Multifocal Developments

- High Eccentricity Back Surface
- Low Eccentricity Back Surface
- Translating Design
- Front Surface Asphere
High Index Materials

- Paragon HDS HI 1.54
- *Paragon Vision Science*
- Optimum HR
  - *Contamac*
    - Highest refractive index available
    - Refractive Index 1.54
    - Dk= 22

What determines the degree light will bend as it passes from one medium to another?

\[ \frac{n_1 - n_2}{n_1} \]

High Index Materials

- Same amount of asphericity
- Achieves a higher add
- Less asphericity to achieve same add
  - Fewer corneal topographic issues
GP Multifocal Developments

- High Eccentricity Back Surface
- Low Eccentricity Back Surface
- Translating Design
- Front Surface Asphere

Translating GP Multifocals

Selecting Seg Height
Selecting Seg Height

Goal: Just below lower pupil margin
Where to start?
1mm below geometric center of lens

\[
\begin{align*}
10.0 \text{ mm} & \div 2 = 5.0 \text{ mm} \\
-1.0 \text{ mm} & = 4.0 \text{ mm}
\end{align*}
\]

Over Specs for Computer

* Lenses compliments of Irving Yaross, OD (Chicago)
The Current Monovision Wearer

- Do you have difficulty with **night** driving?
- Do you have problems at **intermediate** distances?
- Do you have problems with **depth** perception?

Transitioning Monovision Wearers to Multifocals

- Most common challenge?
  - Distance vision
- Why?
  - Interference from the add
- Treatment strategy?
  - Reduce add in dominant eye
    - What's the lowest add? **NO ADD!**

The Emmetropic Presbyope

![Emmetropic Presbyope](image)
Feeling
Ever so
Enthusiastic
about pursuing
Success