


Nuances of Soft Multifocal Contact Lens Fitting


Dr. Thomas Quinn

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Welcome!




Host: Dr. Stephanie Woo

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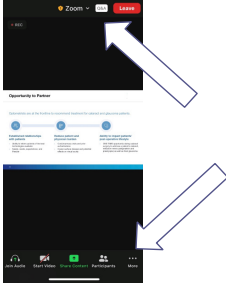
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- CE certificates will be emailed within 4 weeks**
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Speaker Bio Dr. Quinn and his wife, Dr. Susan Quinn, established a group practice in Athens, Ohio in 1983. He has served as chair of the American Optometric Association's Contact Lens and Cornea Section Council; he is a diplomate of the Cornea, Contact Lens and Refractive Technologies Section of the American Academy of Optometry; a fellow of the Scleral Lens Education Society; an advisor to the Gas Permeable Lens Institute (GPLI) and past recipient of its GP Lens Practitioner of the Year Award; is past chair of the EastWest Eye Conference and serves on the Educational Advisory Board for Vision Expo.

He was the 2019 Recipient of the American Academy of Optometry's Vincent Ellerbrock Clinician Educator Award.



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- STAPLE Program, speaking honorarium

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Art & Science: Complimentary Skills Sets



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MULTIFOCAL vs MONOVISION Let Science Speak

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MULTIFOCAL vs MONOVISION:

- MV vs Essential GP (Johnson, 2000)
75% preference for multifocal
- MV vs Acuvue Bifocal (Situ et al, 2003)
68% preference for multifocal
- MV vs Soflens MF (Richdale et al, 2006)
76% preference for multifocal
- MV vs Air Optix Aqua MF (Woods et al, 2015)
51% preference for multifocal
37% preference for monovision
12% didn't like either

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"That's not been my experience"

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MULTIFOCAL vs MONOVISION:

- MV vs Acuvue Bifocal (Situ et al, 2003)
68% preference for multifocal
Issues with near vision in low light
- MV vs Soflens MF (Richdale et al, 2006)
76% preference for multifocal
Issues with near vision in low light

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Restaurant Tools

- Magnifiers
- Light
- Apps


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Setting the Stage for Success

- Know the science
 - Multifocals out-perform monovision: 7/10x
- Know the strengths and weaknesses
 - Freedom and functionality
 - Eg. Challenges at near in low light
- Prepare the pre-presbyopes

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Presbyopia is not a surprise!



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- Prepare the pre-presbyopes
- Fit them early

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 - Multifocals out-perform monovision: 7/10x
- Know the strengths and weaknesses
 - Challenges at near in low light
- Prepare the pre-presbyopes
- Fit them early
- Define success for your patient...

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The New Rules of the Vision Game

- Multiple tools
 - Magnification
 - Light
 - Apps

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The New Rules of the Vision Game

- Multiple tools
 - Magnification
 - Light
 - Apps
- Goal: “Meet most of your needs most of the time”



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Setting the Stage for Success

- Know the science
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- Prepare the pre-presbyopes
- Fit them early
- Define success for your patient...
...and yourself!

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What’s the best way to assess MF performance?

- Woods, J, et al (2009)
 - Assessed both objective and subjective results/ratings
 - ➔ • **Objective testing (exam room)**
 - Monovision “best performer” for high- and low-contrast near vision tests
 - ➔ • **Subjective ratings (“real world”)**
 - Monovision “lowest performer”
 - Multifocal contact lenses “highest performer” in areas such as: Night driving, television, computer

Woods, J. et al. "Early Symptomatic Presbyopes – What Correction Modality Works Best?" *Eye & Contact Lens* 2009;5: 221 – 226.

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Key Phrases in MF CL Fitting

- “My goal is to meet MOST of your visual needs MOST of the time”
- “Fitting is a process”

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Key Phrases in MF CL Fitting

- “My goal is to meet MOST of your visual needs MOST of the time”
- “Fitting is a process”
- “The visual system needs time to adapt”

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Adaptation to Multifocal Optics

- Sheedy et al, Optom Vis Sci, June 1993
 - Noted significant improvement in complex task performance with concentric bifocal lenses
 - No improvement with monovision
- Pappas et al, Eye Contact Lens, May 2009
 - Assess performance of 88 subjects at dispensing and after 4 days of wear
 - “Early assessment is relatively unrepresentative of performance later on during multifocal contact lens wear.”
- Fernandes et al, Optom Vis Sci, Mar 2013
 - Over 15 days, MF acuity at D and N *improved*
 - MV acuity remained the same or worsened

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Key Phrases in MF CL Fitting

- “My goal is to meet MOST of your visual needs MOST of the time”
- “Fitting is a process”
- “The visual system needs time to adapt”
- “Small changes can make a big difference”

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- “Light is your friend”

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- “My goal is to meet MOST of your visual needs MOST of the time”
- “Fitting is a process”
- “The visual system needs time to adapt”
- “Small changes can make a big difference”
- “Light is your friend”
- “These lenses are designed to work together”

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Examination Procedures and Techniques



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Tips on Assessing Vision

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Assessing Performance

- Scouting report
 - Open-ended questioning
- Real world environment
 - Lights up
 - Binocular conditions
 - Real world tasks
 - Loose lenses



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Check VAs

- Check binocular distance and near VAs
- Start with 20/40 letters
- Have the lights on
- Use real world tasks-phones/books
- If there are no complaints - Stop



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Tips on Troubleshooting Vision

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Troubleshooting Vision Complaints

- Always start with distance over-refraction using loose lenses
- Be generous with plus, stingy with minus
- Follow the fitting guide
- If NO complaints...
...don't change anything!



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B.A. - Secretary

- 47 yo, w, f
- Newly fit by another provider with DD MF
 - Blur at distance and near, esp. distance
- Reports wore a monthly replacement MF successfully before developing GPC

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B.A. - Secretary

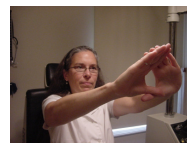
- Spectacle Rx
 - +4.00 DS +1.75 add
 - +3.50 DS +1.75 add
- CL Specs (DD MF center near asphere)
 - +4.50 Low
 - +4.50 High
- The Problem?
 - B.M. dominance testing
 - Sensory: OS
 - Sighting: OS



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Eye Dominance Testing

- Determine eye dominance
 - Sighting dominance
 - Sensory dominance



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Science says...

- Pointer J, J of Optom, (2012) 5, 52-55
 - Method:
 - 72 Emmetropes
 - Sighting method: hole in the card
 - Sensory method: +1.50 blur test
 - Results:
 - Right eye dominance
 - Sighting method: 71%
 - Sensory method: 54%
 - Laterality was in agreement only 50% of the time!

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Science says...

- Sighting Dominance
 - Little to no relationship with success with monovision ^{1,2}
- Sensory Dominance
 - Evidence suggests may be a better measure ^{3,4}

1. Shor C, Landsman L, Erickson P. Ocular dominance and the interocular suppression of blur in monovision, Am J Optom Physiol Opt. 1987 Oct; 64(10):723-30.
2. Erickson P, McGill EC. Role of visual acuity, stereoacuity, and ocular dominance in monovision patient success. Optom Vis Sci. 1992 Oct;69(10):761-4.
3. Robboy MW, Cox IG, Erickson P. Effects of sighting and sensory dominance on monovision high and low contrast visual acuity, CLAO J. 1990 Oct-Dec; 16(4):299-301
4. Collins MJ, Goode A. Interocular blur suppression and monovision, Acta Ophthalmol (Copenh) 1994; 72(3):376-80.

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M.M. - Physician

- 62 yo, w, m
- D/C GP MF due to dryness assoc. w/ RA
- Current Tx: Restasis, Omega 3, eyelid cleanser
- Interested in DD MF

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M.M. - Physician

- Keratometry: OD: 43.25/43.75 @ 098 OS: 44.00/43.50@121
- Spectacle Rx: OD: -3.75 -0.25 x 170 OS: -4.75 -0.75 x 100
+2.50 add +2.50 add
- OD dominant (sighting;sensory?)
- DD Options:
 - 1st attempt: MF OU → blur at near
 - Push plus non-dominant OS: blur persists
 - 2nd attempt: MF OD, SV toric OS set for near → blur at intermediate
 - 3rd attempt: MF OD, SV toric OS set for intermediate → blur at near
 - 4th attempt: MF OD biased near, SV toric OS for distance
 - **BINGO!**

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Blur Tolerance Test

- Line up patient behind phoropter with best corrected Rx
- Both eyes open through the entire procedure
- Instruct patient to report when they first detect blur
- Introduce plus in +0.25 D steps until the patient reports blur
- Reset phoropter to best corrected Rx
- Repeat adding plus to the other eye until patient reports blur
- Calculate difference between findings for right and left eyes

Quinn TG, The Blur Tolerance Test, Contact Lens Spectrum, 34(3), March 2019

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 - **BINGO!**

Plus to blur:
OD +0.75, OS +0.75

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B.A. - Secretary

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 - +3.50 DS +1.75 add
- CL Specs (DD MF center near asphere)
 - +4.50 Low
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- The Problem?
 - B.M. dominance testing
 - Sighting: OS
 - Sensory: OS

Plus to blur:
OD +1.50, OS +0.50

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Blur Tolerance Test

N=16 subjects

67% agreement between sensory and sighting dominance

Thomas Quinn, OD, MS
Shane Foster, OD
Rachel LeFebvre, OD
Heather Van Law, OD

Minimal ← Importance of Dominance → Profound

Quinn TG, The Blur Tolerance Test, Contact Lens Spectrum, 34(3), March 2019

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The Importance of the Tear Film in Multifocal Contact Lens Performance

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Assessing the Tear Film

- Subjective symptoms
- Tear quality
- Tear quantity
- Inflammation?

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Questionnaires

How do your eyes:
1. Look?
2. See?
3. Feel?

Simpson, Trefford L., et al. *Dry Eye Symptoms Assessed by Four Questionnaires* Optometry & Vision Science. 85(8):E692-E699, August 2008.

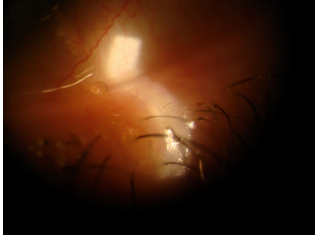
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Tear Quality

- Break-Up Time (BUT)

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Eyelid Examination



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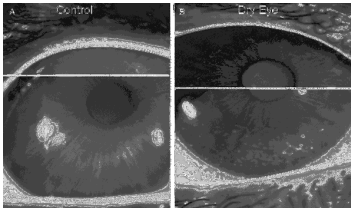


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Tear Quantity

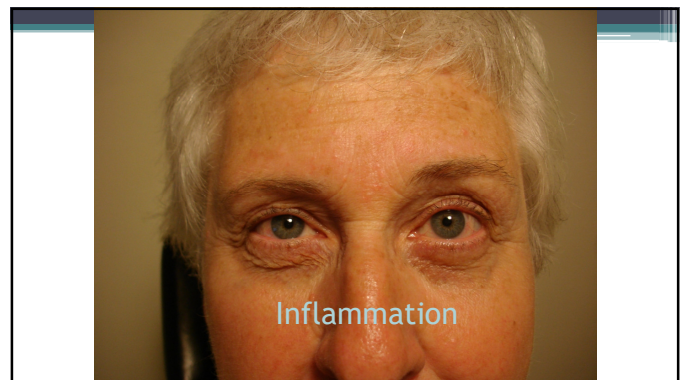
- Thin tear meniscus

- Recommended by DEWS II as best way to measure tear volume
- Sharma and Gupta: Identifying severe dry eye (Sjogren's Syndrome)



Harrison, Wendy, *Menisci and Fullness of the Blink in Dry Eye*
Optometry and Vision Science: Volume 85(8)August 2008pp 706-714

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Treating Tear Film Issues

- Quality Issue
 - Cleaning
 - Heat
 - Orals
 - Fish oil
 - doxycycline
- Quantity Issue
 - Anti-inflammatory drops (ie. Restasis, Xidra, steroid, etc.)
 - Punctal plugs
 - Googles
- Both!

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Lens Care and Comfort

- End-of-Day Comfort Scores¹:
 - MPS (both groups) 7.7 ± 1.7
 - H2O2 7.7 ± 1.8
 - Daily Disposable 8.5 ± 1.7 * Statistically significant
- Solution Effects on CL Surface²
 - MPS and H2O2-based solutions impact surface roughness

1. de la Jara, PL et al. **Effect of lens care systems on the clinical performance of a contact lens**, *Optom. & Vis Sci* April 2013;90(4):344-350.

2. Lira M. **Surface roughness and refractive index changes in contact lens induced by lens care systems** *Eye Contact Lens*. 2014 May;40(3):140-7

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Presbyopes & Daily Disposables

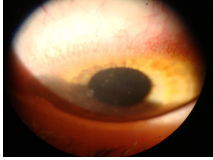
- Great for part-time wear
- Convenience
- Presbyopes have dry eye issues
 - ↳ Dry eyes lead to lens coating
 - ↳ Dirty lenses are responsible for many contact lens problems



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Contact Lens Safety

- Incidence of CIEs:
 - DD vs Reusable:
 - 12.5 X less likely with DD¹
 - DD SiHy vs DD Hyd:
 - SiHy DD: 0.4%
 - Hyd DD: 0%



¹Chalmers, Robin L. et al, Multicenter Case-Control Study of the Role of Lens Materials and Care Products on the Development of Corneal Infiltrates, *Optometry & Vision Science*, 89(3):316-325, March 2012.

² Chalmers RL et al, Rates of Adverse Events With Hydrogel and Silicone Hydrogel Daily Disposable Lenses in a Large Post Market Surveillance Registry: The TEMPO Registry, *Invest Ophthalmol Vis Sci*, 2015 Jan 8;56(1):654-63

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When is enough...enough.

- You've confirmed the Rx
 - ↳ Always confirm distance Rx first
- 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"

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Thank you! Please join us for our next Great Contact Lens Event Series

DR. SUSAN RESNICK
COURSE: DAILY DISPOSABLE UPDATE: INNOVATIONS IN MATERIALS, DESIGN AND APPLICATIONS
 DATE: FEBRUARY 17, 2022

WOO UNIVERSITY

TITLE: THE GREAT CONTACT LENS EVENT

Date: February 17, 2022
 Time: 5:30 PM – 6:30 PM Pacific Time
 Speaker: Dr. Susan Resnick
 Topic: Daily Disposable Update: Innovations in Materials, Design and Applications
 COPE: One hour live CE

DR. SHALU PAL
TITLE: THE TRICKS OF THE TRADE WITH TORICS
 COURSE: TRICKS OF THE TRADE WITH TORICS
 DATE: FEBRUARY 24, 2022

WOO UNIVERSITY

Date: February 24, 2022
 Time: 5:30 PM – 6:30 PM Pacific Time
 Speaker: Dr. Shalu Pal
 Topic: Tricks of the Trade with Torics: Improving Efficiency and Success
 COPE: One hour live CE

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