Multifocal Contact Lens Patient Selection, Fitting and Problem-Solving

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Acknowledge Dr. Ed Bennett's contributions

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Growth of Multifocals from Contact Lens Spectrum 1/2024 2023-2024 CONTACT LENS FITS & REFITS BY LENS DESIGNS 2024 2023 2024 20

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Presbyopic Market

- Baby Boomers born between 1946-1964
- Generation X born between 1965-1980 (45-60 yo)
- Millennials 1981-1996 (29-44 yo)
- In 2023, about 25% of US population was between 45-64 years of age and 18% over 65 years
- About 35% of contact lens wearers are over 40 years of age
- Most CL wearers between 35-55 have worn CL's majority of their life
- Information generated online by A

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Contact Lens Spectrum 1/2024 To the property of the property

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Presbyopic Market

- Steady growth of multifocals
- Surpassed monovision
- Presbyopes are in their peak earning period
- Knowledge of multifocal contact lenses is limited
- More tech savvy, desire high technology
- Want information
- Fit early
- Untapped market (<10% of patients report MFCL mentioned)

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Benefits of Fitting Multifocals

- It's fun
- · Patients need it and want it
- Differentiates yourself from other practitioners
- Improves Patient retention and loyalty
- Happy patients
- Referrals

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• More revenue

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Contact Lens Alternatives for Presbyopia

- Single Vision/Reading Spectacles
- Monovision
- Bifocals/ Multifocals

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What's wrong with Monovision?

- No longer the standard of care
- Depth Perception/Stereoacuity loss
- Suppression and Increase in anisometropia
- Contrast Sensitivity/Vision Loss
- Issues with Night Driving/Liability
- Headaches/Fatigue
- Limited Intermediate Vision
- Halos & Glare

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Patient Selection

- Current contact lens wearers
- New presbyopes-Educate early
- Motivated presbyopes
- · Occasional wearers
- · Sports and fitness fans
- · Outdoor enthusiasts
- Avoid those who want 20/10 at all distances or won't take time to adapt

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Research Results

- 75% who completed study preferred multifocals Johnson J, et al; Multivision Vs. Monovision: A comparative study: presented at CLAO, Feb, 2000
- GP & soft MF wearers exhibited highest contrast sensitivity, high and low contrast acuity and least disability glare than monovision Rajagopolan As, et al; Visual Performance of
- Almost 70% preference for MF over monovisionmore "usable vision" Benjamin W, Comparing multifocals and monovision. Cont Lens Spectrum 2007;22:35-39.

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Be Enthusiastic!

- Avoid negative comments
- Instill confidence
- •Believe in MF, so your patient will believe in them

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Explore the Patient's Visual Environment

- Hobbies
- Occupation
- Everyday tasks
- What do they want the lenses for?
- What are the primary tasks?
- What are the near, intermediate and distance tasks?

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Prefit Evaluation

- Evaluate the tears, cornea and lid
- Evaluate the anterior and posterior health
- · Current refraction and add
- K values
- Dominant Eye
- Pupil Size
- HVID

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• Lower Lid position

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Patient Communication

- · Setting expectations
- · Under-promise and Over-deliver
- · Watch your words
- Aiming for visual balance that provides good vision at all distances

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Determining the Dominant Eye







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Educate

- Longer fitting process possible-multiple visits
- Some adaptation required
- · Share success stories
- Fits most of the needs most of the time
- Educate about the design
- Make them a partner in the process
- Try "real world" environment- not 20/20
- Cover fees

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Silicone Hydrogel Soft Multifocals **Examples**

- Air Optix Plus Hydraglyde Multifocal, Dailies Total 1, Total 30
- PureVision MF, PureVision 2 for Presbyopia, Ultra for Presbyopia, Ultra MF for Astigmatism, Infuse
- Biofinity MF, Clariti 1 day MF 3 add, Biofinity MF Toric, MyDay MF
- Acuvue Oasys MF, Acuvue Oasys Max MF 1 day MF, AV Max 1day MF for astigmatism

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Silicone Hydrogel Multifocals **Definitive material Examples**

- NaturaSOFT MF
- Intelliwave Pro PMF & Toric
- Metrofocal Definitive and Toric
- · Flexlens MF

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Specialty powers, more parameters

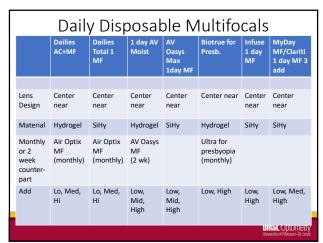
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Hydrogel Soft Multifocals Examples

(not all inclusive)

- Dailies AC+ MF
- Biotrue 1 day for Presbyopia
- ProclearMultifocal, Proclear 1 day MF
- 1 day AV Moist MF
- Naturalvue MF 1 day
- Miru 1 Day UpSide MF
- SpecialEyes MF

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Fitting Tips

- Understand the designs
- Know the materials and replacement schedules
- Follow the fitting guides
- Don't jump from design to design



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Fitting Tips

- Low Rx or emmetropes less successful
- ≤ 0.75D astigmatism or use toric multifocal
- Start with best corrected sphere, vertexed back
- Current refraction and add
- Dominant eye
- Consider D/C monovision before fit

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Fitting Tips

- Use normal room illumination
- Use least minus/most plus Rx
- Let lenses settle 10-20 minutes
- Hand-held trial over-refraction
- Change power in small 0.25 steps
- Start with 20/40 letters



Early Presbyope uncorrected and corrected

Established Presbyope uncorrected and corrected

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Fitting Tips

- Assess vision binocularly
- Over-refract monocularly with both eyes open
- Use everyday reading material
- Dispense trials
- Follow-up in 2 weeks-Allow the patient to adapt
- \bullet It is okay to have less than 20/20 VA



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Checking Near Vision
Use good illumination with real world materials



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Center Near Designs

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Air Optix plus Hydraglyde or Total 30 Multifocal

- Monthly replacement SiHy
- Daily or Extended wear up to 6 nights
- 3 add powers (Lo, Med, Hi)
- Center near
- BCR 8.6, Powers +6 to -10

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Example: Dailies Total 1 Multifocal Rx -1.50, OS -2.00-0.50X180, Add +1.75 OD Dominant Eye Initial Trial lens selection





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Dailies Aquacomfort Plus Multifocal & Dailies Total 1 Multifocal

 Same design in the daily disposable hydrogel and silicone hydrogel

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Ultra for Presbyopia and Ultra for Astigmatism Multifocal

- BCR 8.5, Power +6 to -10, Toric +4 to -6, 3 cyl. powers & around the clock correction
- Monthly, daily wear/extended wear
- 2 add powers Low and High
- Same design as PV 2 for Presbyopia
- Dk/t 163, 46% water content

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Lens Selection Fitting Guide

Spectacle Add	Both eyes
<u><</u> +1.25	Lo
+1.50 to +2.00	Med
+2.25 to +2.50	High

- Distance Rx should be spherical equivalent, vertexed corrected, and push plus
- Add +0.25D to each eye

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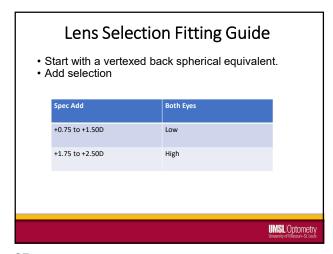
Biotrue for Presbyopia & Infuse 1 day MF

- Daily disposable Biotrue Hydrogel/Infuse SiHy
- · Low & high adds
- Same design as other MF by the same company

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Acuvue Multifocal Design

- Hydrogel- 1 day AV Moist MF
- Si Hy-AV Oasys Max 1 day MF and AV Oasys Max 1 day MF for Astigmatism

Low both eyes

Mid both eyes

Decrease add in dominant eye to enhance distance and Increase + in distance Rx

Mid Dom. Eye and High ND Eye

- Si Hy-AV Oasys MF
- UV Blocker; Max blue light filter
- Adds: Low, Mid & High

AV Multifocals

Spec Add

+0.75 to +1.25D

+1.50 to +1.75D

+2.00 to +2.50D

to enhance near

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MyDay Multifocal & Clariti 3 add MF

- Daily disposable Silicone
- UV blocking
- 3 adds: Low, Medium, High

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MyDay Multifocal
Lens Selection

Spec Add Dominant Eye Non-dominant eye
+0.75 to +1.25D Low Low
+1.50 to +1.75D Low Med
+2.00 to +2.50D Low High

Importance of using the Fitting Guide

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Comparing the Lens Selections for Spec Rx OD -1.50, OS -2.00-0.50 X180 Add +1.75, Dom. Eye OD DT1 MF -1.25 Med -2.00 Med Infuse 1 day MF -1.50 High -2.25 High MyDay MF -1.50 Low -2.25 Med AV Oasys Max MF -1.50 Mid -2.25 Mid

Biofinity Fitting Guide Spec Add Dominant Eye Non-dominant eve +1.00 & +1.50 D lens D lens +2.00 & +2.50 D lens N lens Check binocular and monocular vision **UMSL** Optometry

Center Distance Designs

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*Center Distance Designs also used for Myopia Control

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Biofinity Multifocal

- Monthly replacement Si Hy
- 4 add powers (+1.00, +1.50, +2.00, +2.50)
- Center Distance and Center Near lens

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Biofinity MF Case

OD -2.50 OU, Add +2.00

OD dominant eye

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OD lens -2.50 D lens +2.00 add

OS lens -2.50 N lens +2.00 add

Distance VA OD 20/20, OS 20/20, OU 20/20

Troubleshooting:

Option 1 modify distance vision by adding +/-0.25 to eye

that needs improvement

Option 2 Increase the add power to the eye that needs improvement

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Emerging Presbyopes

Case -44yo, previous soft lens distance only wearer Currently taking glasses off to see near

Refraction OD -2.25-0.50X150 Add +1.25 Dominant

OS -2.75-0.25X15 Add +1.25

Biofinity MF OD -2.50 Add +1.00 D lens

OS -2.75 Add +1.50 D lens

VA 20/20+ OU distance, 20/20 OU Near

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Biofinity MF Toric

- -0.75 to -5.75 cyl in 0.50 steps
- 5 degree increments
- 4 add powers

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NaturalVue Multifocal 1 day

- Uses extended depth of focus
- Add up to +3.00
- · Daily disposable hydrogel

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To order

- Patient's up-to-date Rx
- Add

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- · Keratometry readings
- Dominant eye
- Online calculator or call consultants

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General MF Troubleshooting

- Poor distance VA Add minus by 0.25 steps to dominant eye only &/or decrease add dominant eye
- Poor near VA Add plus by 0.25 steps to non-dom eye &/or increase add non-dominant eye
- If \geq 0.50D change is required in distance may need to alter add powers
- Use flippers for Over-refraction

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Online Calculators or apps

- Almost every soft and GP MF lens manufacturer provides online calculators or apps to help you select or trouble-shoot your fit.
- Check it out on their website

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Troubleshooting Soft MF

- Address distance problem first
- Confirm dominant eye (especially if VA's don't meet expected values)
- Always recheck VA with an OR at distance & near
- Monocular acuities are useful for determining which lens may need to be altered
- Change power in small 0.25 steps
- Use the lowest add possible -Round down
- It is okay to use unequal adds

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Fitting Tip Summary

- If vision is good, sent them away to adapt!
- Don't make too many changes the first day
- Don't jump from material to material
- Use trial lenses
- Be positive!

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Benefits of a GP MF

- Good vision
- Ocular Health
- Astigmatic correction
- Applications in dry eye management with sclerals

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Follow Up Visit

- Make sure they are adapting and wearing the lenses
- Ask how it is going, listen, but don't make changes if not needed.
- Use the fitting guide to make changes
- Continue to be positive!

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Types of Lenses

- Corneal GP
- Scleral

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• Hybrid

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Gas Permeable Bifocals/Multifocals

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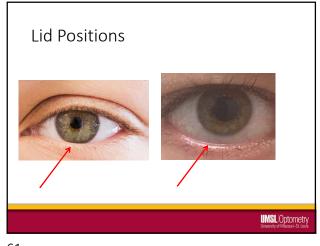
Before you fit:

- Check pupil size
- Tear film
- Lower lid position and tightness
- Dominant Eye
- Current Refraction and add
- Keratometry readings
- HVID

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Aspheric GP MF

- Very popular
- Plasma treatment and Hydrapeg help with dryness
- Higher Add powers now available
- · Lower eccentricity lens designs
- Translation?

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 Eccentricity (rate of flattening) is the change in curvature of the lens to provide an increase in plus power. As the eccentricity increases, greater effective add powers can be achieved.

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GP MF Lens Designs

- · Aspheric multifocal
- · Translating Segmented

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Aspheric translation

Courtesy Dr. Bennett

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Lens Designs

Aspheric Design

- Increase in plus toward the periphery (Center distance)
- Fit steeper than K
- Simultaneous Vision
- Additional near power can be added to front surface

Translating Design

- Prism ballasted or truncated
- Sits on or near lower lid
- Lower lid pushes near portion into pupillary zone
- Increased Chair time
- Near Seg

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Good candidates for Aspheric GP MF

- Any add power
- Computer use
- Athletes
- Low lower lid and/or loose lids
- Small-average pupil size
- Very critical vision is not essential

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Aspheric MF Fitting

- Good design to start with as easy to fit with manufacturer's fitting guides
- Should center with limited movement on blink (Center distance)
- Many times fit empirical
- Use your lab consultants
- For front surface aspherics fit on flat K to steep
- For back surface aspherics fit 1-1.5D steeper than flat K



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Aspheric MF lenses

- · No Trial set required
- Contact Lab consultant or use online calculator
- Be sure to provide patient data (i.e., K's, refraction, add, etc.)

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Topographic Changes with Posterior Aspheric Lens Designs

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Front Surface Aspheric MF Lens Examples (not all inclusive)

Benefits of Front Surface Aspheric MF

• Optically can provide about 0.37D greater add than

• Variable add powers to meet patient's needs, often

times these changes make the center distance zone

• Avoids back surface molding

smaller with increase add power

back surface

- MagniClear
- Renovation
- Naturalens Progressive
- Reclaim (combo mild asphericity on back surface with progressive MF zone on front surface
- Tangent Streak AAA
- Solitaire

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Front Surface Aspheric Online Calculator

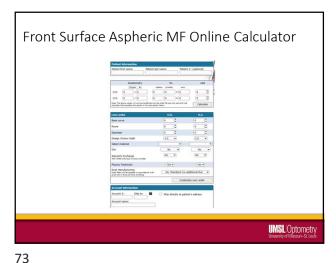
-200 Front Primary -200 Front Primary -200 -200 Front Primary -200 Front Front -200 Fron

Single Lens Design
Base Curve: 8.15

Diameter: 9.50 Distance Power: -2.00 Add Power: +2.50

CALCULATE

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Aspheric Troubleshooting

- · Decentration or excessive movement
 - Steeper BCR
 - · Or increase diameter
- Poor near vision
 - Increase add (Some offer higher adds)
 - Increase plus in non-dominant eye (modified monovision)
 - Increase diameter

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Back Surface Aspheric MF lens examples

(not all inclusive)

- Metro Progressive
- VFL 3
- Tangent Streak no-line
- Boston Multivision

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Translating Bifocal

- Prism Ballasted & sometimes Truncated
- · Crescent/Executive Seg
- · High Dk Material
- Near image moves in front of pupil with downgaze
- Typically rests on or near the lower lid
- Seg line at lower pupil margin

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Evaluating the lens similar to Soft MF

- Let it settle like a soft MF
- Simultaneous vision
- Check vision binocularly
- Normal illuminationAdaptation period
- Use cell phone, continuous text, magazines, books for near vision
- Use trial lenses over the eye with reduced vision

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Good candidates for translating bifocal

- Critical vision demands
- Any add powers (high add/limited intermediate)
- · Some do have an intermediate zone
- · Lower lid near limbus/good tonicity
- When an Aspheric does not center

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Translating Design Examples

- Tangent Streak
- Solution
- Metro-Seg
- Solitaire
- Bi-Expert
- Llevation

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Keys to Translation Position of lower lid should be close to limbus Seg line at lower pupil margin Evaluate translation in downward gaze

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Combination-Aspheric back with segmented front

- Essential Solution
- Expert Progressive
- EZ Eyes Multifocal

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Translating Troubleshooting

- Excessive rotation
- Flatten BCR
- Increase prism
- Seg fits too high
 - Lower seg heightIncrease prism
- Poor translation
 - Flatten BCR
 - Increase prism
 - Increase truncation
- Blur at distance
 - Lens sits high Increase prism
 - Decrease seg height
 - Lens sits low Increase OAD
- Blur at near
 - Increase seg height too low
 - Not translating
 - Excessive rotation (Flatten
 - BC) &/or increase prism
 - Patient dropping head down not eyes

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Translating fit Courtesy of Truform Optics UMSL Optometry Unerstyn of Million-24 Lab

Troubleshooting Translating Bifocal • Excessive Rotation • Flatten BCR by 0.5D • Increase prism by 0.5PD Courtesy Dr. Bennett

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Troubleshooting Translating

- · Lens Sitting too high
 - Increase prism by 0.5PD
 - Flatten BCR 0.5D



Courtesy Dr. Bennett

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Fitting tips

- Multifocals experience about 80% success rate (soft or GP)
- Use a topical anesthetic with GP
- Order warranted and educate the patient on need for follow-ups
- Use your consultants-they will help you and help you be a better fitter

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Blur at Distance

- · Lens too high: Increase prism
- · Lens too low: Increase OAD
- · Seg Height is too high
- · Excessive movement
- SMILE

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Courtesy Dr. Bennett

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Scleral MF Candidates

- Irregular corneas
- Dry eyes
- Refractive Surgery patients
- · Lens stability issues
- Corneal GP intolerance-Patients that need better vision and like the comfort of sclerals
- May need some tweaking, so not a quick process

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Blur at Near

- Seg height too low
- No translation
- Patient drops head to read, not eyes
- · Excessive lens rotation

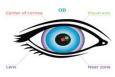


Courtesy Dr. Bennett

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Scleral Multifocals

- Most are Center Near
- The benefits of a scleral, quadrant specific designs, custom diameter, base curve, power, toric, etc.
- Aspheric or concentric designs
- Custom aligned optics



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Hybrid MF Candidates

- Inability to adapt to corneal GP's
- Astigmatic presbyopes
- Hyper Dk GP center
- High Dk SiHy skirt

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Duette Progressive Contact Lens

Skirt Determination – Ideal Fit

- · Distance power
 - Spherical portion (not spherical equivalent)
 - tear lens compensation: SAM, FAP • Vertex if greater power than +/- 4.00D
- Add Power

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 Based on patient's age and refraction

Pt. Age	Spec Add	Lens Add
40-45	<u><</u> +1.50	+1.00
46-55	+1.75 to +2.25	+1.75
56 and above	≥+2.50	+2.50

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Hybrid Multifocal

- Duette Progressive Contact Lens (Also have older version Duette Multifocal)
 - · Base Curves: 7.1 to 8.3 in 0.1 increments
 - 40.75D to 47.50D
 - Up-to-date refraction and keratometry
 - Initial lens based on flattest corneal curvature
 - 0.50D steeper than flat K
 - Soft skirt initially 8.4 (Flat) (Also has 8.1 medium and 8.7 Flat 2)
 - Use calculator (Need K readings, HVID, Refraction and add)

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Hybrid Multifocal

- Center Distance and Center Near
- Fit empirically
- Typically use CD for Emerging Presbyope, Moderate Presbyope- CD or CN and Absolute Presbyope CN
- · No need for diagnostic set

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Duette Progressive Contact Lens

- · Troubleshooting:
 - Lens centration ghosting or halos if decentered
 - Reorder with the 8.1 radius skirt to center lens
 - Lens Movement Tight lens <0.50mm movement • Reorder with the 8.7 radius skirt to increase movement
 - Over-refraction with +/-0.25D trial lenses
 - Same over-refraction rules apply to previously mentioned multifocal lenses

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IN SUMMARY

Presbyopes represent the greatest opportunity for contact lens practice growth

Improve the quality of their life
Success may not be defined by your expectations

