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## Tricks of the Trade with Torics: Improving Efficiency and Success

Dr. Shalu Pal


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## WELCOME!



Host: Dr. Ariel Cerenzie

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## Thank you to CooperVision for supporting this event with an unrestricted educational grant.

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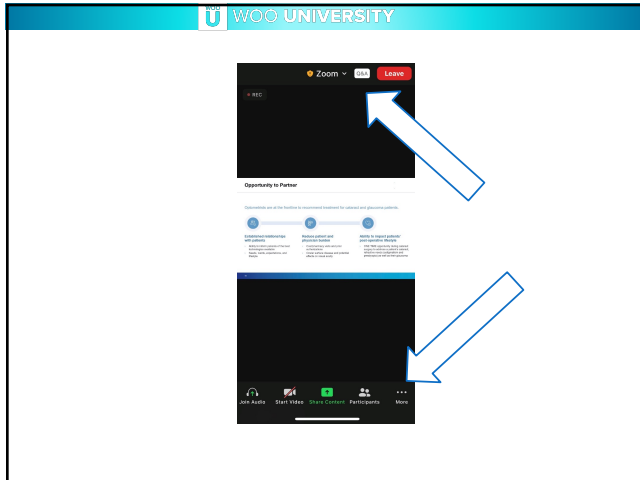
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**Speaker Bio**

Dr. Shalu Pal graduated from the Southern California College of Optometry, completed her Contact Lens, Cornea and Disease Residency at Northeastern State University Oklahoma College of Optometry. Dr. Pal is a member of the Global Myopia Symposium planning committee, an advisory board member for the Global Council of Myopia Management and an editorial advisor for the Review of Myopia Management. Dr. Pal is the co-editor for the newsletter Mastering Myopia. She is a member of the research study group – Myopia in Practice. Dr. Pal is a member of the New Technology Committee for the American Academy of Optometry and the past Chair of the American Optometric Association, Contact Lens and Cornea Section. She is a board member of the Canadian Association of Optometrist, Cornea and Contact Lens Section and a co-founder of the Canadian Contact Lens Academy which is hosting the first national contact lens meeting in Toronto, Canada. She is a member of the Continuing education committee for the Ontario Association of Optometrists, an advisor for the Association of ophthalmic education and Latin Americas. She is the global ambassador for GLOW.



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**Financial Disclosures**

Honorarium received as a speaker and advisory board member

- Alcon
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- Gas Permeable Lens Institute
- J&J Vision
- Labtician
- Menicon
- Novartis
- Paragon Biotech
- Santen
- Scleral Lens Education Society
- Shire
- SightGlass
- Sjogren's Society Foundation
- STAPLE program
- Sun Pharma
- Truform

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**Course Objectives**

- The Basics**
- Identify Candidates**
- Importance of Communication**
- Lens Designs**
- Fitting Soft Toric Lenses**
- Troubleshooting Issues**
- GPs and Scleral Torics**



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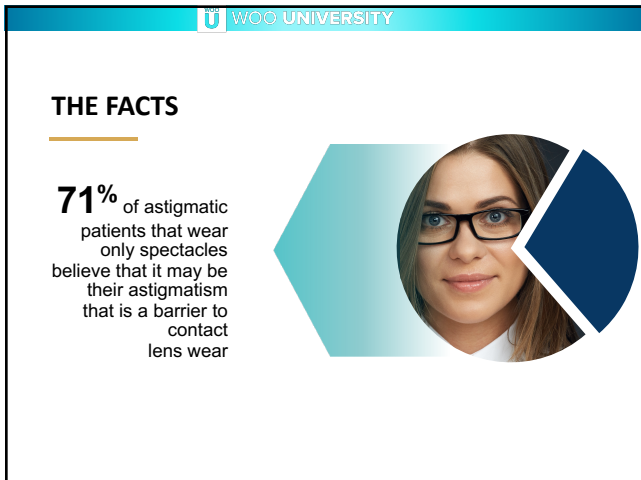
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## THE FACTS


- 1/3 of all potential CL wearers require a toric lens
- 28% of soft lenses prescribed were toric lenses
- 65% of toric contact lens wearers drop out of lenses in the first year

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## THE FACTS

Reasons For Discontinuing Toric Lens Wear



- 43% Discomfort
- 26% Dryness
- 24% Vision Problems

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## The Hesitation



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## What is the problem

Doctor's Perception on Torics:

- Believe toric lenses don't work
- Believe toric lenses fluctuate too much
- Less comfortable
- Increase chair time that they don't have
- Increase cost that patients won't want to pay for
- Easier to mask 0.75 D to 1.25D of cylinder

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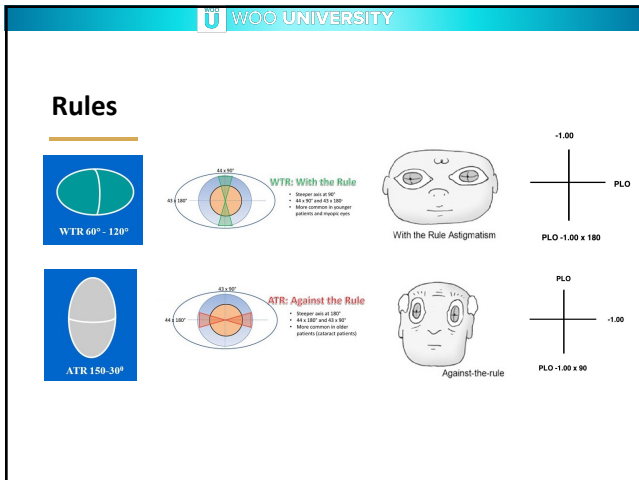
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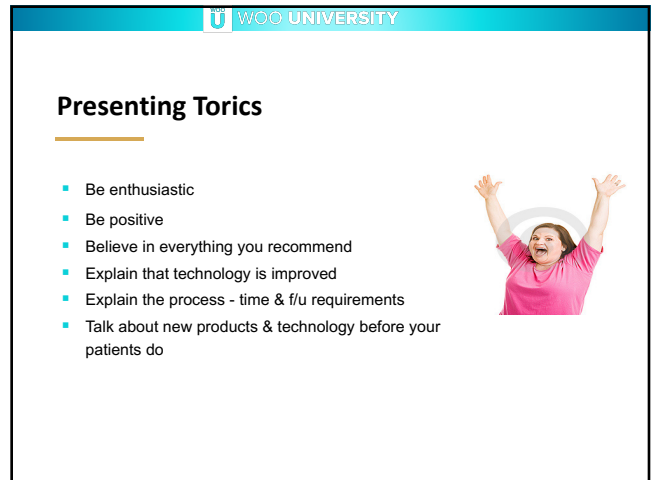
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## Fitting Fees



An illustration showing a hand in a black suit sleeve holding a white money bag with the word 'Fees' written on it in green. Another hand is shown below, palm up, as if receiving or offering the bag. The background is a solid blue color.

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## The Discovery



An abstract graphic featuring flowing blue waves and a pattern of small blue dots that fade into the background. The text 'The Discovery' is written in a black, cursive font across the top of the waves.

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## Lifestyle

- What kind of work do you do?
- What do you do in your spare time?
- What hobbies do you have?
- Do you swim?
- Do you take naps during the day?
- How many hours on a computer?
- Is life stressful? How busy are you?
- How clean/organized are you?

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## Needs & Wants

- Why do you want contact lenses?
- When do you want to wear contacts?
- Do you want to wear them everyday?
- Do you want them for special occasions?
- How many hours a day do you want to wear the lenses?
- Do you want to sleep in lenses?
- Do you want colored lenses?
- Is there a specific brand you want?



A close-up photograph of a human eye, showing the iris and eyelashes. The eye is looking slightly to the right.

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## Health

- Do you have any medical conditions?
- Are you taking any medications?
- Are you taking any vitamins?
- Do you have any allergies?
- Do you suffer from dry eyes?
- Are your eyes red, sore, gritty?
- Do you put any drops in your eyes?



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## The Past

- What brand of lenses are you wearing?
- What brand of lenses have you tried before?
- How often are you replacing your lenses?
- What type of solution are you using?
- Describe your cleaning routine?
- Are you happy with your lenses?
- Why did you stop using lenses?
- If you could improve your lenses what would you change?

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## Soft Toric Designs



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## So Many Designs - Why?



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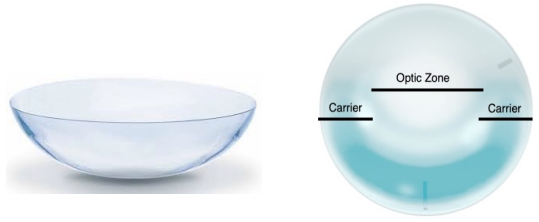
## How Lenses are Different

- Material
- Modulus
- Breathability
- Coefficient of friction
- Wettability
- Base curve
- Diameter
- Thickness
- Optic zone size
- Edge design
- Prismatic design
- Modality
- UV protection
- Parameter Availability

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## Sphere vs Toric

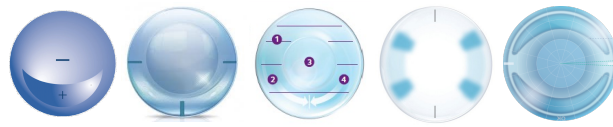


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## Differences among Toric Lenses

Thick and Thin Areas



Prism Ballast    Peri-Ballast    Uniform Thickness    Stabilization    Dual Thin Zone

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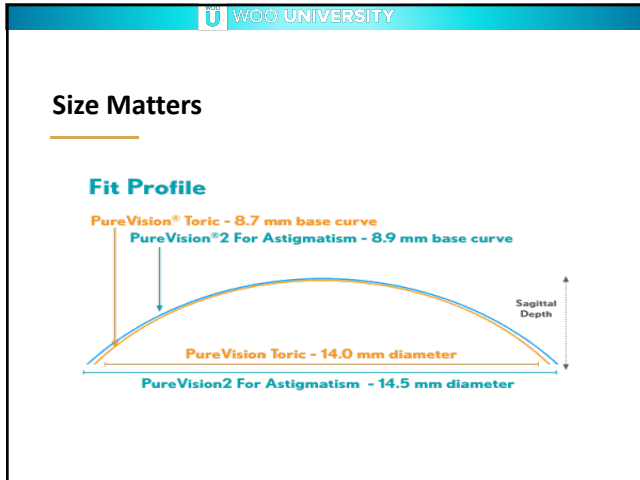
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## Toric Lens Brands

<p><b>Daily</b></p> <ul style="list-style-type: none"> <li>DACP</li> <li>1 day Acuvue Moist</li> <li>1 day Acuvue Oasys</li> <li>Clarity 1 day</li> <li>Biotrue One Day</li> <li>Clear Sight 1 Day</li> <li>Softlens Daily</li> <li>MyDay Toric</li> </ul>	<p><b>Monthly</b></p> <ul style="list-style-type: none"> <li>Acuvue Advance</li> <li>Air Optix/Hydraglyde</li> <li>Air Optix N&amp;D</li> <li>Proclear</li> <li>Biofinity XR</li> <li>Acuvue Vita</li> <li>Purevision 1&amp;2</li> <li>Ultra</li> <li>Extreme H20</li> <li>C-Vue</li> <li>Definitive</li> <li>Frequency 55</li> </ul>	<p><b>Quarterly</b></p> <ul style="list-style-type: none"> <li>Alden</li> <li>Hdrasoft</li> <li>Intelliwave sphere</li> <li>NaturaSOFT</li> <li>Preference</li> </ul> <p><b>Annual</b></p> <ul style="list-style-type: none"> <li>FlexLens</li> <li>Alden Lenses</li> <li>Biocurve</li> <li>Horizon</li> <li>Kontur</li> <li>Metrolite</li> <li>Optima 38</li> <li>SpecialEyes</li> </ul>
<p><b>2 Week</b></p> <ul style="list-style-type: none"> <li>Acuvue Oasys</li> </ul>		

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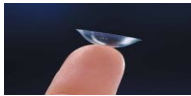


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## Toric Lens Candidates

- Refractive considerations
  - Amount of Astigmatism present  $\geq 0.75D$
  - Typical Ranges -0.75D, -1.25D, -1.75D, -2.25D  
Custom greater than -2.75D cyl
  - Extended ranges up to -5.25D cyl
- Unacceptable vision with spherical contact lenses
- Previous Contact Lens wearer




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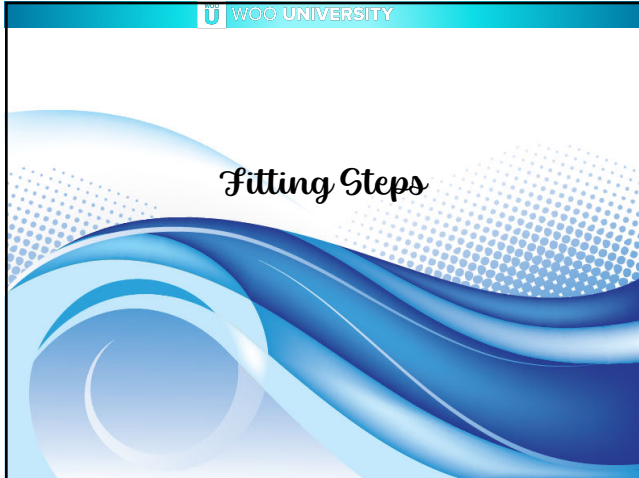
## Toric Lens Candidates

- What about 0.50D?
- 71% of low astigmats (0.75 to 1.25D) prefer soft toric lenses over spheres (Dabkowski et al, 1992)



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A slide titled "Step 1: Get an Accurate Refraction" with a blue header. It includes a bulleted list of instructions and a small image of a person's face with a retinoscope.

**Step 1: Get an Accurate Refraction**

**\*\*\* Most important Step \*\*\***  
Never use an old Rx or someone else's Rx

- No More Minus Power than necessary
- No More Cyl Power than necessary
  - Balance
  - Plus Build Up
- Trial Frame Test

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A slide titled "Step 2: Determine Your Modality" with a blue header. It includes a bulleted list of factors for lens design and an image of a calendar.

**Step 2: Determine Your 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

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A slide titled "Step 3: Vertex" with a blue header. It includes a bulleted list of vertexing instructions and a diagram of a cross with numerical values.

**Step 3: Vertex**

**Don't forget to Vertex both meridians**

- Spectacle Rx: -5.25-1.75 x 180
- Vertixed -5.00 -1.50 x 180
- Dx Lens -5.00 -1.25 x 180

-7.00 → -6.50  
-5.25 → -5.00

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## Step 4: Choose an initial Lens

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## Diagnostic Lens Set

**Diagnostic Kits**  
**Limited Parameters**

- Sphere come in 0.50D steps
- Limited Plus if any provided
- Cyl -0.75D, -1.25D, -1.75,
- Cyl -2.25D sometimes avail
- Axes 10° to 180° (10° steps)
- Common Axes 10°, 20°, 70°, 80°, 90°, 100°, 110°, 160°, 170°, 180°



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## Lens Parameter Selection

**Cylinder axis**

- What if the axis is between two axes?
- Select closer to major meridian

**Cylinder power**

- What if the exact cylinder power isn't available?
- Choose the lower option

**Sphere power**

- What if the exact sphere power isn't available?
- Undercorrect, especially presbyopes

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## Lens Parameter Availability

Calculated Contact Lens Power	What is available to be ordered in toric lenses	What is available in the diagnostic set for a trial fitting
-4.25 -1.50 x 175	-4.25 -1.25 x 180	-4.00 -1.25 x 180
-7.25 -1.75 x 095	-7.00 -1.75 x 090	-7.00 -1.75 x 090
+1.25 -1.00 x 025	+1.25 -0.75 x 020	Plano -0.75 x 020

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## Missing your lens??

Trial Lens Wanted:  
-4.50 -1.25 x 130

What to choose if  
the lens is missing?



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## Compensating for what is missing!

**Try to match the cylinder axis first**

- Incorrect cylinder will create the most distortion in vision
- You **CAN NOT** change axis power with loose lenses easily

**Match the cylinder power next**

- Choose a lower cyl power to avoid distortion
- You can add cylinder loose lenses over top

**Choose the sphere power last**

- Choose a lower minus sphere/more plus power
- You can add minus sphere loose lenses over top

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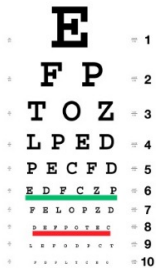
## Step 5: Check Vision

**If vision is great**

- Quick Loose lens over refraction
- Push Plus
- Done

**If vision is poor**

- Check the fit




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## Step 6: Assess the Fit

**Key things to Assess:**

- Movement
  - On blink
  - Lag - Right and left drag
  - Sag - Upward drag
  - Push up test
- Centration
- Coverage
- Rotation
- Stability



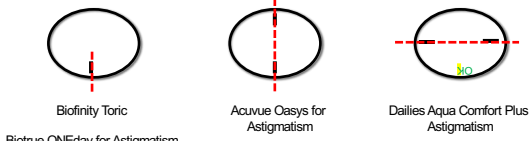
\*\*\* Give it a minute to settle! \*\*\*\*

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## Toric Markings



Biofinity Toric  
Biotrue ONEday for Astigmatism

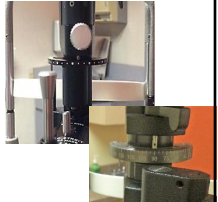
Acuvue Oasys for Astigmatism

Dailies Aqua Comfort Plus Astigmatism

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## Rotation Assessment

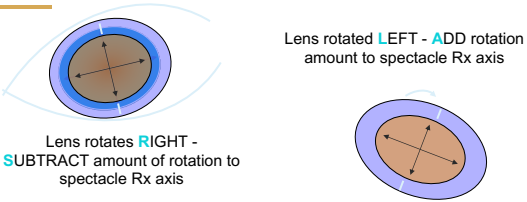


- Allow for lens settling
- Rotate slit lamp beam to measure rotation
- Rotation is judged from fitter's view point
  - Use 6 o'clock as reference point
- Measure amount and **stability of rotation**
  - 1 clock hour is roughly 30 degrees
  - 30 degrees or more consider refit

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## LARS:



Lens rotated **LEFT** - **ADD** rotation amount to spectacle Rx axis

Lens rotates **RIGHT** - **SUBTRACT** amount of rotation to spectacle Rx axis

- Measure from the Fitters Perspective
- Rotation must be stable when using LARS
- The rotation does not change with a LARS adjustment

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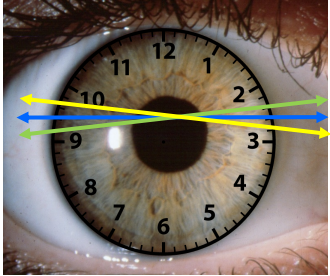
## Rotation vs Misalignment

Refraction:  $-3.00 -1.00 \times 175$  (YELLOW)

Dx Lens:  $-3.00 -0.75 \times 180$ ; 0° rotation (BLUE)  
• 5° misalignment from x175

If Same lens; 5° Right rotation (GREEN)  
• 10° misalignment from x 175

Dx Lens:  $-3.00 -0.75 \times 170$ ;  
• LARS - 5° subtract from original rx  
• Will still rotate to the right 5°  
• 0 degrees misalignment (Yellow)




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## Why do lenses Rotate?

- Eye Lids
  - Top lid - vertical movement of lens
  - Bottom lid - vertical & horizontal movement of lens
- Allergies
- Dry Eyes
- Deposits - hygiene
- GPC – evert lids & check




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## Step 7: Over Refraction

- Loose Lenses only
- If the patient is happy don't do more work
- NO Phoroptors unless you need to
- Cross cyl calculators
  - Lensometer
  - Eyedock.com
  - Rightcontact.com
  - Opticalc – iPhone app



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## Summary of Tips




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## Fitting Tips

- Be positive and confident with your recommendation
- Use your own data
- Vertex
- Choose Axis, Cyl, Power – lower power and major meridians
- Stability is important
- Let the lens settle
- Evaluate fit if vision is off



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## Fitting Tips

- Only use LARS if you have a vision problem
- Products are great not much work to do
- No phoropter OR – loose lenses are enough
- Order a lens if you don't have it – wow moment
- If a patient is happy, vision is good, no harm to the cornea – Stop
- There is always a lens – Don't get frustrated or give up
- Charge for your time

Helpful Tips

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## Troubleshooting

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## Patient Problems

Reasons For Discontinuing Toric Lens Wear

Reason	Percentage
Discomfort	43%
Dryness	26%
Vision Problems	24%

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## Dryness is a bigger Issue

- Computer use, weather, contact lens use
- Itchiness, irritation, discomfort redness, soreness blurry vision, pain
- CL patients don't tell us out of fear of us taking away their lenses

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## The Solution

- Good products
- Add a drop on day one
- Talk about dryness on day one
- Probe for problems – fear of lenses taken away
- Change their perception of CL comfort and expectation

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## Burning

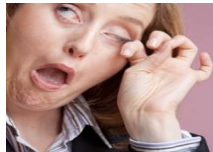
- Solution use
  - Reaction to solution
  - The rubbing step
- Dirty hands / fingers / creams/purell
- Water or soap on hands
- OSD - Dry eye or allergies
- Tight lens



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## Gritty Scratchy Feeling

- Debris under lens
- Torn lens – tear is not at the edge
- Ocular Surface Disease
  - Dry Eyes
  - Allergies
  - More complex
- Poor wetting lens surface



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## Lens Awareness – When?

- Solutions reaction (initial)
- Hygiene issues hands or lens (initial)
- I/R Poor Technique (initial)
- Poor fit
  - too tight (end of day)
  - loose (initial/all day)
- Dryness (end of day/All day)
- Lens inside out (initial/all Day)
- Defective edge (initial/all day)
- Tear in lens (initial/All day)




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## Blurry Vision

- THE FIT
- Constant or intermittent? Clears after a blink?
  - Tear film or rotation
- Lens switched
- Increased accommodation demand at near
- Loose lens causing decentration
- Debris on lens (oil from fingers)
- Lens rotation
- Lens inside out



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## General Troubleshooting Areas to check

- Look at the fit
- Look at the lens design
- Look at the cornea health & lids
- Think about solutions/products
- Think about hygiene
- Think about health
- A defective lens is possible

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## Other Lens Options



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## Custom Toric Options


- Custom Soft lenses – independent labs
- Gas Permeable lenses
- Scleral lenses

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## GP Toric Fitting

- Fitting Strategies
  - Diagnostic Lens fitting
    - Fittings set
  - Empirical ordering
    - Rx
    - K's
    - HVID
    - Topos
  - Designing a lens from scratch

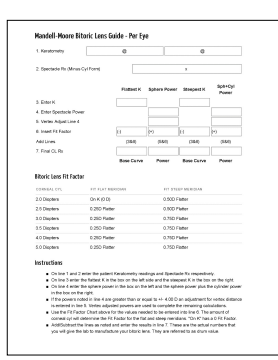



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## GP Torics

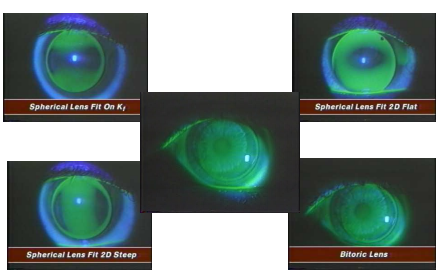
- Aspheric
  - When to use?
- Bitorics
  - Mandell-Moore

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## GP's and Astigmatism – Why Bitorics?

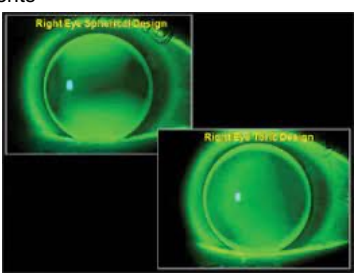


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## Bitoric Case

- Spectacle Rx
  - 4.00 – 4.00 x 180
- Corneal Measurements
  - 42.50 @180
  - 46.00 @ 90



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**Mandell – Moore Bitoric Guide**

Mandell – Moore Bitoric Guide – Per Eye

1) Keratometry

2) Spec Rx (Minus Cyl)

Flattest K	Sphere Power	Steepest K	Sph+ Cyl Power

3) Enter K

4) Enter Spectacle Power

5) Vertex Adjust Line 4

6) Insert Fit Factor

Add Lines

3 & 6	5 & 6	3 & 6	5 & 6
-------	-------	-------	-------

7) Final CL Rx

Corneal Cyl	Fit Flat Meridian	Fit Steep Meridian
2.0 Diopters	On K (0 D)	0.50D Flatter
2.5 Diopters	0.25D Flatter	0.50D Flatter
3.0 Diopters	0.25D Flatter	0.75D Flatter
3.5 Diopters	0.25D Flatter	0.75D Flatter
4.0 Diopters	0.25D Flatter	0.75D Flatter
5.0 Diopters	0.25D Flatter	0.75D Flatter

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**Steps 1 – 4**

Mandell – Moore Bitoric Guide – Per Eye

1) Keratometry

42.50 @180	46.00 @90
------------	-----------

2) Spec Rx (Minus Cyl)

-4.00 -4.00 x 180			
Flattest K	Sphere Power	Steepest K	Sph+ Cyl Power
42.50		46.00	
	-4.00		-8.00

3) Enter K

4) Enter Spectacle Power

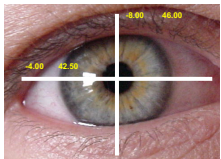
5) Vertex Adjust Line 4

6) Insert FR Factor

Add Lines

3 & 6	5 & 6	3 & 6	5 & 6
-------	-------	-------	-------

7) Final CL Rx



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**Step 5 - Vertex**

Mandell – Moore Bitoric Guide – Per Eye

1) Keratometry

42.50 @180	46.00 @90
------------	-----------

2) Spec Rx (Minus Cyl)

-4.00 -4.00 x 180			
Flattest K	Sphere Power	Steepest K	Sph+ Cyl Power
42.50		46.00	
	-4.00		-8.00

3) Enter K

4) Enter Spectacle Power

5) Vertex Adjust Line 4

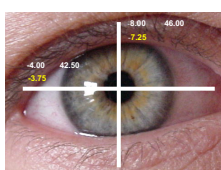
	-3.75		-7.25
--	-------	--	-------

6) Insert Fit Factor

Add Lines

3 & 6	5 & 6	3 & 6	5 & 6
-------	-------	-------	-------

7) Final CL Rx



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**Step 6 - Fit Factor**

Mandell – Moore Bitoric Guide – Per Eye

1) Keratometry

42.50 @180	46.00 @90
------------	-----------

2) Spec Rx (Minus Cyl)

-4.00 -4.00 x 180			
Flattest K	Sphere Power	Steepest K	Sph+ Cyl Power
42.50		46.00	
	-4.00		-8.00

3) Enter K

4) Enter Spectacle Power

5) Vertex Adjust Line 4

	-3.75		-7.25
--	-------	--	-------

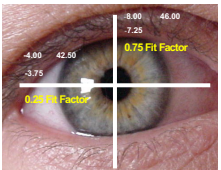
6) Insert Fit Factor

(+) 0.25	(+) 0.25	(+) 0.75	(+) 0.75
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Add Lines

3 & 6	5 & 6	3 & 6	5 & 6
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7) Final CL Rx



Corneal Cyl	Fit Flat	Fit Steep
2.0 Diopters	On K (0 D)	0.50D Flatter
2.5 Diopters	0.25D Flatter	0.50D Flatter
3.0 Diopters	0.25D Flatter	0.75D Flatter
3.5 Diopters	0.25D Flatter	0.75D Flatter
4.0 Diopters	0.25D Flatter	0.75D Flatter
5.0 Diopters	0.25D Flatter	0.75D Flatter

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**Step 7 - +/- Fit Factor**

Mandell – Moore Bitoric Guide – Per Eye				
1) Keratometry	42.50 @180		46.00 @90	
2) Spec Rx (Minus Cyl)	-4.00 -0.50 x 180			
	Flattest K	Sphere Power	Steepest K	Sph+Qof Power
3) Enter K	42.50		46.00	
4) Enter Spectacle Power	-4.00		-8.00	
5) Vertex Adjust Line 4	-3.75		-7.25	
6) Insert Fit Factor	(-) 0.25	(+) 0.25	(-) 0.75	(+) 0.75
Add Lines	3 & 6	5 & 6	3 & 6	5 & 6
7) Final CL Rx	42.25	-3.50	45.25	-6.50

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**Scleral Torics**

**Toric Optics**

- Front surface torics
- For vision
- Residual Astigmatism

**Toric Curves**

- Peripheral curves
- Better fit
- Better comfort

**Scleral Lens Fit**

Fix the spherical fit first  
Make sure you have stability  
If no rotation add the front toric

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**Scleral Torics**

**Toric Optics**

- Front surface toric design
- For sharper vision
- Residual astigmatism

**Toric Curves**

- Peripheral Curves
- For better fit
- For better comfort
- For better centration

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**Scleral Torics**

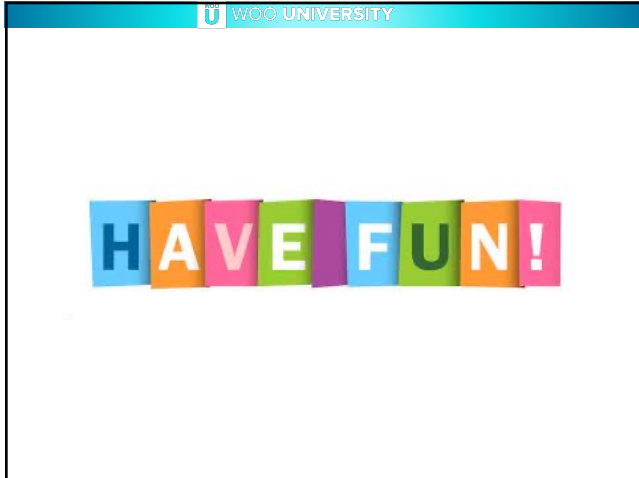
**Fitting tips**

- 1<sup>st</sup> Perfect the fit
  - Minimal movement
  - Minimal rotation
  - Good centration
  - Good comfort
- 2<sup>nd</sup> Check flexure
  - K's over lens
  - More than 0.75D of flex can cause residual astigmatism
  - Thicken the lens
- 3<sup>rd</sup> Add front surface toric optics

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# Woo University



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A presentation slide with a teal header containing the Woo University logo and the text 'WOO UNIVERSITY'. The main content features the text 'Thank you! Please join us for our last Great Contact Lens Event Series' in black and teal. Below this is a circular inset photo of Dr. Jennifer Stewart. To the right of the photo is a large image of a human eye. Text to the right of the eye provides event details: 'Date: March 3, 2022', 'Time: 5:30 PM – 6:30 PM Pacific Time', 'Speaker: Dr. Jennifer Stewart', 'Topic: Supercharge Your Contact Lens Sales', and 'COPE: One hour live CE'. Below the eye image is a small text block: 'DR. JENNIFER STEWART', 'TITLE: THE GREAT CONTACT LENS EVENT', 'COURSE: SUPERCHARGE YOUR CONTACT LENS SALES', and 'Date: March 3, 2022'. At the bottom, a teal banner contains the text 'Visit WooU.org for a full list of upcoming CE events!' and three social media icons: Facebook (WooU2), Instagram (Woo\_University), and LinkedIn (WooUniversity).

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