

49th

ECLSO

European Contact Lens and
Ocular Surface Congress

EUROPEAN CONGRESS
ON MYOPIA CONTROL

2 - 3
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Novotel Tour Eiffel

Paris - France



Speaker's name : Dr. Gabriela Seher

I do not have any potential conflict of interest

Is it hard to fit soft torics? Soft torics for beginners?

DR. GABRIELA SEHER

FACHÄRZTIN FÜR AUGENHEILKUNDE UND OPTOMETRIE

ALLG. BEF. UND GERICHTL. ZERTIF. SACHVERSTÄNDIGF

MARGARETENPLATZ 2/31

1050 WIEN




DIE AUGENÄRZTIN
IM SCHLOSSQUADRAT



Answer:
Sometimes it is ...

Most of the time it is easy
So don't worry, just do it!

Basics

- Optimal refraction: Best in comparison with refraction in cycloplegia, corneal topography or keratometry results and corneal diameter
- Patient still needs glasses for safety ! 
- Anamnesis: Wishes of the patient !
- Ocular surface → Check the tearfilm

Do we always need to use soft torics, couldn't we use simply spherics?


- When using glasses we would never leave the cylinder uncorrected!
 - 0,75c uncorrected = 1 line vision loss
- But: up to max. 0,75c – note the **spherical equivalent!**
 - E.g.: -0,75c = -0,5c 90° / -1,0s
- **Tip: Use thicker materials!**

Calculate CL power for soft torics

- Refraction -- Considering the Corneal Vertex Distance (HSA) = CL power
- Use tables/formulas published in the internet or available by your industry partner
- Also important: morphology of the eyelids and corneal diameter

<https://linsenrechner.de/node/19>

HSA-Kalkulator

Spectacle values 

Eye	add. ct.	ylh. ct.	dist.	W. H. X.
R	<input type="text"/>	<input type="text"/>	<input type="text"/>	11mm ▾
L	<input type="text"/>	<input type="text"/>	<input type="text"/>	11mm ▾

Time is money!

HSA-Umrechnungstabelle

Brillenwert: MINUS				Brillenwert: PLUS			
Brille	12 mm	14 mm	16 mm	Brille	12 mm	14 mm	16 mm
4.00	3.82	3.79	3.78	4.00	4.20	4.24	4.27
4.25	4.04	4.01	3.99	4.25	4.48	4.52	4.56
4.50	4.27	4.23	4.20	4.50	4.76	4.81	4.85
4.75	4.49	4.45	4.41	4.75	5.04	5.09	5.14
5.00	4.72	4.67	4.63	5.00	5.32	5.38	5.43
5.25	4.94	4.89	4.84	5.25	5.60	5.67	5.73
5.50	5.16	5.11	5.06	5.50	5.88	5.96	6.03
5.75	5.38	5.32	5.27	5.75	6.16	6.25	6.33
6.00	5.60	5.54	5.48	6.00	6.44	6.54	6.64
6.25	5.81	5.75	5.68	6.25	6.72	6.83	6.94
6.50	6.03	5.97	5.89	6.50	7.00	7.12	7.25
6.75	6.24	6.17	6.09	6.75	7.28	7.41	7.57
7.00	6.46	6.38	6.29	7.00	7.56	7.70	7.88
7.25	6.67	6.59	6.50	7.25	7.84	8.00	8.20
7.50	6.88	6.79	6.70	7.50	8.12	8.28	8.50
7.75	7.09	6.99	6.90	7.75	8.40	8.58	8.85
8.00	7.30	7.19	7.09	8.00	8.68	8.87	9.17
8.25	7.51	7.40	7.29	8.25	8.96	9.16	9.50
8.50	7.72	7.60	7.48	8.50	9.24	9.45	9.84
8.75	7.93	7.80	7.67	8.75	9.52	9.67	10.17
9.00	8.12	7.99	7.87	9.00	10.00	10.30	10.51
9.25	8.33	8.19	8.06	9.25	10.40	10.63	10.88
9.50	8.53	8.38	8.25	9.50	10.72	10.98	11.20
9.75	8.73	8.58	8.43	9.75	11.04	11.29	11.58
10.00	8.93	8.77	8.62	10.00	11.36	11.61	11.90
10.50	9.33	9.15	8.99	10.50	12.00	12.15	12.60
11.00	9.72	9.53	9.35	11.00	12.57	12.60	13.35
11.50	10.11	9.91	9.71	11.50	13.14	13.17	14.09
12.00	10.49	10.27	10.07	12.00	13.71	14.42	14.85
12.50	10.87	10.64	10.42	12.50	14.28	14.71	15.63
13.00	11.25	11.00	10.76	13.00	14.85	15.09	16.41
13.50	11.62	11.35	11.10	13.50	15.42	15.65	17.22
14.00	11.99	11.71	11.44	14.00	16.00	16.21	18.04
14.50	12.35	12.05	11.77	14.50	16.57	16.79	18.88
15.00	12.71	12.41	12.11	15.00	17.14	17.36	19.74
15.50	13.07	12.74	12.44	15.50	17.71	17.93	20.61
16.00	13.42	13.07	12.76	16.00	18.28	18.52	21.51
16.50	13.77	13.40	13.08	16.50	18.85	19.11	22.42
17.00	14.12	13.73	13.39	17.00	19.42	19.70	23.35
17.50	14.46	14.06	13.67	17.50	20.00	20.30	24.31
18.00	14.80	14.38	13.96	18.00	20.57	20.90	25.28
18.50	15.14	14.69	14.27	18.50	21.14	21.50	26.28
19.00	15.47	15.01	14.57	19.00	21.71	22.10	27.30
19.50	15.80	15.32	14.86	19.50	22.28	22.70	28.34
20.00	16.13	15.62	15.15	20.00	22.85	23.29	29.41

Next Decision

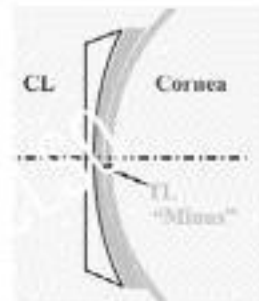
- Daily, weekly or monthly change?
 - Individual CL – 3 months, 6 months, 1-year?
 - Benefit - customer retention!
- Depends on the extent of astigmatism and of corneal shape (base curve and corneal diameter)
- Especially young patients love daily and monthly CL
 - Because: it is easier, less expensive and losing a CL is not a drama
 - Drawback: customers get lost to internet shopping or competitors
 - Tip: Use private labels!
- But: we cannot offer daily and monthly CL in all parameters
 - Because: up to 2,25D and -12,0D and over +6,0D there is very little choice → switch to individual CL

Explanation

- Non-individual CL use average parameters for the CL
 - Most common base curve: 8,6 (less common: 8,4 or 8,9 ...)
 - Most common corneal diameter: 13,0-14,0 mm
- Average base curve of (caucasian) cornea: 7,7-8,2 mm
- Average corneal diameter (caucasian): ~ 12 mm
- Diameter of the CL should be 0,7-1,0 added to the average of the corneal base curve
- The CL should tower about 1 mm over the limbus
- E.g.: Corneal base curve: 7,8 or 8,0 and corneal diameter 12,0 mm → CL morphology: 8,6 base curve and 14,0 CL diameter
 - **CAVE:** this is only a hint, not a rule! (There are a lot of individual features not covered!)
 - **CAVE:** morphology, tension of the lids, shape and condition of the limbus

How does the soft toric lens work?

- Rigid CL: astigmatism is corrected by tearfilm under CL (max. 2,0Dptr)
- Soft CL: astigmatism must be included in the CL

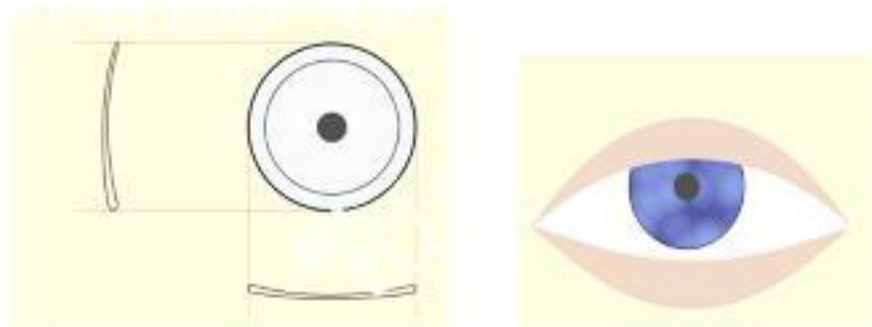


→ That's why soft torics are much more common than rigid torics!

How does the torus in the soft CL stabilize?

1. Prismatic stabilization: the heavy prism ballast in the lower part of the CL keeps the CL balanced

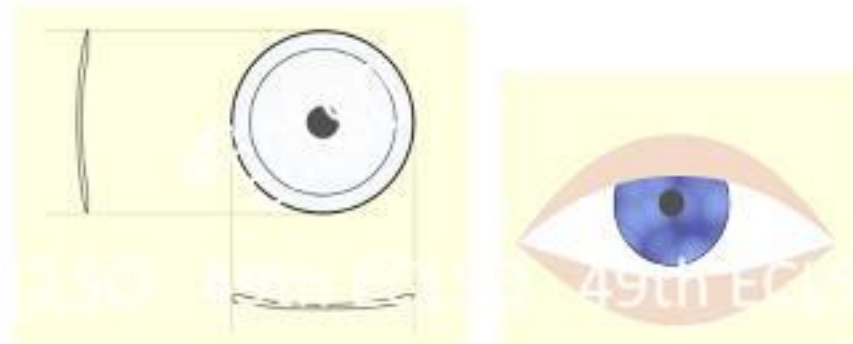
- Best used in soft lid pressure and in lower position of the lower lid



How does the torus in the soft CL stabilize?

2. Dynamic stabilization: the CL is thinner in the horizontal meridian. Following the pressure of the lids the CL stabilizes.

- Most changeable CL uses this system
- Best in higher lid pressure, smaller lid column or higher position of the lower lid



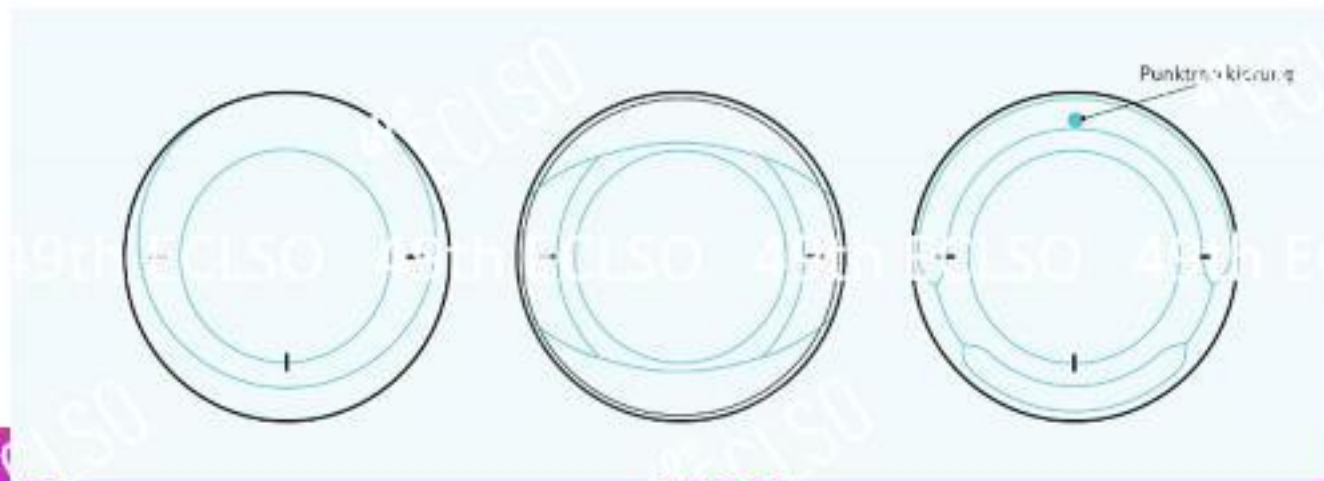
How does the torus in the soft CL stabilize?

3. Mixture of prismatic and dynamic stabilization

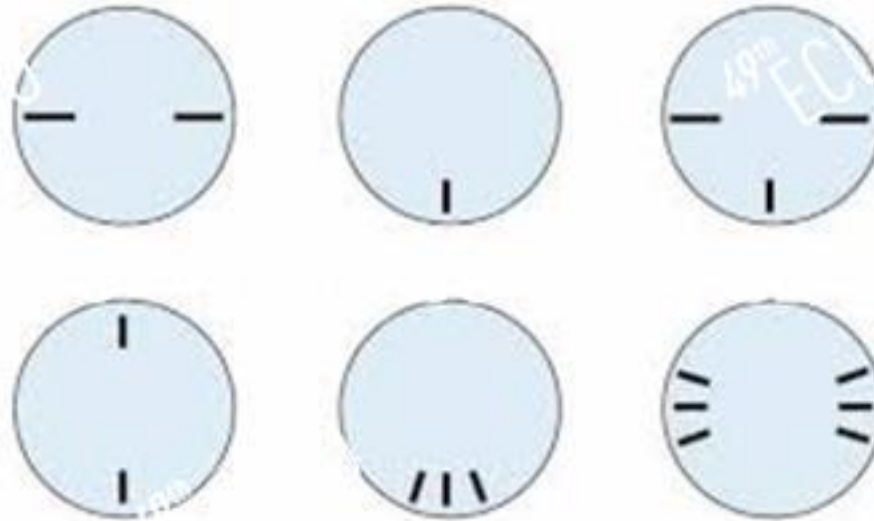


Markers

- Check the CL with the slit lamp
 - The CL has to move properly (as every soft CL) but the markers of the torus shall stabilize in 180°
- Position of the torus: Check axis with different markers




Other Markers



CAVE: Sometimes markers are difficult to find

Going back to our patient

1. Anamnesis, ophthalmological examination
2. Order the CL
3. Check the ordered CL → Be aware of „Murphy’s law“ 
4. Insert CL and wait 5 min. → Let the CL find the right position and give the patient time to get used to the CL
5. Ask the patient about comfort, subjective vision → if the patient is happy, you’re happy too



Going back to our patient

6. Check axis and fitting of the lens quickly on the slit lamp (do not dazzle the patient too long)
7. Check visual acuity – overrefraction
8. Decision: give CL to the patient or not

Troubleshooting

- Patient claims: feeling comfortable with the CL but vision is blurred 😞
- Check the axis
 - If it turns around like a „rotary“ and does not stabilize → Change the Morpholgy of the CL
 - If the lens does not move → Change the morpholgy of the CL
 - If the lens moves properly, but it stabilizes in a wrong axis → LARS Rule

?????

3 ° false axis → 10% resulting astigmatism in 45° to the primarily given axis



Complicated? **No!**

LARS Rule

Left Add, Right Subtract: If the lens rotates 10 degrees to your left (clockwise), then add 10 degrees to the patient's spectacle axis and vice versa for rotation to the right.

LARS Rule **Left Add, Right Subtract**

Example:

- Basis Refraction: $-3,00 / -1,75 \times 180$

- The CL turns 10° **left**
→ 180° **plus** 10° → 10°

- Calculate refraction: $-3,0s = -1,75c 10^\circ$



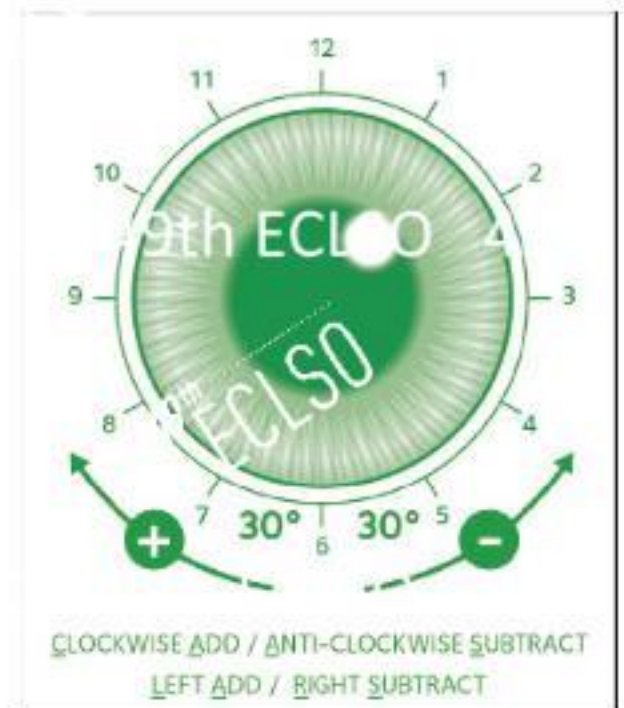
LARS Rule: Left Add, Right Subtract

Example:

- Basis refraction: $-0,75s = -0,75c 20^\circ$

→ Axis turns 30° right- anti clockwise →

→ Subtract! → $-0,75s = -0,75c 170^\circ$



LARS Rule

Still too complicated?

No time for calculating?

Find a formula that does your work!



Überrefraktion über torische Weichlinse

	Sphäre	Zylinder	Achse	Substanzwert
Kontaktlinse	<input type="text"/> dpt	<input type="text"/> dpt	<input type="text"/> °	<input type="text"/> °

ISO	Form	Material	Art	IPVA	Abbildung
49th ECLS	<input type="text"/> dpt	<input type="text"/> dpt	<input type="text"/> °	12	h...

Berechnen

E.g.: <https://linsenrechner.de/node/20>

LARS Rule

Other formulas

<https://toricalculator.coopervision.com/Calculator>

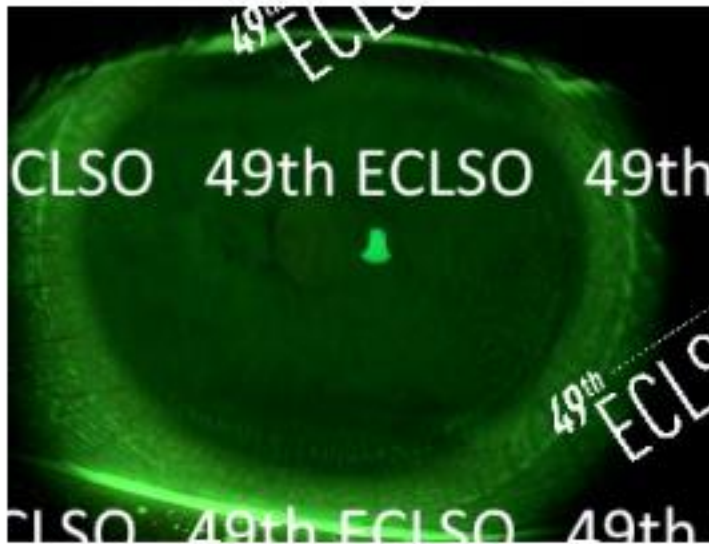
Or

<https://www.jnjvisioncare.at/astigmatismus-kalkulator>

Going back to our patient

1. Stay in contact with your patient while CL testing at home e.g. per mail
2. Check the patients cornea after some hours CL wearing - CL stress test
3. CL stress test also for patients with CLs from outside
4. Don't forget to calculate your fee for your competence

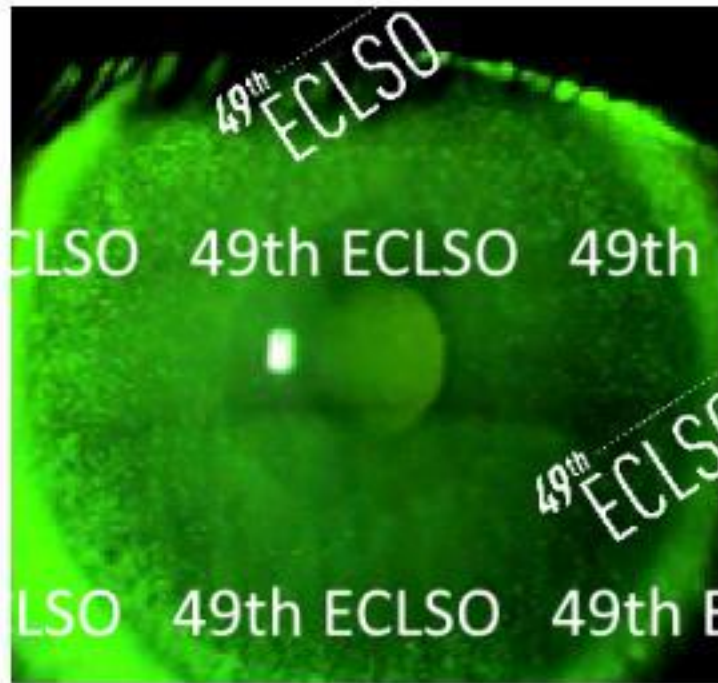
Contactlens stress test



Imprint of the CL - CL probably too steep, use flatter basecurve !

Use high molekular Fluorescein, normal Fluorescin ruins the CL!

Contactlens stress test



Corneal lesions are unacceptable

No colour should stain in the cornea!



Going back to our patient

1. Patient passed the CL stress test?
2. Patient is happy?
3. Order the lens and don't forget to sell the care product for the period required
4. Check the cornea and the refraction at least one a year!



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Thank you for
your attention

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