

Comparison of Number of Scleral Lenses and Final Parameters Based on Profilometry Calculated and Practitioner Selected Start Points

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Introduction

• Objective: To report on the number of trial lenses required to reach a finalized scleral lens (SL) by comparing the practitioner-derived (pSL) first lens order versus software-derived first lens order (rsPL) based on automated analysis of rasterstereography-based profilometry (RP).

Methods

- 3 patients (6 eyes) without corneal pathology were fit with SL (Blanchard, OneFit Med+, Manchester, NH) utilizing 2 techniques for the first lens order.
- The first was traditional selection based on SL fit guide and practitioner's experience for pSL.
- The second was the use of an online lens calculator (Blanchard, OneFit Online Calculator) for automated analysis of RP (Eaglet, ESP, Netherlands) data for initial rpSL.
- Once the first orders were received, diagnostic fitting was continued for each until finalized fitting parameters were achieved.
- The total number of lenses required to reach finalized SL was compared as well as the finalized pSL and rpSL parameters.



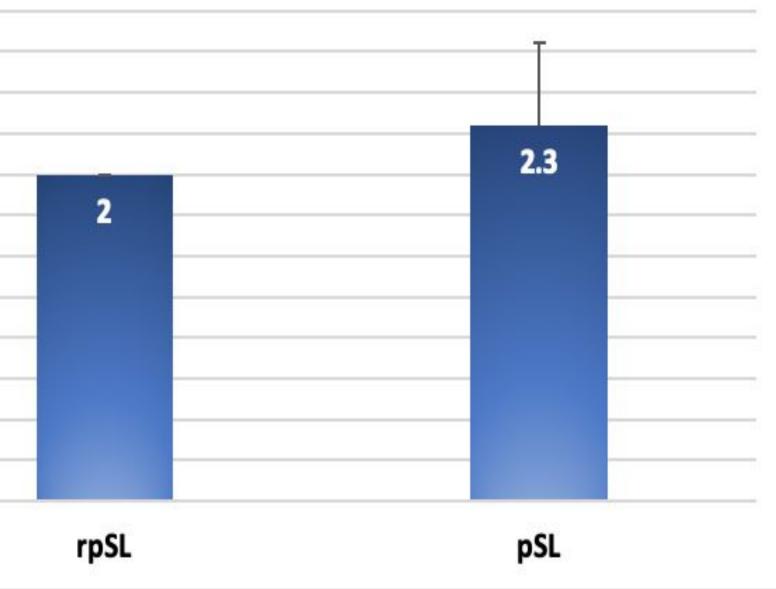
Difference

	SAG	Μ	L	0-180	90-270
Lens 1	50	0	0	0	50
Lens 2	0	0	25	25	0
Lens 3	0	50	50	0	50
Lens 4	100	75	100	50	0
Lens 5	50	25	50	25	25
Lens 6	50	50	25	50	0

Number of Lenses Required to Finalize

3	
2.75	
2.5	
2.25	
2	
1.75	
1.5	
1.25	
1	
0.75	
0.5	
0.25	
0	

es in Final rsSL and pSL Parameters (μ)	es in Fir	nal rsSL a	ind pSL	Parameters	(µ)
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- Final rpSL parameters varied from pSL by 20.8 ± 24.6 um (p = 0.48).
- For rpSL, 6 of 6 eyes were finalized in 2 lens orders and for pSL 4 of 6 were
- On average rpSL were fit in 2.0 ± 0.0 0.14).

- lenses than pSL.
- determine significance this data.

Gelles, JD has received research support, devices, or honoraria from Coopervision SEC and Eaglet. All other authors have no relevant financial disclosures.

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Results

 41.7 ± 37.6 um (p = 0.83) in total sag, 33.3 \pm 30.3 um (p = 0.5) in mid-peripheral corneal sag, 41.7 ± 34.2 um (p = 0.44) in limbal sag, edge at 000/180 was $25.0 \pm$ 22.4 um (p = 1), and edge at 090/270 was

finalized in 2 lenses and 2 of 6 in 3 lenses. lenses and pSL in 2.3 ± 0.5 lenses (p =

Conclusions

• On average, there was a trend toward a more predictable finalized rpSL, with fewer

This shows the potential for more efficient scleral lens fitting with lens calculation software and profilometry-derived data. Larger prospective studies are required to

Disclosures

References