Scleral Lens Education for the Para- Professional

James Deom OD, MPH, FAAO, FSLS
Scleral Lens Institute
Hazleton Eye Specialists and Stroudsburg Eye Specialists

Disclosures
• Valley Contax
• Allergan
• Biotissue
• Mibo Medical
• Physician Recommended Nutraceuticals

The rise, fall and rise again of the scleral lens and lab

• Early 1800s - first lens described in the medical literature
• Adolf Fick

• Mid 1900s – PMMA Corneal GP, improved ease of fitting

• Mid 1900s – RGP Material
• 1960/70 First soft lens
• 1990s first SiHi
The rise, fall and rise again of the scleral lens and lab

- 1970s first reports of scleral lenses produced of RGP materials
- Decades later computer assisted lathes and laser etching processes = modern day scleral lenses

Scleral lens Mania

Scleral Lens Mania: Current Contact Lens Education

- 2015 Optometry’s meeting
- 9 hours of non scleral CL
- 6 scleral workshops (4 student/2.5 hours 2 OD/2 hours) + 2 hours of education = 16 hours scleral education
- 2015 American Academy of Optometry
- 14 hours of non scleral CL

Current Contact lens trends

Scleral lens indications

- NONE

Scleral lens indications

- Irregular Cornea
- Keratocone
- Post RK
- High ammetropia
- Emmetrope with first time presbyopic need
- Soccer mom complaining of CLD
- Soft contact lens wearer that has fluctuation of vision with TSCL
- Corneal RGP persistant depositer
- Trichiasis patient
### Scleral Lens Indications

**What do you think?**

- Non healing corneal defect
- Sjogrens Syndrome
- Dry Eye Disease – Mild / Moderate / Severe
- Athlete
- Graft vs Host Disease
- Ectropion / Entropion
- Ptosis
- Ocular Cicitricial Pemphygoid

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### Scleral Indications:

**A home run every time**

- Keratoconus / Pellucid / Pterriens
  - <1% of the population, no gender, 13% appear hereditary, eye rubbing, atopy, allergy
- Post Lasik-Ectasia
  - Difficult to please and want a non optical solution but like new technology

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### Scleral Indications

**A home run every time**

- Irregular corneas
  - Post PKP, Will do anything for better vision
  - Post RK
- High Cylinder
  - Have been told cant have Cls or aren’t happy with SCLs

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### Scleral Lens Indications:

**More advanced applications**

- Lid Issues
  - protection / Correction
  - Entropion / ectropion / Ptosis / Recurrent Trichiasis

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### Scleral Lens Indications:

**More advanced applications**

- Dry Eye Disease/ Sjogrens / GVHD
  - more particular, treat the disease concurrently
- Normal Eyes
  - Comfort! Stablity, no lid interaction, 02, Fluid,
Scleral Lens Indications

• Severensky (2010) - retrospective study of referral center – 90% irregular cornea, 7% ocular surface disease, 3% were high Rx and astigmats unhappy with SCLs

What is a scleral lens?

<table>
<thead>
<tr>
<th>Lens Type</th>
<th>Description</th>
<th>Definition of Grafting Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornea-scleral</td>
<td>Less rests entirely on the cornea.</td>
<td></td>
</tr>
<tr>
<td>Scleral</td>
<td>Lens is up to three times larger than AJOH.</td>
<td></td>
</tr>
<tr>
<td>Large Scleral</td>
<td>Lens is more than three times larger than AJOH.</td>
<td></td>
</tr>
</tbody>
</table>

Rigid Gas permeable material

• Glass or plastic/polycarbonate?
• Rigid Gas permeable material vs silicon material

Rigid Gas Permeable Material

• SCLERA ..... Wrong
• Conjunctiva!
Vaults the ...  

CORNEA

Vaults the ...  

LIMBUS

Making it Perfect for ...

Case 1 – The Homerun
New patient no job, no insurance
Pellucid Marginal Degeneration.  
Wearing acuvue oasys for astigmatism – bcva 20/60 ou
Educated about condition, asked to show vision with Scleral, patient agreed.

OD - 20/20
OS - 20/20

Patient broke down in tears, and is on a monthly payment plan to pay for his.

The ultra super secret to successful Scleral lens practice

Insertion and Removal!!!!

• If you can do this by the end of the day even moderately well you can start your practice with this on Monday
Lens prep

- Most lenses are stored dry
- Boston conditioner / Menicon unique pH—scrub 1 minute, MPS rinse
- If beading occurs remove lens – rinse with MPS again

Lens Prep

- Place the lens on your Insertion tool of choice

Patient Prep

- Positive terms
- Awareness, refreshing, cooling, blink and look normally, avoid anesthetic if possible
- Paper towels or surgical mats on patient’s lap and in their shirt
Head lock of scleral love

Insertion tricks

- Proparacaine
- Wiggle your toes
- Fixation point
- BE QUICK, CONFIDENT AND POSITIVE —— Patients smell fear
Removal

1. DMV Assisted
2. Finger method

Removal

• DMV assisted

Removal

• Finger method

Insertion and removal teach

• Same as SCL, technician led, in and out two times

• Have them watch insertion and removal videos in week prior to dispense

https://www.youtube.com/watch?v=P0xO9bZsTNs
https://www.youtube.com/watch?v=9fTAW_HAN2Y
https://www.youtube.com/watch?v=WvgPNn585-Y

Scleral Lens Institute at Hazleton Eye Specialists
Custom Stable Protocol

Visit 1
Initial evaluation and fit with fitting set
Exam, fit, topo spec mic, pachy, ant seg photos—WOW factor

Visit 2 and 3 same day
Dispense ordered size and RX – VAS, SLE, Ant Seg, Photos
Return after 2 or more hours of wear, observe clarity of solution, corneal impingement, Nafl disappearance test
Lenses are dispensed or reordered

2 week follow up –
topo, spec mic, pachy, eye top, pupils conf field, over ref, ant seg photos
- One month
- Three Month
- Three, four or six month
Whose got the Bill-ing?

- Not a billing and coding lecture
- Billing and Coding is very important in a successful practice.
- Embrace the medical model and view Ocular Surface Disease and other corneal conditions ie KCN — Like Glaucoma

Example 1-KCN

New Keratoconic Patient

- 99214 – E and M level 4
- 92015 – Refraction
- 92285 – External photography
- 76514 – Pachymetry
- 92025 – Corneal topography
- 92286 – Specular Microscopy
- 92072 – Prescribing for Keratoconus
- V2531 – Scleral Lens
- V2531 – Scleral Lens

Time to be a doctor!

- Bullet proof 5 step scleral lens evaluation and prescribing technique

A 5 step program

1. Blue light evaluation – gross observation special attention

A 5 step program

2. Evaluate the vault, central to peripheral Nasal and temporal

Pearls: It won't be the same throughout, goal is 200-400 microns

feather superior touch is ok

lenses will settle 60-150 microns on average

the lens and the cornea

Average Markup on Frame and Lenses is anywhere from 2.5% - 3.0%

Good positioning of a Specialty lens is to compare it to a high quality progressive lens or high quality lenses with antiglare coating

Average cost of lenses is around $200-$300 / pair, which would make the markup —-$800-$900/pair

****not in anyway price fixing or colluding to price fix****
A 5 Step Program

- The “Perfect” Vault
- Review based on evidence
- Be comfortable with SLE assessment
- Know the thickness of the CL being used
- Shoot for a max of 400um
- Maximize lens Dk and minimize vault for best O2 permeability

3. Conjunctival assessment / landing zone

5 Step Program

- Tight , Loose, or perfect?

“Push-in” test

- Nudge the lower lid just below the lens edge in order to indent the sclera gently
- Determine how much pressure is needed to cause slight stand off
- A good edge will need a gentle push
- A tight peripheral requires a firm push
- Very loose pressure is indicative of a flat edge

4. Over refraction

- Pearls do everything you can to avoid cyl, (min of 1D, 2 Va lines)
- Don’t push it initially if you can get 20/25 or 20/50 leave it be
- If possible use loose lenses, be quick and dirty initially

Sceral lens Basic Anatomy

- Most lenses are 3 lens curve system
Making basic adjustments

- Central Touch --- More Vault!
- Steepen the Roof (steeper BC)

Sceral lens Basic Anatomy

- Base Curve
- Limbal Zone Curve
- Reverse curve
- Scleral Landing Zone

- Central Touch
- Raise Da Roof!

Sceral lens Basic Anatomy

- Compression / Impingement
- Flatten SLZ-

Troubleshooting

- Bubbles

- Inferior lens displacement
- Most common displacement inf and temporal

Troubleshooting

- Lens awareness / discomfort
  
  Pearls
  
  - Check vault
  
  - Most often SLZ issue
  
  - Consider Toric Periphery if pt can point to irritation
  
  - Don’t forget about DES, bullae and Corneal edema! (over 800cells)

- Inferior lens displacement
  
  Pearls
  
  - Do nothing!!!
  
  - Thin the lens
  
  - Reduce the vault/sag
  
  - Tighten periphery (if possible)
  
  - Consider toric periphery
Troubleshooting

- Fogging of the tear prism after wear

Pearls
- Set expectations (4 hours)
- Check for TF communication (toric periphery)
- Try PF Tears
- Sicker eyes (skips/severe DES/GVHD)

Let's Do it!