Tales From the Trenches

Mile Brujic, OD

Recurrent Corneal Erosion

Disclosure

• The speaker has no financial or proprietary interest in any of the products that are mentioned
• The speakers have received honoraria for consulting, performing research, speaking and/or writing from: Alcon Laboratories, Bausch + Lomb, CooperVision, Ciba Vision, Inspire Pharmaceuticals, Teague Training, TelScreen, Transitions, Valeant, Vistakon, Vmax Vision

21 days later
21 days later

Salzmann’s Nodular Degeneration
Using NaFl to Evaluate Duette™ Fit

- High molecular weight NaFl, i.e. Fluoresoft NOT REQUIRED
- Traditional fluorescein strips can be used

Proper NaFl concentration – too little NaFl & lens may show false appearance of bearing

Keratoconus

- Male = Female
- Bilateral (2-7% unilateral)
- 1:2000
- Worldwide
Visual Consequences

- Monocular Diplopia
- “Ghost” images
- Asthenopia
- Photophobia
- Halos around lights

Onset

- Early
  - Young adults (about 15 years old)
  - Bilateral, one eye usually being worse
  - Progression for 7-8 years then stabilization
  - Occasional mid-life relapse

- Late
  - Late 20's early 30's
  - Both eyes affected about the same

Theories of Causation

Atopic Disease (CLEK study)
- Hay Fever (53%)
  - Eye Rubbing
- Asthma (15%)
- Atopic Dermatitis (8%)
Systemic Disease
- Downs Syndrome
  (Between 5.5% and 15% of Downs patients have KCN)
- Connective Tissue Disorders

Keratoconus

Sagittal Height

Unilateral Keratoconus

“Normal”
Ectasia

Compliments of Pacific University
Kone Kinds

Traditional KC Lens Fitting

Base Curve Based

Modern Keratoconus Fitting

Eccentricity/Sagittal Depth Focused

NovaKone

NovaKone Design

NovaKone Rx Parameters

See NovaKone Fitting Guide for specific lens guidance.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL</td>
<td>Same G4X 54%, Microflex D</td>
</tr>
<tr>
<td>DIAMETER</td>
<td>15.0mm standard others</td>
</tr>
<tr>
<td>BASE CURVE</td>
<td>4.0 and 4.2, 4.4, 4.6, 4.8, 4.8, 5.0, 5.4, 5.6, 5.6, 6.0, 6.4, 6.4, 6.8 as standard others available in 0.025mm steps</td>
</tr>
<tr>
<td>FITTING CURVE</td>
<td>0.3, 0.5, 0.5 as standard, others available in 0.125mm steps</td>
</tr>
<tr>
<td>SPHERICAL POWER</td>
<td>±0.00 to ±30.00</td>
</tr>
<tr>
<td>CYLINDRICAL POWER</td>
<td>±0 to ±10.0, ±0.50 in 0.50 steps</td>
</tr>
<tr>
<td>AXIS</td>
<td>1° to 90° in 1° steps</td>
</tr>
<tr>
<td>IT FACTOR</td>
<td>0.5, 0.6, 0.6, 0.8, 0.8, 0.9, 0.9 as standard others available in 0.100mm steps</td>
</tr>
</tbody>
</table>

- IT Factor: Use with the lens thickness when corneal topography is unknown.

The posterior surface of the lens (A) consists of a steep central base curve which is intended to reach the average K readings of the keratoconic eye.

The fitting curve (B) is similar in design to the base curve of a standard soft lens and is intended to ensure good lens movement and avoid elevation of the fitting curve. A decrease in the anterior corneal astigmatism is beneficial.

The anterior surface has an optimized central optical section (C) for correcting astigmatism while ensuring molecular design for improved oxygen transport to the cornea.

The 1:7 factor describes the central thickness of the lens (D) and effectively manages differing levels of irregularity.
The IT Factor

• You will be able to choose IT factors from 0 to 4
• The more irregular the cornea the thicker the lens should be to optimize visual acuity
• If any irregularities are observed when accessing the optical characteristics of the best fitting diagnostic lens, increase the IT Factor to improve optical stability.

KeraSoft® IC Design

• Prism Ballasted
  • The periphery of the KeraSoft IC can be steepened or flattened up to 4 steps independently of the base curve.
  • Each periphery step is equivalent to 0.20 change in base curve

Flat periphery design improves draping over cornea
Reduces tear pooling which can cause poor vision
Thygeson’s SPK

- A viral etiology has been suggested
- Not responsive to anti-viral therapy
- Non-specific immune response has been suggested
- May last from 4-6 weeks
- Can recur for several years

Entering Presentation

- Variable discomfort – typically burning or irritation
- Foreign body sensation
- Tearing
- Photophobia
- Decreased visual acuity
Entering Presentation

- Superficial stellate lesions
- Will stain with fluorescein
- Tiny grey – white dots that are slightly elevated
- May have mild conjunctival injection

Treatment

- No treatment necessary if little to no symptoms
- Ocular lubricants (tears, gels and ointments)
- Low dose steroids with a slow taper
  – 0.5% Loteprednol qid until signs/symptoms resolve then a slow taper over several weeks
- Consider cyclosporine 0.05% for recurrent cases
- Therapeutic contact lens

WHY ARE MY CONTACT LENSES SO UNCOMFORTABLE?
Corticosteroids for Bacterial Keratitis

- 500 patients enrolled with a culture positive bacterial ulcer
- All were treated with topical moxifloxacin 1 gt q1hr while awake for 48hrs then 1 gt q2hrs while awake until re-epithelialization occurs followed by 1 gt qid until 3 weeks after enrollment


Corticosteroids for Bacterial Keratitis

- Patients were randomized to either receive topical prednisolone sodium phosphate 1% or placebo after 48 hours of effective antibiotic treatment
- Steroid and placebo were dosed:
  - QID for the first week after treatment started
  - BID for the second week after treatment started
  - QD for the third week after treatment started


Corticosteroids for Bacterial Keratitis

- Patients were evaluated every 3 days until re-epithelialization, then 3 weeks and 3 months after enrollment
- No differences in BCVA, infiltrate scar size and re-epithelialization rates between test and control arm


Corticosteroids for Bacterial Keratitis

- Subgroup analysis:
  - Those with significantly reduced entering visual acuity (CF or worse)
    - 0.17 better logMAR improvement with steroids
  - Ulcers completely covering the 4 mm pupil
    - 0.2 better logMAR improvement with steroids

THE REAL DEAL ON MULTIFOCAL CONTACT LENSES

The Multifocal Success!

The “OK” Multifocal Experience!
Thank You
brujic@prodigy.net