Fitting advices for gas permeable contact lenses

Geometry

1. Insert trial lens for a minimum duration of 30 minutes. Ask patient to focus to the floor to minimise the foreign body sensation.
2. Evaluation of the subjective comfort.
3. Over-refraction
4. Slit lamp examination:
   - Dynamic evaluation with diffuse illumination:
     - Eye in primary gaze and blinking normally.
     - Movement (speed) and position after blink and during eye movements:
       • Vertical movement
       • Horizontal movement
       • Centration
     - A good fitting lens will be evenly centered on the cornea (±0.5 mm)
     - The movement should be pronounced but not too big (1-2 mm)
   - Static evaluation with fluoroscopy:
     - Evaluation when patient is looking straight ahead and the lens is centered on the cornea without impact of the eyelids on the lens: Evaluation of the tear film thickness under the lens
       Tearfilm < 10μm = no floresceinis visible
     a) central optic zone with alinement fluorescein pattern
     b) inter-peripheral zonewith small amount of fluorescein
     c) peripheral zone with a band of increased fluorescein how will be needed for a good tear film exchange

Advice for Toriflex

The optimal fluorescein pattern shows a small fluor lake in the center and a larger fluor ring in the periphery (env. 0.75 mm).
Vertical movement should be around 1 mm. In case of too much movement, decrease both central back curves ($r_{0fl}$ and $r_{0st}$) with -0.10 mm. In case of low riders increase both central back curves ($r_{0fl}$ and $r_{0st}$) with +0.10 mm or in case the upper lid is pushing the lens down, increase the total diameter $\Omega_T$.
In case of high riders, decrease total diameter $\Omega_T$

For Toriflex TP only:
In case of unstable stabilisation and/or high riders, increase the prism to 2.0 cm/m.
Attention: the stabilisation prism induce an optical prism. This should be adjusted on both eyes.

Progression system and central optic zone (Zoc)

Determine if the vision is alternate (change of optic zones by translation) or simultaneous (change of optic zones by visual cortex selection)
• Alternate vision: reading zone in periphery (most of the cases)
• Simultaneous vision: reading zone in centre

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Bf (Bifocal)</th>
<th>Sp (Simple progressive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addition &lt; 1.75 dpt</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Addition ≥ 1.75 dpt</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Priority in distance vision</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Priority in near vision</td>
<td>dominant eye</td>
<td>non dominant eye</td>
</tr>
<tr>
<td>Good contrast</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

• Distance vision depends on centering, near vision on the movement (translation).
• For a good translation a movement from 1 to 2 mm is needed. It is affected by $rO$ and $\Omega T$.
• The fluoroscopy must show good optic zone alignment.