This study involved 28 ProKera membranes used in 12 patients. 19 membranes remained in place until dissolution, and 9 devices were removed while the membranes were still intact. Between different disease categories, devices placed in eyes with epithelial defects secondary to corneal exposure dissolved the quickest (4.5 days), while devices in eyes with neurotrophic ulcers (19.5 days) and chronic TENS (10 days) lasted the longest. The median number of days until dissolution was significantly longer with versus without concurrent topical steroid treatments (10 vs. 5 days respectively, \( p = 0.0102 \)).

**Table 2. Prokera Dissolution by Disease Category**

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Prokera Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute TENS</td>
<td>1-6</td>
</tr>
<tr>
<td>Chronic TENS</td>
<td>7-13</td>
</tr>
<tr>
<td>Neurotrophic ulcer</td>
<td>7-13</td>
</tr>
<tr>
<td>Epithelial defect</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Table 3. Duration of Amniotic Membrane**

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Mean Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute TENS</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chronic TENS</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Neurotrophic ulcer</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Epithelial defect</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 4. Topical Steroid Use and Duration of Amniotic Membrane**

<table>
<thead>
<tr>
<th>Steroid Use</th>
<th>Prokera Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No steroids</td>
<td>1-6</td>
</tr>
<tr>
<td>Steroids</td>
<td>7-13</td>
</tr>
</tbody>
</table>

**Results**

This study provides the first analysis of factors that influence the rate of dissolution of ProKera amniotic membranes. Patients with acute TENS/ corneal epithelial defect were the largest group in our study. Amniotic membranes dissolved the most quickly in eyes where exposure was the primary reason for epithelial defects. This finding suggests that desiccation may lead to more rapid break down of the membranes. Amniotic membranes in eyes receiving topical steroids had a significantly longer duration than those that did not. Topical steroids may also aid in limiting inflammatory processes that lead to amniotic membrane dissolution.

**Conclusion**

**References**


**Figures**

- Figure 1. Photographs of Prokera Device
- Figure 1. Photographs of Prokera device in an eye with a neurotrophic ulcer taken before breakdown began (A), under cobalt blue light (B), and after removal and central breakdown of the amniotic membrane (C).