

# BENEFITS OF USING Prokera<sup>®</sup> for Ocular Surface Optimization

By consensus of the ASCRS Cornea Clinical Committee, the treatment of OSD, especially VS-OSD, in the preoperative patient population generally requires a more aggressive, often multifaceted approach with a targeted combination of prescription medications and procedural interventions to rapidly reverse OSD and minimize surgical delays.<sup>1</sup>



### Superficial OSD

Place Prokera for 5 +/- 2 days, repeat biometry, schedule for surgery the same day after Prokera removal.



### Basement Membrane Dystrophies

Superficial Keratectomy, allow cornea to normalize (about one month), repeat biometry, schedule surgery.

The ability of **Prokera** to help normalize the ocular surface quickly in chronic dry eye patients and accelerate re-epithelialization after superficial keratectomy, or when there is evidence of limbal stem cell deficiency, makes it an essential part of the pre-cataract surgical regimen.<sup>6-8</sup>



**Additionally, the ASCRS specifically highlighted the DREAM & Thomas John Nerve Regeneration Study to illustrate the ability of Prokera to treat moderate & severe dry eye patients.<sup>1</sup>**

## References

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## Ocular Surface Optimization

# Achieve better visual outcomes after Refractive Cataract Surgery.



In the recent annual American Society of Cataract and Refractive Surgery (ASCRS) Clinical Survey, it was noted that Ocular Surface Disease (OSD), including Dry-Eye Disease (DED), can affect the visual quality of patients undergoing keratorefractive and phacorefractive surgery significantly.<sup>1</sup>



According to the PHACO study,  
(Prospective Health Assessment of Cataract Patient Ocular Surface)<sup>2</sup>

**60%** of routine cataract surgery patients observed were asymptomatic.

**50%** had central corneal staining.

In another prospective study,<sup>1</sup>





**80%+** of scheduled cataract surgery patients had an incidence of OSD and most were asymptomatic.

**50%+** had an abnormal tear osmolarity or matrix metalloproteinase-9 (MMP-9) level.<sup>3</sup>

**In a survey initiated by the ASCRS in 2017, 83% of people indicated an algorithm for ocular surface diagnostics would be valuable due to lack of awareness of the most current OSD tools and guidelines.<sup>1</sup>**

# THE IMPORTANCE OF Ocular Surface Optimization

Consequences of not treating Ocular Surface Diseases prior to Keratorefractive and Phacorefractive Surgeries:


	<p><b>Intracocular Lens (IOL) Calculation Errors</b></p> <p>Preoperative lens measurements can be inaccurate, causing surgeons to implant the wrong type of lens, select the wrong lens power, misalign a toric lens, or even place astigmatism incisions at the wrong location.</p>
	<p><b>Unsatisfactory Post-Surgical Visual Outcomes</b></p> <p>A patient with a moderate to severe Ocular Surface Disease Index (OSDI) score can develop new visual symptoms in the postoperative period, which can result in discomfort and overall dissatisfaction with the surgery.</p>
	<p><b>New or Persistent OSD Signs &amp; Symptoms</b></p> <p>The ASCRS created a category of visually significant OSD with potentially adverse effects on visual quality and Snellen acuity, both pre &amp; post-refractive cataract surgery. This new category determines whether the identified OSD sub-types will lead to refractive errors.</p>
	<p><b>Reduced Retinal Image Quality</b></p> <p>Tear film irregularities can reduce retinal image quality by 20% to 40% resulting in a residual reduction of retinal image quality after the cataract procedure.<sup>4</sup></p>



By treating OSD preoperatively, postoperative visual outcomes and patient satisfaction can be significantly improved. Furthermore, a greater proportion of patients report being “very satisfied” with their vision when there are no refractive errors.<sup>5</sup>

# EVALUATION RESOURCES for Ocular Surface Optimization

The ASCRS Cornea Clinical Committee defines **Visually Significant Ocular Surface Disease in the cataract population as:**<sup>1</sup>



**Any combination of:**

- Fluctuating vision that improves with blinking or lubrication
- Highly elevated osmolarity and MMP-9
- Irregular irregular fluctuating topography and/or aberrometry
- Interblink increases in OSI
- Irregular irregular astigmatism from corneal epithelial abnormalities
- Significant corneal staining

<p><b>VISUALLY SIGNIFICANT OSD (VS-OSD)</b></p> <p>e.g., corneal abnormality, central PEE, irregular irregular astigmatism, abnormal osmolarity, fluctuating vision, etc.</p>	<p><b>NON-VISUALLY SIGNIFICANT OSD (NVS-OSD)</b></p> <p>e.g., Normal cornea, normal topography (regular astigmatism, no corneal stain, stable vision)</p>
<ul style="list-style-type: none"> <li>• Can impact preoperative measurements and post-surgical outcomes</li> <li>• Surgery must be delayed &amp; biometry rechecked</li> <li>• Requires intensive, rapid OSD treatment until condition is fully resolved</li> </ul>	<ul style="list-style-type: none"> <li>• Does not impact preoperative measurements or post-surgical refractive outcomes</li> <li>• Surgery proceeds</li> <li>• Prophylactic treatment and patient education</li> </ul>

## Root Mean Square (RMS) Value

RMS Value can be an essential tool to quantify irregular & regular astigmatism.

0.3+ RMS indicates some degree of OSD.

0.4+ RMS indicates significant OSD usually involving a basement membrane dystrophy.

**Identify asymptomatic patients who have nerve dysfunction by utilizing:**



Patient questionnaire/  
patient reported symptoms



Abnormal test results (VS-OSD)