

# PTK

PHOTOTHERAPEUTIC KERATECTOMY

## DR NIKHIL KUMAR

CATARACT AND REFRACTIVE SURGEON  
BMED GRAD DIP (REFRACT SURG) MPH FRANZCO  
CORNEA/REFRACTIVE FELLOWSHIP  
(UNIVERSITY OF TORONTO)



### Phototherapeutic Keratectomy

Phototherapeutic Keratectomy (PTK) is an advanced laser procedure used to treat corneal (front surface of the eye) abnormalities such as scar tissue or an irregular surface that may cause blurry vision or discomfort. The procedure is considered a medical procedure as it helps to improve the overall shape and health of the cornea, rather than for vision enhancement.

Previously, surgery for corneal abnormalities or “roughness” used to involve manually scraping the corneal surface with a surgical blade or replacing the cornea through a transplant procedure. PTK is a laser advancement to allow for a safer and less invasive alternative.

### Who is PTK for?

PTK is an ideal procedure for patients with the following corneal conditions:

- Recurrent corneal erosion syndrome (RCES)
- Corneal Scars
- Corneal dystrophy

Nik has a specific interest in conventional and laser assisted cataract surgery, laser vision correction, alternatives to laser surgery, cornea transplantation, pterygium surgery and the management of keratoconus.

Nik graduated in Medicine from the University of Newcastle in 1998, then completed an ophthalmology residency at the Sydney Eye Hospital and undertook subspecialty fellowship training in Cataract, Cornea and Refractive Surgery at the University of Toronto in 2009.

Nik is a Clinical Senior Lecturer in Cataract, Refractive and Cornea Surgery at the Australian School of Advanced Medicine, Macquarie University. He is a member of the Australian, American and European Societies of Cataract and Refractive Surgery and Cornea Societies. He has published numerous peer-reviewed papers and book chapters involving his specialty interests.



## How is PTK different from laser vision correction?

The procedure is very similar to how ASLA is performed, however the significant difference is that PTK is designed to be a therapeutic procedure addressing the clarity or shape of the cornea as opposed to vision correction. PTK aims to treat surface level corneal disease and therefore does not remove the need to wear contact lenses or glasses. The sole aim of ASLA is to correct your prescription so that you can enjoy freedom from glasses or contact lenses.

## Recurrent corneal erosion syndrome(RCES) – how would I benefit from PTK?

RCES presents as a clinical disorder affecting the corneal epithelium (front protective layer of the eye) and epithelial basement membrane. Typically, the epithelium repeatedly breaks down, causing severe pain, irritation, redness, glare sensitivity and watering especially upon waking and opening the eye lids. RCES may occur as a result of corneal injury such as recent fingernail injury or plant trauma to the cornea. Rarely, it can also occur in patients with corneal dystrophies or diabetes. Medical therapy involves measures such as bandage contact lenses, eye drops and tablets although there are surgical options available such as PTK. Dr Kumar will discuss with you whether PTK is a suitable option for you. For RCES, PTK provides a better foundational layer for healing of the erosion as well as allowing the epithelium to heal as “one sheet”, thus reducing epithelial breakdown.

## Corneal Scars – how would I benefit from PTK?

Scarring of the cornea may occur from trauma, improper contact lens use, corneal ulcers and dystrophies as well as infections that may be bacterial, viral, fungal or parasitic in nature. PTK uses the excimer laser to treat and remove corneal scars.

## Recovery from PTK

After PTK, patients may experience blurry or hazy vision for a few days as well as mild discomfort as the epithelium heals. The vision may fluctuate as the eye requires time to heal. This can last up to several months but most patients are highly satisfied with the results from the procedure. The eyes may feel somewhat dry, gritty or scratchy and may also be sensitive to light but this will settle down. Dr Kumar will prescribe eye drops to prevent inflammation and infection or pain medication to reduce these symptoms. Please attend all post-operative appointments so Dr Kumar can check your progress. It is recommended to have at least 5-7 days off work and most people can drive within 7 days and resume most daily activities. For the first 2 weeks, avoid: rubbing the eyes, swimming, eye make-up, contact sports and getting shampoo/lotions or creams into the eye.

