



KERATOPLASTY



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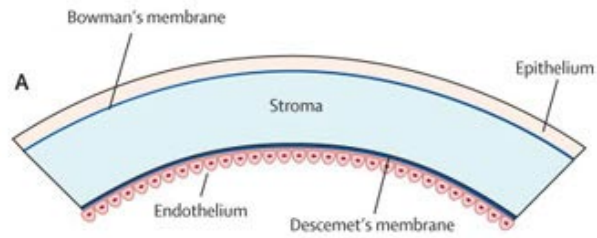
Dr. Krati Gupta

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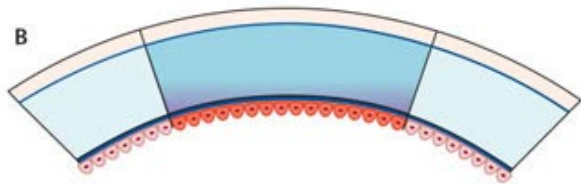
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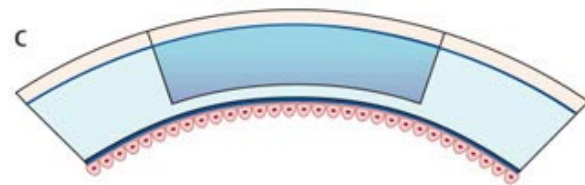
Procedure	Layer of cornea	Indication	Intra-operative complications
Phototherapeutic keratectomy PTK	Superficial 50–75 µm of the cornea	RCE, superficial corneal scar	
Superficial anterior lamellar keratoplasty (SALK)	Anterior one-third of the Cornea	Superficial stromal dystrophy and degeneration. Salzmann nodular degeneration Scars, trauma, dermoid, infections Superficial corneal tumors Corneal perforation	Poor Microtome dissection Corneal perforation Thin/irregular donor tissue
DALK	More extensive stromal disease but a healthy endothelium	Keratoconus Post-infectious keratitis, Corneal stromal dystrophy not involving endothelium Corneal thinning Corneal ectasia sec to LASIK Corneal scarring	Corneal perforation-PK Difficulty obtaining smooth dissection to DM Double AC, DMD, Air bubble to tamponade DM- ASC
EK- DMEK/DSEK	Primary endothelial dysfunction	Endothelial dystrophy Fuchs corneal dystrophy, PBK, ICE, PPD, CHED Corneal graft failure,	DSEK-poor microtome dissection of donor tissue DMEK- Inability to harvest DM with endothelium, Inability to strip host DM choroidal hemorrhage Hemorrhage leading o blood in interface Excessive manipulation –cell loss
Penetrating or full-thickness corneal transplantation (PK)	Combined epithelial, stromal, and endothelial disease	Graft failure and high astigmatism.	Expulsive/choroidal hemorrhage Damage to iris/lens Irregular Trephination Poor graft centration Iris/vitreous incarceration in wound Damage to donor endothelium Excessive bleeding from iris/wound Retained DM Retained retinal tear/detachment



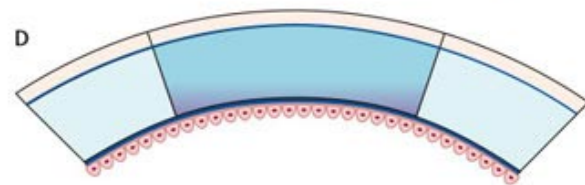
A. Normal cornea viewed in cross section. The endothelial cell layer maintains the corneal integrity by regulating its water content.



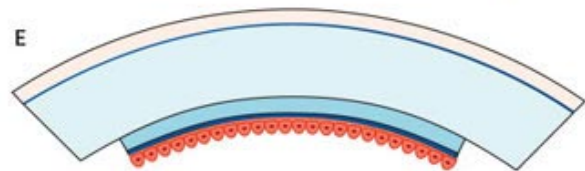
B. Full-thickness corneal transplantation. The central cloudy part of the native cornea is removed in full-thickness and is replaced by the donor cornea.



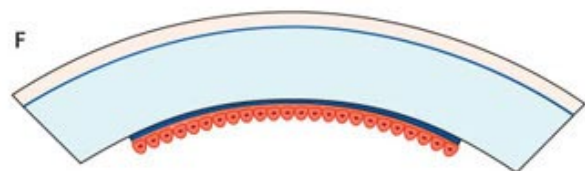
C. Anterior lamellar corneal transplantation. The central front part of the cornea is removed and replaced by the front part of a donor cornea. This is performed when the cloudy part involves only the front portion of the cornea.



D. Deep anterior lamellar corneal transplantation. The whole central part of the cornea is removed except for the very back surface, the native endothelial layer, which is left in place. The donor cornea, without the endothelial layer, is sutured in place.



E. Endothelial keratoplasty involving a thin part of the stroma and the endothelial layer.



F. Endothelial keratoplasty involving only the endothelial cells and the descemet's membrane.

