GLOSSARY OF TERMS

Descemet lamellar endothelial keratoplasty (DLEK): Technique of posterior lamellar keratoplasty in which a posterior lamellar disc is manually dissected from the recipient cornea through a 9 mm sclerocorneal incision and replaced by an equally sized donor disc, placed against the recipient posterior cornea with an air bubble.
This technique has fallen into disuse, given the surgical complexity of the manual resection of the posterior lamellar disc.

Descemet membrane endothelial keratoplasty (DMEK): Technique of corneal endothelial transplantation in which only the donor's EDM is transplanted.

Descemet stripping (automated) endothelial keratoplasty (DSEK/DSAEK): Technique of endothelial keratoplasty in which the donor's EDM complex is "stripped" from the stroma either manually (DSEK) or with a microkeratome (automated – DSAEK). This method of stripping results in the donor graft having variable levels of stromal tissue.

Descemetorhexis: Removal of the recipient's EDM complex.

Endothelial cell loss rate: In endothelial keratoplasty, the diseased corneal endothelial cell layer is replaced with a donor lenticule of Descemet's membrane and corneal endothelial cell layer. Corneal endothelial cells are highly susceptible to injury and death

upon surgical manipulation of the donor graft, and during the surgery there is an average 30% endothelial cell loss. Factors influencing increased iatrogenic endothelial cell loss include surgeon experience, excessive manipulation of the donor lenticule, and history of glaucoma. Afterwards, the endothelial cell loss is continuous and linear in the long term, which may eventually lead to late endothelial graft failure.

Endothelial keratoplasty: Allogeneic corneal transplantation techniques indicated in eyes with diseases of the corneal endothelial layer leading to corneal decompensation (corneal oedema and decreased visual function). In these techniques, only the patient's (recipient) endothelial layer and Descemet's membrane (endothelial-Descemet complex, EDM complex) are removed, leaving the remaining corneal layers (epithelium, Bowman layer, and stroma). Following removal of the diseased corneal layer, the donor's EDM (with or without some corneal stroma), called lenticule, is inserted into the anterior chamber of the eye and apposed to the recipient's stromal bed using either air or sulfur hexachloride 6 (SF6), which ensure the graft adhesion.

Graft detachment: The EK grafts are apposed to the recipient's stromal bed using air or sulfur hexafluoride 20%, placing them at risk of detachment. The detachment may be partial or complete, producing a loose graft in the anterior chamber. Detachment of EK grafts is related with increased endothelial cell loss and with increased risk of graft failure.

Posterior lamellar keratoplasty: Forms of corneal allograft transplantation in which only the posterior layers of the donor cornea (endothelial layer, Descemet's membrane, with or without posterior corneal stroma) are transplanted into the host. This technique is indicated in cases of primary or secondary corneal endothelial cell failure, such as Fuchs' endothelial corneal dystrophy, postoperative bullous keratopathy, or viral endotheliitis. These techniques differ from penetrating keratoplasty, in which the full-thickness cornea of the patient is replaced with a full-thickness corneal allograft.

Rebubbling: Injection of an air bubble in the anterior chamber in the setting of partial or complete graft detachment after endothelial keratoplasty, to increase the chance of graft adherence to the recipient's corneal stromal bed and to reduce the risk of primary graft failure.

Ultrathin DSAEK (UT-DSAEK): In UT-DSAEK, the donor graft has a thickness < 100 µm, minimizing the stromal thickness of the lenticule. This technique emerged following the notion that the graft lenticule thickness influenced visual acuity and optical quality after DSEK/DSAEK, with thinner grafts correlating with better visual outcomes.

Upside-down graft: Both DMEK and DSEK grafts are inserted into the anterior chamber during surgery using graft injectors. The correct position of the graft is with the Descemet's membrane facing "up" towards the recipient's corneal stromal bed. These grafts may be inadvertently positioned "upside-down", with the endothelial cell layer facing the host stromal bed. These grafts evolve to primary graft failure.