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CORNEA

New DSEK instrumentation

by Michael W. Belin, M.D.

Simplifying the procedure and eliminating the need for an anterior chamber maintainer

Descemet's stripping endothelial keratoplasty (DSEK) has rivaled, if not surpassed, full-thickness PK for endothelial replacement surgery. There remains, however, a steep learning curve. Initial surgeries have been associated with higher rates of complications such as primary donor failure and dislocations. While DSEK has advantages over PK, including the retention of a more normal corneal topography, substantially less post-op astigmatism, a more rapid visual and structural rehabilitation, greater corneal integrity, and the avoidance of inherent risks associated with an open-sky procedure, the surgical manipulations required for a successful DSEK can, at times, appear daunting.

Current donor insertion techniques involve tissue folding and forcep insertion, tissue folding and the use of an insertion platform (e.g. Rosenwasser donor insertion shovel, Katena, Denville, N.J.), tissue rolling with a secondary forcep "grab" technique (e.g. Busin glide spatula, Moria, Antony, France), or a suture or instrument pull-through technique. Regardless of technique, each requires some form of secondary irrigation (e.g. anterior chamber maintainer) during insertion to maintain adequate anterior chamber depth and to assist in the unfolding of the donor tissue. Additionally, most surgeons utilize either a non-dispersive viscoelastic or an anterior chamber maintainer during the initial Descemet's scoring and stripping.

Recently a new donor inserter was introduced by Fischer Surgical (Imperial, Mo.), the Neusidl Corneal Inserter (NCI), model 9288 (Figure 1).

The inserter was designed to simplify the procedure and ease the transition by reducing the difficulties often associated with other insertion techniques and instruments. The NCI was designed as a self-sealing,



Figure 1. The NCI utilizes a flexible plastic platform in an irrigating device to roll the donor cornea to allow easier and less traumatic insertion during DSEK. The metal slide retracts and extends the flexible plastic platform



Figure 2. The donor cornea adheres to the platform by capillary action and rolls gently when the platform/tissue is retracted into the NCI barrel. The inner dimensions of the NCI allow for donor lenticules up to 8.75 mm to roll without any tissue overlap

