



TECHNIQUES

Viability of Descemet Membrane Endothelial Keratoplasty Grafts Folded in the Eye Bank

Lohmeier, John BA, CEBT[†]; Christy, Jason MS, CEBT[†]; Chiang, Eric BS[†]; Barnes, Kali BS[†]; Cai, Stephanie BS[†]; Chen, Conan BS[†]; Subramanya, Anshul BS[†]; Chaurasia, Akash[†]; Rosen, Allison[†]; Vora, Parth[†]; Durr, Nicholas J. PhD[†]; Allen, Robert PhD[†]; Eghrari, Allen Omid MD[‡]

[Author Information](#)

Cornea: [November 2018 - Volume 37 - Issue 11 - p 1474-1477](#)

doi: 10.1097/ICO.0000000000001711

Abstract

Purpose:

Preloaded, trifolded grafts in Descemet membrane endothelial keratoplasty require transfer of the trifolding process from the corneal transplant surgeon to the eye bank technician. We sought to assess whether trifolding may be safely conducted by an eye bank technician with cell loss comparable to standard peeling and lifting.

Methods:

A total of 10 grafts were stained, peeled, and transferred directly onto a bed of Calcein-AM and Amvisc Plus by an eye bank technician. Five grafts were removed and stained as a scroll, and 5 grafts were trifolded with the endothelium in before transfer. Photographs were acquired with an inverted fluorescence microscope, and image segmentation was performed. A *t* test was conducted to compare differences in endothelial cell loss across groups.

Results:

Mean cell loss in the scroll group was 18.5% [95% confidence interval (CI): 15.2%–21.9%] compared with 7.6% of the trifolded group (95% CI: 1.7%–13.5%). A 2-tailed *t* test indicated decreased cell loss in the trifolded group ($P = 0.013$).

Conclusions:

Despite additional manipulation of the graft, trifolding of Descemet membrane and endothelium may be performed by an eye bank technician without significantly increased cell loss relative to graft preparation as a scroll.

Copyright © 2018 Wolters Kluwer Health, Inc. All rights reserved.