

creation of customised simulation models for cornea surgical practice with a short lead time and reduced waste.

**OP-7** **PREDICTING CORNEAL OEDEMA FROM SCHEIMPFLUG IMAGES OF FUCHS' ENDOTHELIAL CORNEAL DYSTROPHY (FECD)**

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**Introduction** We previously developed a model to predict improvement in central corneal thickness (CCT) after Descemet's membrane endothelial keratoplasty (DMEK) for FECD from Scheimpflug images. The model incorporated parameters of pachymetry map isopach regularity and posterior corneal radius. In this study we assessed if adding corneal backscatter and pachymetric progression indices improved the predictive power of the existing model.

**Methods** The additional 37 parameters of interest were exported from the Scheimpflug camera software for images of eyes undergoing DMEK and were combined with all previous 180 parameters originally considered for the predictive model. Gradient boosting machine (GBM) models were used to determine the 5 parameters with highest relative influence. A regression model was derived from the 5 highest relative influencers and goodness-of-fit of predicted vs. observed improvement in CCT was assessed in derivation and validation groups.

**Results** Anterior and mid-corneal backscatter were high influencers along with isopach regularity parameters whereas pachymetric progression indices were not. After incorporating corneal backscatter, the predictive power (from R<sup>2</sup>) of the model in the derivation group was 79% (n=48). When the derivation model coefficients were applied to the validation group, the predictive power in the validation group was 72% (n=45).

**Conclusions** Combining anterior and mid-corneal backscatter with isopach regularity parameters creates a strong predictive model of CCT improvement after DMEK. However, the predictive power of this model did not improve the predictive power of the original model (derivation group, 80%; validation group, 78%). The predictive model could provide important ancillary test information to help inform clinical decision-making for FECD.

**OP-8** **ABSTRACT WITHDRAWN**

## Poster abstract presentation

**P-9** **EPIMAX-RELATED OCULAR SURFACE TOXICITY (EROST): THE GLASGOW EXPERIENCE**

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**Introduction** In September 2021, NHS Greater Glasgow and Clyde's formulary committee changed the first-line emollient management of atopic eczema to Epimax cream/ointment (Aspire Pharma). In early 2022 we realised some dermatology patients were presenting to ophthalmology with unexplained ocular surface toxicity, possibly related to their changed dermatological preparations.

**Methods** A retrospective case-note review of emergency eye clinic attendance involving such clinical presentations was undertaken to investigate this phenomenon.

**Results** We identified 37 patients with atopic eczema between January to October 2022 who attended with novel ocular surface toxicity, related in time-period to Epimax initiation (12