

**ABSTRACT TITLE**

**TITLE:** The effect of aqueous humour protein content and viscosity on equilibrium pressure under the scleral flap in trabeculectomies

**PROGRAM # (Final ID)**

**ABSTRACT FINAL ID:** 4753 - D0137

**SESSION TYPE:** Poster Session

**POSTER BOARD # (DOI)**

**DIGITAL OBJECT IDENTIFIER (DOI):** D0137

**PRESENTATION START/END**

**SESSION ABSTRACT START TIME:** 11:00 AM

**SESSION ABSTRACT END TIME:** 12:45 PM

**SESSION # (Abbreviation)**

**SESSION ABBREVIATION:** 442

**SESSION TITLE:** Surgery and Wound Healing

**SESSION DAY & DATE:** Wednesday, May 8, 2013

**SESSION START TIME:** 11:00 AM

**SESSION END TIME:** 12:45 PM

**SESSION LOCATION:** Exhibit / Poster Hall

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3. UCL Department of Mechanical Engineering, London, United Kingdom.

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### **Study Group:**

### **ABSTRACT BODY:**

**Purpose:** To look at the influence of aqueous humour protein content and viscosity, which may increase in anterior chamber inflammation, on equilibrium pressure under the scleral flap in trabeculectomies. The influence of suture numbers and scleral flap shapes was also investigated

**Methods:** Normal and uveitic aqueous humour were represented by plain BSS, BSS containing 300 mg/ 100 ml of albumin and BSS containing 3000 mg/ 100 ml of albumin. Porcine corneoscleral rims were mounted on a Barron artificial anterior chamber and chamber pressure was measured using a pressure transducer. 4 mm x 4 mm partial thickness scleral flaps and 0.75 mm diameter sclerostomies were created, followed by re-suturing of the flap with either 2 or 4 sutures, as in a trabeculectomy. Equilibrium pressure in the chamber was noted. The square scleral flaps were also compared with 4 mm x 3 mm rectangular and 4 mm x 4 mm triangular flaps. In all cases, n = 8. Statistical analysis involved the unpaired t-test and one-way ANOVA.  $p < 0.05$  was considered statistically significant

**Results:** The relative viscosities were 1.02, 1.04 and 1.12 respectively, compared to 1.00 for distilled water [ $p < 0.001$ ]. Equilibrium pressures were higher with 4 sutures than with 2 sutures ( $p = 0.047$ ). There were no significant differences in equilibrium pressure between the different fluids and the different scleral flap shapes ( $p > 0.05$ )

**Conclusions:** Equilibrium pressures under the scleral flap are affected by the number of sutures but not by the different aqueous humour protein contents and viscosities encountered in anterior chamber inflammation, or by typical scleral flap shapes and sizes

(No Image Selected)

**Commercial Relationship(s) Disclosure:** Amir Samsudin: Commercial Relationship: Code N (No Commercial Relationship) | Ian Eames: Commercial Relationship: Code N (No Commercial Relationship) | Steve Brocchini: Commercial Relationship: Code N (No Commercial Relationship) | Peng Khaw: Commercial Relationship(s);University College Moorfields:Code P (Patent)

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**Clinical Trial Registration:** No

**Other Registry Site:**

**Registration Number:**