

**Methods** An online survey was conducted with UK registered ECPs in mid-2023. The survey comprised of 25 questions. Example questions included: the age from which different CL types and modalities were thought appropriate, and which patient factors or CL properties were thought to be most important when prescribing for children.

**Results** Complete responses were obtained from 248 optometrists and 68 contact lens opticians, having a median number of years qualified of 14.5 and 22.0 years, respectively. While all ECPs in the survey reported soft lenses are appropriate for children, only 39.6% would consider fitting at seven years of age, or earlier. ECPs also reported that, on average, only 2.4% of their CL fittings are for patients aged seven years or below. The most important factor when fitting CLs to children was the child's motivation to wear lenses (rated at 9.1/10) and the least important was gender (1.8/10). The rating of importance given to the child's age was different between optometrists (6.2/10) and CLOs (4.9/10;  $P < 0.001$ ). When choosing which CLs to prescribe, cost was rated the least important factor (5.9/10), while comfort was the most (9.0/10).

**Conclusion** ECPs appear cautious about fitting CLs to younger children, with some discrepancies in behaviour between optometrists and CLOs.

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P-06

#### VIRTUAL PAEDIATRIC OPHTHALMOLOGY CLINIC WITH DIGITAL DIRECT OPHTHALMOSCOPY

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**Introduction** Well-documented worldwide, the shortage of paediatric ophthalmologists has necessitated technological solutions to meet the demand of the subspecialty.

**Aims** We hope to demonstrate the successful trial of paediatric ophthalmology clinics run by a registrar with virtual remote supervision by a consultant paediatric ophthalmologist.

**Methods** Thirty paediatric patients were included in this study, each examined by the registrar with supervision from the consultant ophthalmologist. In order to accomplish this, a panoptic ophthalmoscope with a smartphone adapter was used. This device permits the examination of the anterior segment with white and cobalt blue illumination, as well as posterior segment examination with a 25-degree field of view in a dilated pupil. A smartphone was connected to this device and using a mobile application, the smartphone became the video input to teleconferencing software. This allowed the consultant to easily observe live footage of the ophthalmic examination. Patient satisfaction was then assessed by anonymous survey.

**Results** Real-time high quality video transmission allowed consultations to be performed and diagnoses made by the registrar, with involvement of the supervising consultant. 100% of the patients or their parents/guardians were satisfied with the part-virtual nature of consultation, and felt happy to be assessed in this way.

**Conclusion** We demonstrate the utility of portable technology to enhance paediatric ophthalmology clinics, allowing a remote consultant the ability to comprehensively examine and diagnose a number of ocular pathologies. We envisage this technology to be beneficial when obtaining a specialist opinion,

when a paediatric ophthalmologist is not available onsite, or potentially also outside of normal working hours.

P-07

#### INDIVIDUAL DIFFERENCES IN COLOUR VISION: A SYSTEMATIC REVIEW OF DEMOGRAPHIC FACTORS

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**Introduction** The limited research available suggests there are ethnicity-related differences in human colour vision, affecting cone spectral sensitivities and prevalence of different cone types in the retina (cone ratios). Despite the volume of colour vision research, many articles fail to account for ethnicity-related individual differences. This may have practical implications for the conclusions we can draw from current findings.

#### Aims

- Investigate the demographics of previous colour vision research
- Investigate the frequency of ethnicity reporting in colour vision research
- Summarise findings of ethnicity-related individual differences found in previous colour vision research

**Methods** Relevant colour vision articles were selected using a list of defined keywords on Scopus. These articles were categorised and summarised based on relevant features, including ethnicity reporting. Descriptive statistics were calculated and relevant findings were discussed.

**Results** Most research publications fail to report their participants' ethnicities. Those that do are often clinical and colour vision is not their primary focus. The majority of articles that do investigate ethnicity-related differences use colour vision deficiency rates as their outcome measure.

**Conclusion** Although there is ample research on colour vision globally, very few articles consider demographic differences, especially within colour-normal populations. Biases in recruitment and reporting may have practical implications for technologies that assume a standard observer across global populations.

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P-08

#### SHORT-TERM COLOUR PERCEPTION AFTER REPEATED LOW-LEVEL RED LIGHT (RLRL) THERAPY FOR MYOPIA

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**Introduction** Repeated low-level red-light therapy (RLRL) is a licensed emerging method for myopia management (MM). It involves shining a 650nm light into patients' eyes using a desktop device, which has shown efficacy in MM. However, there is no data on whether RLRL use would have any influence on colour perception.

**Aims** To determine if there is a sustained difference in colour perception after short-term use of RLRL.

**Methods** Participants aged 6–25 years old who met the eligibility criteria were recruited and underwent visual acuity assessment, macular optical coherence tomography (OCT), and colour vision assessment using the colour assessment diagnosis (CAD) test. After this, they came for three visits where they received RLRL. The CAD test was performed immediately after and repeated after a 5-minute interval. At the next appointments, this process was repeated, with a final OCT scan taken at the end. Participants were asked to report about their experience using RLRL.

**Results** A significant difference in colour perception was observed between measures immediately after exposure to RLRL and after 5-minutes at each visit ( $P < 0.01$  for all). Use of the machine after 3 doses of red-light therapy over two days demonstrated no significant change to colour perception ( $P > 0.05$ ). Participant results indicated that they'd likely use RLRL for myopia management (median score=4 out of 5).

**Conclusion** RLRL appears to only have an immediate, reversible effect on colour perception returning to normal after 5 minutes, with no visual effects, suggesting its safety in short-term use. Further research on longer term use is required.

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P-09

#### KERATOPIGMENTATION FOR TRAUMATIC GLARE AFTER PHACOEMULSIFICATION

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**Introduction** Keratopigmentation was first documented almost 2000 years ago, using reduced copper sulphate to mask a corneal leucoma. Over time, copper was replaced with metallic powders, allogeneic uveal pigment and both Indian and Chinese ink.

**Aims** Keratopigmentation was used to improve cosmetic appearance and sight and decrease light scattering and glare.

**Methods** A 73-year-old man was referred to the corneal clinic with ongoing glare, intermittent monocular diplopia and photophobia after a complex phacoemulsification which left an iris defect at the 9 o'clock position.

Seven months after cataract surgery, visual acuity was 6/9 bilaterally, with an IOP of 14mmHg in the affected eye.

After discussion regarding the risks and benefits (failure-no symptomatic improvement, visual field loss, loss of visual acuity, corneal decompensation, further surgery (including iris prosthesis), colour change/fading, neovascularisation the patient consent and wished to be listed for corneal tattooing.

The procedure was performed in the Ophthalmic Theatre Suite. Kandahar ink was used as has fewer incidences of reaction due to its composition.

An intrastromal technique was used to aid ink distribution and stability.

The patient was given some steroids and antibiotic drops to use after the surgery.

**Results** The patient was reviewed four weeks later and reported that glare symptoms had settled. After 10 weeks the corneal suture was removed.

His glare had improved further, with corrected visual acuity 6/6 with pinhole.

**Conclusion** Keratopigmentation is an effective way of managing the resultant glare and photophobia, improving quality of life. It represents a simple, low risk alternative for many other indications besides iris trauma.

P-10

#### A CADAVERIC DEMONSTRATION OF A NOVEL SURGICAL APPROACH FOR TREATMENT OF PTOSIS

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**Introduction** Frontalis suspension surgery (FSS) is the established surgical treatment for severe ptosis. Limitations of this technique includes need for patient engagement to raise the eyelid, oedema and infection at the incision sites, as well as facial scarring. This study carries out an anatomical investigation into an alternative surgical approach which aims to minimise these limitations.

**Aims** To carry out a cadaveric demonstration of surgical techniques, comparing FSS to an alternative approach.

**Methods** A fresh frozen cadaveric head specimen was used to demonstrate the FSS procedure and the alternative approach. Outcomes were recorded by photographs. This included the post-operative palpebral fissure height (PFH), as well as the capacity for the eyelids to close post-operation. The aesthetic outcome of both procedures was also analysed.

**Results** The proposed surgical technique and the FSS method both achieved a post-op PFH measurement within the normal range at 7mm following procedures. The study also demonstrated that the proposed technique allowed for full eyelid closure against the retracting tension of the sling. The aesthetic outcome of the proposed surgical method was superior to the FSS technique by achieving a natural eye contour while eliminating brow incision scars.

**Conclusion** The study presents a successful cadaveric demonstration of a novel surgical procedure for treatment of severe ptosis. This procedure offers resolutions for multiple adverse effects of FSS, as well as functional and aesthetic limitations. However, the higher risk of lagophthalmos is an anticipated concern. This requires further research into the mechanical compatibility of this technique in vivo.

P-11

#### CHARACTERISATION OF HUMAN PHARC FIBROBLASTS HARBOURING A NONSENSE MUTATION IN *ABHD12* GENE AND SUBSEQUENT GENERATION OF A iPSC LINE

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**Introduction** Several mutations in *ABHD12* gene have been linked to PHARC syndrome, and nonsense mutations represent almost one third of the reported mutations in PHARC. The use of induced pluripotent cells (iPSC) helps to create faithful models to investigate the pathological mechanisms operating in the retina of PHARC patients, and thus facilitates the assessment of potential therapeutic interventions.