

Here we evaluate two activities with CYP, our Young Person's Advisory Group for research (eye-YPAG) and our workshop for secondary schools, 'visually'.

We evaluated eye-YPAG in focus groups and online surveys with group members, parents/carers, researchers, facilitators and funders. We conducted thematic analysis and descriptive statistics. To evaluate 'visually', we monitored the numbers of workshops and young people applying for volunteering roles. We asked those who started working with us about their experience.

eye-YPAG members valued social and creative aspects as well as learning about research and developing skills and confidence. Researchers reported that CYP gave novel suggestions, modifying research plans, and that their different perspective was helpful in making research more relevant for children and families.

Over 6 months, we held 15 'visually' workshops in secondary schools. Ninety students applied for volunteering roles, and 20 have completed the Human Resources onboarding process. Young volunteers report that this work has increased their confidence and that they have gained insights into how a hospital works. One is considering training to become an orthoptist.

Both eye-YPAG and 'visually' are available to all eye researchers and units in the UK and can facilitate outreach activities

### 19 UNILATERAL LATERAL RECTUS RESECTION AS PREFERRED PROCEDURE TO TREAT PATIENTS WITH ACQUIRED DISTANCE ESOTROPIA

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To report the results of a series of patients with acquired distance esotropia (ET) who underwent lateral rectus resection.

We retrospectively analysed data from 21 symptomatic patients with acquired esotropia who did not tolerate prisms. Twelve patients had myopic esotropia, 5 patients decompensated esophoria and 4 patients age-related distance esotropia. Patients were divided in two groups; myopic and non myopic. Two patients in each group had undergone surgery to medial recti muscles previously. Near and distance angles were measured over 2 visits. Data were analysed with t-test (paired and unpaired).

Average age was 47 (myopes), 77 (distance ET) and 26 years (esophoria). Mean spherical equivalent was -4.00 DS (myopes) and + 1 SD (non myopes). Lateral rectus resection ranged between 6 and 8 mm with an average of 7 mm in the myopic group and between 4 and 8 mm with an average of 6 mm in the non-myopic group.

The distance angle was reduced from 19 PD to 6 PD in myopes (mean difference 12 PD,  $p < 0.0001$ ) and from 19 PD to 8 PD in non myopes (mean difference 12 PD,  $p = 0.0011$ ). There was no difference in reduction of distance angle between myopes and non-myopes ( $p = 0.771$ ). All patients had complete resolution of diplopia after surgery without needing prisms. Near angle was also fully corrected in 19 patients. One patient with myopia and one patient with distance esotropia went on to have medial rectus recession.

Unilateral lateral rectus resection is an effective procedure for acquired distance esotropia in myopic and non-myopic patients.

### 20 SIMULTANEOUS DEVELOPMENT OF ACUTE ACQUIRED CONCOMITANT ESOTROPIA IN TWO SIBLINGS DURING THE COVID-19 PANDEMIC: A CASE REPORT

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A 5-year-old boy (sibling one) and his 11-year-old sister (sibling two) were presented to the hospital eye service in early 2021, having both developed acute-onset large angle esotropia within three months of each other. Neither had any significant past medical, ophthalmic, or family history. The siblings lived in the same household, and both experienced lifestyle changes as a result of the UK lockdown in response to COVID-19.

Sibling one had a moderate right esotropia, initially maintained straight by corneal light reflex. He measured 45/50 prism dioptres ( $\Delta$ ) base out at near and 45 $\Delta$  base out at distance. Sibling two had esophoria which broke down into a right esotropia immediately on dissociation. The esotropia measured 30 $\Delta$  base out at near and 20 $\Delta$  base out at distance. At four month follow up, both siblings demonstrated a constant large angle esotropia (sibling one: 54 $\Delta$  base out at near and 45 $\Delta$  base out at distance, sibling two: 45 $\Delta$  base out at near and 40/45 $\Delta$  base out at distance).

Each sibling was treated with right medial rectus recession (5.5 mm) and right lateral rectus resection (7 mm), and at a three-month follow-up, both were minimally esophoric with restored binocularity.

The unusual and abrupt changes in lifestyle imposed by the COVID-19 pandemic highlight the likelihood of an environmental aetiology for some forms of esotropia and raise the possibility that extended screen time may be a contributory factor.

### 21 DOES THE NUMBER OF PRE-OPERATIVE ASSESSMENTS OF STRABISMUS PATIENTS INFLUENCE THE SURGICAL OUTCOME?

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Surgical strabismus traditionally attended for several face-to-face (FTF) measurements before being listed for surgery. During the Covid-19 pandemic, a streamlined care-pathway was adapted to reduce FTF contact time to protect staff and manage floor-flow. Patients were listed for surgery after just one face-to-face orthoptic assessment, followed by a further measurement at pre-assessment.

This is a case cohort to look at surgical outcome of all consecutive exotropia patients who underwent re-do horizontal muscle surgery over the last 14 years, from a surgeon's prospective database.

65 patients had surgery before the pandemic (Group-A) and 28 since the pandemic (Group-B). The mean age was 34.9 and 39.1 years respectively. The mean pre-operative near-angle was 37.5 prism dioptres (PD) and distance-angle of 34.8PD for group-A. Group B was 39.3PD for near and 36.3PD for distance. 89.1% in group-A and 89.2% in group-B had suppression. Postoperative alignment within 15PD was achieved, after a combination of fixed and adjustable procedures, for 75.4% in group-A and 88.5% in group-B with predominant adjustable procedure. The mean 2-weeks post-operative alignment was -1PD for group-A and -1.3PD for group-B. Group-A had an average of 3.6 measurements, with 3.3 doctor consultant prior to surgery and group-B had 2 FTF orthoptics and 1 FTF doctor contact.

44.4% reduction in face-to-face orthoptics contact-time and 69.7% less consultant contact-time had not negatively affected the patient surgical outcome.

Strabismus surgery can be considered in selected cases with less FTF pre-operatively and improve cost-efficiency of our adult strabismus service with 'block-contract' status.

## 22 DIAGNOSTIC MONOCULAR OCCLUSION IN PATIENTS WITH BINOCULAR VISION

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To determine if angle of deviation changes significantly after diagnostic monocular occlusion (DMO) in patients with BSV (binocular single vision).

We retrospectively analysed data from 136 patients with esotropia and 110 with exotropia, divided in BSV and non-BSV. Near and distance angles were measured over 3 visits and then after 2 hours monocular occlusion. Data were analysed with t-test and linear regression.

Esotropes with BSV had significantly larger increases in deviation after DMO than non-BSV patients for near (5 PD vs 3 PD, 95%CI 3-7 PD, paired t-test  $p=0.0318$ ) and for distance (6 PD vs 3 PD, 95%CI 4-8 PD,  $p=0.005$ ). There was a significant correlation between the amount of change after occlusion and the initial angle for near ( $p=0.006$ ) and for distance ( $p=0.010$ ) in BSV patients only.

In exotropes, there was no significant difference after DMO between BSV and non-BSV patients for near ( $p=0.09$ ) and distance ( $p=0.532$ ). There was a significant correlation between initial near angle of deviation and change in deviation after DMO in BSV patients ( $p=0.0009$ ) but not in the non-BSV group ( $p=0.07$ ). Distance angle of deviation before DMO was significantly correlated to the amount of change in deviation after DMO for both BSV ( $p=0.022$ ) and non BSV patients ( $p=0.015$ ).

Our study shows that diagnostic monocular occlusion should be performed in all exotropes with initial angles of deviation of less than 30 PD. In esotropes, DMO is more likely to show significant increases in deviation in BSV patients, especially for smaller initial angles (less than 25 PD before DMO). These changes should be taken into account when planning surgery.

## 23 USING VISUAL DATA AND TELEOPHTHALMOLOGY IN PAEDIATRIC OPHTHALMOLOGY WITH AN APP-FREE, BROWSER-BASED, VISUAL DATA PLATFORM: ISLACARE

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Visual data is underutilised in ophthalmology particularly within paediatrics. Following the pandemic, virtual and remote clinics in the form of telephone and video consultations have increased but there are limitations within paediatric ophthalmology as synchronous telephone or video calls are time-consuming.

Using a platform known as ISLACARE, we are able to run remote photo and video clinics that has the capability to support asynchronous or synchronous consultations. With this software, parents and clinicians do not need to create logins or download apps thus increasing compliance with the technology.

In an audit of 101 consecutive cases, the following was found. Mean age: 6.67 years (0-17years). The top 4 categories used in were anterior segment (36%), Strabismus (24%), Orbit/Trauma (17%), and Oculoplastics (12%).

On the use of photographs to support consultations, it was felt that 91% reduced time to treatment/supported clinical decision making and 75% improved clinician to clinician communication. We have found a 30% increase in capacity in our remote teleophthalmology clinics by utilising a pre-consultation proforma. A particular improvement has been in post-operative strabismus cases where 90% of all our first appointment checks are now done remotely.

We would like to demonstrate the clinical flow of how we use ISLACARE for asynchronous consultations, remote monitoring, and visual data archiving.

## BIPOSA Annual Meeting

Friday 06 October 2023, Royal Society of Medicine, London

09.45 Session II (S) (P)

Free papers

Moderators: Manoj Parulekar, Birmingham/Oxford and Rohit Jolly, London

## 24 PRIMARY OUTCOMES OF MANAGEMENT OF CONVERGENCE EXCESS ESOTROPIA AT MOORFIELDS EYE HOSPITAL

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Convergence excess ET (CXE) is an esotropia with binocular single vision (BSV) at distance fixation but esotropia on