Marie Cleary Biography

Dr Marie Cleary qualified as an Orthoptist in 1981. She then began working within the NHS, where she was promoted to teach on the Orthoptic undergraduate programme at the Glasgow Caledonian University to in 1996.

In 2002, Dr Cleary completed a PhD in ‘Clinical Evaluation of Fixation Characteristics and Visual Acuity Outcomes in Human Amblyopia’ and is currently working as a Head Orthoptist at the Gartnavel General Hospital Glasgow.

Dr Cleary is consistently involved in the development of a shared-care ocular myasthenia Clinic, where she works alongside a neurologist and specialist nurse to support the introduction of an Orthoptist-led Idiopathic Intracranial Hypertension clinic.

Dr Marie Cleary has continued to support collaborative research between her departments and the Department of Vision Sciences at Glasgow Caledonian University, and is an active practice placement educator for the Sheffield Orthoptic Masters programme.

References


Does the synoptophore have a role in 21st century orthoptic practice?  

By Marie Cleary, PhD DBO Cert Ec

It is important to continually question our practice. Having been trained using the Synoptophore on a daily-basis, and being encouraged by my adult motility specialist to measure torsion in 9 positions of gaze with it, I remain a firm fan. In writing this, I have had to consider why I find it valuable, and whether other tests could equally do the job.

Why use the Synoptophore?

While reflecting on my reasons for continued use of the synoptophore on a regular basis, I came up with the following list;

A unique means of assessment

The Orthoptist's knowledge of projection and retinal correspondence are fundamental to understanding and treating cases presented to the orthoptic department. The Synoptophore offers a unique means of assessing these, while being able to manipulate the images presented to both eyes by adjusting size, form and brightness. This is distinct from other Binocular Vision (BV) tests. I use it as an adjunct to free space tests where responses to Bagolini glasses and Worth's lights are ambiguous.

A clearer clinical picture

Assessment of fusion/area of Binocular Single Vision (BSV) in manifest deviation can be more clear-cut than with Bagolini glasses or Worth's lights, because of the controls within the slides.

It can help in differential diagnosis, including DHD versus intermittent exotropia. It may also influence management, since the surgeon may opt to go straight to surgery rather than using Botox, knowing BSV is achievable.

In rapidly alternating exotropia, BSV and alternating suppression can be difficult to distinguish with Bagolini glasses or Worth's lights, because of the controls within the slides.

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9 positions of gaze

Simultaneous assessment of horizontal, vertical and torsional deviations, fixing either eye in 9 gaze positions, is a unique selling point for the Synoptophore. Although Maddox Wing provides this information for primary position, it cannot be applied in other gaze positions. With the use of a head and chin rest, the range of movements is standardised for consecutive measurements.

The measurement of torsion is essential to differential diagnosis of unilateral versus bilateral fourth nerve paresis, where >10-15° degrees of excyclotorsion is indicative of bilateral palsy, and fourth nerve paresis from skew deviation/ocular tilt reaction, where the hypotropic eye is extorted and the hypertropic eye is intorted.8 deviation/ocular tilt reaction, where the hypotropic eye is extorted and the hypertropic eye is intorted.8

Accurate assessment of suppression areas

Suppression area(s) can accurately be assessed. Unlike with prisms, the image is moved in a continuous rather than step-wise manner. With prisms, there are unequal steps and the difficulty of prism distortion is removed in larger deviations.

Accurate assessment of torsion also informs the surgeon when planning extra-ocular muscle surgery and retinal macular surgery.

The Synoptophore can unmask torsion in patients who cannot achieve fusion with prisms, and it is not clear why. This can be achieved with other torsion tests, however, the synoptophore allows correction for the torsion and the assessment of the impact of this on BSV.

Angle Kappa; a valuable measurement

Assessing angle kappa, (the angle between the pupillary axis and the line of sight) is key. This is important to recognise in cases of pseudo-strabismus, but it is also of value to measure in cases of strabismus where angle kappa may enhance or mask the deviation.

This can influence the amount of surgery performed to achieve an acceptable cosmetic appearance. It has also been recognised that the measurement of angle kappa is essential in cases of refractive procedures, especially hypermetropes, to ensure accurate centration of the ablation zone.

Relevance to research

The Synoptophore also retains relevance to current research, with 48 citations in Google Scholar so far this year, and more than 50 per annum over the past 5 years.

There are downsides to the Synoptophore which cannot be ignored: it does induce convergence and create an artificial visual environment. Updating slides and moving to a computerised version seems the next logical step. The latter has already been trialled in China and the US, but has not yet become commercially available. I am convinced, however, that it remains an important component of orthoptic practice.

As a practice placement educator and manager, I am aware that some students, new graduates (and older ones too) shy away from using the synoptophore, as they consider it too difficult or complicated. I would encourage all to re-acquaint yourself with it.