

Case Study 5: 12 month old boy with severe/complex visual impairment

Report included:

Luke is a 12 month old infant with a history of epilepsy, **right-sided limb weakness** and delayed development of uncertain aetiology. He is under the ongoing care of ophthalmology and receives regular occupational and physiotherapy input. His seizures are currently well controlled and mum reports a reduction in the roving eye movements that Luke demonstrated during the first year of life and some improvement in his eye control since his seizures have improved. She feels Luke reacts to coloured brightly illuminated toys, but that his visual attentiveness is variable.

Summary of findings

Luke demonstrated poor head control and low tone centrally Luke has improved tone over the past few months however still has increased tone in his Right arm. This hand opens up at times but can be held fist.

Luke showed pupil responses to light and dark room illumination. He attended to a large (approximately 10cm diameter), illuminated ball, held close to his eyes (<30cm). However, responses were delayed and intermittent. Luke responded more readily to objects presented on his left side today, suggesting a constriction or neglect of his right visual field, consistent with his motor asymmetry. Luke's visual responses today were poorer than would be expected from a baby of his age and are consistent with a **severe visual impairment**. His visual impairment does not appear to be due to a problem with his eyes and glasses are not appropriate. It is likely that the seizure activity Luke has experienced **has impaired his brain's ability to use the visual information received from his eyes. Sometimes this is termed cortical visual impairment.** It is not possible to predict at this point how Luke's visual development will progress as his condition unfolds but this should be monitored.

Luke is likely to respond best to visual stimulation when objects are presented **straight ahead or to his left side and close to him.** It may be useful for therapists and parents to present food, lights, and faces in this area in order that he visually engages with them. However, work to encourage appreciation of the right side of his vision may be also be useful in therapy sessions. Large, bright, illuminated toys at close distances are likely to be most appropriate for stimulating his vision. Any material should be placed close to Luke (within 30cm or closer), be presented one thing at a time and slowly so that he has time to 'find' the object with his eyes and the opportunity for his brain to process information about it. Sound-making toys may increase his interest and encouraging him to gain feedback using touch by placing his hands on objects may also help him visually locate and add meaning to what he sees.

Information regarding the need for slow presentation of objects to give time to process

To encourage optimal visual development we would also recommend the use of supported seating to give Luke a stable position in which he can make best use of the vision and limb control he has. It is harder for him to use his eyes to best effect if

Postural information relevant to Occupational Therapist

he is lying flat or hunched over. We will liaise with Luke's local Occupational therapy team regarding this and will arrange for a teacher for the visually impaired to contact you in due course and will review Luke in 1 year's time.

Technical Details

Ocular posture: Alternating divergence. Head posture appears straight today.

Convergence: no response elicited

Eye movements: grossly full.

Pupillary reflexes: Pupils constricted in normal room illumination versus a dark room. Reflexes to penlight equivocal. No anisocoria noted, with pupils round and regular.

Eye contact: None demonstrated today.

Visual fields: Reaction to targets presented vertically above and below, and to the left side when object is close. No reaction to targets presented in Right visual field.

Visual acuity (Binocular): Attempted Preferential looking Keeler cards. No response elicited to largest target. Delayed, intermittent response to illuminated ball (approx. 10cm diameter) within 30cm.

Refractive error (non-cycloplegic retinoscopy):
No significant refractive error noted. Reflexes clear.

Ophthalmic examination: grossly normal. No gross pallor of optic discs.

Seen by: AN Other, _____ Senior Optometrist

Cc: Paediatric Neurologist, Consultant Paediatrician, Consultant Ophthalmologist, Parents, Therapists