



The Cerebral Visual Impairment Society

Registered Charity Number 1155765

'Raising Awareness of CVI'

Parent/Carer Information Leaflet on Cerebral Visual Impairment in Children with Profound and Multiple Learning Difficulties

For more information, please find us at www.cvisociety.org.uk

WHAT IS CEREBRAL VISUAL IMPAIRMENT?

Cerebral Visual Impairment (commonly referred to as CVI) is a form of visual impairment caused by damage to part or parts of the brain involved in processing visual information passed from the eyes, along the visual pathways in the brain. Its severity will depend on the extent to which the brain is affected. Much of the brain is linked with visual processing tasks, from accurate selection of objects, accurate reach and grasp, coordinated movement to being able to give visual attention to more than one thing at once. Cerebral visual impairment is much more common than realised. Children with profound and multiple learning difficulties (PMLD) may have 'healthy' eyes and there may seem to be no obvious reason why they are not responding visually. Some children may have poor vision due to eye problems as well as CVI, but in many cases the child's eyes may be classed as healthy. CVI can also happen later in life due to illness or injury.

Common Causes of CVI

- Lack of blood supply/oxygen to the brain
- Head injury
- Meningitis and encephalitis
- Some cases of shunted hydrocephalus
- Infection to the brain
- Neonatal hypoglycaemia (very low blood sugar at birth)
- Other medical conditions which may be associated with CVI, some rare, some more common such as-
- Premature birth
- Cerebral Palsy
- Hemiplegia

What are some of the features of CVI which I may notice in my child?

The following behaviours are all associated with CVI in children with profound and multiple learning difficulties (PMLD).

- Reaching for objects to the side but not straight ahead
- Looking away from people/objects in order to 'see' them
- Vision seems to be variable and may change on a day to day or even an hour to hour basis.
- For the mobile child – uncoordinated movement and reach for objects
- Inability to fix on objects for any length of time
- Irregular eye movements
- Lack of response to objects placed on a 'busy' background which the child may respond to against a plain, contrasting surface
- Eye movements not made independently of head movements
- Difficulty seeing objects unless moving or in some children, unless objects are still
- Lack of response to faces/facial expression

Cortical Blindness and CVI

Cortical blindness is a condition in which there is profound damage to the back of the brain which is responsible for vision, - the occipital cortex, and the visual pathways from the eyes leading to it. Profound Visual Impairment is the result, but this may be accompanied by apparent intermittent ability to detect movement, or "Blindsight", usually from the side.

Does my child need to wear glasses?

Many children with cerebral visual impairment wear glasses. Glasses are prescribed for different reasons.

Short sightedness is common in children born prematurely. Without glasses the child is in focus for near but distant objects are out of focus, hence the term short sight. For some children with reduced clarity of vision this means that the printed page can be seen better without glasses.

However, in children with brain damage long sightedness can cause problems which are alleviated with glasses. The focusing system may not work well so that even a very small amount of long sightedness may not be corrected. This problem can affect over half of such children in special schools, and a small correction for what would otherwise be a 'normal' amount of long sightedness can make a significant difference to the child's ability to see. Long sightedness can also be responsible for making the eyes squint by turning in and when glasses are worn the squint is reduced or eliminated. In children who are long sighted the spectacles magnify the eyes and ideally they need to be worn most of the time.

Hyoscine Patches

When hyoscine patches are used to control salivation they can paralyse the pupils in the eyes. When they do, they also paralyse focussing (accommodation)

Glasses may be needed because - paralysed accommodation means:

- No focussing for near
- No focussing to overcome any long sightedness present

How can I help my child and encourage them to respond to visual stimulation?

- Notice what lighting conditions your child prefers, some prefer darkened areas and some brighter ones.
- Understand that attention can only be given to one or two things – often only one thing at a time
- Ensure they are comfortable, comfort helps attention
- Eliminate background sounds and other distractions
- Use one object at a time and not many in total – less really is more!
- Provide a meaningful experience at the right speed – use the KISS principle!
- **(Keep It Slow and Simple)**
- Give your child favourite objects to begin with then watch and wait – most of all give them time to respond – don't be tempted to 'fill the space'
- Remember responses will vary – tiredness, ill health will all make a difference.
- Remember your child will be working very hard processing information and will tire easily –small activities, little and often works best.
- Your child will also find it easier to process visually, when they are not required to look at busy backgrounds, plain is best, therefore try to ensure that items/toys are placed on plain, high contrast backgrounds so they are more easily recognised and processed by the brain – again, allow your child lots of time to respond. Remember they may look, then look away before returning to the item.
- Give your child the opportunity to handle lots of different textured toys and objects