

### Cortical Blindness

Cortical Blindness, also known as “Cortical Visual Impairment” (CVI) is a temporary or permanent visual impairment caused by the disturbance of the posterior visual pathways and/or the occipital lobes of the brain. The degree of vision impairment can range from severe visual impairment to total blindness. The degree of neurological damage and visual impairment depends upon the time of onset, as well as the location and intensity of the insult. The presence of cortical blindness is not an indicator of the child's cognitive ability.

The major causes of cortical blindness are asphyxia, perinatal hypoxia ischemia, developmental brain defects, head injury, hydrocephalus, and infections of the central nervous system, such as meningitis and encephalitis.

Initially, children with cortical blindness appear blind. However, vision tends to improve. Therefore, cortical visual impairment is a more appropriate term than cortical blindness. The diagnosis of cortical visual impairment is a difficult diagnosis to make.

### **Developmental Areas**

**Children may display some of the following characteristics**

#### **Social and Emotional Development**

- May become easily upset and frustrated with him/herself or others
- Require help with 'self help' tasks

#### **Physical Development**

- Spatial confusion is common
- May be photophobic, others may be compulsive light gazers
- May exhibit poor depth perception, influencing their ability to reach for a target
- May experience a "crowding phenomenon" when looking at a picture: difficulty differentiating between background and foreground visual information
- May look at an object momentarily and turn away as they reach for it
- Often experiences difficulty tuning out excessive visual stimuli in the immediate surroundings
- May show poor motor co-ordination
- May exhibit delays in fine motor skills
- May tire easily

### **Language and Communication Development**

- Some children have good language skills and others do not

### **Cognitive Development**

- May have short visual attention span
- Learning difficulties may result from inability to focus or pay attention

## **Cortical Blindness** Inclusion Strategies

Each child diagnosed with **Cortical Blindness** will be different and individual. It is important to gain information from the parents as to what characteristics of **Cortical Blindness** their child displays. It is important to work closely with the parents as well as any additional support specialists e.g. therapists who may be involved with the child. It is also important to gain an understanding from the parent as to what is the most important aspect of their child attending your service. What is it that parents hope to gain from using your service? The following inclusion strategies are just some examples which may be applied to support the inclusion process. This list is only the start and it is dependant on a variety of factors such as environment, length of time child is in care, child's interest, likes, dislikes and skills already achieved. The strategies are divided into developmental areas however some strategies overlap and assist in a variety of developmental areas.

### **Social and Emotional Development**

- Support children's social development by recognising and positively reinforcing their successful social interactions.
- Focus on what the child can do and provide opportunities for the child to engage in experiences that they are really interested in. This helps to build their confidence and self esteem.
- Maintain a calm environment that promotes emotional security through consistency.
- Planned relaxation & quiet activities can assist children in maintaining a calm state.

### Physical Development

- Allow for intermittent "break" times.
- Keep the child comfortable when vision use is the goal in order that "seeing" is the only task.
- Head support should be provided during play or work sessions, to avoid involuntary shifting of the visual field.
- Keep toys and environment simple and uncluttered. Use books with one clear picture on a contrasting simple background.
- Use familiar/real objects (bottle, bowl, plate, bath toy, diaper, cup, spoon, favourite toy) one at a time. Familiarity and simplicity are very important.
- Since the color system is often intact, use bright fluorescent colors like red, yellow, pink, and orange.
- Try different lighting situations to assess optimal conditions for viewing. Try locating a light source behind, and/or to the side of the child.

### Language and Communication Development

- Provide a plan for the daily events/routine and discuss this with the child so they know what comes next e.g. morning greeting, outdoor play, morning tea, music, indoor play, lunch, rest etc..
- Provide pictorial cues to accompany the routine so that the child can anticipate what comes next. Establish a routine for transitions e.g. when indoor play is about to finish, give the children a warning by playing music for them to tidy up to.
- Use clear and simple instructions, ensuring instructions have been understood before giving more.

### Cognitive Development

- Set achievable goals and tasks for the child that they are capable of achieving.
- Ensure experiences provided are within the child's capacity for maintaining attention.
- Repetition is very helpful: use the same objects and same process each time to provide familiarity and security for the child.
- Look for toys and activities that motivate the child.
- Vision is often best stimulated when paired with another sensory system. For example, auditory cues may help attract the child's attention.
- Introduce new and old objects via touch and verbal description.
- Remind the child of routines regularly.
- Give instructions that the child is able to understand.
- Reinforce learning with concrete representation.
- Avoid tasks that frustrate the child.

### Reference

1. "Observations on the Habilitation of Children with Cortical Visual Impairment"; Groenveld, M.; Jan, J.E.; Leader, P., Journal of Visual Impairment and Blindness, January, 1990.
2. "Visual Behaviors and Adaptations Associated with Cortical and Ocular Impairment in Children"; Jan, J.E.; Groenveld, M.; Journal of Visual Impairment and Blindness, April 1993, American Foundation for the Blind.
3. Video: "Issues in Pediatric Ophthalmology: Cortical Visual Impairment (1994)", Child Health and Developmental Media, Inc., 5632 Van Nuys Blvd., Suite 286, Van Nuys, CA 91401
4. "Cortical Visual Impairment in Children"; Good, W; Jan, J.E.; Luis, D. (1994) Survey of Ophthalmology. 38:4: 351-364.

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