



Visual Impairment



What is Visual Impairment?

Visual impairment (VI) refers to a significant functional loss of vision, rather than the eye disorder itself. Different terms are used to describe visual impairment in different contexts.

VI in general is defined as the loss of visual acuity (VA) and/or loss of visual field that makes it difficult or impossible for people affected to complete daily tasks without specialised adaptations. Within this group, individuals who can still make substantial use of their residual vision are described as “partially sighted” or having “low vision”; whilst “blindness” refers to those with VA of 3/60 or less. In the educational setting, “educational blindness” refers to the condition in which students learn via Braille or other non-visual media.



How does Visual Impairment affect children?

Children with VI may have problems of reduced visual acuity for near or distant objects, squint, defective colour vision, or loss of visual field, amongst others. There are different behavioural manifestations at different stages of the child’s development.

In infants, reduced awareness and exploration of surroundings will lead to poor social eye contact and less interest in exploring own body parts (such as looking at his/her hands), and in looking at faces or toys, with poor ability to visually follow their movements. Blinking to bright light may be absent.

Young children with VI often keep their heads down, and continue to show poor eye contact. Because of poor vision they look at objects from a very close distance, easily bump into them, and search for their way using hands. There is usually a lack of

facial expression and body language. They may tend to gaze at light, or be irritated by it.

Several disabilities frequently co-exist with VI. These include mental retardation, cerebral palsy and hearing impairment. Some children with cerebral palsy have visual impairment due to brain damage, and about 50% of these children have difficulty controlling the muscles of the eyes, resulting in squint. 5% of children with visual disabilities also have hearing impairment.



What causes Visual Impairment?

Different causes of visual impairment can be classified according to the anatomical site affected. These are broadly divided into two groups, with conditions that affect the *eye*, such as albinism, cataract and retinopathy; and those that affect area(s) of the *brain* that are responsible for interpreting vision, such as brain injury as a result of asphyxia, trauma or infection.



How common is Visual Impairment?

In developed countries, the prevalence estimation for children with mild low vision is between 0.8 to 1.8 per 1000 and that for severe low vision or blindness is around 0.1 to 0.3 per 1000.



What is the mainstay of treatment for children with Visual Impairment?

Early identification and treatment, as well as genetic counseling for inherited diseases such as albinism and retinitis pigmentosa are important in the management of VI.

Treatment may be needed for some medical conditions. These include surgery for cataract, laser therapy for retinal problems of prematurity and medical intervention for galactosaemia. Corrective lens and optical aids will help to maximize the use of residual vision.

Much can be done to improve the development of children with VI. Independence in self-care and mobility should be encouraged. Concepts such as object permanence, categorization of objects and ideas, and language use should be taught through a multi-sensory approach, with active exploration and clear verbal guidance.



Do children with Visual Impairment need special education?

A visually impaired child has a wide range of educational needs including training in listening skill, tactile discrimination, orientation and mobility, literacy and social adaptation.

Pre-school children with VI may be supported by the Early Intervention Program (EOP) hosted by the Ebenezer School & Home for the Visually Impaired, or through enrollment in special child care centres.

School aged children may apply for educational support from the Education and Manpower Bureau's remedial support, or the resource support program for VI children from Ebenezer School, to help them in the mainstream setting. Adapted curriculum, individualized educational plans and assistive technologies, supported by specially trained teachers (teachers trained in the use of Braille, low vision aids, orientation and mobility) are essential. Physical accommodations to enable these children to be seated for effective learning in the classroom and to move around independently and safely are necessary. The student's participation in class, sports, leisure and extra-curricular activities should be encouraged and peer acceptance promoted, to facilitate and enhance the learning and development of the child.

For children with severe VI, special schools that provide structured programs are available. These include the Ebenezer School & Home for the Visually Impaired and the Ebenezer New Hope School (previously named as Ebenezer Training Centre).



Can children with Visual Impairment grow up normally?

Outlook for these children's visual capacity depends on the underlying cause of visual loss, and the degree of injury that the visual system has suffered. VI due to ocular causes such as cataract and glaucoma can be improved if treated early, and those caused by an injury to the visual centre of the brain may also show improvement over time. In contrast, degenerative diseases may gradually lead to deterioration of vision, such as progressive constriction of the visual field in retinitis pigmentosa.

In terms of career development for the visually impaired, unemployment rate used to be high, in part due to the unsupportive attitude of employers and the general public, and also due to the unavailability of adaptive equipment for processing printed materials. More recently, the advancement in new technology such as computers with speech output, portable electronic brailers and print-enlarging devices, has broadened employment opportunities.



References

Holbrook, M.C. (1996). Children with Visual Impairments – A Parents' Guide.
Woodbine House, Inc.

Relevant websites

American Foundation for the Blind	http://www.afb.org/afb
Canadian National Institute for the Blind	http://www.cnib.ca
National Federation of the Blind	http://www.nfb.org
The Hong Kong Society for the Blind 香港盲人輔導會	http://www.hksb.org.hk
Hong Kong Blind Union 香港失明人協進會	http://www.hkbu.org.hk



Child Assessment Service, Department of Health
Hong Kong Special Administrative Region Government