

Professional statement

Neurological Visual Impairment (NVI) refers to any injuries happening to the brain and affecting vision. NVI can be congenital or acquired. Neurological visual impairment is a master category that encompasses two sub-categories: Cerebral Visual Impairment and Cortical Visual Impairment. Both subsets are often shorten as CVI. Although they have the same acronym, they are not the same condition. Many people use both names interchangeably as if they were identical terms, but it is not the case. Both CVIs are specific to different areas of the brain, and have different characteristics, even though the area of cortical visual impairment is included in cerebral visual impairment. In addition, both CVIs can co-exist. The field has chosen the term NVI as a global term that includes both CVIs and allow them to exist together, making sure both terms stay distinct and that one term won't eat up and replace the other one. Also, the term NVI allows for the inclusion of brain damage that would affect vision, but would be located outside the defined areas of CVIs, as NVI encompasses the whole brain. The term NVI has a synonym used by some professionals like Dr. Lehman, and referred to as Brain-Based Visual Impairment.

The cortical visual impairment refers to disorders in the cortical area, which includes the LGN, the optic radiation and the primary visual cortex (also called V1 or striate cortex). The cortical area is located in the occipital lobe. This structure is the first to process visual information, in a general way. After leaving the striate cortex, the visual information continues toward the extra striate cortex, where it will be processed more specifically. The cerebral visual impairment refers to disorders in the rest of the occipital lobe, the ventral stream in the temporal lobe, the dorsal stream in the parietal lobe, and the cortical area. Damage to the ventral stream affects recognition and orientation, while damage to the dorsal stream affects visual search, visual attention, visual guidance of movement and visual perception of movement.

Neurological visual impairment is caused by brain damage affecting visual pathways or centers of the brain responsible for vision, while ocular visual impairment is caused by damage to the structure of the eye or the optic nerve. Neurological visual impairment can co-exist with ocular visual impairment. From the eye to the LGN the visual information is transmitted. Starting at the LGN the visual information is processed. In the cortical area of the brain, the first map of the visual information is created. Due to this aspect, the characteristics of the cortical visual impairment are close to the ones of the ocular visual impairment.

For many years, the official definition of legal blindness and visual impairment, which allowed children to be eligible for services, included visual acuity and visual field specific criteria. However, in 2017, the federal government reworded the eligibility for visual impairment, making specific references to visual acuity and visual field disappear. The changes brought to this definition puts the emphasis, now, on children's level of performance and functional vision.