

Neurological Visual Impairment (NVI)

This document lists some causes of neurological visual impairment (NVI) as well as some behaviors exhibited by children with NVI. If a child has not yet been diagnosed with NVI, this document will provide some key elements to identify NVI based on discussions with parents, family history, child's medical reports and observations. If a child already has a diagnosis of cerebral or cortical visual impairment (CVI), this document will provide some additional information. In both cases, use this document to assist you in making a referral.

Medical conditions

Non-exhaustive list of medical conditions that may appear on reports, with a brief explanation and some common expressions that parents may report.

- * **Hypoxic Ischemic Encephalopathy (HIE):** Poor blood and oxygen delivery to the brain
- * **Hypoxia/Anoxia:** Reduced/Absence of oxygen supply in the brain (parents may report: baby born blue, baby stayed in the NICU on a vent)
- * **Periventricular Leukomalacia (PVL):** Damage to the white matter nerve fibres mainly due to poor oxygen or blood supply during early development
- * **Intraventricular Hemorrhage (IVH):** A broken blood vessel that leaks blood in the brain
- * **Hydrocephalus:** Water (cerebral spinal fluid) does not escape properly and increase pressure in the brain
- * **Infantile spasms and epilepsy:** Change in the brain electrical activity resulting from seizures
- * **Stroke:** Sudden interruption of blood flow in the brain
- * **Traumatic Brain Injury (TBI) and Non-Accidental Trauma (NAT):** Bleeding, blunt injury and high pressure in the head that can contribute to brain damage (parents may report: car accident, shaken baby)
- * **Brain malformations:** The brain did not develop properly during pregnancy (parents may report: genetic disorders, premature baby)
- * **APGAR (Appearance, Pulse, Grimace, Activity, Respiration):** Test performed a few minutes after birth to evaluate vital functions of the baby, if the score was under 7 adapted treatments were implemented
- * **Extreme temperature exposure:** The brain might be damaged due to a too much high temperature affecting brain tissue (parents may report: baby stayed outside on a hot day under a blanket, or in a car)
- * **TORCH infections:** Viruses, bacteria and parasite can all cause damage to the brain (Toxoplasmosis, Hepatitis B, Rubella, Cytomegalovirus and Herpes)
- * **Genetic disorders:** Some disorders can affect brain structure and/or function
- * **Fetal alcohol syndrome or drugs:** This can affect brain structure and/or function

Behaviors

Non-exhaustive list of behaviors that children with NVI may exhibit.

- * The child is unable to recognize faces (prosopagnosia) and facial expressions
- * The child is unable to recognize objects and text
- * The child needs to be close to people or objects to recognize them
- * The child has difficulty finding objects, reaching for objects and pointing to objects
- * The child is unable to perceive more than one object at a time (simultagnosia)
- * The child does not see toys or balls moving a bit fast in front of him (dyskinesia)
- * The child often trips while walking and has difficulty walking
- * The child often bumps into objects or people while walking
- * The child is afraid to jump into a swimming pool, off a bench or go down stairs
- * The child screams, cries or gets angry when in a crowded environment
- * The child refuses to go to his favorite store at the mall
- * The child feels stressed and anxious around people
- * The child does not play or interact with other kids
- * The child screams when his mother leaves his gaze
- * The child needs to hold someone's hand in crowded places
- * The child closes his eyes when walking in the street and holding someone's hand
- * The child does not look directly at people to make eye contact
- * The child gets easily lost in familiar places
- * The child wiggles his fingers in front of his eyes
- * The child repeats words or phrases over and over
- * The child often leaves food in one side of his plate (hemianopia)
- * The child gets mad when objects or furnitures are moved at home or at school