



Supporting children
who are blind or
have low vision

Information for physicians

Ontario's Blind – Low Vision Early Intervention Program is designed to give children who are born blind or with low vision the best possible start in life.

Vision problems should be identified as early as possible so support and intervention services can be offered to give the child the best opportunity for healthy development. Specialized family-centred services are funded by the province and are available for children from birth to Grade One.

The program provides education and support for parents so that they can encourage the healthy development of their children. Parents learn to help their children develop the critical skills they need for daily activities, at home and in early learning and care settings.

An infant's early visual experiences are critical for optimal development of the visual system. Early visual experiences also promote bonding and attachment between the infant and caregivers. In addition, it is estimated that vision accounts for 85 per cent of all early learning. This means that a child who is blind or has low vision is at a significant risk for difficulties in all areas of development, including:

- communication and language
- fine and gross motor skills
- understanding and thought processes
- social skills
- emotional development
- self help

Without special support from an early age, a child who is blind or has low vision will not develop the communication and social skills, exploratory behaviours and cognitive functions that lay the foundation for future learning. However, with specialized early intervention, parents will learn how to encourage the healthy development of their child and to help them learn the skills they will need to succeed in school.

Incidence and eligibility

Every year in Ontario, approximately one in one thousand babies is born with a visual impairment, resulting in blindness or low vision. Early detection of a visual impairment is an essential step in referring a child to the Blind-Low Vision Early Intervention Program.

Although a severe visual impairment is typically identified at birth or soon after, many visual conditions are not detected or diagnosed until later in the child's development. In these cases the family physician or paediatrician will be the first health care provider to see these children. A thorough eye examination is recommended for all children at age 3¹. This should start with a vision test in the family physician or pediatrician's office.

All children between birth and Grade One are eligible for early intervention services under the Blind-Low Vision Program if they meet the following criteria as determined by an ophthalmologist and/or optometrist:

- visual acuity of no better than 20/70 in the better eye after correction, and/or
- visual field restriction of 20 degrees or less in the better eye after correction, or
- physical condition of the visual system that cannot be medically corrected and affects visual functioning to the extent that specialized intervention is needed to facilitate vision development. These conditions include, but are not restricted to:
 - oculomotor apraxia
 - cortical visual impairment
 - retinitis pigmentosa
 - optic nerve disorders
 - delayed visual maturation and/or
 - progressive visual loss

¹ Recommendation of the American Association of Pediatricians, and the American Association of Pediatric Ophthalmologists.

Program services

When a child is diagnosed with blindness or low vision, he or she can be referred to the local Blind – Low Vision Program by a physician, ophthalmologist, optometrist, parent or caregiver. Check the back of this brochure to find the program closest to you.

The Blind – Low Vision program offers three types of services:

1. Family support
2. Intervention services
3. Consultation services

1. Family support

The program provides support to parents when their child has been diagnosed with blindness or low vision. These services are provided by family support workers who are graduate-level social workers specially trained in the impact of a visual impairment on child development.

The family support worker will help the family understand and cope with the implications of the diagnosis and help them make informed decisions about support services.

2. Intervention services

For a child with visual impairment, touch, hearing, and the use of remaining vision are critically important for learning and development. Support by trained and knowledgeable professionals in the area of visual impairment is essential to help the child develop these senses to the best of his or her ability.

Intervention services are provided by specially trained early childhood blind/low vision consultants in the family's home. The consultant teaches parents how to support their child's development in the following areas:

- intentional movement (orientation and mobility)
- development of motor skills (e.g., rolling, reaching, crawling, walking, and use of hands to manipulate and explore objects)
- daily living skills (e.g., eating, dressing, toileting)
- concept development (e.g., object identification, function, and characteristics)
- social and emotional development

- language and communication development
- how to make the most of residual vision
- how to use all the senses to promote development

3. Consultation services

When a child who is blind or has low vision enters a child care or early learning centre, Blind – Low Vision Program staff will help the early childhood educators at that centre learn how to best work with and teach the child. They can help the child care or early learning centre adapt to meet the child's needs.

Indicators of a visual impairment

It is most important to monitor infants' and young children's visual development, because early identification of a problem can sometimes eliminate or decrease the risk of long-term complications.

If you notice that an infant or young child has any of the following symptoms, a referral to an ophthalmologist is warranted:

- drooping eyelids
- lack of eye contact by three months
- lack of visual fixation or following by three months
- haziness or whitish appearance inside the pupil
- frequent "wiggling," "drifting," or "jerky" eye movements
- misalignment between the eyes (eye turns or crossing of eyes)
- lack of coordinated eye movements
- drifting of one eye when looking at objects
- turning or tilting of the head when looking at objects
- squinting, closing or covering of one eye when looking at objects
- excessive tearing when not crying
- excessive blinking or squinting
- excessive rubbing or touching of the eyes
- avoidance or sensitivity to bright lights

Many of these concerns may be indicative of disorders such as cataract, glaucoma, nystagmus with or without neurological issues or other genetic issues. A delay in diagnosis or treatment or misdiagnosis can lead to worsening of the prognosis.

Chronology of visual behaviours

Watch for any signs that an infant or young child is not meeting an optometrist or ophthalmologist right away if you have any

At birth

- tracks moving objects in a jerky manner
- appears to look through, not at, objects of interest
- has short periods of visual alertness
- prefers moving targets and human faces
- scans faces with fixation concentrated at the edges
- has uncoordinated eye movements
- is aware of sources of light and will turn head and eyes toward diffused light
- prefers patterns and objects that have large features, high contrast and borders
- needs a period of familiarity and some degree of habituation before shifting gaze

By two months

- tracks moving objects more smoothly
- is awake and looks around for longer periods of time
- is more likely to focus on faces or bull's-eye patterns
- looks at caregiver's face, often looking at the hairline or edge of face
- scans contours of objects

By three months

- is able to disengage focus on visual target
- has greater control of eye movements due to increased cortical development
- is more likely to make eye contact
- demonstrates proper eye alignment
- is more responsive to shape and events due to expansion on the visual field
- has developed strong visual preferences for novel objects

ng the milestones listed below. Consider making a referral to concerns.

From four to seven months

- acquires greater control over shift of gaze, making attention more flexible
- shifts fixation across midline
- has developed binocular vision
- begins to reach, grasp, and manipulate objects that engage his or her visual attention
- reaches adult levels of visual acuity and binocularity by 6 - 7 months

From seven to eleven months

- attends to small objects
- makes eye contact with adults at several feet
- shows visual joint attention with objects and adults
- proficient in visual exploration of novel objects
- begins to imitate actions of others with a delay

From 12 – 24 months

- attends more to novel objects and events
- sustained attention for the purpose of exploring and learning
- has increased looking behaviours during play with an array of toys
- is skilled in following glances and gestures of others by 18 months
- sustained attention to complex visual displays such as looking at television by 24 months

Eye conditions causing severe vision loss in young children

Eye conditions

Cortical Visual Impairment (CVI)

Temporary or permanent visual impairment caused by a disturbance in the posterior visual pathways or the occipital lobe of the brain that results in the visual systems of the brain not consistently understanding or interpreting what the eye sees.

Retinopathy of Prematurity (ROP)

Scarring of the retina caused by proliferation of blood vessels into the retina often associated with prolonged life-sustaining oxygen therapy of premature infants, low birth weight or complications relating to prematurity. Sometimes occurs with corneal opacification, cataracts, retinal detachment and glaucoma.

Optic Nerve Hypoplasia (ONH)

Underdevelopment of the optic nerve during fetal development, sometimes appearing as a small, pale or gray nerve head surrounded by a light halo.

Associated effects/functional implications

- fluctuating visual function
 - inattention to visual stimuli
 - light gazing
 - difficulty discriminating figure-ground
 - central or peripheral vision loss
 - light sensitivity
 - eccentric fixation
-
- at risk for high myopia (near-sightedness)
 - risk of field loss due to retinal detachment
 - visual functioning varies considerably
 - secondary complications may include glaucoma, uveitis
-
- central nervous system or endocrine disorders may be present
 - rhythmic, involuntary eye movements
 - visual functioning varies but usually results in reduced visual acuity, field defects
 - mild light sensitivity may occur
 - associated with hypopituitarism

Eye conditions causing severe vision loss in young children

Eye conditions

Albinism

A hereditary condition resulting in a deficiency or absence of pigment in the eye, skin and hair or eyes only, as a result of decreased melanin production.

Structural Abnormalities:

Microphthalmia

Reduction in the size of one or both eyes as result of congenital malformation or disease.

Coloboma

Congenital malformation in which part of the eye (choroid, iris, lens, optic nerve, or retina) does not form due to failure of fusion of fetal tissue.

Anophthalmia

Absence of the globe and ocular tissue from the orbit of one or both eyeballs. Sometimes associated with multiple congenital malformations.



Associated effects/functional implications

- macula is affected and results in a reduced visual acuity 20/200-20/70.
- rhythmic, involuntary eye movements
- light sensitivity
- refractive error
- visual fields may be affected

- decreased visual acuity
- light sensitivity
- fluctuating visual abilities
- may also occur with cataracts, glaucoma, aniridia, and coloboma

- decreased visual acuity
- rhythmic, involuntary eye movements
- strabismus
- light sensitivity
- visual field loss

- severe visual acuity loss to blindness
- severe visual field loss

Regional Blind – Low Vision Early Intervention Programs

Ontario's Blind – Low Vision Early Intervention Program provides its services through the following regional offices:

Windsor-Essex and Kent-Chatham
contact "Talk 2 Me"
(519) 252-0636
www.connectwithus.ca

Southwest Region
Elgin-St. Thomas, Grey Bruce Owen
Sound, Huron, Lambton,
Middlesex-London, Oxford, Perth
(519) 663-0273 or 1-877-818-8255

Central South Region
Hamilton, Niagara, Brant and
Haldimand-Norfolk
(905) 385-7927 ext. 228 or
1-866-826-4327 ext. 228
www.earlywords.ca

Central West
Halton, Peel, Waterloo and
Wellington-Dufferin contact Erinoak
(905) 855-3557 or 1-877-374-6625
TTY 905-855-4925
www.erinoakkids.ca

Toronto
Toronto Preschool Speech and
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TTY 416-338-0025
www.tpsls.on.ca

Simcoe County and
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www.childdevelopmentprograms.ca

Southeastern Region
Kingston and counties of
Frontenac, Lennox & Addington,
Leeds, Grenville, Lanark, Hastings
and Prince Edward Counties
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or 1-800-267-7875 ext. 1145
TTY (613) 549-7692
or 1-866-299-1136
www.kflapublichealth.ca

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Ottawa, Renfrew County and District
and Eastern Ontario contact
"FirstWords"
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TTY 613-820-7427
www.pqhcs.com

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1-877-522-6655

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Children's Centre Thunder Bay
(807) 343-5000
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www.childrenscentre.ca

Northwest Region
Kenora Rainy River
Northwestern Health Unit
1-877-553-7122
www.nwhu.on.ca