

## What's Involved in a Child's Eye Exam with a Doctor of Optometry?

### What is an Eye Exam?

Children don't always have the awareness or experience needed to recognize that they have a vision problem. Most of the time, they assume that everyone sees the way they do. All children need regular comprehensive eye examinations to determine if they have healthy eyes and vision.

Young children don't have to know the alphabet or even speak to have their vision tested by an optometrist. Many vision tests use pictures or symbols familiar to preschoolers, and children can respond by naming, matching or pointing. Other tests are done objectively, so young children don't have to be able to communicate well to be evaluated.

A comprehensive eye examination for children includes the following elements:

### 1. Relevant History

The optometrist will review your child's health history, including prenatal conditions, birth history, current and past illnesses and developmental milestones. The optometrist also will ask you about any family history of eye conditions (particularly lazy eye or strabismus) or relevant medical conditions. Details of your child's performance in school, sports, and other activities will also be discussed. You should advise the optometrist if you have any specific concerns or have noticed any problems with your child's eyes or vision.

This information helps to determine if your child is experiencing vision problems or is at risk for various eye conditions.

### 2. Visual Acuity

Visual acuity is a measure of the sharpness of vision; it describes the size of detail that a child can see and use in daily activities.

Adult eye examinations utilize letter charts to assess visual acuity, however young children may be unfamiliar with, or hesitant to identify, letters or numbers. A variety of standardized eye charts using pictures and symbols can reliably determine visual acuity in young children, even those who cannot yet speak or who may be hesitant to respond.

Visual acuity is determined for each eye separately; this involves covering one eye at a time (with an occluder, eye patch, or parent's hand). Young children sometimes find this procedure a bit distressing –

it can be helpful to practice at home so that your child feels at ease when this is done during the exam.

While visual acuity of 20/20 (6/6) is expected for adults, it is normal for children to demonstrate different levels of visual acuity at different stages of development; your optometrist can determine if your child's vision is at a normal level for his/her age.

### **3. Eye Co-ordination**

Eye co-ordination includes eye alignment, movement, and tracking, and allows perception of motion and depth.

To test eye co-ordination, the optometrist will observe the fixation and movement of your child's eyes. Your child may try on different types of specialized 3D glasses to measure depth perception.

Strabismus (turned eye) and other disorders of eye co-ordination are a common cause of lazy eye, or amblyopia, and must be identified and treated in early childhood to allow proper visual development.

### **4. Refraction**

Refraction is the determination of refractive error (nearsightedness, farsightedness, astigmatism).

For young children, retinoscopy is used to objectively determine refractive error. In this procedure, light is shone into the eye and a series of lenses are used to focus the reflection from the retina. Eye drops to dilate the pupil and relax the eye's focusing system may be used, to give greater accuracy to this procedure.

Older children may look through a phoropter, to compare the effect of different lenses on their vision, and choose which lens provides the clearest image.

Refraction changes as your child grows. The optometrist will determine if glasses are necessary at any stage, to allow your child to achieve proper vision and full visual development.

### **5. Eye Health Examination**

Healthy development of the physical structure of the eyes is necessary for good vision.

To evaluate eye health different instruments are used to shine light into the eye. Biomicroscopy, or slit-lamp examination, provides a magnified view of the anterior eye structures, including the conjunctiva,

iris, crystalline lens and cornea. Ophthalmoscopy allows examination of the internal eye structures, including the retina, optic nerve, macula and fovea. Eye drops, which dilate the pupil, may be used to give greater accuracy to these procedures.

Eye health testing also involves assessment of pupil reflexes, peripheral vision and colour vision.

Relevant eye health problems in children include blocked tear ducts, blepharitis (eyelid inflammation), ptosis (droopy eyelid), conjunctivitis (pink eye) and congenital defects (cataracts, optic nerve or retinal abnormalities).

## 6. Advice or Instructions

The optometrist will review your child's examination findings, along with the relevant history and any visual concerns, and will provide individualized advice for treatment and follow-up care.

### What is the difference between a comprehensive eye examination and a vision screening?

A comprehensive eye examination includes assessment of ocular and medical history, visual acuity, eye co-ordination, refraction and eye health. This thorough evaluation ensures that any eye problem will be identified.

Vision screenings usually include only one or two vision tests, and cannot detect all vision problems. Up to 40% of children with vision problems can pass a vision screening.

Comprehensive eye examinations for children are fully covered by OHIP once every 12 months until the age 19.

If your child is in Junior Kindergarten, they may be eligible for the Eye See...Eye Learn program which not only provides a comprehensive eye exam but also one free pair of eyeglasses, if your child requires them. Visit [www.EyeSeeEyeLearn.ca](http://www.EyeSeeEyeLearn.ca) to see if your school board region is participating.

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