

# Eye health for children

It is a little-known fact that 80% of the information processed by the brain is collected through the eyes. Poor vision may affect a child's ability to learn, participate in sports and relate to other children, which in turn may have a negative impact on a child's confidence and future development. Therefore, early detection of visual problems is extremely important for children.

**The New Zealand Association of Optometrists recommended examinations for children's vision include:**

**Newborns** should be checked for general eye health by a paediatrician or family physician in the hospital nursery.

#### **Between 6 months and 1 year**

In the first year of life, all infants should be routinely screened for eye health during check-ups with their paediatrician or family doctor.

*Please note: high-risk new-borns (including premature infants), or those with a family history of eye problems should be examined by an optometrist or ophthalmologist.*

#### **3 years**

This is a vital age to check your child's eye health. A toddler's eye health check should also include visual acuity tests (tests that measure sharpness of vision) with their paediatrician or family doctor.

#### **5 to 6 years**

Around age 5 children should have their vision and eye alignment checked by their paediatrician or family doctor. Those who fail either test should be examined by an optometrist or ophthalmologist.

#### **After age 5**

Routine screenings should be done at school and the primary doctor's office, especially if any symptoms such as squinting or frequent headaches occur.

Children who wear prescription glasses or contacts should have annual check-ups by an optometrist to screen

for vision changes.

#### **Spotting Eye Problems in Children**

Common signs that your child may be experiencing vision problems include:

- Headaches, burning or itching eyes after reading or near vision work
- Blinking excessively when doing near vision work, but not at other times
- Constant eye rubbing
- Extreme light sensitivity
- Chronic redness of the eyes
- Chronic tearing of the eyes
- Complaints of not seeing clearly
- Incorrect copying from the black board
- Holding a book very close
- Reversing letters i.e. b for d, occasionally or persistently reporting seeing double while reading or writing, especially if the word is hard
- Becoming tired after near vision work

It is especially important to check for eye problems in children. If caught early, many conditions can often be corrected.

#### **Some Common Eye Problems in Children**

There are a number of eye conditions that can affect children. Most are detected by vision screening using an acuity chart during the preschool years.

**Refractive errors**, where the shape of the eye doesn't refract (bend) light properly, so images appear blurred. Refractive errors can cause amblyopia (lazy eye), near-sightedness (myopia), farsightedness (hyperopia) and astigmatism.

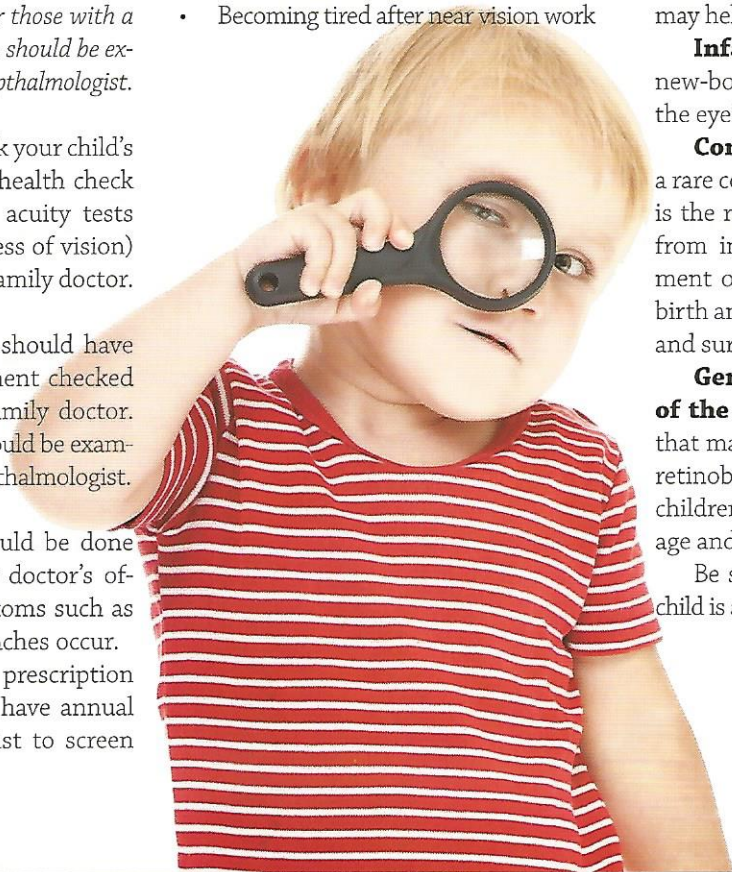
**Strabismus** is a misalignment of the eyes; they may turn in, out, up or down. If the eye is chronically misaligned, amblyopia may also develop in that eye. With early detection, vision can be restored by patching the properly aligned eye, which forces the misaligned one to work. Surgery or specially designed glasses also may help the eyes to align.

**Infantile cataracts** can occur in new-borns. A cataract is a clouding of the eye's lens.

**Congenital glaucoma** in infants is a rare condition that may be inherited. It is the result of high pressure in the eye from incorrect or incomplete development of the eye drainage canals before birth and can be treated with medication and surgery.

**Genetic or metabolic diseases of the eye**, such as inherited disorders that make a child more likely to develop retinoblastoma or cataracts, may require children to have eye exams at an early age and regular screenings.

Be sure to talk to your doctor if your child is at risk for any of these conditions.





# Why regular eye exams are recommended

*A simple eye test can do more than assess your sight. It could save your life. Warning signs for a range of life-threatening illnesses can be detected in the inner workings of the eye. So a trip to the optician could save more than your sight.*

Regular eye and vision examinations are an important part of preventive health care. Many eye and vision problems have no obvious signs or symptoms. As a result, individuals are often unaware that problems exist.

Early diagnosis and treatment of eye and vision problems are important for maintaining good vision and eye health and when possible, preventing vision loss.

A comprehensive adult eye and vision examination may include the following tests.

**Patient History.** This will determine any symptoms the individual is experiencing, when they began, the presence of any general health problems, medications taken and occupational or environmental conditions that may be affecting vision.

**Refraction.** Refractive error is determined with a phoropter and a retinoscope. This is done to determine the appropriate lens power needed to compensate for any refractive error (near-sightedness, farsightedness, or astigmatism). The power is then refined

by the patient's responses to determine the lenses that allow the clearest vision.

**Eye Focusing,** Eye Teaming and Eye Movement Testing. In order to obtain a clear, single image of what is being viewed, the eyes must effectively change focus, move and work in unison. This testing will look for problems that keep your eyes from focusing effectively or make using both eyes together difficult.

**Visual Acuity.** Reading charts are often used to measure visual acuity. Visual acuity measurements evaluate how clearly each eye is seeing. The results of visual acuity testing are written as a fraction such as 20/40.

**Preliminary Tests.** Testing may include evaluation of specific aspects of visual function and eye health, such as depth perception, colour vision, eye muscle movements, peripheral or side vision and the way your pupils respond to light.

**Keratometry.** This test measures the curvature of the cornea, the clear outer surface of the eye, by focusing a circle of light on the cornea and measuring its reflection. This measurement is particularly critical in determining the proper fit for contact lenses.

**Eye Health Evaluation.** Tonometry measures eye pressure. Elevated pressure in the eye signals an increased risk for glaucoma. External examination of the eye includes evaluation of the cornea, eyelids, conjunctiva and surrounding eye tissue using bright light and magnification.

**Supplemental testing.** Additional testing may be needed based on the results of the previous tests to confirm or rule out possible problems, to clarify uncertain findings, or to provide a more in-depth assessment.

At the completion of the examination, your optometrist will assess and

evaluate the results of the testing to determine a diagnosis and develop a treatment plan. He or she will discuss with you the nature of any visual or eye health problems found and explain available treatment options. In some cases, referral for consultation with, or treatment by, another optometrist, ophthalmologist or other health care provider may be indicated.

## Summary

There are close to 30,000 ocular conditions and very few of them show symptoms that are obvious to us as patients. Most patients have a perception that determining the refraction (identifying their optical script correction) is the most important part of an eye examination. While this is important, it really is the simple part of any eye examination.

There is so much more within a complete ocular health check. What you are really paying for is the skills and experience to be able to diagnose any ocular issues as soon as possible. Around 30% of patients are referred on from an eye examination, either to an ophthalmologist (an eye doctor/surgeon) or back to their GP for a generic health issue.

Eye examinations are vital, especially for anyone over 40 years of age, because our ability to see well enables us to maintain healthy and active lifestyles. If it has been over two years since you last had a comprehensive eye examination our recommendation is to make an appointment with your Optometrist today.

*Your eyes are yours for life; treat them kindly with regular eye exams.*