When Should Children Get Glasses?

Most people will need to wear glasses at some point in their lives. The most common reason is to correct for a refractive error. This occurs when the shape of the eye does not correctly focus the light rays entering the eye, sometimes producing blurred vision. The lack of even a slight refractive error is quite rare, but not all refractive errors require correction with glasses. Refractive errors may be found in any age group, and some infants may even need glasses for normal visual development. Eye care professionals determine the refractive error during a refraction, using an instrument called a retinoscope. The light from the retinoscope is very bright and is moved back and forth before each eye. At the same time, the examiner uses lenses to measure whether glasses are needed. In children, accurate measurement for glasses requires several eyedrops to dilate the pupils and briefly affect the eye’s focusing mechanism.

Adults generally require reading glasses or bifocals to correct for presbyopia. Typically, your arms seem too short to read the newspaper clearly! This generally begins at about age 40 and steadily declines. Farsightedness is clinically referred to as hyperopia or hypermetropia: the eyeball is too short and light rays entering the eye theoretically focus behind the retina, causing blurred vision at near. Most children are born with a mild degree of hyperopia which they easily overcome by focusing. Children have tremendous focusing power, so symptoms such as headaches or eye strain are uncommon. However, crossing of the eyes may be caused by higher degrees of hyperopia, so glasses are frequently prescribed. Myopia, commonly called nearsightedness, causes blurred vision at distance while vision close in is clear. Myopic individuals tend to squint at distant objects to clear the blurriness. Myopia usually occurs because the eyeball is too long and light rays that enter the eye focus before reaching the retina. Glasses or contacts lenses may be worn to clear the blurriness at distance. Astigmatism is caused by differences in the shape of parts of the cornea, the front part of the eye, or of the lens. Think of a football and a basketball: an eyeball with the roundness of the basketball causes light rays to bounce off in straight lines no matter where the light strikes. An eyeball with the irregular shape of the football causes light rays to scatter instead of focusing to a point at the retina. This makes the vision blurred at all distances. Small degrees of astigmatism usually don’t cause problems, however glasses or contact lenses are necessary if vision is not in the normal range for the child’s age, or if symptoms develop.
Most children will undergo their first vision test at 3 to 4 years of age, by either the pediatrician or through a school vision screening program. Parents may go to an eye care professional sooner if there is a family history of an eye problem and they want to know if it has been inherited by their children, or if there is an obvious eye problem present, like a crossed eye. Parents of children without eye problems, who were found to have normal vision in each eye when tested by the pediatrician or school, are probably not going to go the eye doctor for a more detailed examination. And there really is no good reason for it. So when should children be prescribed glasses?

Consider scheduling your child for a thorough examination with an ophthalmologist if you observe any of the following:

- The child is visually inattentive during infancy;
- The child fails a vision test with one eye, or both eyes, at either the pediatrician’s office or at school;
- The child squints to see objects at reasonable distances;
- The child complains of blurry vision close in and/or at reasonable distances;
- The child complains of headaches, redness of the eyes, tearing and/or eyestrain after arriving home from school, or after performing near work, especially reading;
- The child covers one eye to see, or rubs the eyes;
- The child crosses one eye when paying attention to objects close in.

Any of these situations may indicate the presence of an eye problem, the most common of which is a refractive error. Myopia may be present at any age, but symptoms often occur with the onset of puberty. The child may squint when viewing farther distances, such as when watching a movie or sporting event. Since it is often inherited, parents who are nearsighted may have children who are also nearsighted.

Significant degrees of hyperopia may cause the eyes to cross, especially when children are focusing at things close to them. This may first become apparent at around age 2 years. It results from the natural focusing ability that children possess combined with an unnatural amount of farsightedness present in the affected child. Correcting the farsightedness with glasses is the treatment of choice for the crossing, or esotropia, and should restore
normal binocular vision. Full time glasses wear will probably be necessary for many years.

Astigmatism may present as decreased, but equal vision, in each eye. Like myopia, higher than normal astigmatism may be inherited. It may not be diagnosed until the child fails a school vision test: higher degrees of astigmatism do not cause changes in the eye position like higher degrees of hyperopia, so early diagnosis is less common. With uncorrected astigmatism, near and distance vision are similarly blurred, whereas the myopic child generally complains of decreased distance vision while near vision may be normal. Children with uncorrected astigmatism may experience a combination of symptoms, including blurry vision, squinting of the eyes, eyestrain and headaches. Correction of the astigmatism with glasses should improve the visual acuity and eliminate the accompanying symptoms. However, even the appropriate prescription may not normalize the vision because of the typically delayed diagnosis of this type of refractive error.

So again, when should children be prescribed glasses? If your child complains of any of the symptoms listed above, or if you notice a change in your child’s visual behavior, then consultation with an eye care professional is warranted. A complete eye examination will reveal if your child’s complaints are related to an uncorrected refractive error, and may be relieved by prescribing glasses.

So, in summary, a **refractive error** is a condition caused when the shape of the eye does not correctly focus the light rays entering the eye. **Myopia** (nearsightedness) is present if the eyeball is too long, causing the light rays to focus before reaching the retina. Distance vision is blurred while reading vision may remain normal, it often becomes apparent around puberty and may be inherited. Correction of the myopia with glasses or contacts will clear the blurred distance vision.

If the eyeball is too short, causing the light rays to focus behind the retina, then **hyperopia** or **hypermetropia** is present. A small to moderate amount of hyperopia is common in young children, well-tolerated without symptoms. However, higher degrees may produce crossing of the eyes, so an examination with a pediatric ophthalmologist is necessary. The wearing of glasses to correct the hyperopia will often restore normal binocular vision, but will probably be necessary for many years.
Finally, **astigmatism** is a condition where light rays entering the eye are scattered instead of coming to a single point on the retina. This is usually caused when the eyeball is irregularly shaped, like a football. Astigmatism may cause reduced vision at distances and in the reading position, and early diagnosis and the prescription of glasses offers the best chance for the normal development of vision in each eye.