

Amblyopia

Amblyopia is a decrease in both far and near vision which is uncorrectable by spectacles, surgery and any other treatment.

Formation

All babies are born with poor eyesight. As babies grow, their vision develops rapidly and matures at around 6 to 8 years old. Amblyopia develops when there is no clear image to stimulate the visual area of the brain or the clear image is suppressed during this critical period. That means, amblyopia is caused by the under development of the visual area of the brain.

Causes

The Two main causes of amblyopia are **anisometropia** and **strabismus**.

- 1) **Anisometropia** (large difference in visual acuity between two eyes): especially in long-sightedness and astigmatism. For short-sightedness, if the difference in visual acuity is less than 300 degrees, it seldom causes amblyopia. The image from the weaker eye is not clear enough to stimulate the visual area of the brain and results in amblyopia. Amblyopia often goes undetected because the child can still see with the better eye. This causes delay in treatment and the weaker eye may become permanently impaired.
- 2) **Squint**: especially in convergent squint and vertical squint, less in divergent squint. The two eyes are looking in different directions at the same time. The brain is sent two different images and causes double vision. To avoid double vision, the brain suppresses the images from the misaligned or crossed eye and results in amblyopia.

Incidence

Before 8 years old, the incidence of amblyopia is around 2-4%. It rarely develops after 8 years old.

Prevention

The most important preventive measure is early detection (before 8 years old) of the causes of amblyopia such as anisometropia and squint. Prompt treatment and strict adherence to the treatment program are required to restore good vision.

Treatment

If the child is found to have refractive error, proper spectacles are prescribed. Then occlusion therapy is carried out by patching the good eye for more than 3-4 hours per day to force the use of the amblyopic eye for 3-6 months or more. Improvement may be noticed after 2 months of occlusion. If there is no improvement after few months, the chance of recovery is minimal.

Child suffering from squint may benefit from surgery together with occlusion therapy, but surgery is not mandatory, depending on the appearance and the severity of the squint.

The younger the child (before 8 years old), the better the chance for improvement with occlusion. If amblyopia is diagnosed after 8 years old, the chance of recovery is minimal.