Summary

Babies learn to see over a period of time, much like they learn to walk and talk. They are not born with all the visual abilities they need in life. The ability to focus their eyes, move them accurately, and use them together as a team must be learned. Also, they need to learn how to use the visual information the eyes send to their brain in order to understand the world around them and interact with it appropriately.

Anisometropia refers to any difference in the spherical equivalents between the two eyes. Fortunately, anisometropia in children can usually be corrected fully without symptomatic effects.

There is no doubt that anisometropia is a cause of amblyopia. Uncorrected anisometropia in children may lead to amblyopia, especially if one eye, is hyperopic. The exact mechanism of anisometropic amblyopia remains unclear, although it has been suggested that there may be active inhibition of the fovea to overcome the interference caused by attempting to superimpose a focused image in one eye and a defocused image in the other.

Amblyopia should not be viewed as an eye problem but as a brain damage caused by abnormal visual stimulation during the sensitive period of visual development.

The assessment of VA is a clinical test that gives the clinician insights into the child's visual status. Visual acuity can be critical clinical finding in children . The young child, with or without a specific and as yet unidentified visual anomalies (anisometropia or strabismus), often develops amblyopia. If amblyopia is identified sufficiently early, treatment is usually prescribed.

Young individuals can accommodate for low amounts of hyperopia and so may be under-represented in the populations of most eye care practitioners. However, high hyperopia can be amblyogenic either because of the inability to

maintain retinal focus or because the stimulation for convergence which results in a constant eye turn. Studies in adults show that there is a family tendency toward high hyperopia. For this reason, hyperopic patients should be advised that their infant relatives should be examined to rule out amblyopic risk factors.

Refractive surgery is a category of treatments designed to induce structural change to the eye with the intent of altering its refractive status. There are two broad categories of refractive surgery: Keratorefractive, during which the physical architecture of the cornea is altered; and Intraocular, during which synthetic lenses are placed into the eye, with or without removal of the natural crystalline lens.

Refractive surgery in children is controversial; it is mainly performed with conventional treatment by glasses or contact lenses has failed. The goal is to restore a level of functional vision or to correct amblyopia or to aid binocular function. Whereas adult refractive surgery is often an elective or cosmetic option, the same is not true for pediatric patients. Instead, patients should have a threshold magnitude of refractive error and failure with traditional therapy for their amblyopia or bilateral blur.

Photorefractive keratectomy involves removing the corneal epithelium, either with the Excimer laser or manually, followed by computer-guided ablation of the underlying Bowman's membrane and anterior corneal stroma for the correction of myopic or hyperopic refractive errors, or both.

One of the most promising and exciting developments in the world of refractive surgery has been the advent of laser in situ keratomileusis (LASIK). The surgical technique involves the creation of a hinged lamellar corneal flap, after which an Excimer laser is used to make a refractive cut on the underlying stromal bed.

The parents must be fully informed that LASIK is a new procedure with potential complications, that their child's eye is growing, and that we are still not aware of the long term effects of LASIK.

Advantages of phakic IOL over corneal procedures:

- Because the quality of the lens implant surfaces is above the optical limits of the eye, its nodal points are nearer the pupil and the optic (especially with the newest materials and designs) can be conveniently wide, it maintains and potentially could even improve the natural properties of the eye's optical system to enhance the quality of the retinal image, allowing excellent vision even in dim light conditions.
- The lens is removable and exchangeable, permitting potential reversibility to the preoperative condition.
- The result is predictable, easily adjustable with complementary fine-tuning corneal surgeries, and immediately stable, because the refractive outcome depends less on healing processes.

No large-scale investigations on complications of refractive lens exchange have been reported. Complications that may result in a permanent loss of vision are rare.

There is a need for prospective, ideally randomized multicenter trials to address the issue of the safety and efficacy and stability of pediatric refractive surgery.