

Binocular Vision

Refractive Development

Some facts

- Average +2.32DS at birth
- Increase an average +0.231DS per year up to seven years of age
- More than 80% of one to seven year olds have cycloplegic refractions of between +0.50DS and +3.00DS
- Five to seven year olds closest to emmetropia have greatest risk of juvenile onset myopia
- Fifteen – 30% of six to 15 year olds myopic.

Expected normal acuities

- Birth 6/300
- Six months 6/60 to 6/36
- Twelve months 6/24
- Eighteen months 6/18 to 6/12
- Thirty-six months 6/9 to 6/6
- Five+ years 6/6 or more.

Significant Inter-Eye Differences

- Keeler acuity cards (PL) two cards
- Cardiff acuity test (PL) two cards
- Kay Picture test (single matching) two lines
- Sheridan-Gardiner (single matching) three lines
- Sonksen-Silver (crowded matching) two lines
- Cambridge cards (crowded matching) two lines
- LogMAR test (crowded matching) four letters.

Significant Refractive Errors

- Hyperopia $> +3.50D$ in any meridian
- Hyperopia $> +2.00D$ (children four years+)
- Astigmatism $> 1.00D$
- Persistent anisometropia $> 1.00D$.

American Academy of Ophthalmology Guidelines for prescribing (Two - three years)

- Hyperopia (no tropia) $> +4.50DS$
- Hyperopia with esotropia $> +1.50DS$
- Astigmatism $> 2.00DC$
- Aniso
 - hyperopia $> 1.50DS$
 - myopia $> 2.00DS$
 - astigmatism $> 2.00DC$
- Myopia $> -3.00DS$.