

Relationship between amblyopia, anisomeropia and diplopia

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Abstract

Anisometropia is a condition in which the two eyes have disparate refractive power by an amount equal to or greater than 1Diopter in one or more meridians. Anisometropia has been classified as compound astigmatic, compound hyperopic, compound myopic, mixed or antimetropic, simple astigmatic, simple hypermetropic, simple myopic, and vertical. Compound astigmatic anisometropia, hyperopic anisometropia, or myopic anisometropia exists when both eyes are astigmatic, hyperopic, or myopic, respectively, but one eye has 1.00 D or more astigmatism, hyperopia, or myopia than the other. One type of astigmatic anisometropia that is often overlooked occurs when an equal or similar amount of astigmatism is present in both eyes but at a different axis in each eye, resulting in anisometropia in each meridian. Mixed anisometropia, which is also called antimetropia, occurs when one eye is hyperopic and the other eye is myopic. Simple astigmatic anisometropia exists when astigmatism is present in only one eye. Simple hypermetropic anisometropia or simple myopic anisometropia occurs when one eye is hyperopic or myopic but the other eye is emmetropic. Vertical anisometropia is unequal refraction in the vertical meridian alone. 1 (One) diopter or more of a difference in refractive power between the two eyes in corresponding meridians is considered to be clinically significant.

Status of binocular vision in anisometropia

Three possibilities are there:

1. Binocular single vision is present in small degree of anisometropia (less than 3).
2. Uniocular vision: When refractive error in one eye is of high degree, that eye is suppressed and develops anisometropic amblyopia. Thus, the patient has only uniocular vision.
3. Alternate vision occurs when one eye is hypermetropic and the other myopic. The hypermetropic eye is used for distant vision and myopic for near. Anisometropia has been reported to be the primary risk factor for the development of amblyopia.



Biography:

Bello ridwan babatunde is a Chief Executive Officer at Naphcon Optics, he graduated from University of Benin, Benin city, Edo state, Nigeria from 2014-2020.

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