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IAPB Position Statement

IAPB Position Paper on Self-Refraction with Adjustable Spectacles



International Agency for the
Prevention of Blindness



The purpose of IAPB position statement documents is to advise IAPB member organisations and other stakeholders of positions adopted by IAPB, in consideration of advice from leading experts, in issues affecting universal eye health.

By IAPB Refractive Error Work Group

Position statement:

Adjustable spectacles prescribed under the guidance of suitably trained persons within a recognised service delivery system may be part of the solution to the global problem of vision impairment from uncorrected refractive error provided they meet optical standards defined by ISO.^{11,12}

There are an estimated 625 million cases of blindness or vision impairment (108 million people with impaired far vision¹ and 517 million people with impaired near vision²) simply because they are unable to access an appropriate eye examination and spectacles. Far vision impairment alone costs US\$202 billion a year in lost productivity.^{3,4} The massive volume of cases, and consequent scale of disability and economic impact caused by uncorrected refractive error (URE) coupled with the lack of qualified eye health personnel able to provide vision correction in many Low and Middle Income countries has led to various attempts to provide alternative approaches to delivering refractive care. Adjustable spectacles, with the optical power either set in an eye examination or self-adjusted, have been promoted by several companies and organisations as a potential solution.⁵⁻¹⁰

Definitions

Self Refraction: Self-refraction is a method by which an individual attempts to achieve best vision through adjusting and measuring their optical correction on an apparatus under his or her control.

Self Adjustable Refraction: Self-refraction with adjustable spectacles is a method where an individual adjusts his or her spherical correction, through either the Alvarez or fluid-filled lens system, to achieve best-corrected vision, while wearing the adjustable spectacles.

Principals of Refraction

- The case load and relative simplicity of correcting refractive error means the bulk of refractive care can be most efficiently dealt with at the primary level. Investment is most effectively spent by building capacity at primary level to deliver basic refraction competencies.
- Screening for eye disease and management of potential complications associated with vision and spectacles must be built in to any vision correction programme.
- Refractive care for children must involve an examination of the visual system to avoid complications, e.g. hyperopia and astigmatism can cause squints (eye turns), amblyopia (lazy eye), headaches and fatigue if not detected, measured, diagnosed and corrected adequately; myopia can be over-prescribed leading to headaches, sore eyes and interference with the normal growth of the eye. If under-prescribed the spectacles provided can increase myopic progression.¹⁴⁻¹⁶

Adjustable Spectacles and Refraction

- Self-refraction involving basic trial and error methods circumvents normal clinical refraction techniques and may lead to overcorrection of myopia (near or short sightedness) and under correction of hyperopia (far or long sightedness) as a result of accommodation¹³ especially in children.
- Adjustable and ready made spectacles are supplied with a fixed inter pupillary distance, while this is not a major concern with lower power lenses it can cause serious problems with discomfort or double vision with the higher powers promoted with adjustable spectacles.

Position Statement

Adjustable spectacles prescribed under the guidance of suitably trained persons within a recognised service delivery system may be part of the solution to the global problem of vision impairment from uncorrected refractive error provided they meet optical standards defined by ISO.^{11,12}

The supply of adjustable spectacles should only occur in conjunction with the provision of an eye examination by a suitably trained person.

Vision correction programmes that are built around self- refraction with adjustable spectacles that are not supplied under the guidance of suitably trained persons within a recognised delivery system should not be supported by IAPB Members or other parties. They do not offer a long term solution and put individuals at risk as potentially serious eye conditions will not be identified.

Self- refraction with adjustable spectacles by children should not be countenanced under any circumstances due to the inability of children to control accommodation (the eye's focusing power).