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## Commentary: Does amblyopia matter?

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Rahi and colleagues report that, “distinguishing, at a population level, between the lives of people with amblyopia and those without in terms of important educational, health, and social outcomes may be difficult.”<sup>1</sup> Understanding of amblyopia has moved beyond the traditional concept of a “lazy eye” to the knowledge that it is a form of cerebral visual impairment, caused by a disturbance of vision during a sensitive period of development. Amblyopia is the effect on the developing visual system of another pathology—often refractive error or strabismus (squint)—and is the most common cause of reduced visual acuity (in one eye) in children and young adults, with a generally accepted prevalence of 2-3%.<sup>2</sup>

Clinical and experimental data, indicating better results from early treatment of amblyopia, have led to the development of childhood visual screening programmes, which detect around 7% of children as abnormal, usually because of reduced visual acuity or strabismus. Reduced visual acuity detected at screening may be due to refractive error only, in which vision immediately corrects to normal with glasses, or to amblyopia, in which a residual visual deficit exists even with refractive correction. Rarely, other pathology such as congenital cataract or retinoblastoma may be discovered.

Associations between performance at school and amblyopia are complicated by the independent associations of strabismus and refractive error with a variety of neurodevelopmental disorders, including those caused by premature birth. Nevertheless, bilateral visual deficits (which were excluded from Rahi and colleagues' study) that cannot be corrected with glasses are clearly associated with educational difficulty and reduced life chances.<sup>3</sup>

Although bilateral refractive errors are relatively common in children, bilateral amblyopia is rare and a

person with one amblyopic eye generally has good vision in the other. Although it is intuitively desirable that all children should develop good vision in both eyes, the extent of disability attributable to having amblyopia in one eye, when the other sees well, is less clear but is, according to this study, minimal.

Chua and Mitchell found that unilateral amblyopia in people aged 49 or over did not affect lifetime occupational class, but that a lower proportion of such people had completed university degrees<sup>4</sup> (this was not confirmed by Rahi and colleagues). Membreno et al calculated utility values for unilateral amblyopia, but these were based on adult perceptions of acquired visual loss.<sup>5</sup>

Childhood visual screening continues to be a controversial subject, but two main justifications have emerged for trying to ensure that all children leave the critical period with good vision in both eyes: reduced occupational opportunity and the risk of visual impairment if the eye with better vision is affected by trauma or pathology. In the light of this study, the somewhat random occupational visual requirements could be regarded as unjustifiably discriminatory and should be reviewed.

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