



NSC UK National
Screening Committee

**UK National Screening Committee
Screening for vision defects in children**

Consultation comments pro-forma

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Organisation (if appropriate):	British & Irish Orthoptic Society		
Role:	Vision Screening Clinical Advisory Group		

Do you consent to your name being published on the UK NSC website alongside your response?

Yes X No

Section and / or page number	Text or issue to which comments relate	Comment <i>Please use a new row for each comment and add extra rows as required.</i>
P5	“The most common conditions which cause amblyopia are squint and long/short sightedness.”	Short sight (myopia) is not prevalent in young children in the UK and does not commonly lead to amblyopia. Astigmatism, however, does, we suggest the plain English summary be re-worded to “squint and /or focussing errors including long-sight and astigmatism”
P5	“There may be a high number of children told they have poor vision when they do not.”	The term “poor vision” is generally avoided in any screening communication with a parent/carer. When a child is referred from screening parents are fully informed that their child hasn’t passed their test; “The screening test suggests your child has reduced vision in one of/both of their eyes.... Further tests are required to confirm your child’s results.” https://www.gov.uk/government/publications/child-vision-screening
P6	“The most common conditions pre-disposing to amblyopia...”	We suggest the text is changed to include astigmatism
P11	“The majority of children with significantly reduced vision affecting both eyes are diagnosed early in	The referenced paper relates to the detection of severe visual impairment and blindness (SVI / BL) and is based on the number of children registered as

	<p>childhood due to the concerns of carers / care-givers, or in the context of the routine universal Newborn and Infant physical Examinations.”</p>	<p>visually impaired by the consultant ophthalmologist within the hospital eye service (HES). The referenced paper includes children with additional disabilities who have a higher risk of visual impairment and does not address the number of children that have significantly reduced vision with no additional pathology or co-existing condition who do not enter the HES. The term “significantly reduced vision” therefore requires to be defined.</p> <p>Orthoptic-led screening programs have reported identifying children with bilateral reduction of visual acuity (VA) at age 4-5 years.</p> <p>References:</p> <p>O’Colmain U,Low L, Gilmour C, et al. Vision screening in children: a retrospective study of social and demographic factors with regards to visual outcomes. <i>Br J Ophthalmol</i> 2016;100:1109–1113</p> <p>Bruce A, Santorelli G, Bradbury J, et al. Prevalence of, and Risk Factors for, Presenting Visual Impairment: Findings from a vision screening programme based on UK NSC guidance in a multi-ethnic population. <i>Eye (Lond)</i>. 2018 Oct; 32(10): 1599–1607. doi: 10.1038/s41433-018-0146-8</p>
P12	<p>The description of occlusion treatment states, “Occlusion is performed with eye-patches....”</p>	<p>The description provided gives no indication of the number of hours an eye patch is worn on a daily basis. A lay person may assume it is worn all day and we suggest the review considers referring to the length of time a patch is usually worn.</p> <p>Occlusion is not restricted to the wearing of eye-patches and atropine occlusion may be used as a first line of treatment.</p> <p>References:</p> <p>Stewart CE, Moseley MJ, Stephens DA, Fielder AR. Treatment dose-response in amblyopia therapy: the Monitored Occlusion Treatment of Amblyopia Study (MOTAS). <i>Invest Ophthalmol Vis Sci</i>. 2004 Sep;45(9):3048-54.</p> <p>Glaser SR, Matzinski AM, Sclar DM, Sala NA, Vroman CM, Tanner CE, et al. A randomized trial of atropine vs patching for treatment of moderate amblyopia in children. <i>Arch Ophthalmol</i>. 2002;120(3):268–78. doi: 10.1001/archoph.120.3.268.</p>
P24	<p>“Of those who attended their diagnostic examination, the proportion of false positives found across the studies was 38/260 (15%, 95% CI 11% to 19%) in the UK study,(9) 214/556 (39%, 95% CI 35% to 43%) in the New Zealand study,(8) and 12/36 (33%, 95% CI 20 to 50%) in the North American study.(7)”</p>	<p>A UK study published in the BIOJ, presents PPV and false positive data from an orthoptic-delivered vision screening programme.</p> <p>Reference:</p> <p>Masqud, M. and Medforth, S., 2015. Vision screening – referral to discharge. Outcomes from a routine vision screening programme. <i>British and Irish Orthoptic Journal</i>; 2015 12, pp.20–25 http://doi.org/10.22599/bioj.91</p>

P25	“..may not be directly generalisable to the current UK programme, which uses a screening test of reduced vision.”	<p>This is true for England and Wales but not in NHS Scotland where an orthoptic delivered vision screening programme covering all Scottish Health Boards is established. Within the Scottish programme the orthoptists perform additional tests of eye movement and binocular function. Children referred go on to have further diagnostic tests; cycloplegic refraction, fundus and media examination.</p> <p>Reference: “Guidance to support implementation in Scotland of Royal College of Paediatrics and Child Health recommendations on child health screening and surveillance.” https://www.gov.scot/publications/health-children-4-guidance-implementation-scotland-2005/pages/5/</p>
P28	“There is no evidence of benefit with intervention for refractive errors of mild myopia (short-sightedness) and hypermetropia (long-sightedness) at age 4 to 5 years. These refractive disorders are associated with good distance vision in both eyes (14) and thus will not be detected through a screening programme for which the test is distance acuity.”	<p>Even mild myopia will cause a reduction in distance vision. Again the review makes no reference to astigmatism which is far commoner than myopia in children aged 4 – 5 years.</p> <p>With regard to the referenced paper (14) we suggest that the findings have been taken out of context as the authors’ state: <i>“This emphasises the importance of screening in this young age group for anisometropia and refractive error, including astigmatism.” and “These associations in a population based sample further support refractive vision screening assessment in young children in order to prevent amblyopia”</i></p> <p>Clinically vision screening programmes identify reduced vision associated with significant refractive errors from testing distance visual acuity.</p> <p>References: Afsari S, Rose KA, Gole GA, <i>et al</i> Prevalence of anisometropia and its association with refractive error and amblyopia in preschool children <i>Br J Ophthalmol</i> 2013;97:1095-1099.</p> <p>Bruce A, Santorelli G, Bradbury J, <i>et al</i> Prevalence of, and Risk Factors for, Presenting Visual Impairment: Findings from a vision screening programme based on UK NSC guidance in a multi-ethnic population. <i>Eye (Lond)</i>. 2018 Oct; 32(10): 1599–1607. doi: 10.1038/s41433-018-0146-8</p>
P28	“...hypermetropia will naturally improve with increasing age as the eyes grow in size.”	<p>This is not always the case, particularly in anisometric children, where the asymmetry may increase with age.</p> <p>Reference: Deng L and Gwiazda J,E. Anisometropia in Children from Infancy to 15 Years <i>Invest Ophthalmol Vis Sci</i>. 2012 Jun; 53(7): 3782–3787.doi:10.1167/iops.11-8727</p>
P28	“Although amblyopia is the main target disorder for the screening programme, any other disorder, such	<p>The phrase “functionally significant refractive error” is important. Refractive errors affect each child very differently. If a child’s vision is persistently</p>

	<p>as functionally significant refractive error (error which is sufficiently severe to negatively impact visual development) would be detected through the current UK NSC programme which detects all-cause reduced acuity because of the detection of the resultant amblyopia.”</p>	<p>reduced there is some evidence that functionally significant refractive errors may have an impact on education and even correction of low levels of refractive error may be appropriate.</p> <p>References:</p> <p>Kulp MT, Ciner E, Maguire M, et al. Uncorrected hyperopia and preschool early literacy: results of the Vision in Preschoolers-Hyperopia in Preschoolers (VIP-HIP) study. <i>Ophthalmology</i> 2016;123:681–9.</p> <p>Bruce A, Kelly B, Chambers B et al. The effect of adherence to spectacle wear on early developing literacy: a longitudinal study based in large multi-ethnic city Bradford, UK. <i>BMJ Open</i> 2018; 8: e021277</p>
<p>P39-40</p>	<p>“Morbidity would include reduced vision in both or one eyes and the associated negative consequences...” (p39)</p> <p>“There were also no studies on the effectiveness of screening on visual acuity or impairments, quality of life, socioeconomic outcomes, behavioural and functional outcomes, patient perceived disutility and general health.” (p40)</p>	<p>Suggested References:</p> <p>Bruce A, Kelly B, Chambers B <i>et al.</i> The effect of adherence to spectacle wear on early developing literacy: a longitudinal study based in large multi-ethnic city Bradford, UK. <i>BMJ Open</i> 2018; 8: e021277</p> <p>Kulp MT, Ciner E, Maguire M, et al. Uncorrected hyperopia and preschool early literacy: results of the Vision in Preschoolers-Hyperopia in Preschoolers (VIP-HIP) study. <i>Ophthalmology</i> 2016;123:681–9.</p>

Please return to the Evidence Team at screening.evidence@nhs.net by 28th June 2019