DOWN'S SYNDROME ASSOCIATION

Recommendations for Vision Issues in Education, Health, and Care Plans (EHCPs), Statements or Individual Development Plans (IDPs) for Children who have Down's Syndrome

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ALL children who have Down's syndrome will have visual acuity (detail vision) and contrast sensitivity (ability to see faint targets) that are significantly POORER than a typical child, even when wearing spectacles. This fact MUST be included in the EHCP, Statement or IDP along with recommendations for adjustments that the school should make. A child who has Down's syndrome does NOT see the world and school work as typical people do, and if no adjustments are made, the child will obviously struggle to access learning materials. If a child is falling behind expectations, it is too easy for a teacher to assume this is due to the learning disability. The first question should be – can the child see the work as easily as typical children?

Recommendations include:

- Children should write in black pen or soft artists pencil (8 to 10B) and not conventional HB pencil, which is very hard to see. Similarly, the teacher should make corrections and comments on marked work in bold black pen.
- Lined paper should be emboldened with black pen (or special paper obtained), as conventional faint blue lines are very hard to see.
- All text should be at least of size N20 (equivalent Arial font 20). As children get older and the text provided becomes smaller, this will mean enlargement.
- Text should be black printed on white background and never over a picture.
- Pictures and figures should be clear, widely spaced and on plain background.

Schools will find the advice of the local Vision Impairment (VI) service invaluable. Some educational areas have an acuity criterion for supporting children. The school should establish whether the local VI service will support a child who has Down's syndrome.

If a child who has Down's syndrome also has nystagmus, he or she will be visually impaired and MUST be supported by the local VI service.

Many children who have Down's syndrome will be prescribed spectacles. If these are not worn, the visual acuity will be poorer than with the spectacles, so additional modifications will be needed. Teachers should be aware of the spectacle correction and when they should be worn. If unsure, teachers may contact the optometrist/optician who provided the spectacles. Many children will struggle to get used to spectacles, so when first prescribed, a plan should be in place to allow the child to adapt in gradual steps. The spectacles should be offered for short periods for an appropriate activity, and the child allowed to remove them whenever they wish. Compulsion is unlikely to be successful.

- If a child is long-sighted, the benefit will be for near work.
- If a child is short-sighted, the benefit will be for distance tasks.
- If a child has significant astigmatism, the benefit will be for detailed tasks at both distance and near.
- Unless a child has a squint (eye turn), full-time wear is never necessary, but the child may choose to wear the spectacles all the time.

The majority of children who have Down's syndrome will have poor focusing response even when wearing spectacles for long or short-sight. Many will be prescribed bifocals. The teacher should check with parents whether near focusing has been measured at eye examinations.

NB. All recommendations are evidence-based from published research.

Useful sources of evidence:

Adyanthaya, R., et al., Children with Down syndrome benefit from bifocals as evidenced by increased compliance with spectacle wear. JAAPOS, 2014. 18(5): p. 481-484.

Al-Bagdady, M., et al., Development and distribution of refractive error in children with Down's syndrome. British Journal of Ophthalmology, 2011. 95: p. 1091-1097.

Cregg, M., et al., Accommodation and refractive error in children with Down syndrome: cross sectional and longitudinal studies. Investigative Ophthalmology and Visual Science, 2001. 42: p. 55-63.

Doyle, L, et al., Trying to see, failing to focus: near visual impairment in Down syndrome. Nature Scientific Reports, 2016. 6: p. 20444.

John, F.M., et al., Spatial vision deficits in infants and children with Down syndrome. Investigative Ophthalmology & Visual Science, 2004. 45: p. 1566-1572.

Stewart, R.E., et al., In focus: the use of bifocals for children with Down's syndrome. Ophthalmic and Physiological Optics, 2005. 25 (6): p. 514-522.

Sun, E. and Kraus, C.L. The ocular manifestations of Down syndrome. Children, 2023. 10: p. 341.

Zahidi, A.A.A., et al. Different visual development: norms for visual acuity in children with Down's syndrome. Clinical and Experimental Optometry 2018; 101(4): 535-540 doi:10.1111/cxo.12684

Zahidi A.A.A., et al. Visual and refractive status of children with Down's syndrome and nystagmus. Investigative Ophthalmology & Vision Science. 2022; 63(2):28. doi.org/10.1167/iovs.63.2.28



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