Visual Stress and Coloured Overlays

What is Visual Stress?

Visual stress (pattern-related visual stress, sometimes incorrectly called 'Meares-Irlen Syndrome' or 'Scotopic Sensitivity Syndrome') is the experience of unpleasant visual symptoms when reading, especially for prolonged periods. Symptoms include illusions of shape, movement and colour in the text, distortions of the print, loss of print clarity, and general visual irritation. Visual stress can also cause sore eyes, headaches, frequent loss of place when reading and impaired comprehension.

Visual stress is thought to be caused by the striped effect of black writing on white paper which causes over stimulation and excitation of the visual cortex

Visual stress can have an adverse effect on the development of reading skill, especially reading fluency - i.e. the ability to recognise words quickly and to read longer passages of text in a smooth and efficient way so that good comprehension is maintained. Visual stress makes reading an unpleasant and irritating activity that children will tend to avoid as much as possible. Research has shown that 15 - 20% of people suffer visual stress to some extent, and they may also tend to be hypersensitive to fluorescent lighting and flicker on computer monitors.

Visual stress can mimic a number of other eye difficulties including an uncorrected need for glasses, binocular vision difficulties and/or focussing problems. It is therefore very important that patients who have symptoms of visual stress are seen by a qualified health care professional to rule out all other aspects of eye health.

The use of tinted lenses or coloured overlays to treat visual stress was formerly regarded with scepticism by the medical and education professions.

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However, scientific studies in the 1990s by Professor Arnold Wilkins of the University of Essex have shown that this treatment is generally the most effective and simplest solution.

For more information on research by Professor Arnold Wilkins on visual stress visit: www.essex.ac.uk/psychology/overlays

Coloured overlays

Coloured overlays are transparent sheets of coloured plastic that can be placed over a page or a book so as to colour the text without affecting its clarity. The colour reduces the perceptual distortions of text that children sometimes describe. They enable some children to read more fluently, with less discomfort and fewer symptoms of visual stress.

Coloured overlays and coloured glasses can increase the speed of reading, although with conventional text the improvement may only be apparent after 10 minutes of reading, when the child would begin to tire were an overlay not used. If the text is closely spaced, the benefit is more immediate.

Some children who benefit may already appear to be good readers but others may also have difficulty with reading. They usually suffer visual discomfort when reading and when questioned, will often report visual distortions of the text.

A specialist Orthoptist has assessed the child's eyes and prescribed the coloured overlay as a trial. The overlay may not be the correct colour or the child may not like to use it. If the overlay is simply making the page look different the effect will wear off. We, therefore, suggest that if the child *voluntarily* uses the overlay, particularly if they do not have to be reminded to use it, for one school term, then this is a positive indicator that colour will be beneficial.

The child does not *have* to use the overlay if they feel it makes no difference. The response to colour is subjective and the user is the best person to judge if there is any benefit.

The coloured overlay should be laid over the text the child is reading; the overlay should be flat touching the page and positioned so as to avoid reflections from the surface. The overlay should not be creased and it is a good idea to keep the overlay in an envelope when not in use. The child can touch the overlay to help when reading and it can be wiped clean.

General advice if overlays are advised

1. Try to sit the child in natural lighting whenever possible, fluorescent lighting may exacerbate any symptoms of visual stress.

2. Some children prefer to write on and work from coloured paper. Please allow the child to hand his/her homework in on coloured paper and provide this in class if desired. Exams and other formal assessments must be printed or copied onto the child's preferred colour. If there is more than one child in the class who require coloured paper then a compromise will need to be reached. It is only very severe cases of visual stress that require a particular colour of paper as the majority of patients can manage well if the paper is not the same colour as their overlay. It is black print on white paper that will cause the most difficulty so this should be avoided.

3. When using an interactive white board or a computer, it is important to change the background colour away from white with black print.

4. Recent research shows using fonts such as Verdana, Google open sans and Dyslexie which are least stripy will help children with their symptoms. Avoid fonts such as times new roman, Sassoon-Primary and Arial.

5. Overlays are to be provided by the school as soon as possible to enable the child to read more comfortably and access the curriculum equally to peers. Coloured overlays are also available to purchase by parents.

Further Information

Contact:

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Child's Details

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Overlay colour and make chosen today:

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Date:

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Orthoptist's Name:

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