

INFORMATION SHEET –WHAT IS VISUAL STRESS?

What is visual stress?

Visual stress is a type of visual processing difficulty caused by hyper-excitability in the part of the brain known as the visual cortex. This condition manifests itself in visual distortions and illusions that cause lines of text to adopt a 'striped' pattern.

Visual Stress is also known as *Meares-Irlen Syndrome*, or *Scotopic Sensitivity Syndrome* and, sometimes, '*Visual Dyslexia*'. It affects approximately 20% of the population, of which about 5% are severely affected. It can affect reading fluency, concentration and comprehension, and also cause eye strain or fatigue.

Visual stress is not dyslexia, but it can co-occur with dyslexia.

Symptoms of visual stress are not always immediately obvious. Many individuals who suffer from this condition believe the discomfort they feel when reading or the distortions they experience on the page are normal and experienced by others too.

Signs of visual stress

Indicators of visual stress are as follows:

- moving closer to or away from the page;
- becoming restless;
- using a finger as a marker;
- skipping words and lines;
- rubbing the eyes and blinking excessively;
- low self-esteem.

Symptoms of visual stress

Symptoms of visual stress are as follows:

- movement of print;
- blurring of print;
- letters changing shape or size;
- letters fading or becoming darker;
- patterns appearing, sometimes described as "worms" or "rivers" running through print;
- illusions of colour – blobs of colour on the page or colours surrounding letters or words;
- rapid tiring;
- headache or eyestrain.

Who can visual stress affect?

Visual stress has been found to present alongside many conditions including the following:

- Dyslexia;
- Dyspraxia;
- Photosensitive migraine;
- Photosensitive epilepsy;
- Autism;
- ADHD;
- Head/Brain injuries;
- Multiple Sclerosis;

How can visual stress be alleviated?

Research undertaken by Clinical Psychologist Professor Arnold Wilkins of the University of Essex and the Medical Research Council Colour confirms colour to be hugely beneficial in alleviating the symptoms caused by visual stress. Colour is used in the form of coloured overlays or 'precision tinted lenses'.

A process called 'Colorimeter' measures three different parameters of colour: hue, saturation and brightness. The precise tint required to alleviate visual stress is determined through a process of varying each parameter in turn. Based on the results, a specialist laboratory will produce customised precision tinted lenses for incorporation into eyewear.

Dyslexia and visual stress

Visual stress is not dyslexia, but often co-occurs in dyslexic people.

Those people can therefore be helped by colour. Equally, a large percentage of children and adults not identified as being dyslexic may still suffer from these symptoms. The appropriate coloured overlay or precision tinted lenses can also help such people.

What are coloured overlays?

Sheets of transparent coloured plastic can be placed over the text and used as a screening tool to determine if the colour will benefit the patient. They can alleviate some of the visual stress, making reading more comfortable. Each child will benefit from a specific colour. The *Wilkins Rate of Reading Test* can be carried out to assess the benefit of the chosen coloured overlay.

How do you know if overlays can be helpful?

If the child continues to use the overlay through choice or the teacher or parent reports an improvement, it has most likely been beneficial. The overlay is typically trialled for approximately 6 weeks. Spectacles with precision tinted lenses can then be prescribed following a Colorimetry assessment. These are more convenient and versatile since they can be used with whiteboards and computer screens. Furthermore, the precision tinted lens is more accurate than the overlay as more colour combinations are employed and the tint can be varied from person to person. The colour of the lens may differ from that of the overlay used initially.

The simple application of an overlay at an early stage could save years of anxiety and prevent the downward slide in confidence which occurs in most cases where children struggle to read. As such, overlays should not be reserved only for statemented pupils or those identified as requiring specific help. Instead, they should be made available to any child who does not find reading comfortable.

Can adults be affected by visual stress?

As we get older, visual stress can be less pronounced but still present. In many cases, the condition goes undiagnosed and untreated until adult life. Those who suffer from migraines, multiple sclerosis, or a brain injury may also benefit from precision tinted lenses.

Visual stress or dyslexia are not barrier to excelling in all aspects of life. Famous people who have or had dyslexia include Tom Cruise, Orlando Bloom, Cher, John Lennon, Leonardo da Vinci, Winston Churchill, Richard Branson and Albert Einstein.