

# Coloured Overlays To Help Those With Reading Difficulties

Dyslexia, Meares-Irlen Syndrome, Scotopic Sensitivity Syndrome or simply Non Specific Reading Difficulties are broad, and to many people vague terms for patients who show signs of visual difficulties in the absence of any ocular problem.

Several studies in county schools demonstrated the use of coloured overlays offered an improvement in text clarity for 50% of children. When supplied free, half the children continued to use the overlays unprompted for more than 3 months. These children read more quickly with their overlays, both before and after they had become accustomed to its use. It is important to note these children were not diagnosed as dyslexic nor were they dyslexic.

Coloured overlays reduce the perceptual distortions of text sometimes described by children. They enable children to read certain text more fluently and with less discomfort and fewer headaches. The recent studies mentioned support this assertion, however the problem is not widely recognised by the medical community due to the sparse volume of adequate research. We therefore need to be mindful this is not universally agreed.

## Full Eye Examination

Before any attempt is made to use filters to enhance reading speed, visual comfort or comprehension, a full eye examination must be conducted. Many visual difficulties can be attributed to an uncorrected refractive problem (perhaps the child needs spectacles for long sight) or a binocular vision problem (in which case eye exercises may be appropriate). If there is no visual anomaly detected, or a problem is fully corrected but reading difficulties remain, then coloured overlays may be considered.

## Signs and Symptoms

Visual perceptual distortion may be suspected in children who are poor readers, particularly if they report headaches and eye strain while reading. The child may even report illusory movement of the letters or words, or glare from the white paper. Symptoms and signs of Non Specific Reading Difficulties vary and may depend on lighting conditions, style of text and quality of paper but include:-

### Signs

rubbing eyes  
excess blinking  
poor concentration  
inefficient reading  
difficulty keeping place

### Symptoms

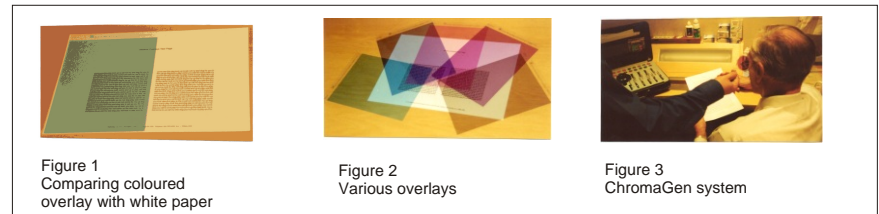
glare from the pages  
headaches while reading  
sore eyes while reading  
movement/blurring of print

## One Theory

One theory to explain the perceptual distortions found by some patients in the absence of any ocular anomaly is a physiological impairment of neurones at a much higher brain level (magnocellular level). Coloured filters may re-synchronise the messages being passed between the magnocellular region (used to detect motion and depth) and the parvocellular region (which helps define details of stationary images).

## Overlays and Tinted Lenses

We use the 'Wilkins Rate of Reading' test to measure improvements in reading speed and accuracy when assessing overlays. However, prescribing overlays depends largely on perceived improvements seen by the patient. Often a patient may show no increase in reading speed on the Wilkins test yet still subjectively appreciate the overlay. This is because the Wilkins test does not directly measure reductions in distortion (but rather makes the assumption that increased reading speed is a result of less visual distortion) and many patients may have more comfortable vision without an increase in speed. If no improvement is apparent to the patient then a tint would probably not be prescribed.



The overlays may cease to be useful after several months. This may be because reading has improved and the overlays are no longer necessary. Sometimes it may be because a different tint is now required. The process should be repeated if the user feels their existing overlay is no longer of benefit.

## Our Opinion

While there is no definitive scientific proof as to why coloured overlays may be beneficial, there is certainly increasing evidence they can help in certain cases. We can not diagnose dyslexia, nor would we suggest it. We simply agree that many children and adults feel the benefit of colour enhancements. Whatever the mechanism, if the patient perceives an improvement in visual comfort, if reading rates and comprehension improve and learning rates increase, then the filters have been of benefit.

## Costs

Unfortunately the NHS only pays a nominal fee to optometrists for a fundamental eye examination. The specialist nature of intuitive colour assessment is not funded by the NHS and a private fee is required.

### Coloured Overlay Trial

Clinical Trial is £50.00  
if overlays are found to be beneficial these are supplied FREE

### ChromaGen Trial

Clinical trial and contact lens assessment £50.00  
if contact lenses are found to be appropriate £200.00 per lens