

# Nomanis Notes

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## Do coloured lenses, overlays or paper improve reading?

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### Statement of the problem

It is purported that some reading problems may be due to light sensitivity or difficulties processing visual stimuli. These difficulties are variously described as scotopic sensitivity syndrome, Irlen or Meares-Irlen syndrome. Symptoms are often reported to be more pronounced under bright or fluorescent lighting and include headaches, eye strain, inattention, difficulties tracking text and perceiving print as unstable or blurry whilst reading.

### Proposed solution

The use of individually prescribed coloured lenses or overlays is claimed to alleviate visual processing difficulties, resulting in decreased fatigue and improvements in concentration, reading speed and comprehension.

### The theoretical rationale – how does it work?

It is claimed that individuals with scotopic sensitivity syndrome are sensitive to light and have trouble processing visual information, which presents as difficulties maintaining visual focus. Individuals undergo proprietary assessments that usually rely on self-reported information collected through a questionnaire to evaluate visual stress levels. The wavelengths that cause visual discomfort for the individual are filtered out through the use of coloured lenses or overlays, and individuals should experience immediate improvement in symptoms. After assessment, a specific tint is prescribed. The highly individualised tint is claimed to help alleviate text distortion and physical symptoms such as headaches, thereby improving reading performance. Tints can take the form of prescribed coloured lenses or a sheet of tinted overlay that is placed on top of text. By extension, the presentation of text on coloured paper appears intended to serve a similar function.

The theoretical rationale for scotopic sensitivity syndrome is not consistent with our current understanding of the nature of reading difficulties and dyslexia.

### What does the research say? What is the evidence for its efficacy?

There are no published criteria for the diagnosis of scotopic sensitivity syndrome, and it is not recognised as a condition by the international medical community. According to a policy statement published in 2018 (reaffirmed in 2025) by The Royal Australian and New Zealand College of

Ophthalmologists, there is neither reliable evidence for the existence of the syndrome nor proof that reading difficulties can be treated effectively with coloured lenses.

Several reviews examining the use of coloured lenses or overlays as a treatment to improve reading performance reported that underlying studies had significant design flaws, and measured effects were usually small or close to control conditions. Reports of positive results were more likely to come from studies with design flaws, whereas high-quality studies were less likely to support their use. Hence, reported improvements were likely to either be due to uncontrolled placebo or Hawthorne effects (alterations to behaviour due to being observed). Overall, the reviews referenced below indicate that there is insufficient evidence to support the use of coloured lenses or overlays. There are very few studies specifically on coloured paper, and no consistent, convincing evidence that the use of coloured paper improves reading.

### Conclusion

There is very limited research evidence that coloured lenses, overlays or paper improve reading performance, and they are therefore not recommended. Time and resources would be better invested in evidence-based interventions focusing on the key foundations of reading (phonemic awareness, phonics, fluency, vocabulary and comprehension).

### Key references

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