

Adequate protection from light is important, as all practitioners are aware. As well as the need to filter out the harmful short wavelength ultraviolet light, and to some extent the short wavelength visible light for our younger patients, filtering the light incident upon the eye may result in visual improvement.

This may be a result of reducing glare or enhancing contrast. This is especially important when dealing with a patient with a visual impairment where maximising their residual vision is a key aim of management.¹

Common conditions where there is loss of media transparency, cataract being the obvious one, may reduce contrast sensitivity (CS) significantly and patients often find great benefits from a carefully selected tint. In non-glare situations, one trial found an average increase in visual acuity of 15 per cent when a cataract patient wore a 550nm cut-off filter, and with a glare source present, an average increase of 70 per cent was recorded.²

With central vision loss due to age-related macular degeneration (AMD), patients no longer see high spatial frequencies and are unable to resolve fine edge detail. Filters may boost amplitude and hence improve CS to intermediate and high spatial frequencies. With AMD, these filters have been found not only to reduce the magnification needed for reading by up to 70 per cent, but also to increase the observer's reading speed by 2-4 times.³

Interestingly, there is much evidence, the majority still primarily anecdotal, showing that for certain eye diseases, a selective contrast filter has benefits. Retinitis pigmentosa conditions often show a subjective improvement in vision when a yellow/orange/red filter is used. I had some success with an orange filter for a patient with Stargardt's who was just developing significant photophobia in their 30s. Compared with similar light transmission factor lenses of different colours, the patient reported much better viewing comfort with the bright orange lens. For outdoor glare problems, greys are useful, and ultraviolet wavelengths must be blocked. For indoor contrast enhancement, particularly with AMD, a yellow filter may be beneficial. Patients vary a lot in their response in my experience, but you won't know until you try one out.

50 shades of grey, brown, orange...

Bill Harvey reminds us of the importance of lighting for those with impaired vision and is impressed by a new range of tinted shades that can be worn over existing spectacles without the stigma associated with more obvious sun shields



Cocoons are robust and give all-around blocking when worn over current spectacles

Cocoons

It is typical therefore that one needs to offer a patient a filter for use in certain conditions while not in others – say for example to reduce glare and UV exposure outdoors while maintaining maximum light transmission for reading indoors. The wraparounds offered in many a clinic are bulky and large and may attract unwanted attention to a patient coming to terms with sight loss. Clip-ons can be effective but often are fiddly to position, risk scratching the underlying prescription lenses and often bear little relationship in shape to the underlying lenses.

Cocoons are a range of over Rx sunspectacle filters which are available in a wide enough range of frames and filters to cover most needs within a general low vision environment as well as, of course, offering an option for anybody looking for an over-spec filter. The durable 'ballistic' nylon frame is both tough and flexible and the lenses may be ordered as either polarised or non-polarised. The frame in position completely blocks incoming rays and the filters are polycarbonate and cut off all radiation below 400nm.

I tried out the appliance on two

patients with particular needs. Mrs AA is a macular degeneration patient who has a variety of ways of enhancing contrast when reading but has been keen to try out coloured lenses. I ordered the yellow filter (27 per cent light transmission) which easily fitted over her current spectacles. No increase in target acuity was achieved, but an increased reading speed (without habituation) was measured.

Mr KA was a pseudophake (non-blue filter IOLs fitted) with macular degeneration, keen on keeping up his gardening activities and complaining of some glare in the sun. He tried the grey polarised wide frame which offered a 15 per cent transmission, offered good all-round protection and easily fitted over his current spectacles.

More importantly, I am confident that the Cocoons are tough enough to withstand the efforts of KA to break them – he has managed to break all previous wraparounds and clip-ons.

Though my experience has been limited thus far, I am confident that the Cocoons fit an important niche, offer good and resilient light protection over a range of conditions, and might not look as stigmatising as many previous offerings. Both patients are happy to endorse this.

References

- 1 Pyzer I. The use of selective contrast colour filters for eye disease. *Optician*, June 10, 2005, No 6005, vol 229, 27-29.
- 2 Zigman S. Light filters to improve vision. *Optom Vision Sci*, 1992; 69, 325-328.
- 3 Lawton TB. Image enhancement filters significantly improve reading performance for low vision observers. *Ophthalmic Physiol Opt*, 1993; Apr, 12(2), 193-200.

● Thanks to VisionEnhancers for trial samples. For further information contact vanessa@visionenhancers.co.uk