

## EYE PROTECTION FOR PUVA PATIENTS\*

The British Photodermatology Group often gets asked for advice concerning the type of protective eye wear to be worn by patients who are undergoing oral PUVA therapy. Data concerning the ocular risks associated with bath PUVA are lacking, and some centres recommend eye protection for at least 12 hours following treatment<sup>1</sup>. Below is a summary of options available.

**Sunglasses:** All sunglasses sold in Boots the Chemist retail shops conform with British Standard BS2724. However this standard is not stringent enough to meet the protection of psoralen sensitised eyes<sup>2,3</sup>. Patients should be advised to look for those sunglasses which are marked *UV400*. The lenses in these sunglasses block all wavelengths below 400 nm (i.e. UVA and UVB) and should be the only type recommended to PUVA patients which can be purchased in Boots the Chemist. There are alternative makes available and details of these can be found in references 2 and 3.

**Prescription Lenses:** Patients who normally wear prescription spectacles and wish to continue wearing these can have them coated with a material which is visibly clear but opaque to both UVA and UVB<sup>4,5</sup>. Only plastic lenses can be coated but these comprise 96% of new prescription spectacles in the UK. Patients should be advised to ask opticians for a *UV Coating*. Because of increasing awareness of the association between sun exposure and the induction of cataract, most opticians are now well aware of the need to offer protection against ultraviolet radiation and can arrange for lenses to be coated at a cost of approximately £10 per pair.

**Clear Safety Spectacles:** A low cost safety spectacle in clear polycarbonate which is completely opaque to all ultraviolet wavelengths (i.e. blocks UVA and UVB) and which can be recommended at £3:00 per pair (inc VAT) is the Bolle Coverspec (product code 93BS71) obtainable from St Helier Safety, St Helier House, Green Lane, Pelaw, Gateshead NE10 0UW (Tel: 0191 469 8421). A more robust safety spectacle (type UVC 303) costing £12:34 per pair (inc VAT) is obtainable from Ultraviolet Products Limited, Science Park, Milton Road, Cambridge CB4 4FH (Tel: 01223 420022). The ultraviolet absorbing properties of the two spectacles are very similar, and both come with sideshields.

The suitability of spectacles for protecting psoralen sensitised eyes can be determined in two ways.

1. The ideal method is to measure the spectral transmission on a wavelength-by-wavelength basis in a spectrophotometer<sup>2,6</sup> and to compare the transmission values at a number of wavelengths with the transmission limits recommended by Moseley et al<sup>2</sup>.
2. A simpler method, and one which is unlikely to lead to a spectacle with inappropriate optical qualities being accepted, is to measure the amount of UVA radiation transmitted through the lens with the lamps used for PUVA therapy and a handheld

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\*Note: These guidelines are modified slightly from those published in the British Journal of Dermatology 1996; **135**: 654-655

UVA meter<sup>1,7</sup>. If the meter reads between 10 and 20 mW/cm<sup>2</sup> without the lens in place, the reading needs to fall to at least 0.2 mW/cm<sup>2</sup> and preferably below 0.1 mW/cm<sup>2</sup> in order for the spectacles to provide adequate protection<sup>8</sup>. Readers should be cautioned that this technique may not identify lenses which have a 'window' of high transmission in the ultraviolet region below about 340nm<sup>2</sup>. Nevertheless, experience has shown (J Ferguson, unpublished data) that patients rarely present spectacles with this property for assessment, and certainly no spectacles in any of the three categories above would exhibit these undesirable transmission characteristics.

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