

Submission to the ACLM, OSA and Euromcontact from the Hospital Optometrists Committee

The Hospital Optometrists Committee (HOC) would like to raise its concerns with regards to the EU's current proposal to ban a large number of chemicals which contain the element fluorine. These Per- and Polyfluoroalkyl substances (PFAS) are used in modern rigid gas permeable contact lenses, which have medical applications. The current proposed derogations, lists rigid gas permeable (RGP) contact lenses and ophthalmic lenses as requiring additional evidence.

Patients seen within UK National Health Service hospital eye service are supplied with contact lenses based on medical necessity. Eligibility criteria are set out by HOC ([Guidance on the supply of contact lenses in hospitals | AOP](#)). Moorfields Eye Hospital and Manchester Royal Eye Hospital are the two largest UK hospital optometry departments supporting approximately 15,000 individual patients needing medically necessary contact lenses as per the eligibility criteria above, it is estimated that this is approximately 25% of all patients seen under the hospital eye services throughout the UK and by extrapolation the proposed changes have potential to impact upon 60,000 UK citizens using medically necessary contact lenses.

We understand materials produced without the fluorine element demonstrate a highly significant & dramatic drop in oxygen permeability, which impact on patients wearing time and being able to safely use these types of contact lenses. We are aware that whilst older RGP materials were fluorine free they have much lower levels of oxygen permeability, which have been shown to be detrimental to ocular health.

In 2021-22 Moorfields supplied patients with 8,168 RGP lenses of which 1,557 were scleral lens designs. Previous published data from Moorfields (BCLA, 2019) considered visual acuity data for 2,080 patients attending the service. Of those seen 96.4% had uncorrected vision of 6/18 or worse. Wearing their medically necessary contact lenses the same cohort of patients had visual acuity measurements with their contact lenses in situ. 73.7% of patients achieved 6/12 or better visual acuity, 23% achieved between 6/18-6/60 and only 3.1% could not achieve better than 6/60 with the contact lens. These figures are comparable to those from Mimoui et al, (2019) and Kibet et al, (2020) where the contact lens in these patients gives a statistically significant improvement from their unaided vision. These individual patients would be legally classified as severely sight impaired (blind) or sight impaired (partially sighted), without being able to use contact lenses. However, the majority (74%) can achieve visual acuity within normal limits with contact lens use. Unlike patients who wear contact lenses in preference to spectacles hospital eye services patients have no choice as are unable to achieve satisfactory improvement in visual acuity through other means. They are reliant on contact lenses use to; pursue their education, earn their living, support their families and function in society.

Pezullo et al, (2018) and Maberley et al, (2006) showed the economic burden of blindness and sight impairment in the UK and Europe respectively. They suggest a financial cost of £28,672 per person per year in 2013, compared to £34,011 per person per year in 2016. Based on these figures and the Bank of England inflation calculator in 2023 this would equate to £42,724 per person per annum. The financial impact of patients seen for medically necessary contact lenses who would no longer be able to wear them, if these materials not be available in the UK would be a devastating.

Whilst we appreciate the impact that these chemicals have had on the environment, HOC believes that derogations for RGP lens materials should be considered with respect to the clinical needs of patients to be visually independent and not prevent them functioning normally in society on a daily basis.

V Anand
HOC Chair
Deputy Head of Optometry
Moorfields Eye Hospital

A Tompkin
HOC Secretary
Consultant Optometrist
Royal Liverpool University Hospital

References:

Mimouni M, Najjar R, Rabina G, Vainer I, Kaiserman I. Visual acuity in patients with keratoconus: a comparison with matched regular myopic astigmatism. *Graefes Arch Clin Exp Ophthalmol*. 2019 Feb;257(2):pp.313-319. doi: 10.1007/s00417-018-4188-1. Epub 2018 Dec 7. PMID: 30535968.

Kibet Yego W, Moodley VR. Visual Acuity and Refractive Error Improvement in Keratoconic Patients: A Low-Income Context Management Perspective. *Clin Optom (Auckl)*. 2020;12:pp.113-122

Pezzullo, L., Streatfeild, J., Simkiss, P. and Shickle, D. The economic impact of sight loss and blindness in the UK adult population. *BMC health services research*, 2018; 18(1), pp.1-13.

Maberley, D.A.L., Hollands, H., Chuo, J., Tam, G., Konkal, J., Roesch, M., Veselinovic, A., Witzigmann, M. and Bassett, K., 2006. The prevalence of low vision and blindness in Canada. *Eye*, 20(3), pp.341-346.