

An Open Letter from Key Opinion Leaders in Ophthalmology

Dear Colleagues,

As clinicians, our primary responsibility is to care for the patients that we see and as experts in eye care, it is imperative that we provide our patients with honest, open and transparent advice. For those that require vision correction to improve their vision, there are a number of different options. As we continue through this modern era of technological advances, the excellent surgical vision correction options that exist today will become even better and appeal to an even greater number of patients. It's our responsibility to educate patients in an easy to understand, factual manner, enabling them to make informed choices.

In the surgical arena there is a well-established process of Informed Consent. Providers and their eye care professionals, whether they be an Ophthalmologist or Optometrist, educate the patient and participate in a process of consent. This process documents that the patient understands the potential risks, the range of outcomes and their vision correction alternatives.

Can it be said that the principles of Informed Consent – that are well-established with the surgical vision correction solutions – are matched closely to those associated with non-surgical vision correction solutions, such as contact lenses? It's fair to say there is not the same standard of process for Informed Consent. Furthermore, what responsibility does the optical industry have in creating a more sustainable planet? Surely these are the questions that we all should be asking ourselves. Let's consider the facts:

Almost 800 million plastic contact lenses are used by more than 4 million people in the UK each year¹ which is undoubtedly having a negative impact on the environment. In a recent survey of over 3,000 UK contact lens users, Optical Express found that 97% are damaging the environment by throwing them down the drain or in the bin, with only 3% of people recycling their lenses².

Most plastic waste from the contact lenses themselves and their packaging end up in the ocean or in landfill. Once in landfill it may take up to 500 years to decompose³. Even more shocking, more than 1 in 4 people admit to disposing of their lenses via the sink or toilet² – with the true number of those who do so potentially higher still.

As they go through sewage systems, contact lenses break down into smaller particles and ultimately form microplastics. These microplastics pollute the oceans and are mistaken for food by marine animals. A University of Exeter study found that every single seal, dolphin and whale washed up on Britain's shores had traces of plastic in its stomach⁴, which is as terrifying as it is sad. A further study undertaken by the Arizona State University on 13 different contact lens brands, confirmed that none of the lenses are bio-degradable and all become microplastics when they enter the water systems⁵.

To our knowledge, currently no contact lens manufacturer provides information on the environmental impact of contact lenses and their packaging, on their products. As the UK's only complete eye care provider, Optical Express has decided to take action itself. With every pack of contact lenses Optical Express sell, they will now give patients information on their environmental impact and advice on how to properly dispose of used contact lenses and their packaging. Optical Express is today calling upon other eye care practices to do the same.

This creates an interesting debate around the responsibility of Optometrists. In this current climate should Optometrists give their patients full facts, on not only the potential risks of contact lenses, but also their environmental impact? And, importantly, should the Optometrist provide patients with information on alternative, more sustainable vision correction choices?

As technology advances at all Optometry practices and clinicians have access to technologies currently available within Optical Express – such as corneal topographers, perhaps in the form of the Oculus Pentacam, optical biometers such as the Zeiss IOL Master 700 TK, which play a pivotal role in IOL surgery and the monitoring of axial length development, and retinal OCTs such as the Zeiss Cirrus to name a few – the role and responsibility placed upon the Optometrist in eye care generally will increase exponentially. This is further supported by the advent of

the Independent Prescribing qualification which Optical Express, as well as other providers, is fully embracing.

Everyone knows we need to take urgent action to reduce the amount of plastic we're using in every aspect of our lives. It's time we all took more responsibility for how our personal decisions affect the environment. We all have choices in terms of vision correction, whether that's to wear glasses more often or get laser eye surgery, but whatever our patients do, let's ensure they don't throw their contact lenses down the drain.

In answering the question posed earlier, we are strong in the belief that it's imperative that all Optometrists and eye care providers educate patients on their full range of choices. Patients must understand what their surgical and non-surgical options are. Patients must be informed of the potential risks and range of outcomes of each vision correction solution in addition to the benefits.

It's well evidenced in peer review publications that surgical vision correction options perform well in comparison to contact lenses. Price et al. (2016) in their paper titled 'Three-Year Longitudinal Survey Comparing Vision Satisfaction with LASIK and Contact Lenses' concluded that "compared with contact lens wear, current LASIK technology improved ease of night driving, did not significantly increase dry eye symptoms, and resulted in higher levels of satisfaction at 1, 2 and 3 years."⁶ Furthermore, Optical Express's peer review published LASIK data⁷ when compared with contact lens peer review published data⁸, shows that the risk of developing a sight threatening infection is four times greater per year of contact lens wear in comparison to after LASIK, and is twenty times greater per year of extended wear contact lens use. With all of this in mind, I return to my earlier question - does the industry need to consider introducing an Informed Consent process for non-surgical vision correction solutions?

In the years ahead it may become socially unacceptable to wear contact lenses due to the threat they pose to our environment. As we are all becoming more environmentally aware and understanding better the impact on the planet of our decisions and actions, our patients will learn they always have a choice. All businesses have a responsibility to educate their patients and customers with information on the environmental impact of products and should offer alternative solutions where possible. We would contend that surgical vision correction solutions are safer, more cost effective in the long term and more environmentally friendly and therefore should be discussed with each and every patient who is a candidate, regardless of whether the examination setting provides or does not provide these solutions.

We'd love to hear from fellow clinicians who have a view on the issues and questions raised within this letter. If you'd like to get in touch, please contact us at openletter@opticalexpress.com.

Yours sincerely,

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1. Association of Contact Lens Manufacturers 2016 <https://www.abdo.org.uk/news/aclm-2016-contact-lens-statistics>.
2. Based on a survey of over 3,000 Optical Express contact lens users across the UK between May and September 2019.
3. WWF - The lifecycle of plastics 2018 <https://www.wwf.org.au/news/blogs/the-lifecycle-of-plastics>.
4. Microplastics as contaminants in the marine environment: a review. 2016, M. Cole, P. Lindeque, C. Halsband, T. Galloway.
5. Arizona State University 2018 <https://asunow.asu.edu/20180819-discoveries-asu-scientists-1st-nationwide-study-environmental-costs-contact-lenses>.
6. Three-Year Longitudinal Survey Comparing Visual Satisfaction with LASIK and Contact Lenses 2016, M. Price, D. Price, F. Bucci, D. Durrie, W. Bond, F. Price.
7. Infectious keratitis after laser vision correction: Incidence and risk factors 2017, J. Schallhorn, S. Schallhorn, K. Hettlinger, S. Hannan.
8. Contact lens-related microbial keratitis: how have epidemiology and genetics helped us with pathogenesis and prophylaxis 2016 F. Stapleton, N. Carnit.