COMMONLY PRESCRIBED SOFT CONTACT LENSES AND PEARLS FOR THEIR USE

A large focus should be placed on providing better care after fitting.

BY JAMES S. WOLFFSOHN, BSc, MBA, PhD



The contact lens market in 11 reported countries across Europe was valued at more than € 1 billion in 2012, with an estimated 3.4% to 13.3% of the population 15 to 64 years old wearing contact lenses.¹

In addition to being a cosmetically pleasing option for many patients, contact lenses have several advantages over spectacles for

refractive correction: They provide the ability to easily alter the lens power with changes in refractive error; they do not irritate the face or have the potential to fall off, especially when playing sports; they do not steam up or need wiping; they cause minimal magnification effects both for observers and for the wearers seeing through them; and they even offer patients the ability to change their iris color or to add definition to the limbus and pupil margins.

ACKNOWLEDGING THE BARRIERS

Despite their advantages and benefits, there are some barriers to more widespread contact lens use.

Myopia control. Recent studies of multifocal contact lenses and orthokeratology—a program of overnight rigid lens wear to redistribute the epithelium and correct refractive error—have demonstrated the ability of these modalities to slow myopia progression by up to 50%.^{2,3} Interest is growing in myopia control across the globe, yet it is making little difference on contact lens (or other eye care) practice.³ The peak ages of contact lens wear are still in the late teens to early 30s, after which there is a drop-off in wearers even before presbyopia sets in.⁴

Fighting the dropout effect. Many studies have shown a dropout effect, with one-third to one-half of patients discontinuing contact lens wear during the first 6 months of use; this has largely been attributed to discomfort, particularly late in the day. ^{5,6} Therefore, a large focus in current prescribing is on providing better care after fitting.

Another area of focus is on fitting the most comfortable contact lenses, often daily disposables, to avoid compliance



issues with solutions and lens cases.⁷ Many of these lenses now offer high levels of comfort even after 16 hours of wear.⁸⁻¹⁰

Care solutions. Certain contact lens solution disinfectants and preservatives interact with specific contact lens materials—particularly silicone hydrogel—to cause marked corneal staining around 2 hours after lens insertion, but this effect disappears during the day.¹¹ This has challenged clinicians' thinking on whether fluorescein staining represents damage of the ocular surface or not, with studies reporting inconsistent results on whether the staining has any association with contact lens discomfort or complications.^{12,13}

Lens fitting. Soft contact lens fit on the ocular surface is not well predicted by keratometry and video topographic assessment, ¹⁴ and, therefore, fit must be assessed on a patient-by-patient basis. This makes substitution of lenses through Internet purchase potentially unsafe. ¹⁵

MULTIFOCAL CONTACT LENSES: KEYS TO SUCCESS

FROM CLINICAL INSIGHTS WITH DAVID KADING, OD, FAAO; AND MILE BRUJIC, OD

NO. 1: DISCUSS THE OPPORTUNITY

Eve care providers report that they discuss multifocal contact lenses with only 9% of their presbyopic patients. When they do, only 15% of practitioners say they present this option enthusiastically.¹ However, when presbyopic patients between the ages of 40 and 54 were asked whether they wanted to try contact lenses, 42% said they would be interested.² Eye care providers should discuss multifocal contact lenses with every presbyope who is a candidate.

NO. 2: UTILIZE FITTING GUIDES Practitioners should use the fitting guide specific to the contact lens they are fitting. Each contact lens design has nuances that are critical to that specific lens, so it is important to follow the fitting guide with every fit. If a current multifocal contact lens wearer is transitioning from one design to another, be cautious not to simply transfer those powers into the new lens design; instead, follow the fitting guide for that specific design based on the manufacturer's recommendation

NO. 3: REVERSE THE ORDER

To measure vision, practitioners typically place contact lenses on a patient's eyes, wait a given amount of time for them to settle, and then assess distance visual acuity first and near visual acuity second. When it comes to presbyopes, however, practitio-

ners may want to reconsider the order of this process.



WATCH IT NOW:

A presbyope's chief complaint is typically the inability to see at near. Knowing this, it may be best to challenge the traditional order of vision measurements and consider having patients look at near targets prior to the distance vision measurements.

The logic behind this is to provide the patient the "win" with multifocal contact lenses first—which is the ability to see the near targets without the need for glasses. Then, after success is demonstrated, measure distance visual acuity binocularly. In the experiences of Drs. Kading and Brujic, this allows patients the opportunity to more easily appreciate the benefits of the lens during the fitting process.

1. The Soft Multifocal Contact Lens Eyecare Practitioner Usage and Attitude Study. Jobson Optical Research. December 2015.

2. Multi-sponsor Surveys, Inc. 2015 Gallup Study of the U.S. Multi-Focal Contact Lens Market. October 2015: Princeton. New Jersey.

CONTACT LENS OPTIONS

Toric lenses. Toric contact lenses have become more stable and easier to fit over the years, and toric options are available in all modalities of wear and in combination with presbyopic optics. These lenses are now being prescribed for the approximately one-third of contact lens-wearing patients who are likely to have significant amounts of astigmatism.¹⁶ It is always good practice to allow patients to compare a spherical equivalent power with a toric contact lens—for instance, by placing one type of lens in each eye—so that they can assess the difference. There is a price differential, and this experiment can inform their choice. However, clinicians should remember that uncorrected toric prescriptions have been identified as a reason for contact lens discontinuation.¹²

Multifocal lenses. Correction of presbyopia with contact

lenses is largely achieved with models that produce simultaneous multifocal images, rather than with monovision.⁴ Unlike IOLs, all commercially available multifocal soft contact lenses are concentric refractive designs, despite early research on diffractive optics. Our recent research suggests that alternating designs between eyes (center distance in one eye and center near in the other) is preferred by patients, but this approach has not been widely adopted to date.17

LENS MATERIAL

Although the use of silicone-hydrogel contact lenses continues to increase at the expense of traditional hydrogel material contact lenses due to their clear advantage in oxygen permeability, there is still debate about whether they are the best option for all patients. It is generally



- An estimated 3.4% to 13.3% of the population 15 to 64 years old wear contact lenses.
- Contact lenses are a cosmetically pleasing option for many patients and have several advantages over spectacles for refractive correction.
- A growing emphasis is being placed on fitting the most comfortable lenses to avoid compliance issues.

agreed, however, that extended wear schedules (ie, sleeping in lenses) carries an unacceptable level of risk for most patients, even with the latest material innovations.¹⁸

- 1. Euromcontact. A comparison of European soft contact lens and lens care markets in 2012. http://www.primaryhealth-net.com/admin/uploads/ACLMContactlenssurvey.pdf. Accessed October 29, 2016.
- 2. Orr J, Wolffsohn JS. We are being myopic about myopia control. Cont Lens Anterior Eye. 2016;39L85-87.
- 3. Wolffsohn JS, Calossi A, Cho P, et al. Global trends in myopia management attitudes and strategies in clinical practice. Cont Lens Anterior Eye. 2016;39:106-116.
- 4. Morgan PB, Efron N, Woods CA; The International Prescribing Survey Consortium. An international survey of contact lens prescribing for presbyopia. *Clinical Exp Optom.* 2011;94:87-92.
- 5. Young G, Veys J, Pritchard N, Colman S. A multi-centre study of lapsed contact lens wearers. *Ophthalmic Physiol Opt.* 2002;22:516-527.
- Chalmers RL, Hunt C, Hickson-Curran S, Young G. Struggle with hydrogel CL wear increases with age in young adults. Contact Lens Ant Eye. 2009;32:113-119.

- 7. Efron N, Morgan PB, Woods CA; The International Prescribing Survey Consortium. An international survey of daily disposable contact lens prescribing. *Clinical Exp Optom*. 2013;96:58-64.
- 8. Wolffsohn JS, Peterson RC, Nick J, Winterton L, Lally J. Clinical performance of daily disposable soft contact lenses using sustained release technology. Cont Lens Anterior Eye. 2006;29:127–134.
- 9. Wolffsohn JS, Hunt OA, Choudhury A. Objective clinical performance of 'comfort' enhanced daily disposable soft contact lenses. Cont Lens Anterior Eye. 2010;33:88-92
- 10. Wolffsohn JS, Mroczkowska S, Hunt OA, Bilkhu B, Drew T, Sheppard A. Cross-over evaluation of silicone hydrogel daily disposable contact lenses. *Optom Vis Sci.* 2015;92, 1063-1068.
- 11. Mallet F. An acute clinical comparison of corneal staining and comfort associated with contact lens care solutions. Contact Lens Ant Eye. 2014;37:351–357.
- 12. Young G, Canavan K, Jones S, Hunt C. Predisposing factors for solution-induced corneal staining. *Optom Vis Sci.* 2012;89:1582-1589.
- 13. Diec J, Evans VE, Tilia D, Naduvilath T, Holden BA, Lazon de la Jara P. Comparison of ocular comfort, vision, and SICS during silicone hydrogel contact lens daily wear. Eye Contact Lens. 2012;38:2-6.
- 14. Hall L, Young G, Wolffsohn J, Riley C. The influence of corneo-scleral topography on soft contact lens fit. *Invest Ophthalmol Vis Sci.* 2011;52:6801–6806.
- 15. Wolffsohn JS, Hall L, Mroczkowska S, et al. The influence of end of day silicone hydrogel daily disposable contact lens fit on ocular comfort, physiology and lens wettability. Cont Lens Anterior Eye. 2015;38(5):339–344.
- 16. Morgan PB, Efron N, Woods CA. An international survey of toric contact lens prescribing. *Eye Contact Lens*. 2013;39:132–137.
- 17. Sivardeen A, Laughton D, Wolffsohn JS. Randomized crossover trial of silicone hydrogel presbyopic contact lenses. Optom Vis Sci. 2016;93(2):141-149.
- 18. DePaolis M, Cho P, Cunningham D, et al. What do we do now? Implications for the clinical practice. *Contact Lens Ant Eye.* 2013;36(Suppl 1):S28-33.

James S. Wolffsohn, BSc, MBA, PhD

- Ophthalmic Research Group, Aston University, Aston Triangle, Birmingham, United Kingdom
- J.S.W.Wolffsohn@aston.ac.uk
- Financial disclosure: Consultant (CooperVision), Research fees (Alcon, Bausch + Lomb, Johnson & Johnson)