The availability of silicone hydrogel contact lenses for 30-day continuous wear has been a recent advancement in the contact lens field. Previous contact lenses approved for up to 7-day extended wear have been associated with hypoxic related side effects such as dry eye, discomfort, and a higher risk of infections. Clinical factors also contributed to the controversy surrounding 7-day extended wear, including keratitis, corneal erosions, and the potential for corneal ulcers (Chung et al. 1996, Schein et al. 1996). A major barrier to optimum prescribing overnight wear in the past was the perceived lack of health and safety, particularly for cases of corneal infections.

Recent surveys indicate high patient interest in continuous wear (Swain and Mass 2002). Studies have shown that silicone hydrogels meet or exceed the critical oxygen levels needed by the cornea for safe overnight wear (Cowey et al. 2001, Holden and Berz 1998). Researchers have also found many improved health and safety with silicone hydrogels compared to previous lenses. silicone hydrogels have a much lower predicted incidence of neovascular keratitis (Nelson 2001, Levy et al. 2000).

For this technological breakthrough to reach its potential, it must affect and change the opinions and recommendations of practicing clinicians.

### Methods

A 23-question survey was administered to 3rd and 4th year student clinicians and faculty clinicians practicing at the IU school of Optometry, and to 3rd year clinicians at NSU during the spring of 2002. The questionnaire evaluated clinician attitudes concerning 30-day continuous wear with silicone hydrogels, 7-day extended wear with corneal gas permeable lens materials, and laser vision correction as an alternative to contact lenses, as well as more traditional contact lens and spectacle treatments. The questions were presented in summative 5-point scales ranging from very low to very high.

Overall knowledge of the vision correction options, opinions of health and safety, and ratings of convenience were evaluated for each vision correction option. Next, the likelihood for the clinician to recommend each option was evaluated.

Finally, the questionnaire was again administered to a select group of 4th year clinicians at IU after they had gained some amount of clinical experience with 30-day continuous wear lenses, to determine if their opinions and attitudes were affected by this relatively minimal exposure.

### Results

While 4th year and faculty clinicians profess to have a relatively good level of knowledge about 30-day continuous wear, Lasik and 7-day extended wear with lower Dk, Lasik received higher safety ratings than 30-day continuous wear. Clinicians were as likely or more likely to recommend 7-day extended wear or Lasik than they were to recommend 30-day extended wear.

These health and safety evaluations, and clinician recommendations are in conflict with the great body of published evidence showing 30-day continuous wear silicone hydrogels to be a safer modality than Lasik or 7-day extended wear. This may contradict the clinician's self-perceived evaluation of their knowledge in this area, or may be reflective of a relatively deep-seated lack of comfort with long-term overnight wear.

One encouraging finding was that even a relatively limited experience with 30-day continuous wear was enough to affect clinician perceptions. More importantly, the likelihood of their recommending this modality was increased compared to Lasik or 7-day extended wear.

Finally, all clinician groups rated their knowledge of current corneal reshaping techniques with GP lenses as low, and they are by far least likely to recommend it to patients. Interestingly, this reluctance by clinicians stands in stark contrast to the attitude of patients. In a companion study, Future Perceptions of 30-Day Continuous Wear (July et al. 2002), when patients were asked to rank vision correction options, non-surgical corneal reshaping or modern ortho-K rated the highest.

### Conclusions

A good level of knowledge of a modality does not necessarily translate into changed behavior in terms of clinician perceptions and recommendations.

A relatively short clinical experience with a new modality can result in changes in clinician perceptions and recommendations.

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