The Effect of Two Weeks and Twenty-Four Hours Soft Contact Lens Cessation Times on Corneal Refractive Surgery Outcomes

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INTRODUCTION

Soft contact lens (SCL) wear can reduce accuracy of pre-operative corneal measurements and outcomes of corneal refractive surgery (CRS)2,3. Hypoxia induced by overnight SCL wear may result in reduced corneal metabolism5,6 and alterations to endothelial structure resulting in increased light scatter and less light transmission. This may affect corneal healing following CRS. The time required for resolution of SCL-induced corneal changes can vary and can take longer than 2 weeks4,5,6. Despite this, prior to CRS, a standard SCL cessation time is advised for all patients. This cessation time varies according to governing bodies. United States Food and Drug Administration (FDA) guidelines recommend that SCL be left out for at least 2 weeks prior to initial consultation. Whereas, the Royal College of Ophthalmologists in the United Kingdom recommends removing SCL for 1 day before CRS. Short SCL cessation times prior to CRS may be insufficient for resolution of SCL-induced corneal changes.

HYPOTHESIS

Visual and refractive CRS outcomes would be worse in a SCL group compared to a non-contact lens (NCL) group and worse in a SCL group who ceased SCL wear for 24 hours when compared to those who ceased SCL wear for two weeks prior to examination and treatment.

METHODS

CRS outcomes of dominant eyes for two groups of previous full-time SCL wearing patients were analysed retrospectively; those who ceased SCL wear for two weeks (n = 45) and twenty four hours (n = 49) prior to examination and treatment. In both groups results were compared to a NCL control group (2 weeks SCL group n = 45; 24 hours SCL group n = 49).

RESULTS

Figure 2. Efficacy index for the 2 weeks SCL cessation group.

These findings were reiterated in the 24 hours SCL cessation group where the trend towards superior CRS outcomes for efficacy, predictability and safety in the SCL group compared to the NCL group was continued. UDVA efficacy outcomes following LASER/PRK were significantly better in the SCL group at the six month post-operative visit (p = 0.03, Table 3).

Table 3: Six month post-operative VA and refraction parameters for the 24 hours SCL cessation group

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REFERENCES


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