EVALUATION OF BANDAGE CONTACT LENSES FOLLOWING REFRACTIVE OR THERAPEUTIC PROCEDURES

PURPOSE
To better understand how bandage contact lenses (BCLs) are evaluated in clinical research studies following refractive procedures, such as Laser Assisted Sub-Epithelial Keratectomy (LASIK) and Photorefractive Keratectomy (PRK); or after a therapeutic treatment, such as Corneal Collagen Crosslinking (CXL) for keratoconus.

METHODS
A series of detailed literature searches were performed in PubMed (using keywords, such as “PRK”, “LASIK” and “Corneal Collagen Crosslinking”) to identify published research studies conducted in human patients that had undergone either CCXL for keratoconus, or LASIK/PRK within the last 10 years (2005-2015). Exclusion criteria were set to remove studies that had used a transpithelial CCXL procedure, that were performed in non-human eyes, or included cases of iatrogenic keratocorrection. Additionally, papers not written in English were also excluded.

RESULTS
A large proportion (31/73: Fig. 1) of these published reports did not disclose which brand of BCLs were fitted following these refractive/therapeutic procedures. A majority of studies (27/73) reported that removal occurred following complete re-epithelialisation (36/73: Fig. 9). The remaining studies (27/73: Fig. 9) reported that BCLs were removed after a specific number of days following treatment.

CONCLUSION
Currently, there is little consensus in the published literature regarding how BCLs should be evaluated when fitted to patients following either CCXL for keratoconus, or LASIK/PRK. Further research needs to be conducted to develop an accepted protocol of assessments, which might include monitoring of BCL deposition, a recognised method of assessing epithelial healing and evaluation of post-treatment pain whilst wearing BCLs. These factors are all important in determining whether a BCL should be left in-situ, replaced for a fresh BCL or removed altogether. A more harmonious approach to evaluating the performance of BCLs, following either refractive or therapeutic procedures, would prove useful in delivering a higher standard of patient care.

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