

Review

Contact lens fitting post-laser-in situ keratomileusis (LASIK)

Chris Steele^{a,*}, John Davidson^b

^a *Optometry Department, Sunderland Eye Infirmary, Queen Alexandra Road, Sunderland SR2 9HP, United Kingdom*

^b *Querido and Davidson Optometrists, 196 Chillingham Road, Heaton, Newcastle upon Tyne NE6 5LN, United Kingdom*

Abstract

Despite recent advances in refractive surgical procedures a small proportion of patients still achieve sub-optimal results for a variety of reasons. In such cases, contact lenses may provide the only option for visual rehabilitation and restoration of binocular vision post-refractive surgery. The indications for contact lenses post-LASIK may be one, or a combination of the following:

- Initial bandage lens for corneal protection.
- Residual ametropia—over and under correction.
- Irregular astigmatism.
- Anisometropia.
- Decentred ablation zones.

In low powered corrections conventional soft lenses can be fitted in the normal way, giving good levels of acuity. Where there is astigmatism (>0.75 DC) then toric soft contact lenses may be appropriate.

Rigid lenses may prove to be the only viable option in a number of cases where visual correction is required post-refractive surgery, or in the presence of high levels of astigmatism. Fitting can be more complex however, since a conventional rigid lens cannot follow the shape of both the flattened central cornea and the relatively steeper periphery in higher corrections, as the amount of laser ablation increases. Reverse geometry lenses are indicated where there is a significant difference between the flat central ablated zone and the relatively steeper peripheral cornea. On rare occasions scleral lenses may also be indicated.

© 2007 British Contact Lens Association. Published by Elsevier Ltd. All rights reserved.

Keywords: Therapeutic contact lenses; Post-laser refractive surgery; LASIK; LASEK; PRK; Irregular cornea; Reverse geometry

Contents

1. Introduction	85
2. Indications for contact lenses post-LASIK	85
3. Therapeutic contact lens (TCL) applications post-LASIK	85
4. Corneal biomechanical and topographic changes post-LASIK	86
5. Computerised corneal topography post-refractive surgery	86
6. Soft contact lenses post-LASIK	87
7. Soft toric lenses post-LASIK refractive surgery	87
8. Rigid gas permeable (RGP) lenses post-LASIK	87
9. Post-hypermetropic treatments	89
10. Iatrogenic corneal ectasia	89
11. Ultravision CLPL KeraSoft TM 2	90

* Corresponding author. Tel.: +44 191 569 9073; fax: +44 191 569 9275.
E-mail address: chris.steele@chs.northy.nhs.uk (C. Steele).

12. Hybrid Softperm lenses	90
13. Combination or piggyback lenses.	90
14. Large diameter lenses.	90
15. Decentered ablations	90
16. Scleral lenses	91
17. When to fit contact lenses post-LASIK.	92
18. Summary	92
19. Conclusions.	92
20. Declaration	92
References	92

1. Introduction

In the last decade refractive surgery has come a long way and it has developed into a whole sub-specialty of its own. Despite recent advances in refractive surgical procedures, a small proportion of patients still achieve sub-optimal results for a variety of reasons. In such cases, contact lenses may provide the only option for visual rehabilitation and restoration of binocular vision post-refractive surgery. Fitting contact lenses after refractive surgery carries a reduced success rate for practical and psycho-social reasons. Often patients are very disappointed at having to wear contact lenses, particularly when it was problems with lenses that made them choose to undergo refractive surgery in the first place.

The most common laser refractive procedures are Laser-in situ keratomileusis (LASIK), Laser-in situ epithelial keratomeliosis (LASEK) and photorefractive keratectomy (PRK).

2. Indications for contact lenses post-LASIK

This paper will concentrate mainly on contact lens fitting post-LASIK. The indications for contact lenses post-PRK, LASIK and LASEK may be one, or a combination of the following:

- Initial bandage lens for corneal protection (Fig. 1).
- Residual ametropia—over and under correction.
- Irregular astigmatism (Fig. 2).
- Anisometropia.
- Decentred ablation zones.

3. Therapeutic contact lens (TCL) applications post-LASIK

The routine use of TCLs, usually disposables, after photorefractive keratectomy (PRK) remains common in certain parts of the world with relatively few complications reported [1–5]. The routine use of such TCLs post-PRK has however, never become commonplace in the UK although an increasing number of surgeon now do so.

In recent years laser-in situ keratomileusis (LASIK) and laser in situ epithelial keratomeliosis (LASEK) have become

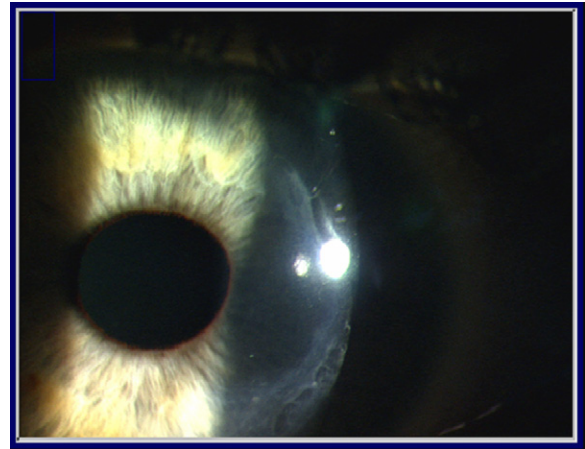


Fig. 1. Dislodged LASIK flap that was surgically re-positioned. A silicone hydrogel bandage contact lens was used to protect the flap in the initial healing period.

popular refractive surgical procedures. TCLs may be used following LASIK, for 1–3 days post-operatively (Fig. 3) [6,7]. Silicone hydrogels have been found to be an effective and well-tolerated bandage lens after LASEK and LASIK [8,9]. A common complication with LASIK technique is induced RCE which can be successfully treated with TCLs [10,11]. This is to provide patient comfort and protect the flap [12]. The use of a TCL after LASIK is not without its

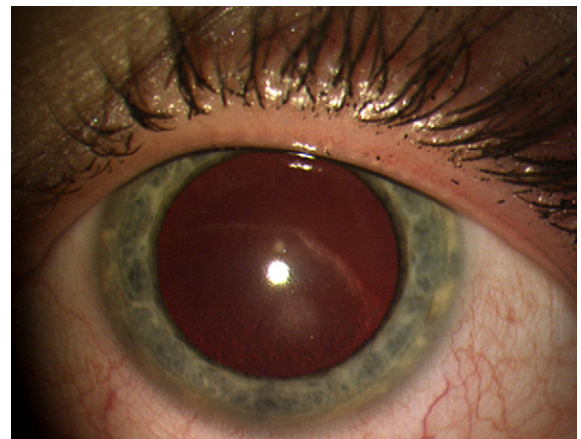


Fig. 2. Partial flap produced during a LASIK procedure that was subsequently abandoned. This resulted in significant corneal irregular astigmatism that was corrected with the use of a Quasar aspheric RGP lens.

Download English Version:

<https://daneshyari.com/en/article/2697165>

Download Persian Version:

<https://daneshyari.com/article/2697165>

[Daneshyari.com](https://daneshyari.com)