



Title	Laser-Assisted Corneal Ophthalmic Surgery
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Reference	Technology Review Report, 012/07, 2007. http://medicaldev.moh.gov.my/uploads/laser%20assisted.pdf

Aim

To assess the safety and effectiveness of laser-assisted corneal ophthalmic surgery.

Conclusions and results

There is sufficient evidence to support the safety and effectiveness of using laser-assisted procedures in corneal ophthalmic surgery. As regards safety, laser-assisted corneal surgery has been reported to have advantages in treating problems associated with conventional surgery, eg, loose epithelium/epithelial defects. Occurrence of *transient light sensitivity syndrome* appears to decrease with reduced pulse energies. Laser-assisted corneal surgery was found to be effective in creating precise corneal incisions (eg, flap creation in *laser in situ keratomileusis*, LASIK) and in conditions with limited optical clarity. It was also an efficient option for treating many ophthalmic disorders (eg, keratoconus) with little complication. In cases of corneal scarring, corneal transplantation may be avoided altogether.

Recommendations

Although laser-assisted ophthalmic surgery proves to be a safe and efficient mode of treatment in many pathological corneal conditions, cost puts it at a disadvantage.

Methods

The literature was searched via scientific electronic databases, including PubMed, Ovid, Science Direct, and Springer Link, as well as general databases. The search strategy used the following terms, either used singly or in various combinations: “Excimer Laser”, “Femtosecond Laser”, (“Safety” OR “Adverse events”), “Anterior Lamellar Keratoplasty”, “Posterior Lamellar Keratoplasty”, “Keratoconus”, “Astigmatism Keratectomy”, “Superficial Cornea Scarring”, “Corneal Transplant”, and “Cost Effectiveness”. Searches were limited to English articles.

Further research/reviews required

Greater numbers of study subjects and longer followup periods are recommended to strengthen the evidence.