

What are the benefits of FLACS?

Femtosecond laser, via computer technology replaces some of the manual steps in surgery to produce more predictable and precise cuts. It can:

- **Potentially improve visual outcomes** by being able to consistently create a more circular capsulorrhexis that prevents the likelihood of artificial lens decentration
- **Potentially reduce the risk of corneal injury** with reduced amount of ultrasound energy used
- **Potentially reduce the risk of surgical complications** in complex types of cataracts
- **Reduce astigmatism during cataract surgery** through femtosecond laser corneal cuts
- **Increase accuracy in marking the cornea** to facilitate the placement of an astigmatism-correcting (toric) artificial lens



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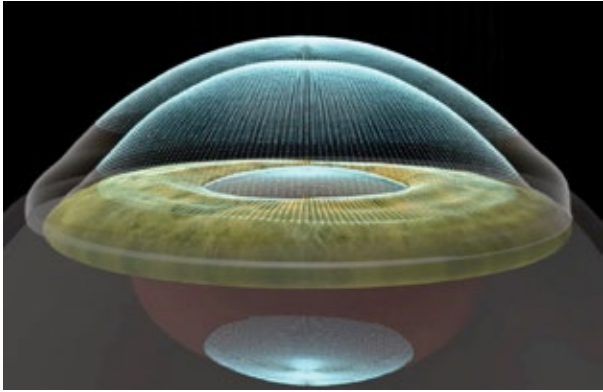
DEPARTMENT OF OPHTHALMOLOGY

Femtosecond Laser Assisted Cataract Surgery (FLACS)



What is Femtosecond Laser?

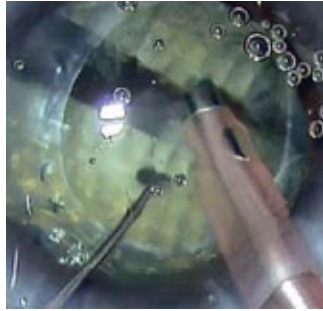
Femtosecond lasers emit ultra-short pulses of energy similar to those used in LASIK surgery. The speed and accuracy of the laser enable it to cut through eye tissue with great consistency and precision. This technology has now evolved rapidly to be utilised in cataract surgery.



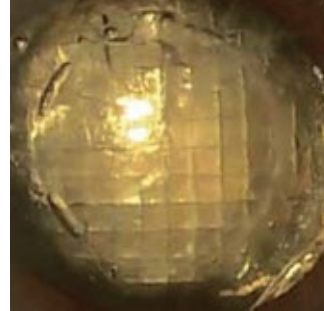
Simulated OCT scan of the cornea, iris and cataract.

How is FLACS performed?

This is a two-stage procedure. The first stage involves using the femtosecond laser to create incisions to access the cataract, and to break up the cataract. The second stage is similar to conventional cataract surgery where the segments of the cataract are removed by ultrasound (phacoemulsification).



Phacoemulsification of cataract.



Femtosecond laser lens fragmentation.

How does this differ from conventional cataract surgery?

FLACS replaces manual steps in conventional cataract surgery with automated femtosecond laser treatment. The steps include:

- **Creation of corneal wound(s)** for surgical instruments to enter the eye
- **Creation of a circular opening (capsulorrhexis)** on the anterior surface of the cataract. This facilitates cataract removal
- **Breaking up of the cataract** into smaller pieces
- **Creation of corneal cuts** to reduce astigmatism

The surgeon then proceeds with removal of the cataract using phacoemulsification and implantation of an artificial lens. After surgery, the patient has to exercise precautions and apply eye drop in a similar manner to conventional cataract surgery. The recovery time is also similar.

