

Chirurgie de la cataracte par laser femtoseconde

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Résumé

Cataract surgery has benefited in a few decades from an extraordinary proliferation of technological innovations. Often mistakenly considered as laser surgery, phakoemulsification consists of pulverizing the opacified lens by ultrasonic vibrations. The reduction in incision size to around 2mm, or even less, has been accompanied by revolutions in implantology of soft biomaterials with increasingly reliable refractive properties. In parallel, the development of femtosecond laser tissue microablation techniques revolutionized the field of corneal refractive surgery. There was only one step, quickly taken, to make these lasers an additional aid suitable for cataract surgery. Proven technology, now very efficient, technology of the future certainly, even if it is still struggling to find its present.

Femtosecond laser-assisted cataract surgery is indeed a major innovation. The femtosecond laser does not replace ultrasounds and aspiration of the lens, but it facilitates the gesture and makes it even more precise and reproducible. During a pre-treatment phase, it makes it possible to perform corneal incisions, anterior capsulotomy and lens fragmentation in an automated manner, under the control of real-time on-board imaging. Thus, these steps are performed safely, accurately and reliably, and lens pre-fragmentation reduces the amount of ultrasound needed downstream. There are currently several femtosecond laser technologies available on the market. The differences mainly concern imaging technique or ergonomics. Some disadvantages are still a limitation on its development: a longer operating time, a more delicate surgery, as well as a high additional cost. The benefits brought by this technological evolution will certainly make it an essential tool of the future, however, requiring cataract surgery to be designed differently, both in logistical and economic terms.