



Interview with Dr. Lignereux

Handeld femtosecond laser (H-FLACS):

An effective alternative to traditional femtosecond laser (FLACS) for optimized anterior capsulotomy.

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Dear Dr Lignereux, can you tell us more about your involvement in the H-FLACS project and what got you interested?

Yes, sure, I am an ophthalmologist at the Sourdille Atlantique Clinic in Nantes (France), with 25 years of experience specializing in Retinal Vitreous and Cataract Surgery. You could say I am an experienced manual CCC procedure surgeon.

When I first encountered this project, I was struck by the team's unique approach—focusing not on what the technology could do, but on real-world use cases. That mindset is, in my view, a key reason why this product delivers true value within a surgeon's existing workflow—even for someone with my level of experience. Together with Professor David Touboul (CHU Bordeaux, France), it was immediately clear that exploring the potential of such a handheld instrument in our daily practice was a natural step. Efficiency has always been central to our thinking.

Is there a need for capsulotomy optimization?

Yes, and for multiple reasons: In more and more area, the volume of cataract surgeries rises continuously, while the number of practicing ophthalmic surgeons is decreasing. Optimizing operative time therefore represents a key challenge — both from an organizational and economic standpoint.

Also, FLACS (Femtosecond Laser-Assisted Cataract Surgery) techniques have demonstrated their ability to improve precision, particularly during capsulotomy and lens fragmentation¹. These performances are recommended for premium IOL's. However, their integration into the surgical workflow remains complex and time-consuming, with a significant impact on total procedure duration^{2,3}.

Are H-FLACS really offering laser precision without workflow disruption?

H-FLACS (for Handheld- Femtosecond Laser-Assisted Cataract Surgery) benefit from the femtosecond laser technology but are small, as fast as the manual technique (CCC), and cost efficient. One of their advantages is that the capsulotomy can be directly performed in the induction room, before the patient enters the operating theater. These mobile and compact devices integrate seamlessly into the standard surgical flow. The only one H-FLACS currently commercially available across Europe is Rx by Helix Surgical⁴.



Can you tell us more about the efficiency and optimized workflow?

Considering the following surgical scenario: one operating room and a consistent surgical team, without parallel patient flow, below is a comparison of the expected surgical workflows with the three techniques currently available for cataract surgery: Manual technique or CCC, FLACS and H-FLACS^{5,6,7}.

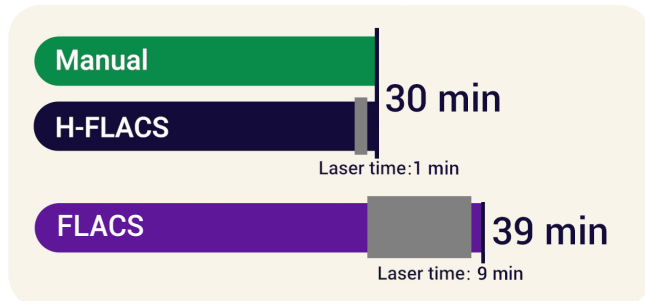


Fig. 1: Preoperative workflow comparison

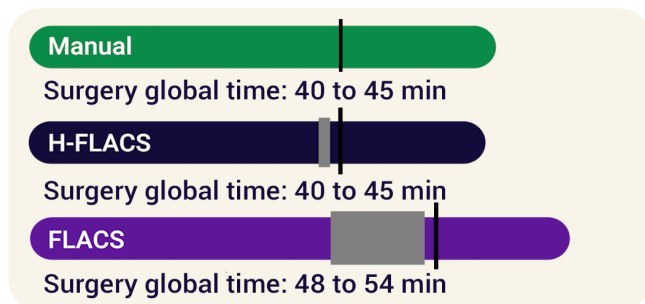


Fig. 2: Complementary time due to peroperative time and surgery global workflow time

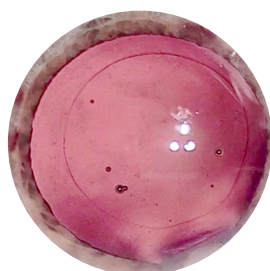
H-FLACS give access to a surgical technique with a total surgical time similar to manual techniques, while incorporating the precision of femtosecond laser capsulotomy.

Are precision, reproducibility, and safety the main value that H-FLACS add in comparison to CCC?

H-FLACS enable to perform circular, well-centered, and predictable capsulotomies⁸. This precision may facilitate subsequent steps of the procedure including IOL centration. It also reduces variability associated with surgeon experience. The technique is fully compatible with standard phacoemulsification workflows, including bimanual approaches.



Before implant



After implant

Now the question everyone is wondering: Are H-Flact really a cost-effective alternative to FLACS?

The FEMCAT study previously concluded that traditional FLACS procedures were not cost-effective, largely due to equipment and organizational costs. H-FLACS mobility, simplicity, and seamless integration into surgical routines represent a more affordable and accessible solution for modern ophthalmic surgery centers.

What are the key takeaway you take from your experience?

H-FLACS represent a pragmatic evolution of femtosecond laser-assisted cataract surgery. By combining technical precision, workflow continuity, and cost-efficiency, it addresses today's core challenges in cataract surgery.

Innovation should not only enhance surgical performance — it must also be accessible, efficient, and sustainable.



Last but not least, which surgeons do you think the H-FLACS are intended for?

H-FLACS can be useful for surgeons and clinics wishing to offer more premium IOLs to their patients, as it enables them to have a coherent offer, combining premium IOLs and laser (at a lower cost than FLACS — H-FLACS are 3 to 4 times cheaper than FLACS).

As a matter of fact, an article was recently published showing with the implantation of an EDOF IOL, femtosecond laser technology could precisely control the shape and size of the capsulotomy and induce a significantly better-centered IOL, compared with conventional phacoemulsification¹⁰. This may lead to higher visual performance. ■

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