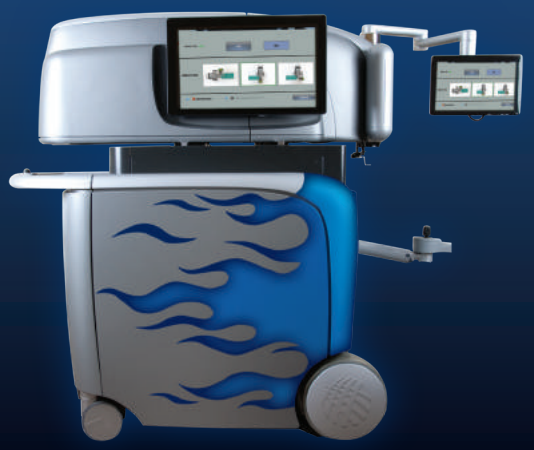


TOPCON®
CONNECTING VISIONS

LENSAR
CATARACT LASER WITH AUGMENTED REALITY

ALWAYS THINKING AHEAD

Superior technology, thoughtfully designed with you in mind for an intelligent approach to cataract surgery.

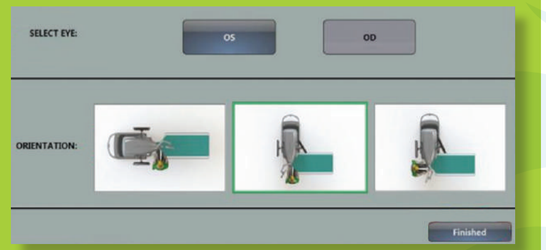
The LENSAR™ Laser System was designed with your efficiency in mind, so you can seamlessly integrate the system into your existing surgical regimen without increasing procedure time.

Quick and Easy Docking

Automation and joystick control make docking both quick and easy.

- Deployable docking head automatically moves the laser a pre-programmable distance from the patient
- Easy-to-use joystick provides surgeon control during final laser-to-patient docking

Simple patient docking



Actual photograph of LENSAR's graphic user interface displaying the patient orientation selection screen.

Automated Laser Configuration and Procedure Planning

Automated surgeon preferences save valuable procedure time.

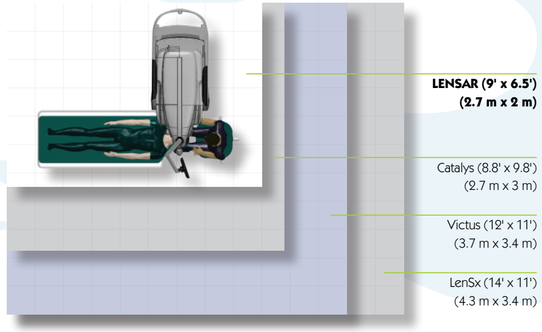
- Pre-programmable laser height and orientation, either superior or temporal, save time before docking
- Automated procedure planning expedites time between imaging and treatment
  - *Based on surgeon-selectable preferences (preferred incision architecture and fragmentation patterns) combined with patient-specific biometry (lens tilt, IOL, nuclear density)*

Thoughtful Ergonomic Design

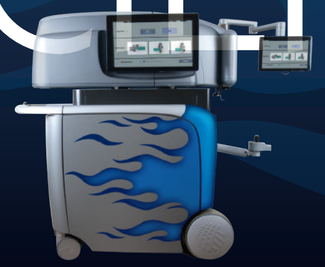
LENSAR's thoughtful ergonomics make it possible to seamlessly integrate the laser into your existing surgical approach.

- Smaller laser footprint and wheels allow for transportability
- Deployable laser head can easily be moved into the operative docking position for treatment and retracted post-treatment to allow for integration of the microscope and other surgical equipment necessary to complete the procedure
- Laser configuration accommodates varying patient positioning and orientation (temporal or superior)
- Two treatment monitors and 1 surgeon's monitor allow for simple operation and control of treatment parameters in any laser orientation
- Efficient design eliminates the need to move the patient by allowing them to remain on same bed during the laser and surgical procedures

COMPARE FOOTPRINTS



THINK EFFICIENCY

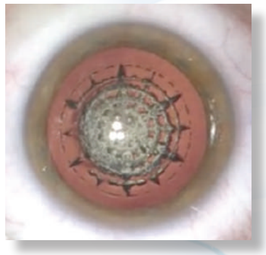


"Thanks to LENSAR, I am able to perform cataract surgery 3 minutes faster than I was prior to implementing the laser. And with my wonderful staff, my turnover times are also faster, so I am experiencing greater efficiencies than ever before."

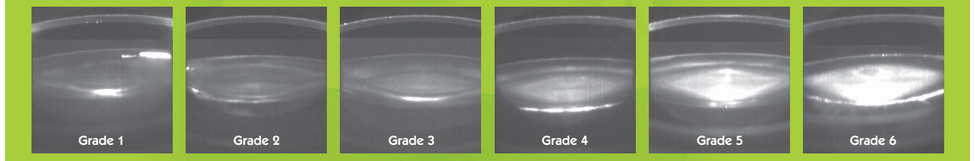
– William Soscia, MD

The LENSAR Laser System was designed with phaco energy reduction in mind. In fact, LENSAR is the only femtosecond laser with FDA-labeling demonstrating a significant reduction in cumulative dissipated energy (CDE) by specific cataract grade.

UP TO 100% REDUCTION IN PHACO ENERGY



LENSAR's superior imaging and non-applanating patient interface make it possible for laser pulses to be precisely placed within 500 µm[1] of the posterior capsule. The result is efficient lens fragmentation with reduced phaco time and up to 100% reduction in phaco energy, compared to conventional phacoemulsification alone.[1]

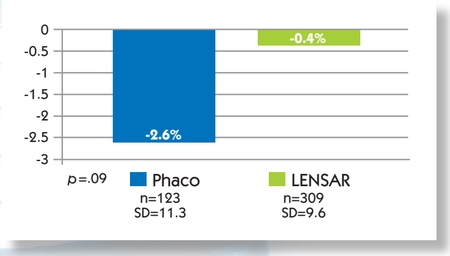


LENSAR's superior imaging makes it possible to place laser pulses within 500 µm of the posterior capsule, allowing for efficient nuclear disassembly of all grades of cataracts.

Decreased Endothelial Cell Loss

Decreased endothelial cell loss translates directly to increased long-term corneal health.

- In a series of 433 cases, the reduction in endothelial cell count was significantly lower for the LENSAR Laser cases compared to the phaco-only cases[1]

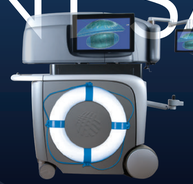


THINK ENERGY REDUCTION

"With the LENSAR Laser, I've experienced a significant reduction in phaco energy, and in some cases I've needed no ultrasound energy at all. More importantly, I've seen a reduction in infusion volume and surgical time, resulting in much quieter postoperative eyes."

– Jonathan Solomon, MD

THINK PATIENT SAFETY



"The LENSAR system has really changed the way I perform lens surgery. Ideal sizing and centration of the capsulotomy facilitates perfect lens position. The wide variety of fragmentation patterns allows customization to all grades of cataracts and lets me do many cases with nearly zero phaco-energy. I can see substantial progress in achieving more precise and less traumatic surgery in order to optimize rehabilitation times and outcomes. Especially using Premium IOLs, LENSAR offers a higher degree of safety and patient satisfaction."

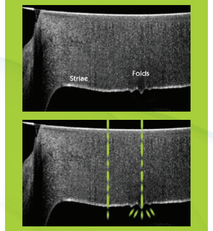
– Dr. med. Ludger Hanneken

The LENSAR Laser System was designed with patient safety in mind. With a non-applanating patient interface, superior imaging, and precise laser placement, you can feel secure knowing that you are providing an optimal, customized treatment that will maximize outcomes without putting your patients at risk.

Non-Applanating, Fluid-Filled Patient Interface

LENSAR's non-applanating, fluid-filled patient interface contributes to the laser's precision while minimizing patient discomfort.

- LENSAR's patient interface maintains the integrity of the cornea, allowing for precise laser placement and clean imaging through to the posterior capsule
- Low-pressure suction ring immobilizes the eye with a minimal increase in IOP and an immediate return to baseline
  - *Faster procedure time also minimizes the time that the eye is under suction*

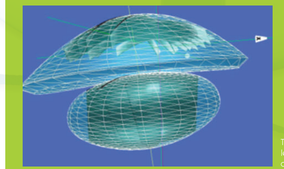


Applanating interfaces used by other femtosecond cataract lasers can create folds in the cornea, resulting in image distortion and capsular tags. LENSAR's non-applanating interface preserves the integrity of the cornea allowing for precise laser shots and clean imaging through to the posterior capsule.

To overcome the limitations of conventional OCT imaging technology, LENSAR's superior imaging technology was specifically designed to produce a high-resolution image from the cornea to the lens. Because you'll see exactly where the relevant anatomy is in the eye for all grades of white or brunescent cataracts, you can be confident in your treatment design and execution.

Benefits of LENSAR's Superior Imaging Technology

- Clear visualization for all densities of nuclei
  - *Marrying Scheimpflug with advanced imaging technologies, including variable-rate scanning and superluminescent diode (SLD) illumination, gives LENSAR a distinct depth of field advantage that allows for a high-resolution image from the anterior cornea to the posterior lens capsule*
- Unprecedented biometric data around the optical axis
  - *LENSAR's rotating camera captures 2 viewing angles at up to 8 different positions for a total of 16 potential images*
- Precise 3-D reconstruction of the anterior segment
  - *Augmented Reality™ technology, used in other medical disciplines for complex, noninvasive procedures since 1986, utilizes the unprecedented amount of biometric data and optical ray-tracing to build a sophisticated 3-D model of the true anatomy of each individual patient's eye*
- Unique lens tilt detection and compensation
  - *The only femtosecond cataract laser system to use biometric data and 3-D modeling in the x-, y-, and z-axes to determine and correct for even the smallest degree of lens tilt from the optical axis*



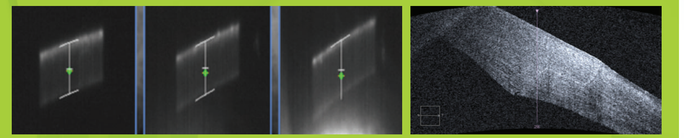
Treatment pattern (represented by dark area within the lens) fits within the capsular bag without encroachment on the capsule thanks to LENSAR's lens tilt compensation.

LENSAR's precise laser placement translates to a higher level of surgical confidence and ultimately, a safe patient experience.

PRECISE LASER PLACEMENT IS CRITICAL FOR:

Accurate Clear Corneal Incisions (CCIs)

- Surgeon-controlled parameters allow for full and partial thickness, single-plane, and multi-plane cuts in the cornea for accurate paracentesis, precise entrance incisions, and proprietary arcuate incisions
- Intelligent Incisions™ employs localized imaging to monitor the position of the cornea immediately before each incision, in each plane, to ensure the precise location of each incision

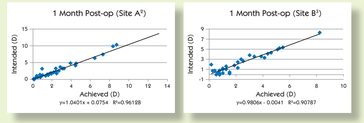


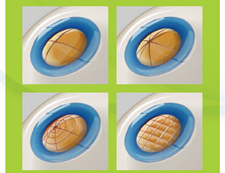
Intelligent Incisions uses real-time, localized imaging to monitor the cornea to ensure the precise placement of each incision. For multi-plane incisions, localized images are captured in each plane.

Free-floating Capsulotomies and More Consistent ELP

- System automates capsulotomy size, shape, and location
- Intelligent lens tilt detection allows for the creation of free-floating capsulotomies without tags nearly 100% of the time[1]
- Precise capsulotomies may contribute to more consistent effective lens positioning (ELP) and improved refractive outcomes[2,3]
- Fluid-filled patient interface allows for precise laser placement without distortion, so free-floating capsulotomies can be achieved even for eyes with decentered or small pupils
  - *System detects and accommodates for intraoperative pupil constriction by adjusting the capsulotomy to within 250 µm of the pupillary margin*

Reliable Outcomes: Intended vs. Achieved Spherical Equivalent Correction

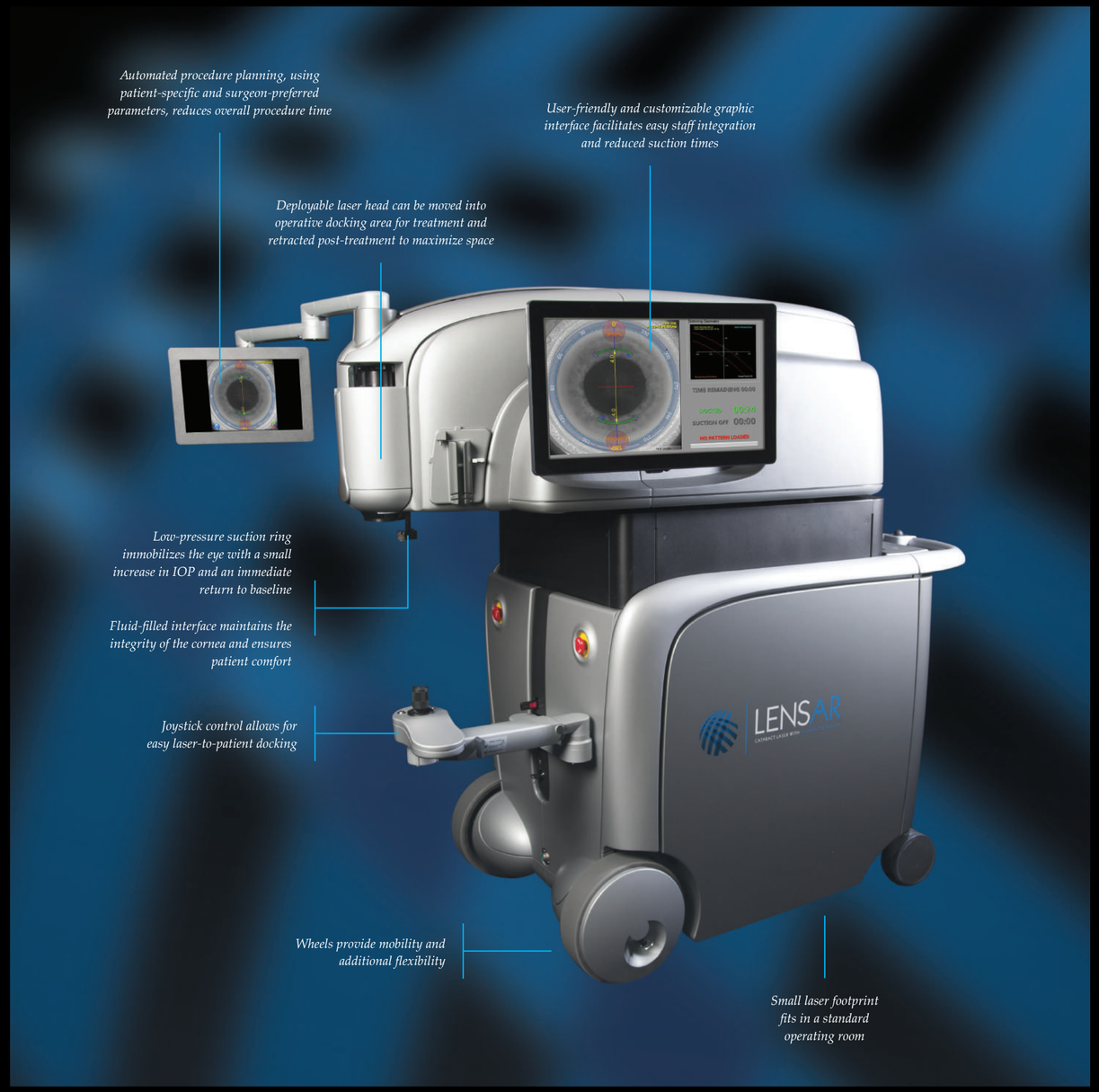




A wide variety of fragmentation patterns are available for efficient nuclear disassembly.

Efficient Lens Fragmentation

- A variety of sophisticated fragmentation patterns can be selected for efficient disassembly of even the densest nuclei
- Lens tilt detection prevents capsular breakage during laser nuclear fragmentation



ALWAYS THINKING AHEAD

LENSAR

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LENSAR Laser System Specifications

System location	Operating room or laser suite	
Indications for use	Capsulotomy	
	Fragmentation	
	Arcuate Limbal relaxing incisions/Astigmatic Keratotomy incisions	
	Clear corneal incisions/Paracentesis incisions	
Patient docking	2 Piece fluid filled docking device with controlled force docking system	
Scanning technology	3-D Confocal Structured Illumination with automatic biometry, ocular surface identification – capsulorhexis	
	placement and lens tilt measurement, image processing, and wave tracing 3-D reconstruction	
Laser technology	Femtosecond	
System footprint	X axis	80.8 ± 10 cm
	Y axis	151.9 ± 197.6 cm
	Z axis	144.7 ± 165 cm
Weight	645 kg	
System mobility	Yes – two separate mechanisms	
	1 – Unit on wheels with motorized movement by joystick control	
	2 – Laser platform movement by software and joystick control	
Electrical	208-240VAC, 10A	
	Potentiometer lighting control (ability to darken the treatment room)	
Environmental control	Humidity: 35%-70% range, non-condensing	
	Temperature: 65-86˚F/18-27˚C range, above dew point	
	Note: It is recommended that the room temperature be maintained around 71˚F/21˚C	
	during surgery because of the thermal output of laser	
	Environmental control box (Thermostat) is in room with available access	

The LENSAR Laser System – fs 3D (LLS-fs 3D) is intended for use in patients undergoing cataract surgery for removal of the crystalline lens. Intended uses in cataract surgery include anterior capsulotomy, laser phacofragmentation, and the creation of full and partial thickness single-plane and multi-plane arc cuts/incisions in the cornea, each of which may be performed either individually or consecutively during the same procedure.

Laser Capsulotomy, laser phacofragmentation and/or corneal incisions surgery is contraindicated in patients: who are of pediatric age, whose pupils will not dilate or remain dilated to a diameter greater than that of the intended treatment and for capsulotomies and/or laser phacofragmentation with intended diameters of less than 4 mm or greater than 7 mm, who have existing corneal implants, who have previous corneal incisions that might provide a potential space into which the gas produced by the procedure can escape, who have conditions that would cause inadequate clearance between the intended capsulotomy cut and the corneal endothelium, such as: hypotony, uncontrolled glaucoma, who have corneal disease or pathology that precludes transmission of light at the laser wavelength or causes distortion of laser light, such as: corneal opacities, residual, recurrent, active ocular or uncontrolled eyelid disease or any corneal abnormalities (including endothelial dystrophy, guttata, recurrent corneal erosion, etc.) in the eye to be treated, ophthalmoscopic signs of keratoconus (or keratoconus suspect) in the eye to be treated, a history of severe dry eye that has not responded to therapy, a history of herpes zoster or herpes simplex keratitis.

Potential contraindications are not limited to those included in the list.

WARNING: The safety and effectiveness of this laser have NOT been established in patients with diabetic retinopathy, a history of treated glaucoma, or prior intraocular surgery.

References:
1. Data on file. LENSAR, Inc.
2. Assil K. Refractive Outcomes Following Femtosecond Laser-assisted Cataract Surgery in Post-LASIK Eyes. Poster presented at: International Society of Refractive Surgery (ISRS) Symposium; January 17-20, 2013; Hyderabad, India.
3. Nichamin L. Refractive results following femtosecond laser-assisted capsulotomy. Poster presented at: International Society of Refractive Surgery (ISRS) Symposium; January 17-20, 2013; Hyderabad, India.

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LENSAR

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