



FLUOBEAM LX

An innovative camera for thyroid
and parathyroid surgery



FLUOBEAM LX

A powerful solution for parathyroid imaging

FLUOPTICS is the world leader in fluorescence imaging for thyroid surgery. Our solutions combine **autofluorescence and fluorescence** perfusion imaging to provide surgeons with enhanced visualization during surgery.

FLUOBEAM LX is an imaging device configured for enhanced visualization of parathyroid glands during thyroid and parathyroid surgery, offering surgeons optimal control during use throughout the procedure. FLUOBEAM LX is the first imaging system FDA cleared and CE marked for autofluorescence of parathyroid glands during surgery.

This can lead to hypoparathyroidism, most of the time transient, and might result in disruptions of calcium metabolism and notably hypocalcemia. It is therefore critical to properly identify parathyroid glands during surgery.*

*Benmiloud et al. JAMA Surgery 2019

Intraoperative fluorescence imaging, a precise and efficient method

Parathyroid gland identification can be challenging even for experienced surgeons due to their tiny size (a few mm) and that they are often buried in fat tissue or located in atypical areas.

The unexpected excision of healthy parathyroid glands is a current complication of thyroidectomies.





Light

Lighting in situ of parathyroid glands



Visualize

Real-time autofluorescence visualization



Non-contractual image - 3D modeling

AUTOFLUORESCENCE IMAGING

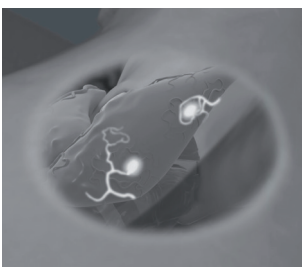
- ✓ Early detection of parathyroid glands during thyroidectomy/lobectomy
- ✓ Looking for inadvertent resected parathyroid glands (ex vivo)



Inject
Indocyanine Green (ICG)



Visualize
Real-time perfusion assessment



Non-contractual image - 3D modeling

FLUORESCENCE IMAGING

- ✓ Identify blood vessels feeding parathyroid glands
- ✓ Check the vascularization of the remaining parathyroid glands at the end of the surgery

FLUOBEAM LX

Panel PC (touch screen)
with its indication-oriented
software

Ergonomic optical head
Class 1 laser

Mobile cart
4 brakes

Control box

Limited footprint





Sensitivity

Highly sensitive, FLUOBEAM LX assists with the visual location of parathyroid glands using autofluorescence with an optimized real-time display, a high depth of field and a compatibility with ambient operating room lights.

- High sensitivity
- Homogeneous laser excitation

Joystick control

Designed to be easily held and manipulated in the surgical field, FLUOBEAM LX offers optimized ergonomics with a joystick that simplifies the navigation and the selection of the software functionalities, directly by the surgeon.

- Ease of use
- Intuitive navigation in the acquisition modes
- Ergonomic grip of the optical head
- A joystick to control software functionalities
- Complete autonomy of the surgeon from the sterile field

Real time imaging

With the camera's significantly reduced sensitivity to ambient light*, FLUOBEAM LX allows real-time visualization of parathyroid glands using autofluorescence with operating lights switched on (without direct illumination of the surgical field). This avoids any interruption of the surgical workflow.

- Optimized real-time display
- Class 1 laser (no optical risk**)

*Compared to the FLUOBEAM 800

**no optical risk under normal conditions of use, i.e. no direct vision into the beam at less than 10cm.

FLUOSOFT LX

With a high frame rate for real-time display (25 frames/s) in autofluorescence and a high depth of field (> 5cm), with FLUOSOFT LX imaging software, surgeons can work in optimized conditions with an easy interpretation of images and manipulation of the device.

FLUOBEAM LX in action

Innovation in thyroid surgery

Parathyroid gland visualization

Parathyroid glands naturally emit fluorescence in the near infrared without any dye injection. This is called autofluorescence. FLUOBEAM LX helps the surgeon visualize in real-time parathyroid glands and preserve them during surgery.



Identification of vessels that perfuse parathyroid glands

By easily combining autofluorescence and indocyanine green angiography during the procedure, FLUOBEAM LX allows a clear identification of vessels that perfuse parathyroid glands and assists with their preservation during thyroid dissection.

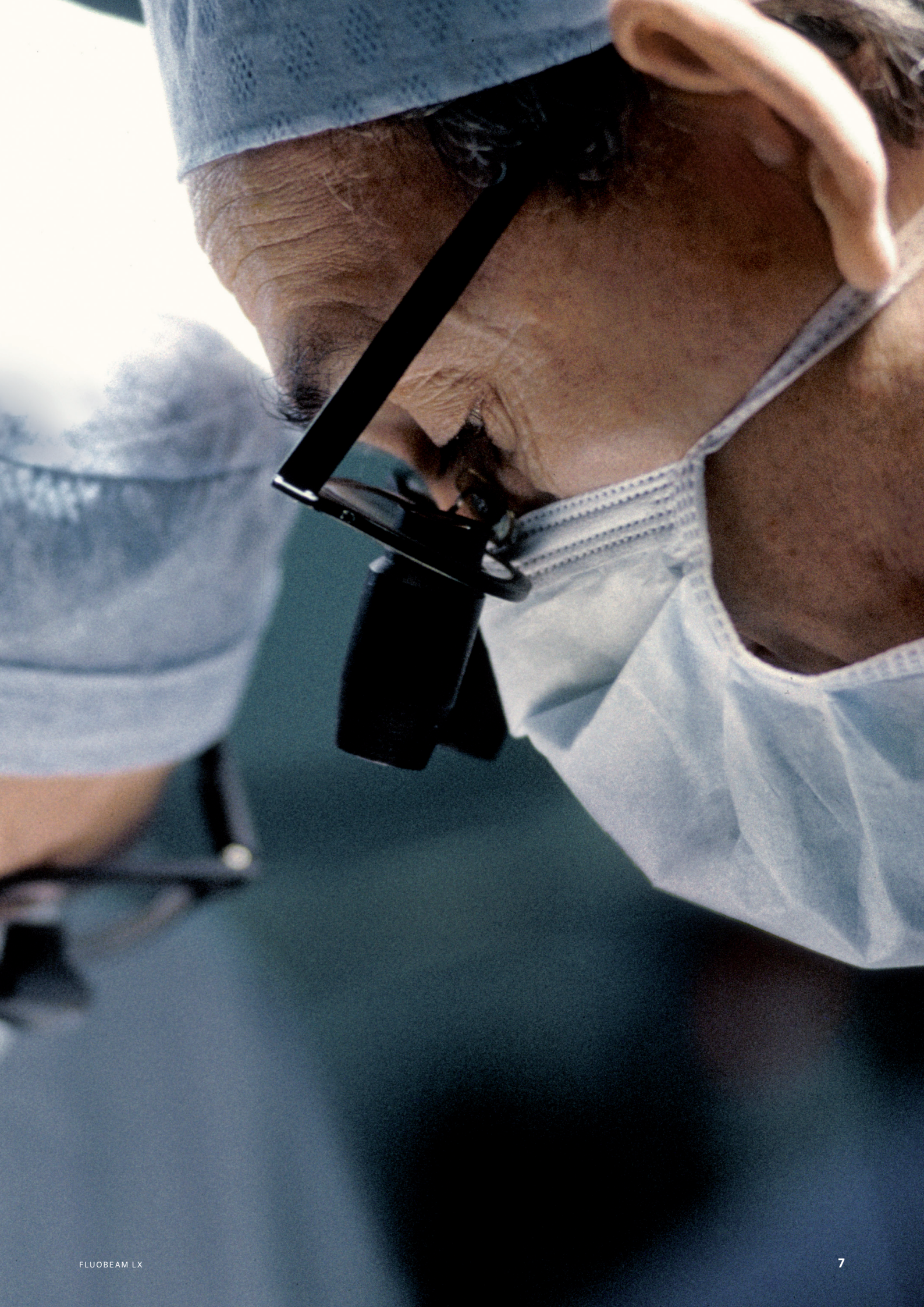


Checking the parathyroid gland vascularization

It is commonly known that complications such as transient hypocalcemia are linked to the unexpected excision of parathyroid glands or the alteration of the vascularization of these glands during thyroid surgery.

After intravenous injection of indocyanine green, FLUOBEAM LX enables surgeons to clearly visualize the vascularization and perfusion of the parathyroid glands, and therefore to assess their viability at the end of the surgery.







When two experts meet together

Keep your OR light on

Getinge Volista VisioNIR* allows to perform open surgeries using NIR fluorescence imaging in a seamless workflow by not turning on or off the surgical light.

Just keep the light on!

No need to choose between one or the other.

- A powerful solution to guide surgeons, secure their actions with a better hand-eye coordination when using fluorescence guided surgery. No need to switch between on and off lighting.
- The surgical staff can stay focused on the patient on-going surgery. One less operation for the circulating staff.
- Uninterrupted workflow as you can keep the surgical light on during the entire procedure, no need to think about it.
- The ability to keep the OR light on provides better visibility of the operating room environment for the staff.
- Works simultaneously with the adjustable color temperature feature: while using Indocyanine Green (ICG) and NIR cameras, the surgeon can operate with the preferred color temperature. The dedicated enhancement mode improves the contrast on the screen and complies with autofluorescence.
- Keeping parameters of the OR Light like a standard mode with good color rendering, no change in shadow dilution or dimming.



One solution: unique filtered light

Thanks to the patented filters' wheel developed on Maquet Volista StandOP, the light emitted from the LEDs is filtered to reduce the remaining NIR wavelengths. Surgical lights disturbing the fluorescence signal emitted is now eliminated. Maquet Volista VisioNIR and NIR guided surgery cameras can be used simultaneously inside the operating room.



*available on Volista StandOP

More information on www.getinge.com



FLUOBEAM LX is a Class IIa medical device in Europe (CE 0197), manufactured by FLUOPTICS SAS.

FLUOBEAM LX is indicated to facilitate the visualization of parathyroid glands by autofluorescence (natural fluorescence without Indocyanine green (ICG) injection) during thyroid and parathyroid surgeries. FLUOBEAM LX is also indicated to visualize on a screen the flow, the distribution and/or the accumulation of Indocyanine green (ICG) during thyroid and parathyroid surgery for blood flow visualization.


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