



FLUOBEAM LX Red

Leading the way in autofluorescence visualization,
even after ICG injection



FLUOBEAM LX Red

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 Red 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 Red is the only imaging system that allows the visualization of autofluorescence signals even after injection of Indocyanine Green (ICG).

Intraoperative fluorescence imaging - designed for enhanced visualization to assist the surgeon during thyroid and parathyroid surgery

Parathyroid gland identification can be challenging even for skilled surgeons due to the tiny size of the gland (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 in thyroidectomies. This can lead to hypoparathyroidism 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





Light

Lighting in situ of parathyroid glands



Visualize

Real-time autofluorescence visualization



Non-contractual image - 3D modeling

AUTOFLUORESCENCE IMAGING

- ✓ Designed to assist with the detection of parathyroid glands during thyroidectomy/lobectomy
- ✓ Assists in the visualization of inadvertent resected parathyroid glands (ex vivo)



Inject

Indocyanine Green (ICG)



Visualize

Real-time perfusion assessment
and autofluorescence signal



Non-contractual image - 3D modeling

FLUORESCENCE IMAGING

- ✓ Identify blood vessels feeding parathyroid glands before dissection
- ✓ Check the vascularization of the parathyroid glands
- ✓ Visualize the autofluorescence of the parathyroid glands, even after each injection of ICG

FLUOBEAM LX Red

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

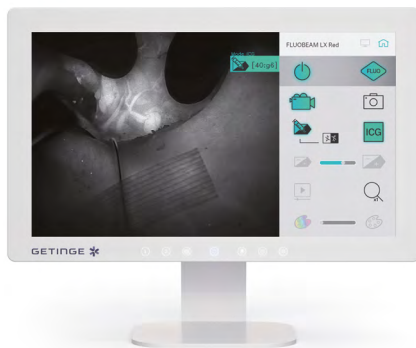
Ergonomic optical head
Class 1 laser

Mobile cart
4 brakes

Control box

Limited footprint





Sensitivity

Highly sensitive, FLUOBEAM LX Red 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.

Joystick control

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

- Ease of use
- Ergonomic grip of the optical head
- A joystick to control software functionalities
- Complete autonomy of the surgeon within the sterile field

Real time imaging

With the camera's significantly reduced sensitivity to ambient light*, FLUOBEAM LX Red 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.

- High sensitivity
- Homogeneous laser excitation
- 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 Red

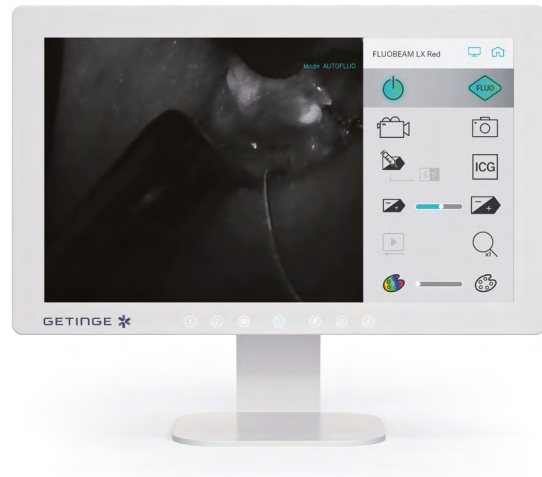
With a high frame rate for real-time display (25 frames/s) in autofluorescence and a high depth of field (> 5cm), with FLUOSOFT LX Red imaging software, surgeons can work in optimized conditions with an easy interpretation of images and manipulation of the device.

FLUOBEAM LX Red in action

Innovation in thyroid surgery

Parathyroid gland visualization

Parathyroid glands naturally emit fluorescence in the deep red spectrum without any dye injection. This is called autofluorescence. FLUOBEAM LX Red helps the surgeon visualize in real-time parathyroid glands.



Identification of vessels that perfuse parathyroid glands

By easily combining autofluorescence and indocyanine green angiography during the procedure, FLUOBEAM LX Red allows a clear identification of vessels that perfuse parathyroid glands to assist 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 Red allows surgeons to clearly visualize the vascularization and perfusion of the parathyroid glands to assess their viability.



FLUOBEAM LX Red allows the visualization of the autofluorescence signal even after injections of Indocyanine Green (ICG).





Notes

A series of horizontal dotted lines for writing notes.



FLUOBEAM LX Red is a Class II medical device in USA, manufactured by FLUOPTICS SAS.

FLUOBEAM LX Red 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 Red 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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Manufacturer · FLUOPTICS SAS · 44 rue des Berges, 38000 Grenoble, France · Phone: +33 4 85 87 06 71

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Sales Office, US · 1 Geoffrey Way · Wayne, NJ 07470

www.getinge.com

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