



Leica FL800

Integrated Vascular Fluorescence

Living up to Life

Leica
MICROSYSTEMS

Please check the status of Leica FL800 regulatory approval with your local Leica Microsystems representative.

Pioneering Fluorescence Innovation

The development of fluorescence microscopy has a long tradition at Leica Microsystems, dating back to the beginning of the 20th century. Today, the successful integration of Leica Microsystems' high-resolution surgical optics with the science of fluorescence provides brand new possibilities in vascular procedures. Thanks to this progress even small arteries and veins can be visualized in real time through the optics of a surgical microscope.

This ability to view blood flow in tissue and vessels intra-operatively during surgery can benefit surgical outcomes.

The Leica FL800's integration with the surgical microscope makes vascular fluorescence a seamless part of surgery.

Visualize Blood Flow



The Leica FL800 is used in conjunction with the fluorescent agent IndoCyanineGreen (ICG) to view vascular blood flow directly through the surgical microscope eyepieces or on a video monitor. Obtaining this ICG-fluorescence information at the near infrared (NIR) is a fast, easy procedure. To change from white light to NIR mode, the surgeon simply pushes a button found on the pistol grip of the surgical microscope.

The ICG Process

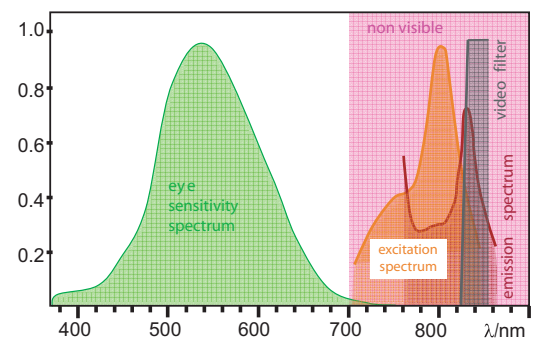
ICG perfusion is detectable because it excites at 800nm light and then emits fluorescence at 835nm. The 835nm light is filtered away from the normal white light and is detected by a special NIR CCD-camera. The CCD-camera converts the 835nm light (invisible to the human eye) to white light and projects it to a standard video monitor and/or recording device.

View: near infrared video

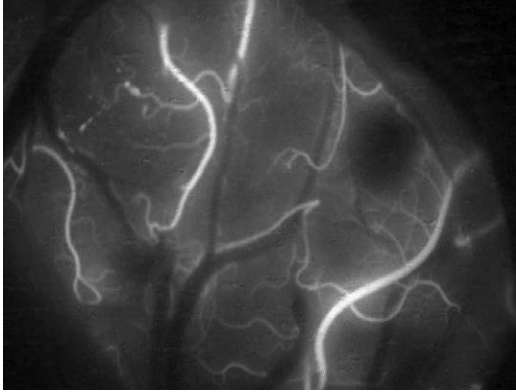
View: White light mode

Near infrared overlay in the left eyepiece, the anatomical view in the right eyepiece.

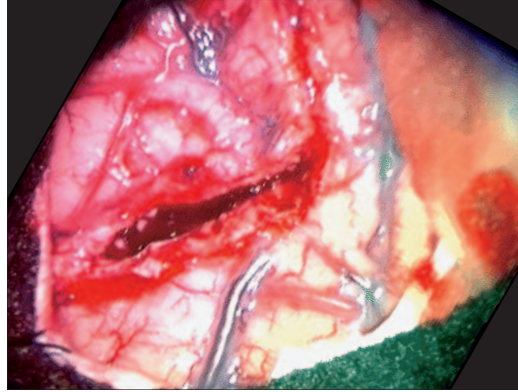
ICG Spectras



The ICG Application



ICG injection
after 2 seconds:
Arterial view



Anatomic view



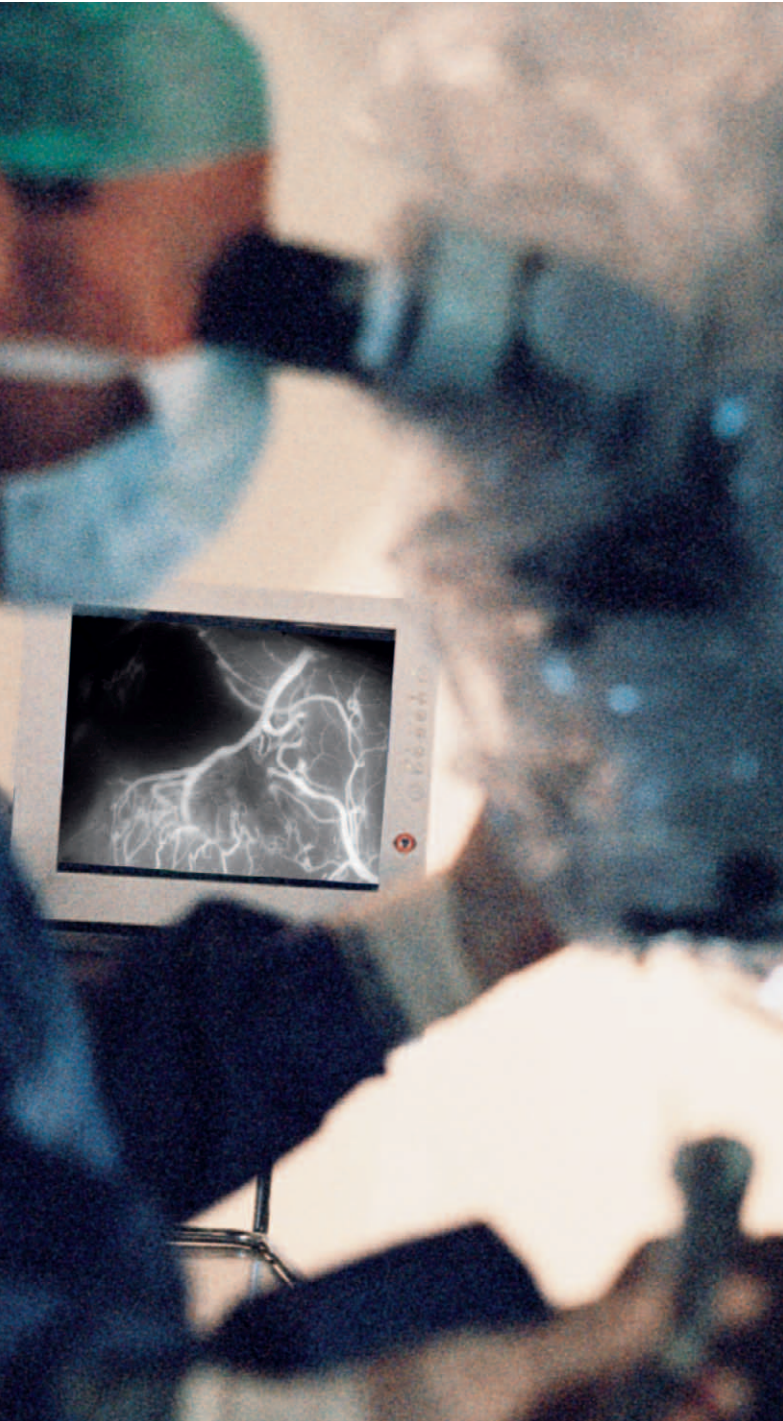
ICG injection
after 5 seconds:
Capillary view



ICG injection
after 9 seconds:
Venous view

Pictures taken with Leica FL800 using Leica M520 OH3

Easy to Set Up

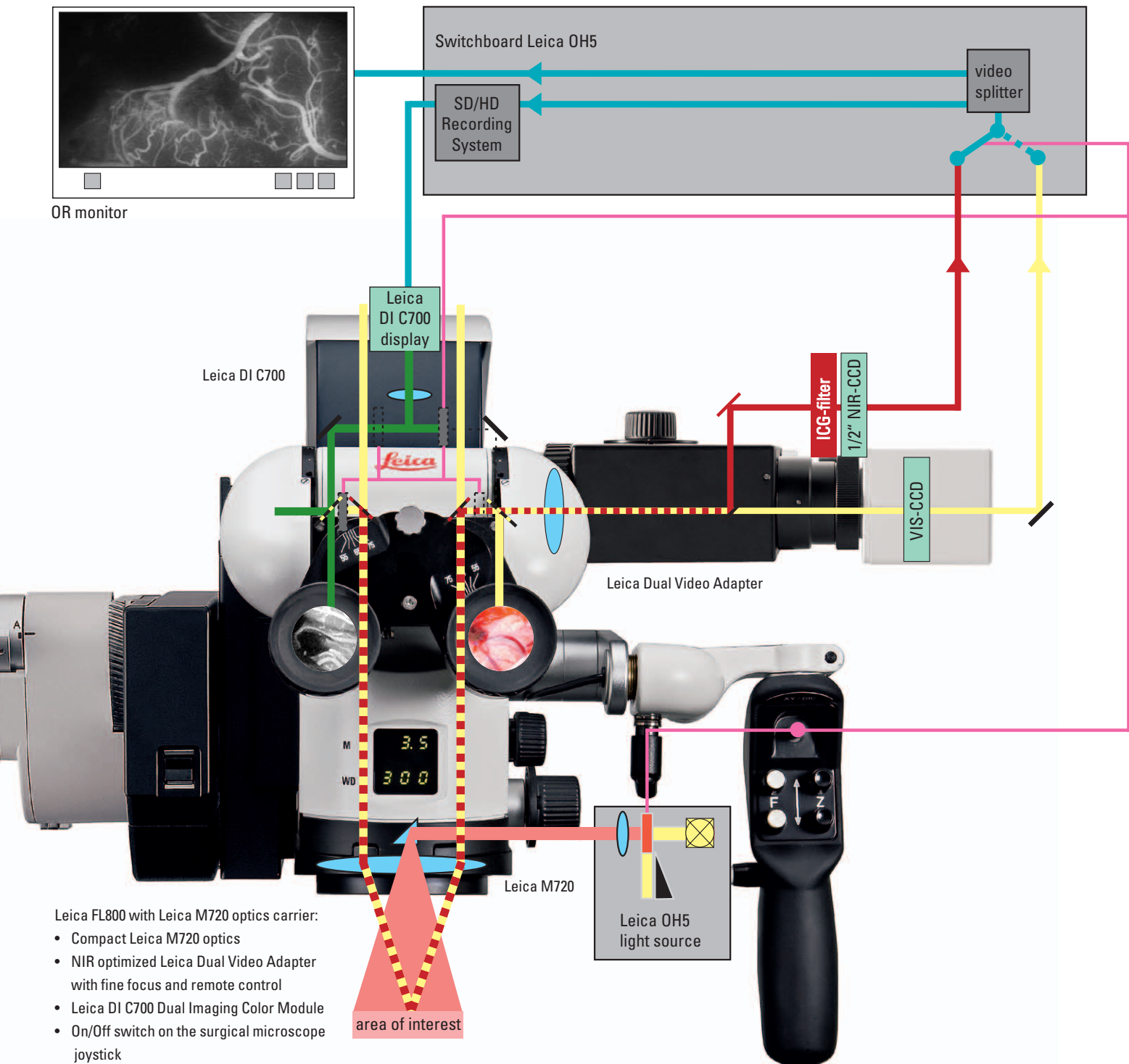


Surgeons with experience in vascular fluorescence have commented that the main purpose of ICG fluorescence lies in the visualization of blood flow. Subsequently, this enables the surgeon to determine the patency of vessels during surgery.

The smooth set-up and use of the Leica FL800 perfectly integrates into the efficient flow of a vascular procedure. The press of a single button on the surgical microscope activates the Leica FL800 ICG process. The fluorescence is then filtered through Leica Microsystems' superior surgical optics with maximum brightness and high contrast. The system is designed to make this process easy for surgical staff and to increase their comfort level as all filtering is built into the system and is available whenever the surgeon chooses to use ICG.

The ICG fluorescence sequence is visualized through the microscope eyepieces, on the video monitor, or both.

The Leica FL800 System



The Best Possible Image



Leica FL800 with Leica M525 optics carrier

The Fluorescence Technique

To improve the visible image and near-infrared ICG signal, Leica Microsystems has developed a NIR-optimized beam splitter and Dual Video Adapter with fine focus and remote control. The perfect matching of the illumination and NIR video filters create a bright ICG fluorescence image. The surgeon and operating room staff can view the image on a video monitor and record it for later viewing.

The Leica Dual Imaging Color Module

Integrating the Leica DI C700 Dual Imaging Color Module with the Leica M720 optics carrier (or Leica DI C500 with the Leica M525) allows the surgeon to insert the image into the eyepiece. The 1024 x 768 pixel resolution of the Leica DI C700 / DI C500 gives the viewer 66% more pixels than other microscopes and provides a bright, crisp, and true color image. This is critical when viewing ICG fluorescence images.

OverHead Stands and Leica M-series Optics Carriers

The Leica FL800 ICG fluorescence module can be integrated with the Leica M720 OH5, Leica M525 OH4, and Leica M525 F50. Leica Microsystems' premium Leica M720 Apo- and Leica M525 OptiChrome™ Optics offer outstanding contrast, sharpness, resolution, and color fidelity. The 'light touch' maneuverability of the Leica OH floorstands gives the surgeon perfect stability and functionality for all vascular procedures.



Leica M720 OH5



Leica M525 F50

“With the user, for the user”

Leica Microsystems

Leica Microsystems operates globally in four divisions, where we rank with the market leaders.

• Life Science Division

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

• Industry Division

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

• Biosystems Division

The Leica Microsystems Biosystems Division brings histopathology labs and researchers the highest-quality, most comprehensive product range. From patient to pathologist, the range includes the ideal product for each histology step and high-productivity workflow solutions for the entire lab. With complete histology systems featuring innovative automation and Novocastra™ reagents, Leica Microsystems creates better patient care through rapid turnaround, diagnostic confidence, and close customer collaboration.

• Medical Division

The Leica Microsystems Medical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

The statement by Ernst Leitz in 1907, “with the user, for the user,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

Active worldwide

Australia:	North Ryde	Tel. +61 2 8870 3500	Fax +61 2 9878 1055
Austria:	Vienna	Tel. +43 1 486 80 50 0	Fax +43 1 486 80 50 30
Belgium:	Groot Bijgaarden	Tel. +32 2 790 98 50	Fax +32 2 790 98 68
Canada:	Concord/Ontario	Tel. +1 800 248 0123	Fax +1 847 236 3009
Denmark:	Ballerup	Tel. +45 4454 0101	Fax +45 4454 0111
France:	Nanterre Cedex	Tel. +33 811 000 664	Fax +33 1 56 05 23 23
Germany:	Wetzlar	Tel. +49 64 41 29 40 00	Fax +49 64 41 29 41 55
Italy:	Milan	Tel. +39 02 574 861	Fax +39 02 574 03392
Japan:	Tokyo	Tel. +81 3 5421 2800	Fax +81 3 5421 2896
Korea:	Seoul	Tel. +82 2 514 65 43	Fax +82 2 514 65 48
Netherlands:	Rijswijk	Tel. +31 70 4132 100	Fax +31 70 4132 109
People's Rep. of China:	Hong Kong	Tel. +852 2564 6699	Fax +852 2564 4163
	Shanghai	Tel. +86 21 6387 6606	Fax +86 21 6387 6698
Portugal:	Lisbon	Tel. +351 21 388 9112	Fax +351 21 385 4668
Singapore		Tel. +65 6779 7823	Fax +65 6773 0628
Spain:	Barcelona	Tel. +34 900 210 992	Fax +34 93 494 95 40
Sweden:	Kista	Tel. +46 8 625 45 45	Fax +46 8 625 45 10
Switzerland:	Heerbrugg	Tel. +41 71 726 34 34	Fax +41 71 726 34 44
United Kingdom:	Milton Keynes	Tel. +44 800 298 2344	Fax +44 190 824 6312
USA:	Buffalo Grove/Illinois	Tel. +1 800 248 0123	Fax +1 847 236 3009

and representatives in more than 100 countries

The Medical Division, within Leica Microsystems (Schweiz) AG, holds the management system certificates for the international standards ISO 9001, ISO 13485, and ISO 14001 relating to quality management, quality assurance and environmental management.

