

MORE INFORMATION. MORE SECURITY.
GUIDING NEUROSURGEONS WITH CONFIDENCE.

*The only FDA-cleared
neuro indicated 4 mm
ICG endoscopes*



4K

IMAGE1 S™ Rubina™ — The Value of ONE

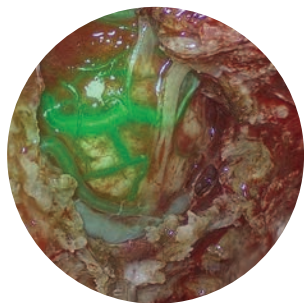
With **4 mm endoscopic near-infrared indocyanine green (NIR/ICG)**
it's possible to:

- Evaluate tissue perfusion intraoperatively and accurately predicted flap viability for the prevention of reconstructive complications¹
- Identify critical neuro vascular structures below tissue surface^{2,3}
- Differentiate tissue planes between lesions and adjacent structures^{1,4,5}
- Significantly reduce errors^{2,3}

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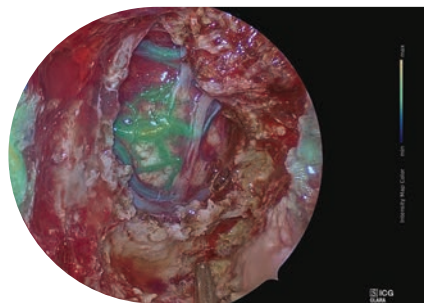
NIR/ICG Visualization Modes

The RUBINA™ components offer various new modes for visualizing the NIR/ICG signal. This includes the overlay of NIR/ICG data onto the standard white light image or alternatively the monochromatic visualization of the infrared signal alone.



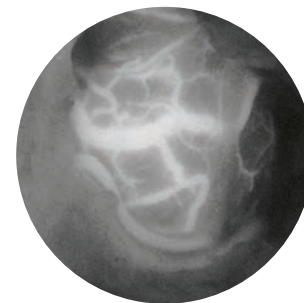
Overlay

In Overlay mode, the regular white light image is combined with the NIR/ICG data to generate an overlay image.



Intensity Map

Displays the intensity of the NIR/ICG signal using a color scale in an overlay image.



Monochromatic

In this mode, the NIR/ICG signal alone is displayed in white on a black background to achieve the greatest possible differentiation.

“The KARL STORZ IMAGE1 S™ RUBINA™ endoscopic ICG fluorescence system is the gold standard for nasoseptal flap perfusion assessment in endonasal skull base surgery. The system is also crucial for identifying critical arteries in and around tumors, from the carotid artery and perforators, it has helped me avoid catastrophic complications.”

— Dr. Paul Gardner, Neurosurgeon

1. Geltzeiler M, Nakassa ACI, Turner M, Setty P, Zenonos G, Hebert A, Wang E, Fernandez-Miranda J, Snyderman C, Gardner P. Evaluation of Intranasal Flap Perfusion by Intraoperative Indocyanine Green Fluorescence Angiography. *Oper Neurosurg* (Hagerstown). 2018 Dec 1;15(6):672-676. doi: 10.1093/ons/opy002. PMID: 29554360; PMCID: PMC7263840.
2. Hide T, Yano S, et al. Usefulness of the indocyanine green fluorescence endoscope in endonasal transsphenoidal surgery. *J Neurosurg*. 2015 May;122(5):1185-92. Published online February 27, 2015. doi: 10.3171/2014.9.JNS14599.
3. Catapano, G. et al; (2017). Multimodal use of indocyanine green endoscopy in neurosurgery: a single-center experience and review of the literature. *Neurosurgical Review*, 1-14.
4. Babgi M, Alsaleh S, Babgi Y, Baeesa S, Ajlan A. Intracranial Intradural Vascular Injury during Endoscopic Endonasal Transsphenoidal Surgery: A Case Report and Literature Review. *J Neurol Surg Rep*. 2020 Jul;81(3):e52-e58. Epub 2020 Sep 24.
5. Bajaj J, Chandra P S. Recent Developments in Endoscopic Endonasal Approach for Pituitary Adenomas. *Neurol India* [serial online] 2020 [cited 2020 Oct 9];68, Suppl S1:79-84. Available from: <https://www.neurologyindia.com/text.asp?2020/68/7/79/287671>.

It is recommended to check the suitability of the product for the intended procedure prior to use.
Please note that the described products in this medium may not be available yet in all countries due to different regulatory requirements.

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