

INTRODUCING AN

ACTIVE FLUID EXCHANGE CATHETER

rigation de

Automated Irrigation

Controlled Drainage

Continuous ICP Monitoring



A FUNDAMENTAL SOLUTION FOR INTRACEREBRAL FLUID MANAGEMENT.

The IRRAflow dual-lumen catheter is a dynamic product for advanced fluid management in the intracerebral space.

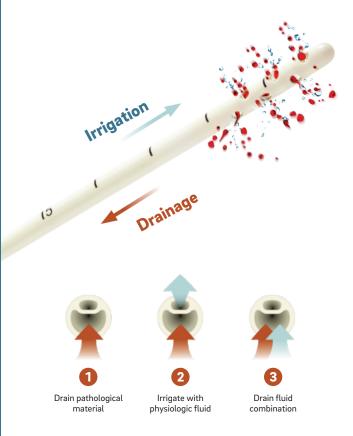
IRRAflow's innovative technology allows the user to customize patient treatment with a therapeutic approach to treating intracranial bleeding by combining needed drainage, continuous ICP monitoring and automated, controlled irrigation, all in one system.

Market-leading EVDs become blocked up to

47% of the time¹,

which can cause an increased risk of infection, and prolonging the length of stay in the ICU.





IRRAflow's dual lumen catheter was designed to enable active fluid exchange by enabling irrigation with physiologic fluids and drainage of pathological material.

IRRAflow's Active Fluid Exchange has the following benefits:

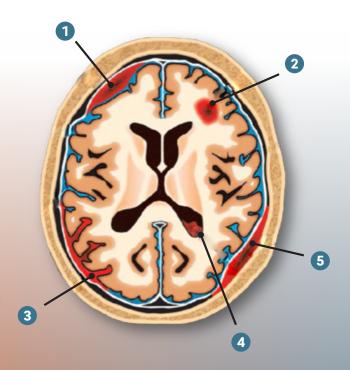
- The IRRAflow patented dual-lumen catheter design facilitates active fluid exchange by enabling irrigation with physiologic fluids and drainage of pathological material.
- A combination of automated irrigation and controlled drainage may have the ability to enhance the removal of collected blood.^{4,5}
- Removal of blood and proteins that can start an inflammatory cascade² and secondary hemorrhagic events.^{3,4,5}

Cross-sectional view of duallumen catheter

IRRAflow HAS BEEN USED TO TREAT MULTIPLE DISEASE STATES

The IRRAflow system has been used to effectively treat a variety of pathologies, offering unique ways to treat acute or chronic SDH⁶, IVH⁵, IPH with Ventricular involvement⁷, SAH⁴, Ventriculitis⁵ and Cerebral Abscesses⁸.

- Subdural Hematoma
- Intracerebral Hematoma
- Subarachnoid Hemorrhage
- Intraventricular Hemorrhage
- 5 Epidural Hematoma



Pre-IRRAflow

Post-IRRAflow

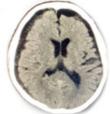
Chronic Subdural Hematoma





Bilateral Chronic Subdural Hemtoma





Intraventricular Hemorrhage



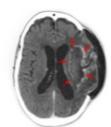


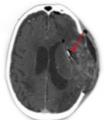
Intraparenchymal Hemorrhage with Intraventricular Hemorrhage



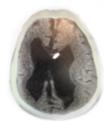


Cerebral Abscess



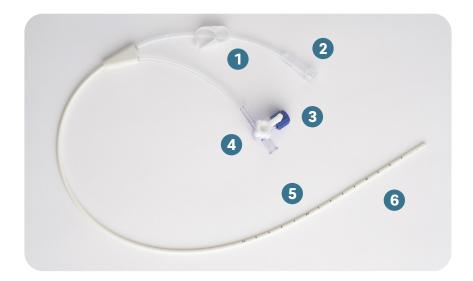






Ventriculitis





- 1. Pinch Clamp
- 2. Drainage Port
- 3. Stop Cock
- 4. Irrigation Port
- 5. Graduations every centimeter up to 15 cm
- 6. 9F, 38cm Dual-lumen Catheter



Product #

Product Name

IRRAFLOW DUAL-LUMEN CATHETER

ICGS 020

IRRAflow 2.0 Catheter, 9F, 38cm

Product Description

Dual-lumen catheter combines active irrigation with CSF drainage, which enhances fluid removal.



IRRAFLOW TUBE SET

ICDS 020

IRRAflow Tube Set

Intelligent digital pump enables communication between control unit and catheter to provide automated irrigation, fluid drainage, and ICP monitoring.



IRRAFLOW CONTROL UNIT

ICCU 020

IRRAflow Control Unit

Active fluid exchange via an intuitive touchscreen with personalized alarm settings that provide control when managing ICP and CSF.

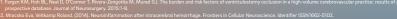
CUSTOMER SERVICE

JS 1-800-946-0458 | EU +31-20-210-1098 JS.customerservice@irras.com Global.customerservice@irras.com

IRRAS USA INC.

11975 El Camino Real, Suite 304 San Diego, CA 92130 USA Tel: (800) 213-4604





Brandmeir, Nicholas, et al. Early Experience with Patient Treatment & Drug Delivery with IRRAflow; An Automatically Irrigating and Draining Ventricular Catheter. As presented at The Neurosurgical Society of the Virginias Annual Meeting in January 2022.

Hess RM, Lazar A, Smolar D, OConnor TE, Khan A, Siddigui AH, Levy EL Continuous Antibiotic Administration Using IRRAflow® Catheter for Treatment of Intracranial Abscess. Cureus. 2021 Oct 6:1310/bio/1906.1 doi: 10.7756/rrigers.13061.9 10010-1405.7366-PMCID: PMCGID: PMCGI



Rezai Jahromi, Behnam. Active CSF Exchange for Removal of SAH to Reduce Shunt Dependency. As presented at the Congress of Neurological Surgeons, 2022, San Francisco, C
Rezai Jahromi, Behnam. Active CSF Exchange is for IVH Treatment. As presented at the European Association of Neurological Societies, 2022, Belgrade, Serbia.

Heas RM, Ocnono TE, Khan A, Siddiqui AH, Davies J. Minimally Invasive Approach to Sudvard Heastoma Treatment Using IRRAflow Catheter and Middle Meningeal Artery Embolization. Cureus. 2021 Mar 18;13(3):e13979. doi: 10.7759/cureus.13979. PMID: 33889455; PMCID: PMC8054950.

A value, satisfaction by Carles, Diego Mut, Eazin, Amison out house house of the processing of the Carles of the C