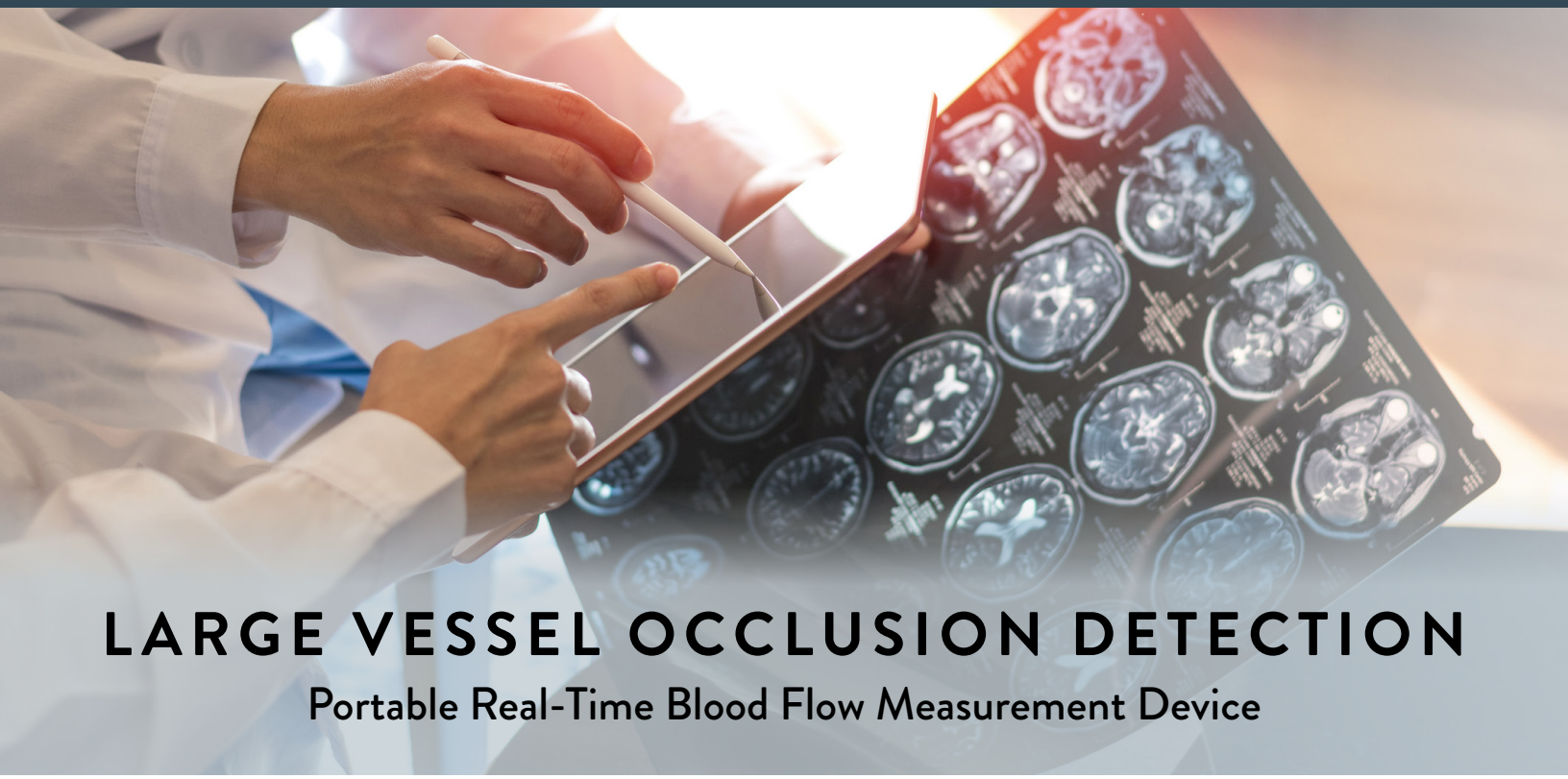
OPENWATER



LARGE VESSEL OCCLUSION DETECTION

Portable Real-Time Blood Flow Measurement Device

CRITICAL NEED

RAPID LVO DIAGNOSIS

Large vessel occlusion (LVO) strokes are among the most severe and disabling, with every minute of delay costing approximately 2 million neurons. Yet, only about 10% of hospitals are equipped to perform the life-saving endovascular thrombectomy, forcing most patients to endure critical delays as they await transfer to specialized centers.

Rapid, accurate pre-hospital diagnosis is urgently needed to ensure patients receive timely, effective treatment and the best possible outcomes.

Rapid LVO detection can mean the difference between recovery and lifelong disability

Solution: Open-Motion

Openwater's Open-Motion device offers a breakthrough for diagnosing LVO strokes in the field. With rapid, non-invasive LVO detection, EMS providers can make fast triage decisions - sending patients directly to endovascular-capable hospitals and cutting time to treatment.

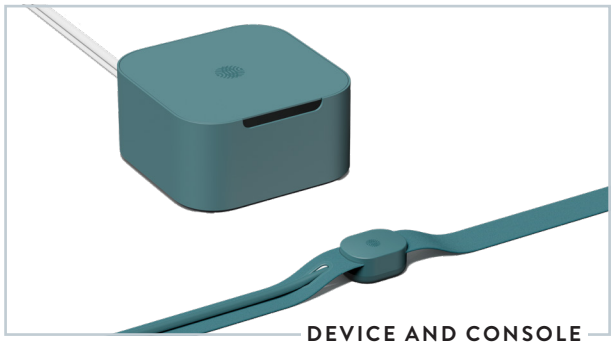
KEY BENEFITS:

- **FAST, ACCURATE DETECTION:** Uses low-intensity near-infrared light to quickly identify LVO strokes by measuring blood flow and micro-motions.
- **PORTABLE & FLEXIBLE:** Easy to use with minimal training.
- **CUSTOMIZABLE:** Available as a ready-to-use kit or open-source platform for different clinical needs.
- **COST-EFFECTIVE:** Low-cost alternative to traditional imaging, making advanced stroke diagnostics more accessible.
- **RADIATION FREE:** No radiation or contrast agents.

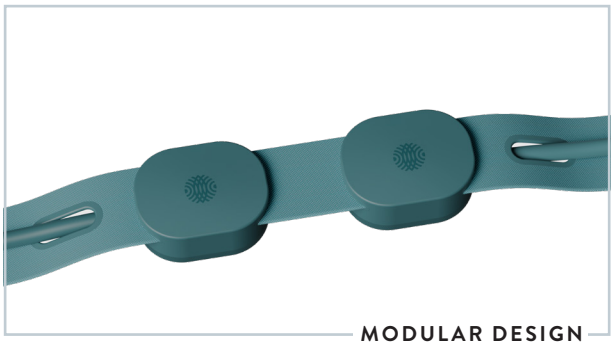
OPENWATER

Open-Motion

- **EXPANDABLE MODULAR SYSTEM:** Add extra sensor modules for broader, customizable coverage.
- **ON-CAMERA FPGA PROCESSING:** Built-in FPGAs in each camera enable real-time histogram analysis.
- **INDUSTRIAL-GRADE COMPLIANCE:** Meets IEC and ISO standards for research safety and reliability.
- **CROSS-PLATFORM SOFTWARE:** Runs on Windows 10+ and macOS 12+ with standard hardware.
- **OPEN-SOURCE & RESEARCH-READY:** Fully open hardware/software for easy customization and sharing.



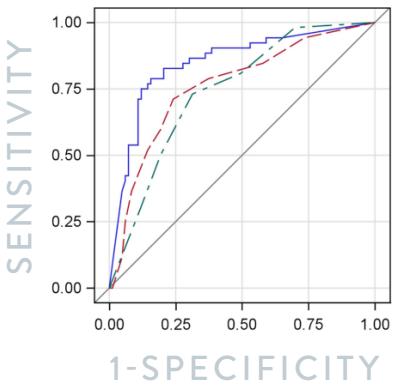
DEVICE AND CONSOLE



MODULAR DESIGN

*Study Results show **79%** Sensitivity and **83%** Specificity LVO Stroke Detection using Open-Motion*

RAW ROC ANALYSIS



Area under the curve

- Openwater: 0.85 (95% CI: 0.78-0.92)
- RACE: 0.76 (95% CI: 0.68-0.85); p=0.11 vs Openwater
- LAMS: 0.74 (95% CI: 0.66-0.82); p=0.05 vs Openwater

Clinical Study Shows Positive Results:

The Openwater optical blood flow monitor outperformed both RACE and LAMS for the detection of LVO in patients presenting for acute stroke evaluation. A clinically relevant increase in sensitivity was observed for the Openwater blood flow monitor without a cost to specificity, which ultimately yielded fewer false negatives and false positives.

Reducing false negatives is critical to early notification and routing of patients with a high likelihood of LVO to thrombectomy-capable or comprehensive stroke centers.

Favilla CG, Baird GL, Grama K, Konecky S, Carter S, Smith W, Gitlevich R, Lebron-Cruz A, Yodh AG, McTaggart RA. Portable cerebral blood flow monitor to detect large vessel occlusion in patients with suspected stroke. J NeuroIntervent Surg. Epub ahead of print: 21 March 2024. doi:10.1136/jnis-2024-021536

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