

TECH OFFER

Guided Trans-Radial Access Catheters - A Surgery Device for Strokes with Faster Treatments



KEY INFORMATION

TECHNOLOGY CATEGORY:
Healthcare - Medical Devices

TECHNOLOGY READINESS LEVEL (TRL): **TRL4**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO175279**

OVERVIEW

This technology is a neurointerventional procedure, focusing on transradial access for acute ischemic and hemorrhagic stroke treatment. Traditionally, neurointerventions utilize transfemoral access, but this solution leverages the radial artery for access, providing a safer and more comfortable alternative. By reducing complications and shortening recovery times, the transradial approach significantly enhances patient experience.

The transradial access system comprises three components: a radial access sheath, a selective catheter, and a guiding catheter. Each component is designed to work in harmony, ensuring the system's compatibility and optimal performance. The radial sheath maintains high structural integrity while reducing radial artery spasm and occlusion. The selective catheter offers multiple proprietary tip shapes for improved access to neuro arteries. The guiding catheter combines distal flexibility and proximal stiffness to ensure smooth catheter pushability and trackability, providing surgeons with an efficient and seamless experience. The trans-radial access catheters for neurosurgery are developed for Asian population whom have narrow arteries.

The technology owner is interested in joint R&D projects to co-develop the technology.

TECHNOLOGY FEATURES & SPECIFICATIONS

The neuro transradial access system comprises three core technologies: the radial access sheath, the selective catheter, and the guiding catheter.

Radial Access Sheath:

- Designed with an optimal balance of flexibility and strength to enable precise navigation through the radial artery.
- Features a low-profile, thin-walled design to minimize radial artery spasm and ensure patient comfort.
- Coated with a hydrophilic layer to reduce friction, facilitating smoother sheath insertion and advancement.

Selective Catheter:

- Equipped with a proprietary tip shape that enhances access to critical arteries, including the right/left ICA, ECA, and VA.
- Incorporates a U-shape stiffness for superior anchorage, preventing slippage during procedures and ensuring stability post-subclavian artery access.

Guiding Catheter:

- Optimal balance of distal flexibility and proximal stiffness.
- Features a multi-layer design: a polymeric outer layer for flexibility, metallic coils and braids in the mid-layer for added structural support, and a high-wear resistance inner layer to ensure smooth catheter movement within the vasculature.
- Enables superior pushability and trackability during neurointerventions.

POTENTIAL APPLICATIONS

This technology is designed for use in neurointervention procedures, with potential applications in the following areas:

- Aspiration Catheter
- Microcatheter
- Intermediate Catheter
- Distal Delivery Catheter

UNIQUE VALUE PROPOSITION

This technology offers several advantages over conventional solutions in the neurointerventional space:

- **Shorter Recovery Time:** The design of this system reduces procedural complications and promotes faster recovery times, allowing patients to return to their normal activities sooner.
- **Tailored for the Asian Population:** The Trans-Radial Access Catheters are specifically designed for the Asian population, accommodating narrower arteries and ensuring safer and more effective neurointerventional access.
- **Complete Neuro Transradial System:** A fully integrated system that provides seamless access from the radial artery to the neurovasculature, minimizing procedural complications.
- **Optimized Radial Sheath:** Engineered to reduce radial artery spasm and occlusion, improving patient outcomes and

comfort.

- **Selective Catheter with Anchoring Mechanism:** The catheter's design prevents slippage during procedures, enhancing stability and precision during treatments.
- **Guiding Catheter Designed for Optimal Pushability and Trackability:** this catheter ensures smooth navigation through the vasculature, improving the overall user experience for surgeons.