
Indications, Safety, and Warnings

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## SWIFT PRIME

The SWIFT PRIME[1] study was a global, multicenter, two-arm, prospective, randomized, open, blinded-endpoint (PROBE) trial to compare the functional outcomes in acute ischemic stroke (AIS) subjects treated with either IV t-PA alone or IV t-PA in combination with the Solitaire™ revascularization device.

- Read key findings
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## EXTEND-IA

The EXTEND-IA[2] trial was an investigator-initiated, multicenter, prospective, randomized, open, blinded-endpoint (PROBE) study in ischemic stroke patients receiving intravenous alteplase within 4.5 hours of stroke onset.

It was conducted to test the hypothesis that anterior circulation ischemic stroke patients, selected with a "dual target" of vessel occlusion and evidence of salvageable tissue on perfusion imaging within 4.5 hours of onset, would have improved reperfusion and early neurological improvement when treated with endovascular thrombectomy using the Solitaire™ FR stent thrombectomy device after intravenous (IV) alteplase, compared to alteplase alone.

- Read key findings
- Read original article

### STUDY CONCLUSION

In ischemic stroke patients with a proximal cerebral arterial occlusion and salvageable tissue on CT perfusion imaging, early thrombectomy with the Solitaire™ FR stent thrombectomy device improves reperfusion, early neurologic recovery, and functional outcome compared with alteplase alone.

## ESCAPE

The ESCAPE[3] trial was an investigator-initiated, multi-center, prospective, randomized, open, blinded-endpoint (PROBE) trial designed to test whether patients with acute ischemic stroke, who were selected on the basis of results of CT and CTA, would benefit from rapid endovascular treatment involving contemporary endovascular techniques.

Patients were allocated 1:1 to endovascular treatment plus guideline-based care (intervention) vs. guideline-based care alone (control).

- Read key findings
- Read original article

### STUDY CONCLUSION

Among acute ischemic stroke patients with proximal vessel occlusion, small infarct core, and moderate-to-good collaterals, rapid endovascular treatment improved functional outcomes and reduced mortality.

## REVASCAT

REVASCAT[4] was an investigator-initiated, multicenter, prospective, randomized, sequential, open, blinded-endpoint (PROBE) study in acute ischemic stroke patients who had contraindications to IV t-PA or had received IV t-PA therapy within 4.5 hours without revascularization after 30 minutes of IV t-PA.

It was conducted to determine the efficacy and safety of neurovascular thrombectomy with the Solitaire™ FR device in conjunction with medical therapy versus medical therapy alone, among eligible acute ischemic stroke patients treatable within 8 hours of symptom onset.

- Read key findings
- Read original article

### STUDY CONCLUSION

In patients with anterior circulation stroke treatable within 8 hours of symptom onset, stent retriever thrombectomy reduces post-stroke disability and increases the rate of functional independence.

## MR CLEAN

MR CLEAN[5] was a randomized trial of intra-arterial treatment (IAT) for acute stroke. In patients with acute ischemic stroke caused by proximal intracranial arterial occlusion, IAT is highly effective for emergent revascularization. Five hundred patients with a proximal arterial occlusion in the anterior cerebral circulation demonstrated on vessel imaging, treated with IAT within 6 hours were randomized to IAT plus usual care (IV t-PA or medical management) or usual care alone.

- Read key findings
- Read original article

### STUDY CONCLUSION

The MR CLEAN study observed that the addition of stent thrombectomy for acute ischemic stroke care is safe and effective when administered within 6 hours of symptom onset.

## STRATIS

The STRATIS Registry[6] was a prospective, multi-center, observational, single-arm study that was designed to investigate the 'real-world' stroke care questions and build a comprehensive representation of the patient population being treated with Medtronic stent retrievers.

The STRATIS Registry tracked the system of care data including transfer distances, referral patterns, times and location of stroke onset to ultimate interventional treatment. Patient images as well as techniques were independently core lab adjudicated. STRATIS is the first registry to enroll 984 patients within 8 hours from stroke onset with a focus on systems of care on clinical outcomes.

- Read key findings - Systems of Care
- Read original article

### STUDY CONCLUSION

Solitaire™ thrombectomy for large vessel ischemic stroke was safe and highly effective with substantially reduced disability. Benefits were consistent in all prespecified subgroups.

1 SWIFT PRIME- Saver JL, Goyal M, Bonafe A, et al. Stent-retriever thrombectomy after intravenous t-PA vs. t-PA alone in stroke. *N. Engl. J. Med.* Jun 11 2015; 372(24):2285-2295.

2 EXTEND-IA- Campbell BC, Mitchell PJ, Kleinig TJ, et al. Endovascular therapy for ischemic stroke with perfusion-imaging selection. *N. Engl. J. Med.* Mar 12 2015; 372(11):1009-1018.

3 ESCAPE- Goyal M, Demchuk AM, Menon BK, et al. Randomized assessment of rapid endovascular treatment of ischemic stroke. *N. Engl. J. Med.* Mar 12 2015; 372(11):1019-1030.

4 REVASCAT- Jovin TG, Chamorro A, Cobo E, et al. Thrombectomy within 8 hours after symptom onset in ischemic stroke. *N. Engl. J. Med.* Jun 11 2015; 372(24):2296-2306.

5 MR CLEAN- Berkhemer OA, Fransen PS, Beumer D, et al. A randomized trial of intraarterial treatment for acute ischemic stroke. *N. Engl. J. Med.* Jan 1 2015; 372(1):11-20.

6 STRATIS-Mueller-Kronast, NH, Zaidat O, et al. Systematic Evaluation of Patients Treated with Neurothrombectomy Devices for Acute Ischemic Stroke: Primary Results of the STRATIS Registry. Stroke 22 Aug 2017;48:2760-2768.



 