

Endovascular Reperfusion Therapy/Thrombectomy

Overview

Endovascular reperfusion therapy, also known as an endovascular thrombectomy (EVT) is a minimally invasive surgical procedure used to treat **acute ischemic stroke**. EVT involves the removal of a blood clot from a blocked artery in the brain, which can restore blood flow and prevent further brain damage.

Stroke trials have shown that these larger blockages do not respond as often to medication, even when it is given quickly. New devices, known as “thrombectomy devices,” are designed to grab the clot that is blocking the artery and pull it out, leaving the artery open. A neuro-interventionalist, (also called a neuro-endovascular surgeon), performs the procedure during an angiogram. A catheter is inserted into an artery in the groin and then passed through the blood vessels to the blockage. Two different devices can be used to grab the clot and remove it.

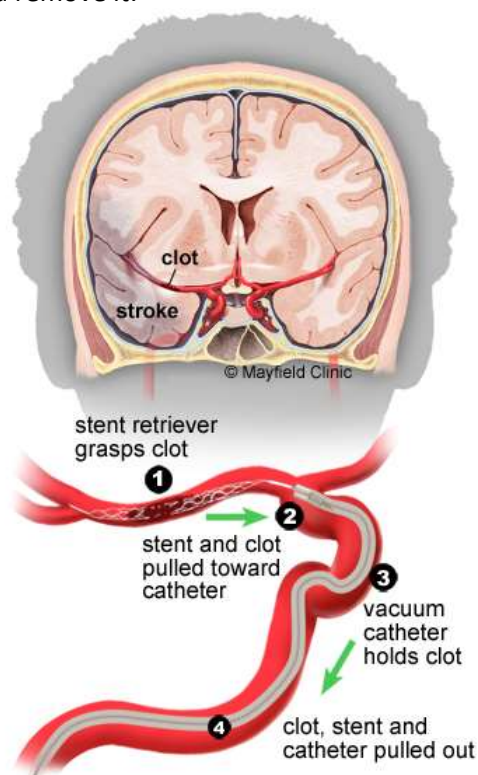


Figure 3. A stent retriever mesh is embedded in the clot and then used to pull the clot out of the artery and into the vacuum catheter.

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- A stent retriever (or “stentriever”) is a wire mesh tube, like a stent, that is attached to a long wire. When the tube is opened in the blocked artery, the clot gets stuck in the mesh. The doctor then pulls out the mesh using the long wire, pulling out the clot with it.
- An aspiration catheter is like a vacuum cleaner that is attached to a special suction unit and used to suck out the clot.

Studies have shown that each of these devices is more likely to open a blocked artery than the clot buster drug alone and that patients with large-artery strokes are more likely to improve with this treatment. Clot retrieval may be effective up to 6 hours after the onset of the stroke. Recently, trials have shown that, for a small group of patients who wake up with stroke symptoms or are between 6 to 24 hours after onset, clot retrieval may still be effective. If specialized imaging shows that the territory of the stroke is small, removing the clot can prevent the stroke from getting larger and more severe. Still, the earlier treatment begins the better. Retrieved from: [Stroke | Mayfield Brain & Spine, Cincinnati, Ohio \(mayfieldclinic.com\)](#)

How is the procedure performed?

Endovascular thrombectomy is performed by a team of specialized doctors and nurses in a hospital setting. Before the procedure, the patient will undergo a series of tests to confirm the diagnosis of an acute ischemic stroke and determine the location of the blood clot.

During the procedure, the patient will be given a local anesthetic to numb the area where the catheter is inserted. The catheter is then guided up through the blood vessels to the site of the blocked artery in the brain using X-ray imaging to help guide the catheter.

What to expect after the Procedure?

After the procedure, the patient will be taken to the intensive care unit. The patient will remain flat for 24 hours and the catheter insertion site and patient's neurologic status will be monitored closely for 24-48 hours for any changes or complications.

4/2/24