deep inside the brain, almost instantly reversing the symptoms caused by ischemic stroke, according to the first report on the safety and efficacy of the device, presented in February 2004 at the American Stroke Association’s 29th International Stroke Conference. Three UCLA inventors were involved in the design: Fernando Vinuela, Yuichi Murayama and Guido Guglielmi.

The device, known as the Concentric MERCI Retrieval System, restored blood flow in 54 percent of patients in phases I and II of clinical trials, which studied stroke patients at 25 sites who were not eligible for standard tPA therapy. In these trials, restoring blood flow reversed paralysis and other stroke symptoms. In February 2006, results reported from another multicenter trial were even more encouraging, showing that 69.4 percent of ischemic stroke patients treated with the device experienced blood-flow restoration, and one out of three was functionally independent within 90 days following the procedure.

The MERCI Retrieval System is inserted into an artery in the groin and then carefully guided via standard angiography into the brain until it reaches the blood clots. The device is made from a combination of nickel and titanium, which gives it a “memory” so that, when deployed, it forms itself into a helical, corkscrew-like shape.

In August 2004, Concentric Medical received clearance from the U.S. Food and Drug Administration to market the MERCI retriever, making it the first medical device cleared by the FDA to remove blood clots from the brain in patients experiencing an ischemic stroke. For those who are fortunate enough to survive a first stroke, it is estimated that nine in 10 will have long-term impairment.

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