

A Revolutionary Procedure to Combat Ischemic Stroke

# MECHANICAL THROMBECTOMY

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Ischemic stroke – 87% of all stroke variants – is a medical condition involving vessel blockage near the brain that often leads to severely impaired neurological function [1]. As a fairly common issue amongst the elderly population, ischemic strokes are classified as the second leading cause of death worldwide at approximately 12% [2]. Their lethality stems from a combination of extraneous factors, including unpunctual aid and complications from surgery. Furthermore, a significant proportion of fortunate stroke survivors are not freed from the long-term implications of a stroke, for lasting consequences such as impaired speech, paralysis, and especially the terrifying prospect of a recurring attack often hinder survivors' everyday life until their death [3]. Because the elderly population only continues to grow rapidly, it is imperative that innovations towards stroke treatment are found, for the prominence and spontaneity of this disease regard it as one of the most horrifying to be subject to [4].

Historically, stroke innovation has been incredibly lifeless, largely due to its correlation to the brain. Prior to the creation of microtechnology, it was impossible to acquire the necessary precision to

operate within one's cerebral regions, and treatments for strokes consisted of thrombolytics that were only effective in dislodging minor clots and had side effects that could result in vessel burstage (which would result in a more severe, hemorrhagic stroke) [5]. A minuscule, almost unnoticeable mistake while operating on one's leg or arm would cause little to no issues. The same error while operating on one's brain, however, would result in major and prolonged complications.

One novel technique for stroke treatment – mechanical thrombectomy – is the culmination of decades of medical experimentation and refinery and is a revolutionary breakthrough in the midst of a prolonged stagnance in stroke innovation. The removal mechanism for mechanical thrombectomy lies in its name, as patients opt to remove clots manually through surgery rather than relying on the effectiveness of chemical manipulation. Essentially, a stent retriever is inserted into the affected artery, and an attached wire allows for motion within the vessel. As the retriever inches

