

# Technology Must Meet Efficacy in Treating ALI



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**I**n this single-center, observational experience of patients treated for acute limb ischemia (ALI), Estes and colleagues confirm the safety and efficacy of acoustic pulse thrombolysis (APT). The group was also interested in evaluating possible differences in upstream APT followed by downstream endovascular intervention, versus upstream endovascular intervention with downstream APT.

The first endovascular device ever created was built to solve the problem of ALI. In the 1960s,

improvisational abilities, operators must employ improvisational skills when treating ALI. Differences in inflow and outflow presentations, associated peripheral arterial disease, ability to use lytics or not, thrombus burden, need for embolic protection, and the available time for treatment all result in the need to adapt quickly.

Estes and colleagues have the option to utilize acoustic pulse therapy in their patients. In the study, the group sought to answer the same question as other operators who frequently encounter acute thrombus: how can we better handle acute thrombotic occlusions within our institution? I congratulate the group for wanting to constantly improve their state of thrombolysis therapy and for demonstrating a desire to stay forward thinking in how to best treat thrombus. Whether upstream or downstream APT can be effective, more data will be required to better understand how to implement this treatment strategy. Many other devices are being developed by companies seeking to provide simple and effective “off the shelf” thrombectomy systems. It seems that we are heading back to the future and joining Dr Fogarty’s fight against thrombus, in which technology must meet efficacy in treating ALI. ■

*Disclosure: Dr Michael reports that he is a consultant to Abbott, Asahi Intecc, Boston Scientific, Medtronic, Philips, and Terumo.*

Thomas J. Fogarty, MD, invented the Fogarty catheter to treat ALI, and emerging technologies have attempted to offer treatment strategies to combat acute thrombus. Some of these strategies include manual aspiration thrombectomy, mechanical aspiration thrombectomy, rheolytic thrombectomy, catheter-directed thrombolysis, laser photoablation, acoustic pulse thrombolysis, and combinations of the above options. The Fogarty catheter is still the most widely used device for clot therapy, because it created a safe and effective device to solve the problem of operative mortality from open surgical embolectomy. With advances in technology, more access to care, and a growing patient population, it is important to evaluate devices with added applications. Patient selection, vascular anatomy, time of presentation, comorbidities, bleeding risk, and procedural contraindications all make ALI a hard sell for a one-size-fits-all strategy.

**“Whether upstream or downstream, APT is more effective and still requires more data.”**

Operators dealing with acute and chronic clot are frequently forced to be resourceful and combine their knowledge in many areas, such as chemistry, physics, pharmacology, and technology. Like the 1980s character MacGyver, who was famous for his