

Disrupting Traditional Approaches to ALI With the Pounce™ Thrombectomy System

A conversation with Dr. Dean Ferrera.

Dr. Dean Ferrera, an interventional cardiologist with Community Hospital in Munster, Indiana, works with a close-knit team of surgeons, interventionalists, podiatrists, and nurses to treat acute and critical limb ischemia (CLI) patients at their 500-bed facility. The team has adopted an endovascular-first approach to ischemia, with surgeons on consult as needed for complex cases. We spoke with Dr. Ferrera about his approach to tackling emergent arterial occlusions.

Can you describe the patient journey for limb ischemia patients at Community Hospital?

Our interventional cardiologists generally provide endovascular support for limb ischemia cases. Often it will begin with a call from the emergency department physician, who will assess the patient and make the initial diagnosis with imaging. If they call me with suspected ALI (acute limb ischemia), I will plan for either a CT scan or a duplex ultrasound study. If the patient has a high degree of renal insufficiency and we don't want to expose them to contrast, we can get a STAT (short turnaround time) arterial duplex ultrasound. If they don't, and there's high probability for arterial occlusion, a CT scan is usually the first step.

At that point, the patient's care typically is endorsed to interventional cardiology and whoever is on call for cardiovascular surgery. If it is a true ALI case with high risk of fasciotomies, we will want our surgeons involved right away. If we feel that it's reasonable to proceed with an endovascular intervention, we'll bring in our cath lab team and handle those patients emergently, either during daytime hours or at night.

What has been your approach to endovascular treatment?

The traditional method for us was to see if we could cross with wire and catheter techniques, find an area of vessel patency, and treat with thrombolysis catheters. We would use either a simple Cragg-McNamara™ micro therapeutics infusion catheter (Medtronic) or an Ekos™ endovascular system (Boston Scientific Corporation)

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and park the patient in the intensive care unit (ICU) overnight. We would then follow them and make a plan of care with the surgeons. Often, we would bring the patient back after they'd been treated with lytics, take a look, and decide what else needs to be done from an endovascular or surgical approach. We've also used aspiration and continue to use it for some niche cases.

Has the Pounce™ Thrombectomy System (Surmodics, Inc.) changed your traditional approach?

The Pounce™ System has been disruptive. With this device in the product portfolio, I now have the ability to remove mixed-morphology clot rapidly in one session. I can get out a large thrombus burden with a relatively easy technique. One or two pulls goes a long way. Typically, I can obtain better perfusion before even leaving the cath lab.

As an interventionalist, that's very satisfying. You want to roll in, get it done, and walk out feeling that you've taken care of the problem. When you put thrombolysis catheters into play, you know there's going to be a time lag before seeing some improvement, and older thrombus doesn't always resolve with lytic therapy. You're also worried about the added risks of bleeding. For me, lytics have now become more or less the bailout option if nothing else is working. The Pounce™ System is becoming my default option for initial treatment.

DISRUPTING PERIPHERAL ARTERIAL THROMBECTOMY

The Impact of the Pounce™ Thrombectomy System: A Multispecialty Perspective.

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What attributes do you see in the Pounce™ System?

I like its ability to treat different thrombus morphologies—pure thrombus and embolic debris—and I like its deliverability. I also think it's relatively atraumatic—I've rarely seen it cause any problems or even that much vasospasm, nothing too off-putting. And it can treat multiple vessel segments, which is great. It doesn't require a tiered approach, scaling down from a larger to a smaller device. As long as the vessel size is acceptable and you're on indication, you can use it. I also find I can get results fairly quickly. Once again, a couple of passes, or pulls, can go a long way.

Another thing that's really nice is that you're not using other therapies like lytics or straight aspiration that cause blood loss. Most endovascular procedures don't result in a high degree of blood loss, but bleeding is always a concern. In our experience, the Pounce™ System results in negligible blood loss. That's a value-added treatment.

Why have you scaled back your use of aspiration?

I think the aspiration devices can work fine, but again, some older thrombus structures don't always yield well to them. Most often, I will still need to put a lytic catheter down there to optimize results and hunt and peck with the aspiration catheter. Having something mechanical with the Pounce™ System, with the wall-apposing nitinol baskets, gives me the ability to get different shapes and volumes of thrombus extricated from the vessel with the immediacy of treatment I want. You can see a great angiogram and know that you've fixed the biggest part of the problem, or at least see the playing field clearly.

How do you select patients for the Pounce™ System?

As long as I feel comfortable with 7 Fr access for the patient I'm trying to treat—in other words, that the vessel size is appropriate

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for the device—the Pounce™ System is going to be my first-pull device. In ALI cases, we've had success with the device when we've immediately identified a vessel with substantive occlusion that we can cross pretty easily. Then we go ahead and provide treatment on the spot. We'll reassess after that. If there's good flow, we'll manage the rest endovascularly or simply allow the patient to recover on heparin until we're ready to discharge them.

Beyond ALI, I've used the Pounce™ System in patients that have had recently closed SFAs (superficial femoral arteries). These patients may be battling CLI and they are not healing. We may do an interval assessment and realize that they've had reocclusion of a vessel. In those cases, I'm extricating thrombus, then I can see what I have left to treat. That has been a benefit.

Do you see value for the Pounce™ System from the hospital's perspective?

No question. Reducing the need to put in lytic catheters that are going to need to be watched by other teams has been a blessing. Having something like the Pounce™ System on the table, once you get a sense of the prep, allows the case to be more fluid and conclusive, which makes turnover to the next patient easier. You don't have to worry about that patient coming back to the lab for a repeat angiogram because they've been on lytics, which saves time and caseload in the cath lab. Saving a trip to the cath lab—as well as reducing blood loss, and saving a stay in the ICU—all of that is value added in procedural-based management. ■



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Disclosures: Consultant to AngioDynamics, Medtronic, Cardiovascular Systems, Inc., Shockwave Medical, and Surmodics.

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