Tackling Venous Thrombus With Dual-Action Thrombectomy

A conversation with Dr. Joseph Griffin.

Vascular surgeon Dr. Joseph Griffin and his partners at the Vascular Specialty Center in Baton Rouge, Louisiana, run a private practice in collaboration with two tertiary referral centers and one community-based hospital. They receive patients from throughout Louisiana and parts of Mississippi, treating both arterial and venous disease.

Over the past few years, the practice has experienced an exponential rise in arterial and venous thrombus cases. In response, the practice has sought ways to optimize efficient clot removal without resorting to multiple treatments or thrombolytics. For venous clot removal in the peripheral vasculature, Dr. Griffin has selected the Pounce™ Venous Thrombectomy System as his primary device. We spoke with Dr. Griffin about how he performs peripheral venous cases with or without percutaneous treatments.

What is your general approach to treating venous thrombosis?

If a patient comes in as a consult and we suspect venous thromboembolism, we immediately order an ultrasound of the affected extremity. Regarding the lower extremity, if the thromboembolism involves only the superficial vein or popliteal vein, medical management is our treatment plan for a minimum of 6 months with surveillance ultrasound.

When do you offer percutaneous treatment?

If we believe the patient will medically and functionally benefit from intervention and the thrombus is located in the iliofemoral segment, this patient could be a potential candidate for thrombolytics or thrombectomy. Even if you're not expecting to use tissue plasminogen activator (tPA) with thrombectomy, you still have to go into it thinking that you may have to use tPA.

> **"We use the Pounce Venous System for most of our front-line venous thrombectomy, whether it's lower or upper extremity."**

You've used a broad range of venous thrombectomy devices. How has your approach to device selection changed over the years?

Historically speaking, our highest concern is always to prevent embolization during the procedure. Our group currently uses most of the venous thrombectomy devices on the market, such as tPA infusion catheters, aspiration, and pharmacomechanical devices. Therefore, our approach is to use a device that is mostly successful

without tPA, has a low embolization rate, and can also remove acute, subacute, and, at times, chronic clot.

Which devices do you use today?

It really depends on the situation. Sometimes we're able to use AngioJet™ (Boston Scientific Corporation), QuickClear™ (Philips), ClotTriever® (Inari Medical), or the Ekos™ system (Boston Scientific Corporation). But we've gotten to where we use the Pounce™ Venous System for most of our front-line venous thrombectomy, whether it's lower or upper extremity.

Why has the Pounce™ Venous System become one of your first-pull venous thrombectomy devices?

From a user standpoint, it's a disposable system requiring no capital equipment. It's also very intuitive, requiring minimal steps to use. From a structural standpoint, it has a dual-action capability with both a wall-apposing basket and a motorized extraction screw. The extraction screw removes acute clot, while the basket removes denser clot.

> **"It's also very intuitive, requiring minimal steps to use."**

This allows us to remove all different types of thrombus. This design also makes it possible to make multiple passes without removing the device from the body, so you can maintain wire access. Cleaning of the baskets seems to be very efficient, which helps reduce procedure time.

What value do you see in being able to adjust the diameter of the basket?

Over the past 3 years, thrombus morphology has become more complex and clot removal is becoming more challenging. It is very important to be able to adjust the basket of the Pounce™ Venous device in the iliofemoral segment because we believe it prevents us from causing laceration or perforation to the vein while still being able to remove thrombus.

CASE REPORT

Efficient Subclavian Thrombus Removal Using the Pounce™ Venous Thrombectomy Device

PATIENT PRESENTATION

A 19-year-old woman presented with 14-day history of left arm swelling.

DIAGNOSTIC FINDINGS

Duplex ultrasound located thrombus in the left subclavian vein. Left brachial access was obtained and a venogram was taken, demonstrating thrombus resulting from first rib compression of the vein (ie, thoracic outlet syndrome) (Figure 1).

TREATMENT

The Pounce™ Venous thrombectomy device was advanced over a .018 guidewire (V18™ ControlWire™, Boston Scientific), and two device

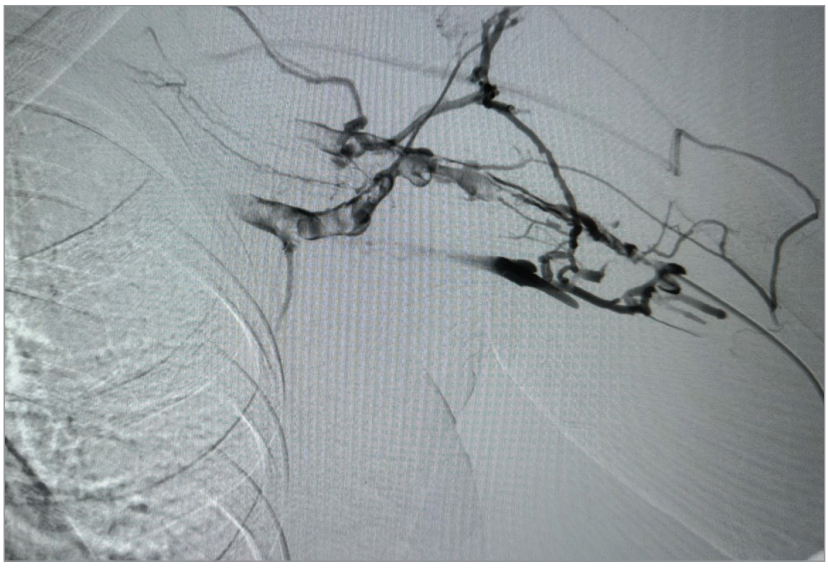

Figure 1. Thrombus from the first rib compression of left subclavian vein.

Figure 2. Thrombus removed after first pass of Pounce™ Venous thrombectomy device.

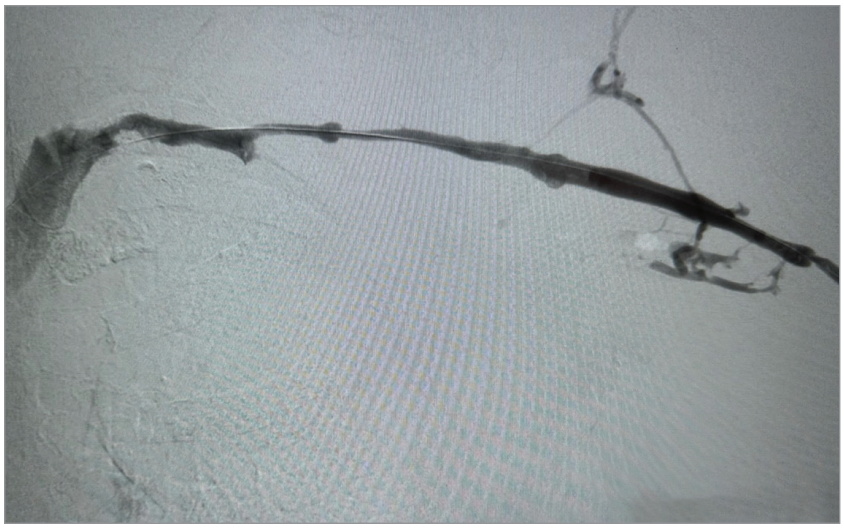

Figure 3. Venogram of the subclavian vein after two device passes.

passes were conducted across vein diameters of 8 to 13 mm without removal of the device from the patient. For both passes, the device was advanced to the ostium of the superior vena cava and pulled back through the target lesion to the access site. Acute clot was removed (Figure 2) with minimal (approximately 15 mL) blood loss. Total thrombectomy time, defined as time from introduction of the device until final removal, was 15 minutes. Final venogram revealed a widely patent subclavian vein (Figure 3).

PHYSICIAN OBSERVATIONS

The Pounce™ Venous thrombectomy device basket conformed well to the vein wall, automatically reducing its diameter around narrowed vein segments. The first pass of the device would have been sufficient to complete the procedure. The physician and staff were highly satisfied with the performance of the device.

CASE REPORT

Successful Removal of Extensive Iliofemoral Thrombus Using the Pounce™ Venous Thrombectomy Device

PATIENT PRESENTATION

A 55-year-old man, referred from an orthopedic surgeon, presented with ≤ 28-day history of unilateral left leg swelling.

DIAGNOSTIC FINDINGS

Duplex ultrasound revealed iliofemoral venous thrombus. Left popliteal vein access was obtained, and an initial venogram was taken, demonstrating external compression of the common iliac vein with > 50% stenosis (May-Thurner syndrome) and a 65-cm descending thrombus (Figure 1). Iliofemoral clot was targeted for removal.

TREATMENT

The Pounce™ Venous thrombectomy device was introduced over a .018 guidewire (V18™ ControlWire™)

POUNCE™ VENOUS THROMBECTOMY

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Figure 1. A 65-cm thrombus from external compression of common iliac vein.

Figure 2. Subacute thrombus removed after three passes of Pounce™ Venous thrombectomy device.

Figure 3. Final venogram demonstrated restored iliofemoral blood flow.

and advanced past the treatment site. Subacute clot was removed (Figure 2) with three passes of the device with minimal (approximately 80 mL) blood loss. Total thrombectomy time, defined as time from introduction of the device until final removal, was 26 minutes. Final venogram revealed restoration of blood flow through the iliofemoral veins (Figure 3).

PHYSICIAN OBSERVATIONS

The physician commended the Pounce™ Venous device for its ease of use and was highly satisfied with the amount of mixed-morphology clot removed from occluded superficial and common femoral veins and subsequent blood flow restoration. ■

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POUNCE™ Venous Thrombectomy

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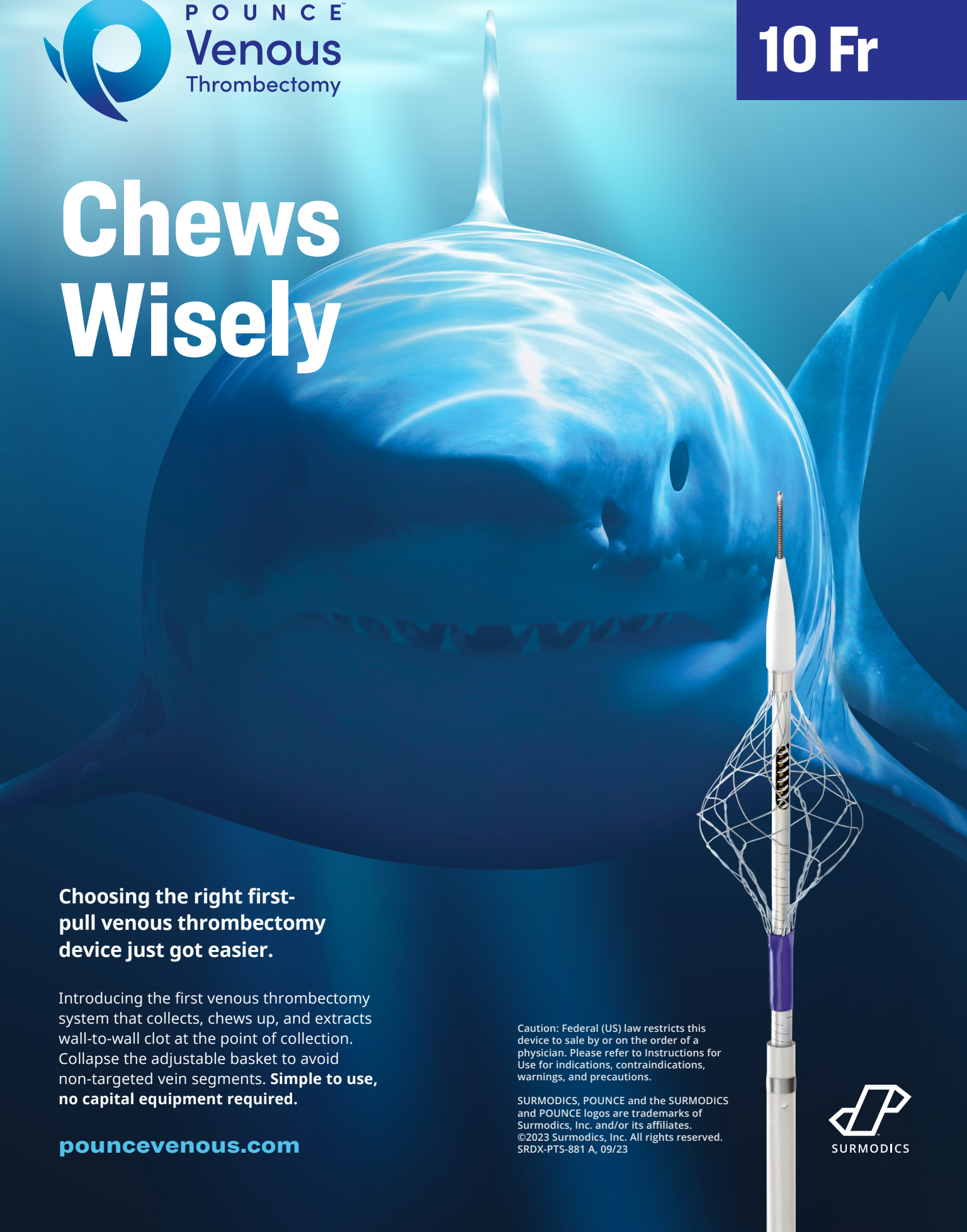
Chews Wisely



Choosing the right first-pull venous thrombectomy device just got easier.

Introducing the first venous thrombectomy system that collects, chews up, and extracts wall-to-wall clot at the point of collection. Collapse the adjustable basket to avoid non-targeted vein segments. **Simple to use, no capital equipment required.**

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Caution: Federal (US) law restricts this device to sale by or on the order of a physician. Please refer to Instructions for Use for indications, contraindications, warnings, and precautions.

SRDX-PTS-881 A, 09/23

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