Why I Went Radial: Confessions From a Vascular Surgeon

Using the radial approach with the Terumo R2P Portfolio offers distinct advantages for physicians, their teams, and their patients.

By Edvard Skripochnik, MD, RPVI

If you are reading this article from either the standpoint of "why radial" or "why not radial," you are missing the point. In preparation for an endovascular intervention for peripheral artery disease (PAD), you assess your access points, determine lesion location and severity, establish acuity versus chronicity, consider prior interventions, and ultimately devise an endovascular treatment plan. Intraoperatively, you are constantly juggling bailout options one through five in your mind, all while also considering your open surgical alternatives. The point I am making here is that every case requires individual attention and consideration, and choosing radial as your access point should be evaluated as such. Once a comfort level is established, it becomes clear that the radial approach can and should be your primary access in many standard and complex cases.

I started using the radial-to-peripheral approach out of necessity. PAD patients often have significant comorbidities, prior surgeries, and anatomic difficulties that could preclude the use of traditional transfemoral

access. Examples include obesity, prior endovascular aneurysm repair, kissing iliac stents, severe tortuosity, groin scarring from previous surgical infections, severely diseased access vessels, occluded contralateral iliac arteries, and the list goes on. Early on, I treated an obese patient with chronic limb-threatening ischemia and chronic obstructive pulmonary disease who was on 4 L of oxygen and could not tolerate lying flat. We placed his upper body on a 30° wedge and managed to treat him effectively via radial access. Success in these elevated-risk, stressful scenarios led to a comfort level that allowed for expansion of this technique to the office-based lab (OBL).

THE OBL ADVANTAGE

The OBL is where the true value of radial access shines. Immediately after my first radial access case, the OBL nurses raved about it and requested more. The team was thrilled to bring the patient to the postanesthesia care unit (PACU) already sitting up. They could foresee the absence of frequent groin checks, hematomas, and prolonged recovery time. Best of all, with the TR Band (Terumo Interventional Systems), there is no need to deal with closure device failure. Many of us can recall holding pressure on a groin for 1 hour, making small talk with the patient to pass the time, followed by a 3- to 6-hour flat time prior to discharge. In the hospital, a trainee is assigned to endure the associated hand paresthesias from prolonged manual pressure for every groin bleed. In the OBL space, there are no such luxuries—no trainees for "manual pressure education," no blood bank on standby, and no overnight stay option. In the rare case that access failure leads to symptomatic bleeding or acute limb ischemia, this becomes a life-threatening event requiring rapid transport to the hospital, which carries significant morbidity and stress and is a reportable event. With the R2P Portfolio (Terumo Interventional Systems), access complications are avoided and discharge occurs consistently within 1 hour, leading to faster turnover times, more productive case volumes, and early staff departures. These benefits don't even include those of the patient, who yields the greatest advantage.

PATIENT PERKS

The patient experience can be highlighted with a case I reintervened on for recurrent symptoms. As I solemnly approached the patient to deliver the bad news that another procedure was necessary, he said, "Oh, through the wrist again? No problem. When are we doing it?"

Radial access seems to be as pleasant and memorable of an experience for the patient as any endovascular intervention could possibly be, if it is successful of course. The patient can sip a coffee in the PACU minutes after the intervention is complete, without enduring the typical back spasms associated with 1- to 3-hour flat bed rest. They can walk over to the bathroom as needed, avoiding uncomfortable bladder expansion or bedpans. Groin pain, pseudoaneurysms, and retroperitoneal bleeding are all complications my patients do not have to deal with.

THE LEARNING CURVE

While crossing over from traditional access sites to the radial artery, there are some adjustments for first-time users, such as navigation of difficult arch anatomy, proper evaluation of hand circulation, and positioning of the operating table. A short learning curve is required to understand target lesion locations and treatment ranges of key devices.

CONCLUSION

Overall, Terumo's portfolio of R2P devices provides the tools for successful treatment of iliac, femoral, and tibial occlusive disease in both the hospital and the OBL. The same skills can be applied to treating visceral vessels, performing embolization procedures, and assisting in complex aneurysm repairs, all through radial artery access. A few minor steps outside the transfemoral algorithm can open an array of possibilities.

I encourage other endovascular specialists to overcome the initial trepidation of radial-to-peripheral generalizability and see how radial access can quickly become the preferred approach for you, your patients, and your team. ■

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