LAHEY CLINIC

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The Wrist's THE ROUTE

ALTERNATE METHOD FOR DETECTING ARTERY BLOCKAGES TAKES HOLD AT LAHEY

Christopher Pyne, MD

When James Manion felt an irregular heartbeat, the 72-year-old former internist and corporate medical director suspected something might be wrong. His doctor in Poughkeepsie, N.Y.—70 miles north of Manhattan—sent him to a local cardiologist. After undergoing a stress test and a CT angiogram (a noninvasive procedure using computed tomography to image the heart), Manion learned he might have an obstruction in his arteries. His doctors recommended a cardiac catheterization.

Also referred to as coronary angiography, a cardiac catheterization is a procedure performed to obtain diagnostic information about the heart or coronary vessels. In some cases, it also allows doctors to simultaneously provide treatment for blocked arteries. Typically, the procedure is performed via the femoral artery in the groin area, through which a small catheter is inserted and carefully threaded to the heart using an X-ray machine that produces real-time pictures. Once the catheter is in place, contrast material is injected and pictures are taken.

Although the risk of complications with cardiac catheterization is relatively low, Manion was nervous about having the procedure due to a hereditary venous clotting disorder. Two years earlier, doctors had discovered a deep vein thrombosis—a blood clot that can be potentially deadly if undetected—in his right leg. He was put on medication to keep the blood clot under control and told he would need to remain on these medications permanently.

"What concerned me most was that I'd have to go off my medications for the cath procedure," says Manion. "I was worried about the clotting risk."

Although doctors told him he would be fine, the procedure was aborted when they couldn't get the catheter into the proper position due to a tortuous—or twisted—aorta.

"In the end I had a serious bruise in my leg and I had to be off my blood thinning medication for several days," says Manion. "But I still needed the procedure."

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Manion had heard of another way of performing cardiac catheterization, via the radial artery in the wrist. But when he went to a hospital in New York City and requested the procedure be performed using this alternate route, the physicians turned him down. That's when Manion changed course and called his daughter, a pediatrician living in Weston, Mass., for suggestions. Familiar with Lahey's expertise in transradial catheterizations, she in turn called Richard W. Nesto, MD, chair of Cardiovascular Medicine at Lahey. When Nesto suggested that her father come to Lahey and have the procedure done by interventional cardiologist Christopher T. Pyne, MD, Manion made the three-hour trip to Burlington without a second thought.

Leading the Way in Transradial Catheterizations

According to Pyne, Lahey does approximately 500 transradial artery catheterizations per year. And he should know, since he does the majority of them while also leading the training efforts for this procedure.

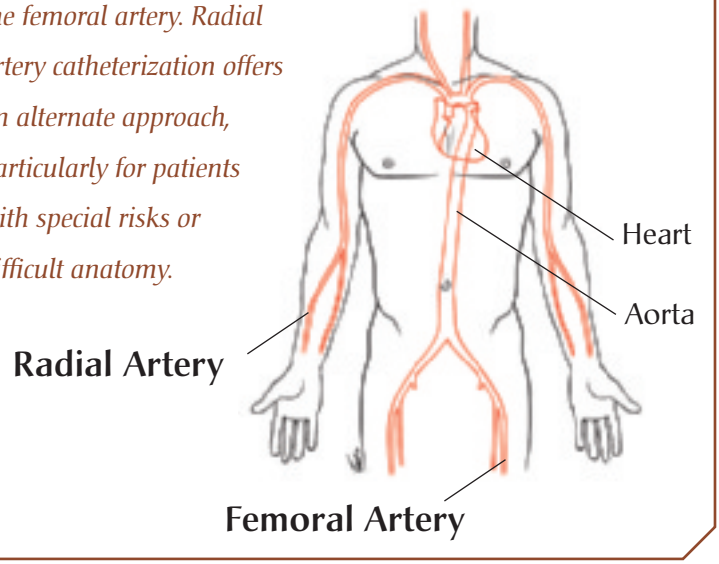
"Lahey Clinic is one of the highest-volume radial centers in New England," says Pyne. "We've been doing caths this way for about 10 years, but over the past three years we've seen a dramatic increase in the utilization of this procedure."

There are several reasons why the radial method is becoming more popular. "Probably one of the most important and beneficial reasons we do the transradial procedure is to reduce the risk of bleeding," explains Pyne. "Because of its ideal anatomical site, the radial artery is easier to compress to stop bleeding. This makes it a very desirable approach when we have patients who are at high risk of bleeding, such as Dr. Manion."

The wrist approach is also the preferred method for a unique subset of patients with difficult anatomical issues. "For instance, placing the catheter through the radial approach is easier when working on obese patients," says Pyne. "And then there are the more rare issues, such as obstructions or bypass grafts in the leg arteries, that make the traditional way of doing it more difficult. In the case of Dr. Manion, it was not just the risk for bleeding, but his tortuous aorta, that made the radial method the more desirable approach."

While the transradial and transfemoral procedures are otherwise performed almost identically except for their point of entry, they do have one significant difference.

Angiography is usually done by inserting a catheter through the femoral artery. Radial artery catheterization offers an alternate approach, particularly for patients with special risks or difficult anatomy.



"After the traditional transfemoral catheter procedure, a patient needs to remain lying flat for six hours," says Pyne. "With the transradial approach, a patient can sit up immediately. Needless to say, that's a lot more comfortable and another big benefit for our patients."

Still, despite its benefits, the wrist approach is not right for everyone.

"Although we've yet to see any serious complications, we still have to weigh the risks and the benefits and think about the hand before making a decision," says Pyne. "You probably wouldn't want to perform this procedure on someone who needs to use his or her hand a lot."

For Manion, however, the radial approach was the ideal solution. He was allowed to stay on his medications due to the procedure's reduced risk of bleeding, and his arteries were found to be clear.

"It couldn't have gone better," says Manion of his experience at Lahey. "I was very pleased."

For more information about services offered through Lahey's Heart & Vascular Center, visit www.lahey.org/heart. To make an appointment with a cardiologist, call 781-744-3250.