

New device eases a tricky task in defibrillator surgery

July 15 2012, By James Walsh

Dr. Pierce Vatterott and his team of nurses and technicians worked smoothly and efficiently in the chilly catheter lab at St. Paul's United Hospital. It was complex and potentially risky work, removing four leads - wires that connect a defibrillator to the heart - from an 84-year-old man.

But Vatterott and his team are experienced hands and they had a new tool, to boot, a laser sheath that more quickly and easily cuts through [scar tissue](#) to free the wires.

Millions of people need defibrillators and [pacemakers](#) to keep them alive. The wires that lead to those devices sometimes need to be replaced because of age or defect. But one wrong move when extracting a lead can leave a piece of the wire behind or, worse, perforate the heart or blood vessel. So anything that makes lead extraction safer is a good thing, Vatterott said.

"It has helped," he said of the GlideLight, made by Colorado Springs, Colo.-based Spectranetics and recently approved by the U.S. [Food and Drug Administration](#). "It has definitely helped."

Potentially dangerous problems in the past five years with leads made by [Medtronic](#) Inc. and, most recently, St. Jude Medical Inc., have left tens of thousands of people facing difficult choices. Do they thread new leads through the same vein to the heart, but leave the old ones - disconnected - in place? Or do they pull them out entirely?

Sometimes, the congestion of too many wires in the vein can block blood flow. One lead rubbing against another also can cause inappropriate shocking. If a lead becomes infected, it has to come out.

"The extraction of leads that have been implanted in patients for years is one of the most complex procedures cardiologists perform," said Dr. Robert Hauser, a senior consulting cardiologist at the Minneapolis Heart Institute at Abbott Northwestern Hospital. "It should be done only by highly experienced physicians and their teams in hospitals equipped for [emergency surgery](#)."

Vatterott and his team at United Heart and Vascular Clinic at United Hospital fit the bill. They have done about 2,000 lead extractions over the years and were the first to use the new GlideLight device in Minnesota. The doctor said they are doing one to two lead extractions each week. GlideLight is also being used at Abbott Northwestern.

"There are studies out there that show the more (extractions) you do, the less complications you have," Vatterott said. "So much depends on the experience of the doctor and the team. And it's really the team. Every person in that room has saved me or saved the patient at some point."

Kurt Riebe, 84, and his wife, Lorraine, will celebrate 63 years of marriage in August. Lorraine calls it "a nice start."

The North St. Paul, Minn., couple has every intention of celebrating many anniversaries to come. So when they learned that Riebe had an infection around his defibrillator-pacemaker, the decision was made to take out the device and the four leads that had been implanted and replace them. It would not be easy, Vatterott said. Riebe is frail.

But on Monday of last week, the GlideLight made it easier.

Not that a five-hour procedure, with Vatterott and his nurses monitoring blood pressure, watching multiple monitors, cutting out infected tissue, cauterizing [blood vessels](#) and snaking wires and something that looks like a laser-tipped black soda straw into the heart can be called easy.

It took two hours just to do the prep work to get the leads ready for removal. As he worked, Vatterott praised his team time and again, pointing out that each has 15 to 20 years of experience. First, they worked to clear the "pocket" where the defibrillator was located. Then they disconnected the wires from the device, temporarily hooking up Riebe to an external pacemaker.

Then, the doctor slid the GlideLight over the first lead, snaking it down the vein into Riebe's heart. Along the way, the device made a clicking sound as the laser cut through the scar tissue that blocked its path.

Once clear, the doctor slowly pulled out the lead before removing the sheath.

Then, it was on to the second lead. Then the third. Then the fourth. During the entire procedure, a surgical team was standing by to assist if a complication arose. One never did.

By the end of the week, Riebe was home and doing well.

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