

Laser Makes Extraction Procedure a Little Less Tricky

[Abraham Kocheril, MD](#), chuckles as he remembers how doctors, decades ago, used weights and pulleys to get pacemaker and defibrillator leads out of a patient's body.

Medicine has come a long way since then. Doctors now commonly use mechanical tools for the extraction procedure. But last month, Dr. Kocheril became the first provider at [OSF HealthCare](#) and the only provider in East Central Illinois to use a laser to guide the removal procedure.

"This is not a procedure to take lightly," says Kocheril, the director of cardiac electrophysiology at OSF HealthCare [Cardiovascular Institute](#) in Urbana, Illinois. "But having said that, somebody's got to do it. So I'm happy to be offering the service."

To understand this complex topic, Dr. Kocheril says it's important to break it down step-by-step.

Pacemakers and defibrillators are devices inserted into a patient's chest to help their heart beat. The devices have leads, or wires that deliver energy to the heart. The longer the leads stay inside a person's heart and blood vessels, risk develops for scarring, hardening and other issues. Older leads can also break, and multiple leads in one patient can stick to each other or parts of the heart.

"If the patient has a bloodstream infection of any sort, there's a chance that the pacemaker system can get infected," Dr. Kocheril says of the importance of lead extractions. "So that infection can travel between the pocket where the generator sits and the leads that go into the heart. So an infection anywhere can travel back and forth. And so the only way to clear that infection is to take out all the material."

Where does the laser come in? During the extraction procedure, Dr. Kocheril says it's very important to be precise so there's no damage to the vascular and cardiac structures. The laser provides that – more precision and efficiency as it fires pulses to cut through adhesions.

"This reduces the amount of force you have to use. So there's less trauma to the vein and to the patient," Dr. Kocheril says. "And laser is generally more successful. So if your lead starts to fracture a little bit, the laser is a little bit better where you don't have to push and pull as much. You can try to go around what's holding it in place and hopefully get it out intact."

Dr. Kocheril has performed extractions since 1993, including a handful of successful outcomes recently at OSF HealthCare. He was certified in laser extractions by [Philips](#), the company that makes the device. And he was an investigator in the trial leading to U.S. Food and Drug Administration approval of the laser in 1999. All that experience aside, Dr. Kocheril and his team are always prepared if complications arise, such as a blood vessel leakage or muscle tears.

"We have a cardiac surgeon standing by in case one of these events happens," Dr. Kocheril says. "The other thing we do is to have blood available for transfusion. So if a patient is bleeding away, one of the ways to save their life is to give them blood and stabilize them while we're doing everything else to fix the problem, the bleeding source."

If you think you may be a candidate for laser lead extraction, contact your primary care provider.