FOR MEDICAL PROFESSIONALS

Laser-Assisted Cardiac Lead Extraction

Patients requiring removal of damaged or infected cardiac leads may be candidates for laser lead extraction, now offered at the Oregon Heart & Vascular Institute at PeaceHealth Sacred Heart Medical Center at RiverBend, one of three medical centers in the state performing the procedure. The minimally invasive, highly effective procedure is performed in PeaceHealth Sacred Heart’s new hybrid operating room, which allows surgeons to switch from minimally invasive to open procedures without moving the patient to another room.

TECHNOLOGY

The Spectranetics SLS III Laser Sheath uses low temperature ultraviolet light to safely, effectively and efficiently ablate fibrotic attachments holding problematic leads in place. The surgeon guides the sheath over the cardiac lead to the tip, where it attaches to the heart. A circle of fibers emits pulses of laser energy similar to that used in eye surgery. The penetration depth is less than 100 microns, or the equivalent of the diameter of a human hair. The ring of laser energy gently dissolves scar tissue into particles easily absorbed by the blood stream, versus tearing the tissue attachments as in non-laser removal. The laser-assisted process results in controlled removal of leads and less variable procedure times than manual tools.

Research

A study of laser-assisted removal of 2,405 leads in 1,449 patients at 13 centers between January 2004 and December 2007 found:

- 97.7 percent clinical success rate
- 96.5 percent complete lead removal success rate
- 1.4 percent major adverse event rate
- 0.28 percent mortality rate

Summary results of a clinical trial showed a significantly higher success rate in the removal of leads using the laser sheath over manual tools alone (94 percent vs. 64 percent respectively).

Another clinical study showed that the laser sheath enables faster and less variable procedure times than manual tools alone.

HYBRID OPERATING ROOM

Laser-assisted cardiac lead extraction is performed in PeaceHealth Sacred Heart’s hybrid operating room (hybrid OR), a specialized operating room with a fixed high-end imaging system, enabling interventional techniques and open surgery to be performed in the same location. All technologies for treating patients either surgically or interventionally are available in the same room. If any complications arise, they can be treated immediately and successfully without requiring transport of the patient to a different department. Cardiologist Matthew Trojan, MD, said he would not perform laser lead extraction in any other setting.

OREGON HEART & VASCULAR INSTITUTE

Matthew R. Trojan, MD
- Board Certified, Cardiovascular Diseases
- Fellow, American College of Cardiology
- ABIM Board Eligible, Heart Failure and Transplant

FOR MEDICAL PROFESSIONALS

Learn more about our referral services, important contact information and CME offerings at www.peacehealth.org/medpro.