

Laser removal of heart device wires safe for older patients

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Using a laser to remove wires connecting implanted pacemakers and defibrillators to the heart is as safe in people age 80 or older as it is in younger patients, according to research reported in *Circulation: Arrhythmia & Electrophysiology*, an American Heart Association journal.

"We wanted to know if age was a risk factor in this procedure, and if octogenarians fare as well as younger patients," said Roger G. Carrillo, M.D., senior study author and chief of surgical electrophysiology at the University of Miami Hospital in Florida. "We found no difference in risk."

The findings have important implications for physicians and the increasing number of elderly who could benefit from the technique, called laser lead extraction. Many physicians have hesitated to use the procedure in people in their 80s because of safety concerns.

Three million Americans rely on implanted [pacemakers](#) or [defibrillators](#), and another 400,000 annually receive one of the lifesaving devices. Eighty percent of the devices are implanted in people older than 65.

Most recipients experience no device complications. However, about 1 percent to 2 percent develop infections or damaged wires that require lead removal, usually done with a gentle tug.

In some patients, the amount of natural scarring caused by healing requires a more aggressive approach. For a quarter-century, this meant

open-heart surgery. In the 1980s, researchers began developing less-risky procedures.

The laser technique, created in 1997, uses a catheter coated with optical fibers to conduct laser light that's threaded through a vein to the heart. Once positioned over a lead, a measured dose of laser energy removes the scar tissue. Such advances have eliminated surgical lead removal.

Carrillo and his colleagues studied the medical records of 506 people who had laser lead extractions during 5½ years that ended in June 2009. They divided the patients into two groups: 388 adults younger than 80 and 118 adults 80 or older.

The average age of the younger group was 64 years; the older patients were an average 85. All patients received new leads within one week.

Among the study findings:

- Infection was the most common reason for lead extraction, but there was no important difference in infection rates between the two groups.
- Complications weren't significantly different between the two sets of patients.
- Rates of high blood pressure, diabetes, coronary artery disease and congestive [heart](#) failure were not different between the two groups.
- More octogenarians had pacemakers than those under 80 — 56 percent vs. 36 percent.
- The younger group had more defibrillators — 47 percent vs. 28 percent.

"This is an exciting study because it demonstrates elderly people can go

through laser lead extraction in a safer way," said Carrillo, who is associate professor of clinical surgery at the university's medical school.

However, two elements may have influenced primary results of the study, he said. The number of participants 80 and older was small, and they conducted the study in a single hospital that does many laser procedures. Confirming the findings will require more patients in a multicenter study that includes hospitals whose physicians have less experience with [laser](#) extractions, Carrillo said.

Provided by American Heart Association

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