RSNA® Radiological Society of North America

820 Jorie Blvd
Oak Brook, IL 60523
TEL 1-630-571-2670
FAX 1-630-571-7837
RSNA.org

NEWS

RSNA Press Release

Researchers Say Stenting the Best Treatment for Blocked Leg Arteries

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Media Contacts:

Maureen Morley
(630) 590-7754
mmorley@rsna.org

Heather Babiar
(630) 590-7738
hbabiar@rsna.org

At A Glance

- Stents should be the standard of care for lower-extremity ischemia.
- Lower-extremity ischemia occurs when the arteries supplying blood to the legs become narrowed or blocked.
- Stenting is less invasive than surgery with a comparable success rate and lower mortality rate.

OAK BROOK, Ill. - Researchers at Brown Medical School in Providence, R.I., have reported that stent placement should be considered the standard of care for treating patients with abnormal circulation, or "ischemia" to the legs, due to obstruction of the iliac arteries. The iliac arteries are large arteries in the pelvis that supply blood to the legs. The study appears in the April issue of the journal *Radiology*.

Lower-extremity ischemia, a type of peripheral vascular disease (PVD), occurs when arteries in the abdomen or pelvis, called the aorta and iliac arteries, respectively, narrow or become completely blocked by the build-up of atherosclerotic plaque deposits. As a result, not enough oxygen-rich blood gets to the legs, causing cramps and pain and making it difficult to walk or exercise. Rarely, the condition becomes so severe that gangrene develops or amputation of the affected limb is necessary.

Until the introduction of the stent, a small metal tube, 10 years ago, the only way to open up such vessels was surgically, bypassing the blockage with a healthy vein or artery.

Increasingly, interventional radiologists are treating the condition with a less invasive stenting procedure, in which a catheter—or thin, flexible tube—is inserted through a small incision in the skin and threaded to the site of the blocked artery. The vessel is pumped open by a tiny balloon, and the stent is inserted to hold open the blood vessel.

"The early results of stent placement suggested that it offered excellent short-term results for treating this condition," said lead researcher Timothy P. Murphy, M.D., associate professor of diagnostic imaging at Brown Medical School. "But long-term results were needed to prove that the stent is a viable treatment option for this type of peripheral vascular disease."

Dr. Murphy and a team of researchers reviewed the records of 365 patients suffering from chronic leg ischemia. Between 1992 and 2001, stents were placed in the patients' iliac arteries to treat 505 arterial build-ups, or lesions. Of those lesions, 88 were complete

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blockages and 417 were significantly narrowed vessels. Researchers analyzed clinical patient data for up to eight years after stent placement.

Of the 496 limbs for which follow-up data were available, improved blood circulation was achieved in 484 limbs, for a success rate of 98 percent. After five years, 86 percent of stented vessels remained open; after eight years, 84 percent did. Those rates are comparable to published results for femoral artery bypass surgery, which has a five- to 10-year success rate of between 80 percent and 91 percent.

The mortality rate for the stent-placement procedure is a key finding of the Brown Medical School study. The 30-day mortality rate for stent placement was 0.5 percent. In comparison, the published 30-day mortality rate for femoral artery bypass surgery since 1993 is 3.3 percent.

"It's clear that the long-term clinical results of stent placement are comparable to those of femoral artery bypass surgery, with a much lower risk of associated morbidity and mortality," Dr. Murphy said. "Stent placement for the treatment of lower extremity ischemia is simply better tolerated by patients, with better results."

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"Aortoiliac Insufficiency: Long-term Experience with Stent Placement for Treatment." Nikki S. Ariaratnam, B.A., Wilfred I. Carney, Jr., M.D., Edward J. Marcaccio, M.D., Jeffrey M. Slaiby, M.D., Gregory M. Soares, M.D., and H. Myra Kim, Sc.D., collaborated with Dr. Murphy on this paper.

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