

Study compares bypass, stenting for patients with severe heart disease

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(HealthDay)—Bypass surgery is slightly better overall than stenting to

open blocked arteries in people with severe coronary artery disease, new research shows.

But decisions may still need to be made on a case-by-case basis: Stenting appeared more beneficial in some patients, particularly if they didn't have complex disease.

The findings should help guide decisions about which treatment is best for individual patients, according to the authors of the study published online Nov. 4 in the *New England Journal of Medicine*.

"The good news for patients is that both groups did better than what was found in previous studies, and the differences between the two strategies has lessened," said principal investigator Dr. William Fearon. He's professor of cardiovascular medicine and director of interventional cardiology at Stanford Medicine, in California.

"I think it will have an immediate impact on how patients and physicians choose treatment," Fearon added in a university news release.

As many as 40% of Americans older than 60 have some narrowing of their coronary arteries, according to the American Heart Association. Most cases can be treated with statins or aspirin, while others require stents or [surgery](#).

Stents, especially, have improved over time, Fearon's group noted. They are thinner nowadays than earlier versions, and are most often "drug-eluting"—made with a special coating that slowly emits medicines that help prevent artery re-narrowing around the site of the stent. Newer stents also have special polymer coatings that tend to reduce inflammation.

The new study included 1,500 patients, average age 65, who had severe

heart disease leading to three blocked coronary arteries. About half received tiny mechanical stents to help prop open arteries, while the other half underwent [bypass surgery](#).

After one year, rates of major complications—such as death, heart attack, stroke and the need for a repeat procedure—were 10.6% in the stent group and 6.9% in the bypass group, the Stanford team said.

But when the need for a repeat procedure wasn't included in the analysis, the rates fell to 7.3% and 5.2%, respectively—not a statistically significant difference, according to Fearon.

The researchers also found that patients with less complex coronary artery disease did better with stents, because they required fewer stents than those with complex disease. Complex disease includes plaque buildup in vessels that is calcified, causes complete blockage of a blood vessel, occurs at branching points or is very extensive, the team explained.

"I think the study results will guide both physicians and patients on the best strategy for their circumstances," Fearon said. "If patients have very complex disease that would require numerous stents, then bypass might be a better option. If they have less complex [disease](#), they can feel reassured that by receiving the latest generation of drug-eluting [stents](#) ... their outcomes would be just as good as they would be with surgery."

One cardiologist unconnected to the study said the choice between stenting or bypass relies on the particulars of each patient.

"Overall, the study suggests that both stenting and surgery are important treatment options, and the decision to use either should be reached after a discussion with the [cardiothoracic surgeon](#), interventionalist cardiologist, and the patient, taking into account patient preferences,"

said Dr. Michael Goyfman. He directs clinical cardiology at Long Island Jewish Forest Hills in New York City.

"For example, would a quicker recovery from stenting be more important to a patient than the higher risk of needing a repeat procedure?" Goyfman said. "Some patients who had stenting never needed a repeat procedure, and so were able to avoid having major surgery (at least for the one-year follow-up in this study)."

For other patients, bypass procedures may be the better option. "Patients with blockages in the left main coronary artery were excluded from the trial, because we already have prior studies showing that they seem to benefit from surgery," Goyfman noted.

"It also remains to be seen how patients with either intervention compare in the long term, with 3- and 5-year follow-ups planned," he said.

Dr. Rajiv Jauhar is vice chairman at Northwell Health's Sandra Atlas Bass Heart Hospital, in Manhasset, N.Y. Reading over the findings, he said they also showed the importance of newer technologies to better assess the condition of [arteries](#), "allowing for appropriate referral to bypass surgery."

Use of these types of interventions "in this study showed that the correct [patients](#) were being referred to the appropriate procedure," Jauhar said.

More information: The American Academy of Family Physicians has more on [coronary artery disease](#).

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