

Study compares bypass surgery to angioplasty

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At 56, Tim Obrenski found himself getting so exhausted that he couldn't even pull weeds from his garden. A visit to the cardiologist uncovered a major blockage in his heart's left main artery, and he was told he needed bypass surgery.

Obrenski's search for alternatives to surgery brought him to UCLA interventional cardiologist Dr. Michael Lee. Lee told him that while heart bypass is the gold standard in most of these cases, angioplasty with [stents](#) could be an option for some who, like Obrenski, have a very specific disease type.

A more minimally [invasive procedure](#) than surgery, angioplasty is performed by snaking a tiny wire up through an artery in the groin to the blocked area of the heart. The [clogged artery](#) is cleaned out, and a stent — a wire-mesh tube — is placed in the artery to help keep it open, allowing blood to flow freely through the heart again.

A new UCLA study published in the April 15 issue of the [American Journal of Cardiology](#) compares the safety and efficacy of heart bypass surgery to angioplasty with drug-eluting stents in patients with left main [coronary artery disease](#), a diagnosis affecting thousands of individuals. Drug-eluting stents are treated with a medication that helps keep the artery from reclosing.

"With the advent of more minimally invasive heart procedures, the medical field is exploring additional options for treating patients beyond

surgical standards," said Lee, an assistant professor of cardiology at the David Geffen School of Medicine at UCLA. "Studies such as ours will help us better understand the impact of these new procedures and their role as possible new treatment options."

The researchers performed a review of the literature and then analyzed mortality and risk factors in eight clinical studies comparing the two procedures. The clinical studies took place between 2000 and 2009 and involved more than 2,900 patients.

Researchers found that the risk of death or heart attack at one-year follow-up did not differ significantly between [heart bypass surgery](#) and angioplasty with drug-eluting stents. The risk of stroke was lower with stenting than with bypass surgery, but the risk of an artery re-clogging was significantly higher in patients receiving a stent.

"There are benefits and risks to both procedures and our analysis shows that for select patients, drug-eluting stenting may be a good alternative," Lee said.

According to Lee, each patient is unique, and a number of factors need to be taken into consideration in deciding treatment. For example, due to the position of left main artery heart disease, there may be a higher risk of the artery re-closing with stenting, older patients may not be ideal candidates for surgery, and treatment may depend on how many arteries are impacted by heart disease.

Obrenski opted for angioplasty with drug-eluting stents instead of open-heart surgery. He went home the next day and had minimal recovery time. Since undergoing the procedure in 2006, he is doing well.

The researchers said the next step in research is longer follow-up with patients to further compare the outcomes of [angioplasty](#) with drug-

eluting stenting to surgery.

Provided by University of California - Los Angeles

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