

# Heavier patients require less blood transfusions in hip, knee replacement surgery

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Blood transfusion rates in hip and knee replacement surgery were dramatically lower in overweight or obese patients than patients of normal weight, according to a study at Henry Ford Hospital in Detroit.

Researchers also found no correlation between the heavier [patients](#) and post-surgical complications such as [blood](#) clots and heart attacks.

The findings from a study of 2,399 patients add to the conflicting body of research that has examined the association between body mass index, or BMI, and blood transfusions in hip and knee replacement surgery.

Patients were assorted into BMI groups: normal less than 25 BMI, overweight 25-29.9 BMI, and obese more than 30 BMI. Key findings:

- 34.8 percent blood transfusion rate for normal BMI patients compared to 21.9 percent for obese BMI patients for hip replacement.
- 17.3 percent blood transfusion rate for normal BMI patients compared to 8.3 percent for obese BMI patients for knee replacement.
- Trend towards increased rates of deep surgical site infections in obese BMI patients.

The study will be presented at the International Society for Technology in Arthroplasty Sept. 30 - Oct. 1 in Vienna, Austria.

"The results were surprising to us. It goes against the normal thought process," says Craig Silverton, D.O., a Henry Ford joint replacement surgeon and the study's lead author. "It's hard to explain but one theory could be that heavier patients have larger blood volume than patients of [normal weight](#)."

An estimated 78.6 million adult Americans are obese, and their weight problems are closely linked with an increased demand for hip and knee replacement surgery, according to government and research figures.

In Henry Ford's retrospective study, researchers sought to evaluate the impact of BMI on blood transfusions and post-surgical complications in hip and [knee replacement surgery](#). Of the 2,399 patients evaluated, 1,503 underwent knee replacement and 896 underwent hip surgery between Jan. 1, 2011 and Nov. 1, 2013.

Patients who undergo a hip replacement typically lose about two pints of blood during surgery; for a [knee replacement](#), it's about one pint.

Provided by Henry Ford Health System

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