

# Obesity associated with increased risk of complications after surgery

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In the United States, almost 74% of adults age 20 and older have overweight or obesity, and of that number almost 42% have obesity.

Not only are overweight and [obesity](#) complex and serious diseases, but

clinicians and researchers are continuing to learn how they can impact [health outcomes](#)—from heart and musculoskeletal health to risk for disease, including cancer.

New research published in the journal *Surgery* shows that obesity is also associated with increased risk of complications following [surgery](#), including infection, blood clots, and kidney complications.

"We need to continue to recognize that overweight and obesity can have medical impacts that aren't limited to [heart disease](#) and diabetes and [liver failure](#)," says researcher Robert Meguid, MD, MPH, a professor of cardiothoracic surgery in the University of Colorado Department of Surgery. "They can also make recovery from surgery harder, and these data can inform the conversation happening at a broader public health level addressing obesity."

## **Risk after surgery**

Using data drawn from the [National Surgical Quality Improvement Program](#), Meguid and his co-researchers studied an initial data set representing more than 5.5 million patients, 44.6% of whom had obesity. They focused on nine surgical specialties, including general, thoracic, and vascular, comparing pre-operative characteristics and post-operative outcomes within body mass index (BMI) classes.

They found that compared to patients of normal weight, patients who had overweight or obesity had higher risk-adjusted odds of developing infection, [kidney failure](#), and [venous thromboembolism](#), or blood clots in the veins, following surgery. Patients in the obesity class III category, with a BMI of 40kg/m<sup>2</sup> or greater, also had elevated risk of unplanned hospital readmission.

"When we began the research, we did think that increased risk would be

the case," Meguid explains. "Though, we did think we might see increased risk for other post-operative complications beyond infection, kidney failure, and thromboembolism in both overweight and each class of obesity, but that wasn't what we saw."

## **A public health issue**

In his surgical practice, Meguid has observed that extra intra-abdominal fat tissue can lengthen the duration of surgeries and make them more complicated. The data he and his colleagues analyzed showed that surgery times on average were six minutes longer for patients with obesity.

Overweight and obesity also can be a factor in patients' immediate recovery from surgery. "It can be more challenging for patients with overweight or obesity to be up and moving around after surgery," Meguid says. "With lung surgery in particular, ambulating after surgery is a critical part of recovery. It can improve a patient's spirits, it decreases risk of pneumonia, it can improve comfort and decrease the risk of [blood clots](#) forming, it can help the bowels wake up. It's so important that patients are able to be up and walking after surgery, but it can be especially challenging when obesity is a factor."

Because overweight and obesity are such complex topics, and is extremely personal and sensitive for the people living with them, a challenge for clinicians and researchers is initiating conversations in a way that is direct without being blaming.

"As providers, we can generally expect to broach uncomfortable and sensitive topics," Meguid says. "We need to be straightforward in talking about the body, and we need to be honest with our patients. With overweight and obesity being so prevalent in our society, this is not an issue that's going to be solved by one surgeon or one institution. It's a

public health issue that we need to be addressing at every level—local, state and national."

**More information:** Helen J. Madsen et al, The association between obesity and postoperative outcomes in a broad surgical population: A 7-year American College of Surgeons National Surgical Quality Improvement analysis, *Surgery* (2023). [DOI: 10.1016/j.surg.2023.02.001](https://doi.org/10.1016/j.surg.2023.02.001)

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