

Weight-loss patients at higher risk of death from substance use disorders

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The death rate from drug- and alcohol-related causes in people who've had Roux-en-Y gastric bypass surgery is nearly triple that of the general public, according to University of Pittsburgh research published today in *Surgery for Obesity and Related Diseases*, the journal of the American Society for Metabolic and Bariatric Surgery.

The study also found that fewer than half of those who died had triggered a safety protocol for problematic substance use. Only one of those who died was known to have received treatment for substance use disorder.

"Increasingly with bariatric [surgery patients](#), we're finding that the tools that clinicians traditionally use to screen for drug or [alcohol problems](#) don't work well to identify those at risk," said lead author Gretchen White, Ph.D., epidemiologist in the Pitt School of Medicine's Department of Surgery. "These deaths are an extreme and sad example of a problem that needs to be addressed."

For seven years, White and her colleagues followed 2,458 adults who underwent bariatric surgery. The participants were enrolled in the National Institutes of Health-funded Longitudinal Assessment of Bariatric Surgery-2 (LABS-2), a prospective, observational study of patients undergoing weight-loss surgery at one of 10 hospitals across the United States.

Reflecting typical bariatric surgery patients, the majority of study

participants were female (79%) and white (86%). At time of surgery, the median age was 46 years old. During the seven-year follow-up, 10 of the participants died of causes directly related to drug- and alcohol-use, with six unintentional drug overdoses, one intentional overdose, one overdose where the intent was unknown and two deaths from alcoholic liver disease. All 10 participants had undergone Roux-en-Y gastric bypass surgery, which reduces the size of the stomach and shortens the intestine, and accounted for 72% of the bariatric procedures in the study sample.

The team looked at the deaths in terms of "person-years," a scientific measure that takes into account both the number of people in a study and the amount of time each person spends in the study. The drug- and alcohol-related death rate was 89 deaths per 100,000 person-years for the Roux-en-Y [gastric bypass surgery](#) patients, compared to 30.5 deaths per 100,000 person-years for the general population matched on age, sex, race and calendar year. On average, the deaths occurred nearly five years post-surgery.

"While drug- and alcohol-related deaths were too rare to identify [risk factors](#), it is noteworthy that the demographics of those who died were similar to the full sample. Based on demographics, bariatric surgery patients should be a low-risk group for substance-related death," said senior author Wendy King, Ph.D., associate professor in the Pitt Graduate School of Public Health's Department of Epidemiology.

"Laboratory studies indicate that Roux-en-Y gastric bypass changes the way the body reacts to alcohol and drugs, and our previous work demonstrates an increased risk of self-reported problematic alcohol use and illicit drug use following this surgery. This study indicates such problems can lead to loss of life."

In addition to research to better understand the reasons for the high [death](#) rate, the scientists suggest that new clinical screening tools, tailored specifically to bariatric surgery patients, are needed so clinicians

can better detect patients at high risk for substance use problems.

For example, White says, current questionnaires ask people about the number and frequency of alcoholic beverages they consume. Because bariatric surgery patients tend to experience the effects of alcohol faster and with fewer drinks than the average person, it might be better to ask about how alcohol makes them feel, if it is interfering with daily activities and whether they or their families and friends think they may have a problem.

Because the deaths occurred many years after surgery, co-author Anita Courcoulas, M.D., chief of minimally invasive bariatric surgery at UPMC, said that it is especially important that primary care physicians be aware of the particular risks that bariatric surgery patients face in terms of substance use.

"This is an important issue to recognize in all [bariatric surgery](#) patients as there is a clear signal of risk for substance use-related deaths," said Courcoulas. "Further study is required to understand the precise mechanisms, and prospective tracking of patients is very important to be able to offer more timely intervention."

More information: Gretchen E. White et al, Drug- and alcohol-related mortality risk after bariatric surgery: evidence from a 7-year prospective multicenter cohort study, *Surgery for Obesity and Related Diseases* (2019). [DOI: 10.1016/j.soard.2019.04.007](https://doi.org/10.1016/j.soard.2019.04.007)

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