

## **MEDICAL BREAKTHROUGHS** **RESEARCH SUMMARY**

TOPIC: BARIATRIC SURGERY LOWERS COVID-19 COMPLICATIONS  
REPORT: MB #4856

**OBESITY AND COVID-19:** Obesity is defined as a body mass index between 30kg and 40kg or severe obesity (BMI of 40kg or above), increases your risk of severe illness from COVID-19. Obesity is linked to impaired immune function and decreases lung capacity and reserve which can make ventilation more difficult. Therefore, as one's body mass index increases, the risk of death from COVID-19 becomes greater. Studies have shown that obesity may be linked to lower vaccine responses for numerous diseases like COVID-19 and may triple the risk of hospitalization and death.

(Sources: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html#obesity>, <https://www.cdc.gov/obesity/data/obesity-and-covid-19.html>)

**BARIATRIC SURGERY:** Gastric bypass and other weight-loss surgeries are known as bariatric surgery. They involve making changes to your digestive system to help you lose weight. Bariatric surgery is done when diet and exercise have not worked or when you have serious health problems because of your weight. Some procedures limit how much you can eat while other procedures work by reducing the body's ability to absorb nutrients. Some procedures do both. Health problems bariatric surgery can help with include: heart disease and stroke, high blood pressure, nonalcoholic fatty liver disease or nonalcoholic steatohepatitis, sleep apnea, and type 2 diabetes. The different types of bariatric surgeries are Roux-en-Y gastric bypass which is the most common method of gastric bypass. The surgeon cuts across the top of your stomach, sealing it off from the rest of your stomach and it decreases the amount of food you can eat at one sitting and reduces the absorption of nutrients. A sleeve gastrectomy is when about 80% of the stomach is removed, leaving a long, tube-like pouch and a biliopancreatic diversion with duodenal switch is a two-part surgery where the first step involves performing a procedure like a sleeve gastrectomy. The second surgery involves connecting the end portion of the intestine to the duodenum near the stomach, which bypasses most of the intestine.

(Source: <https://www.mayoclinic.org/tests-procedures/bariatric-surgery/about/pac-20394258>)

**BARIATRIC SURGERY AND COVID-19:** A Cleveland Clinic study showed that having a prior weight loss surgery was associated with a lower rate of hospital and ICU admission. Ali Aminian, MD., Director of the Bariatric and Metabolic Institute at the Cleveland Clinic and principal investigator of the research states "Infection with the coronavirus also triggers the immune system to release cytokines, which may lead to excessive cytokine production that damages organs. That may partly explain the severity of infection in patients with obesity". Dr Aminian continued "To study the effect of weight loss and bariatric surgery on the outcomes of COVID-19, we looked at the data of nearly 4,000 patients who tested positive between March and July in 2020. We identified patients who had bariatric surgery, and we carefully matched them to patients with severe obesity. We found in patients with severe obesity, 42% required hospital admission after contracting COVID-19. However, in a group of patients who had bariatric surgery before contracting COVID-19, only 18% required hospital admission. In patients with severe obesity, 13% required ICU admission and 7% required mechanical ventilation. However, none of the patients in the bariatric surgery group required ICU admission or mechanical ventilation. More importantly, about 2.5% of patients with severe obesity unfortunately died. But none of the patients who had a history of bariatric surgery died."

(Sources: <https://newsroom.clevelandclinic.org/2020/11/24/cleveland-clinic-research-shows-bariatric-surgery-may-reduce-severity-of-covid-19-in-patients-with-obesity/>, Interview with Ali Aminian, MD)

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**If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at [mthomas@ivanhoe.com](mailto:mthomas@ivanhoe.com)**