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Gastric Bypass May Lengthen Lifespan

Recent research has shown that gastric bypass not only helps patients take excess weight off and keep it off, it may also increase life expectancy by three years or more. Researchers at Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire -- who conducted a statistical analysis of a wide variety of studies -- found that on average, a 40-year-old woman with a BMI of 45 kilograms per meter squared or greater would gain three years of life expectancy after undergoing a gastric bypass procedure.

Gastric bypass surgery physically limits the amount of food patients are able to take in and, as a result, a significant amount of weight loss is achieved. Staples are applied across the stomach to reduce its capacity by around 90 percent of its original size. A portion of the small intestine is then attached to the stomach so that food passes directly from the surgically-created gastric pouch into the intestine. Since the stomach is reduced in size and the connection between the gastric pouch and intestine is so small, patients cannot consume large amounts of food and they become quite ill if they attempt to eat more than the quantity pouch allows them.

The life expectancy-gastric bypass study results were presented at the 2002 Clinical Congress of the American College of Surgeons. The Dartmouth-Hitchcock researchers reported that obese individuals in other age or gender groups would have similar gains in life expectancy. Twenty-year-old females would gain 3.4 years of life after gastric bypass, while males at age 40 would gain 3.9 years of life, and at age 20, males would gain an additional 3.5 years. Clinical investigation shows individuals with a BMI between 18 and 22 live longer than those with a higher BMI. Individuals with a BMI greater than 25 are considered to be overweight. Morbidly obese individuals, who have BMIs of 40 or greater, are 100 or more pounds overweight.

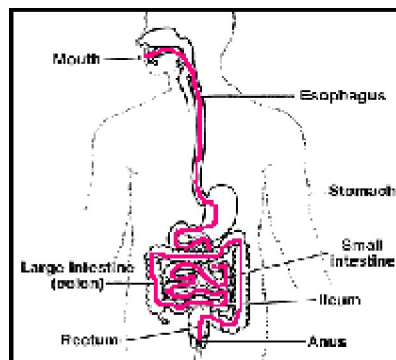
The Dartmouth-Hitchcock study is the first of its kind. No previous gastric bypass research has included statistical analyses to predict life expectancy after the procedure, however, other studies have compared mortality rates in morbidly obese patients who had gastric bypass and those who did not: "There have not been any long-term prospective weight loss studies showing increased life expectancy," stated Dr. G. Darby Pope, a resident in general surgery at Dartmouth-Hitchcock Medical Center, in a news release. The study evaluated life expectancy for individuals who had gastric bypass and those who had had no treatment for morbid obesity.

This study did not include morbidly obese patients who had tried other forms of weight loss (e.g. dietary manipulation or medications). The ACS press

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release regarding the study explained that the decision to exclude this segment of morbidly obese individuals from the study was due to the fact that most clinical trials show that patients who choose non-surgical weight loss options lose only five to 10 pounds in the first year and gain all the weight back in the next two to three years. Studies have shown patients who undergo gastric bypass lose around 70 percent of their excess body weight in the first year after surgery. "They maintain 60 percent excess weight loss for up to five years and 50 percent excess weight loss at 10 years," Dr. Pope said.

It is important to note that this study was not a formal, randomized clinical trial. This means that in assessing longevity in groups of obese patients who are treated with gastric bypass or who serve as controls, findings are not entirely predictive. Dr. Pope cautioned: "The data from the study may be something obese patients can look at and realize that their life could be extended by this operation, but I don't think they can definitively bank on the data. This study needs to be confirmed by long-term prospective studies that follow patients for years and prove the benefit in life expectancy in real patients, not just in our statistical simulation," he explained.



[SURGERY FOR SEVERE OBESITY: DRASTIC TREATMENT FOR A 21ST CENTURY EPIDEMIC](#)

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INTRODUCTION:

Obesity is the most prevalent metabolic disorder today in the US. While men more than 125% of their ideal body weight (IBW) or women more than 130% of their IBW are considered obese, the term clinically severe obesity refers to individuals more than 200% of their IBW or 100 lbs above IBW. 40% of adult Americans are obese, as are 20% of American children aged 6-18. 3-5% of American adults are more than 100 lbs above IBW. It is estimated that at any one time, 15-35% of American adults are dieting in attempt to lose weight. Ideal body weight is calculated from using tables first developed in 1959 by the Metropolitan Life Insurance Company.

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Doctors have developed the term Body Mass Index (BMI) to account for an individual's height when describing their weight. BMI is calculated using the formula (weight in kg/[height in meters]²). Normal BMI is between 20 and 25 kg/m². An individual is considered mildly obese with a BMI of 27-30, moderately obese with a BMI of 30-35 and severely obese with a BMI in excess of 40. For an adult male of average height, a BMI of 40 corresponds to approximately 100 lbs above BW.

THE ROLE OF SURGERY IN TREATING SEVERE OBESITY:

Surgery for obesity should be considered a treatment of last resort after dieting, exercise, psychotherapy and drug treatments have all failed. The 1991 National Institutes of Health Consensus Conference on Gastrointestinal Surgery for Severe Obesity concluded that "patients whose BMI exceeds 40 kg/m² are potential candidates for surgery if they desire substantial weight loss, because obesity severely impairs the quality of their lives.....". In certain instances, less severely obese patients (those with a BMI of between 35 and 40 kg/m²) may also be considered for surgery. Included in this category are patients with high risk co-morbid conditions such as life-threatening cardiopulmonary problems or severe diabetes mellitus.

There are a number of operations which have been used in the treatment of clinically severe obesity. They are known collectively as *Bariatric* surgery, a term coined from the Greek words for "weight" and "treatment." The surgery, which is becoming increasingly popular, mirrors the rise in obesity and the failure of diet, exercise and weight-loss drugs to help. 40,000 weight reduction procedures are currently performed in this country every year, up by 50% from 20,000 just five years ago. 80% of the patients are women, most either young or middle-aged.

The intestinal bypass was the first operation performed for weight loss over 40 years ago. It worked by severely limiting the length of intestine available to absorb calories from food. Although patients rapidly lost weight, they also lost essential nutrients (e.g. vitamins and protein) and often died of liver failure and malnutrition. The biliopancreatic diversion and a related procedure, the duodenal switch, are recent modifications of the intestinal bypass which also cause weight loss by malabsorption. They allow patients to eat normal size meals but still put patients at long-term risk for nutritional complications. These operations are commonly performed in Europe, where they were first developed, but have recently been gaining popularity in the US.

The vertical banded gastroplasty (VBG) restricts the amount of food which can easily pass through the stomach at any one time. It uses a plastic band and four to six rows of steel staples around the stomach near the gastroesophageal junction, creating a small pouch and a narrow passage into the larger remainder of the stomach.

Popular in the past, the VBG now only accounts for around 15% of all weight reduction operations performed in the US each year. Common problems seen with the VBG include an inability to tolerate solid food leading to sometimes daily vomiting. This is due to obstruction at the level of the plastic band. Patients often resort to eating high calorie liquids or soft foods, which can pass easily through the band (e.g. ice cream and milkshakes), and many regain whatever initial weight loss they experience after the surgery.

[Less-invasive surgery treats severe obesity](#) NEW YORK, Oct 23 (Reuters Health) - A minimally invasive version of gastric bypass surgery, which limits the amount of food that a severely obese person can eat, is safe and effective at bringing about weight loss, results of a new study show.

Surgery called Roux-en-Y gastric bypass can help people who are extremely overweight lose substantial amounts of weight. During the operation, a surgeon creates a small pouch in the stomach and also bypasses a portion of the small intestine. Afterwards, people who have the surgery tend to eat less--and lose weight--because they feel full after eating a small amount of food. Also, since some of the intestine is bypassed, fewer calories are absorbed.

But the surgery can have severe complications, including heart and lung problems, as well as difficulties caused by the long incision made during the surgery. Pain after surgery and hospital stays from 4 to 8 days are not unusual.

However, surgeons can perform gastric bypass surgery using a less invasive approach called laparoscopy. In laparoscopy, surgery is performed by inserting instruments--a fiber optic light and a video camera--into several small incisions, which prevents a large scar and, hopefully, reduces recovery time after surgery.

Whether laparoscopic gastric bypass provides the same benefits as conventional surgery has

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Another purely restrictive procedure is the laparoscopic gastric band ("lap-band"), currently undergoing FDA trials. Laparoscopic surgery is "key hole surgery" using instruments placed into the abdomen through 5 or 6 small incisions. This band consists of an outer plastic ring and an inflatable "inner tube" containing saline. The inner tube is attached to a reservoir, placed under the skin of the abdominal wall. The band is placed laparoscopically around the top of the stomach just below the esophagus. The saline can be injected into or removed from the reservoir to vary the degree of restriction to the passage of food into the stomach. The "lap-band" therefore works like a variable version of the VBG. It has yet to complete trials and is currently only available at a limited number of centers.

The current gold standard for the surgical treatment of clinically severe obesity is the gastric bypass (GB). This operation was first performed for obesity over 30 years ago and was developed after surgeons observed massive weight loss in patients undergoing gastric surgery for ulcers or cancer. Approximately 75% of all operations performed for severe obesity in the US are now of this type. A small pouch (around 30 cc or one fluid ounce in size) is created by stapling across the top of the stomach, causing massive restriction in food intake. A section of the small intestine (two to five feet in length) is attached to it so that food can bypass the duodenum and the first portion of the small intestine, reducing calorie and fat absorption. The opening from the pouch to the small bowel is kept small (around one-half inch) so that food and fluids can only pass very slowly into the intestine, again limiting the number of calories that can be absorbed from food at any one time. GB surgery has been shown to induce greater weight loss than the VBG in several large trials.

Gastric bypass surgery can now be done laparoscopically. Laparoscopic GB surgery is technically difficult surgery and surgeons require special skills and training to perform it safely. Its relative benefits over the "open" or conventional approach include a lower rate of wound infection, less postoperative pain, smaller scars and a slightly shorter period of hospitalization and recuperation after surgery. It does, however, carry a higher risk of leaks from the staples holding the pouch and small intestine together, particularly if the surgeon has only performed a limited number of the procedures. The risks of laparoscopic GB are greater in patients with higher BMI, although some surgeons have reported safe performance of the procedure in patients with BMIs in excess of 60.

[CLICK HERE FOR DISTAL ROUX-EN-Y IMAGE](#)

THE BENEFITS AND RISKS OF BARIATRIC SURGERY:

On average, most patients can expect to lose 75% of their excess weight 12-18 months after GB surgery. At East Carolina University School of Medicine, in Greenville, N.C., a research team led by Dr. Walter Pories has kept records on 608 patients and found that almost 90% of initial weight loss can be maintained over a 14 year period.

Physically and emotionally, the benefits are profound. Diabetes, high cholesterol and high blood pressure can be cured in over 90% of patients undergoing successful gastric bypass surgery. Many breathing problems, including asthma and sleep apnea (a life-threatening disorder that forces many obese patients to sleep with oxygen masks) completely disappear after surgery too. Chronic and painful leg ulcers heal, and patients enjoy relief from disabling back and leg pains.

Patients no longer face the social stigma or the many indignities attached to

conventional surgery has been uncertain, but a team of researchers at the University of Pittsburgh in Pennsylvania reports that the minimally invasive approach, although a difficult operation to perform, is safe and effective.

In a study of 275 morbidly obese people, the rates of serious and minor complications were low and hospital stays averaged 2 days, according to a report in the October issue of the journal *Annals of Surgery*. Two and a half years after surgery, patients had lost 77% of their excess weight, the researchers note.

"The results of this study indicate that laparoscopic Roux-en-Y gastric bypass is technically feasible and safe," according to Dr. Philip R. Schauer and colleagues. The recovery time after the minimally invasive surgery appears to compare favorably with conventional gastric bypass, the team points out.

But Schauer and his colleagues stress the need for longer follow-up of people treated with laparoscopy to make sure that the benefits of the surgery are as long lasting as those of conventional surgery. The authors also point out that laparoscopic gastric bypass is a difficult operation that surgeons must learn how to perform.

[Sources](#)

[Annals of Surgery](#)
2000;232:515-529_

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obesity. They can begin to enjoy going to ballgames as now they can squeeze through turnstiles. They can travel long distances to visit family and friends without having to pay for two airplane seats. They now find attractive clothes that fit.

Many patients who were on disability can go back to work. Women who had been infertile because of hormonal problems linked to obesity find that after successful surgery they can have children.

The surgery is not, however, a quick fix or easy way out. It is a drastic step, carrying all the pain and risk of any major abdominal operation. 1% of patients die after gastric bypass surgery, usually due to surgical, cardiovascular or pulmonary complications. Common complications include leaks from the staples or stitches holding together the stomach pouch and small intestine (3% of cases), blood clots in the legs or lungs (3%), wound infections (15-20%) and incisional hernias (10-20%). Narrowing of the connection between the pouch and small intestine due to scar formation occurs in 15% of patients (leading to nausea and vomiting) but it can normally be treated with endoscopy (an outpatient procedure). An estimated 10-20% of patients need follow-up surgery for complications such as obstruction due to adhesions (bands of scar tissue in the abdominal cavity). Gastric bypass surgery can be reversed if necessary (e.g. due to excessive weight loss or life-threatening nutritional deficiencies) but this is only needed in less than 1% of all patients undergoing the procedure. Plastic surgery, to remove excess skin from the abdomen, arms and legs may be necessary, although this typically is only done 12 months or so after gastric bypass when the patient's weight has begun to stabilize.

Bariatric surgery forces people to change their eating habits radically, makes them violently ill if they overeat. Patients put themselves at life-long risk for major nutritional deficiencies if they do not take daily nutritional supplements. Gastric bypass seems to work in large part by enforcing a strict low-calorie diet. At first, patients lose their appetites and cannot eat more than a few bites at a time without feeling full. For the first few months, most can only take in 400-600 calories a day. If they eat sweets or consume high-calorie drinks (e.g. regular sodas), most will suffer "dumping syndrome," which occurs when too much food containing sugar or fat passes too quickly into the small intestine. Dumping causes nausea, weakness, sweating, faintness and sometimes diarrhea, and most patients say it is so awful that they will do anything to avoid it.

After a year or so, as the pouch stretches, most patients can consume 1,200 calories a day, but we urge them not to exceed that. Initial weight loss can only be maintained if patients do not exceed this daily calorie limit. It also becomes possible to cheat. People who nibble cookies or potato chips all day, or sip milkshakes, can "out-eat the pouch" and get fat again, particularly if they become immune to the effects of the dumping syndrome. For that reason, surgeons insist that the operation is merely a tool to help patients lose weight and that it will not work if they misuse it. Successful patients are active participants in the post-operative process and use the operation to make new and healthy lifestyle choices. Maximum weight loss requires the introduction of a healthy diet and a regular regimen of exercise into the lives of patients undergoing gastric bypass surgery. We stress to our patients the need to walk two miles day at least three times a week to ensure optimal results after the procedure.

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HERBS AND SURGERY... DID YOU KNOW?

Herbal supplements can be just as dangerous as prescription and over-the-counter (OTC) drugs when it comes to their interaction with anesthesia. Be sure to tell your doctor about any drugs — including herbal supplements— that you're taking and how much you're taking as soon as possible if you're anticipating any surgery.

According to the American Society of Anesthesiologists, the following herbs can affect heart rate and blood pressure:

- **Ginseng.** May cause rapid heartbeat and increase blood pressure.
- **Golden seal.** May cause or worsen high blood pressure.
- **Ephedra (ma-huang).** May elevate blood pressure and heart rate. Ephedra is commonly used as an appetite suppressant.
- **Licorice.** May increase blood pressure. This herb isn't to be confused with candy licorice, which contains little or no actual licorice. Licorice (*Glycyrrhiza glabra*) commonly is used to treat stomach pain.

The following herbs may increase your risk of bleeding:

- Garlic
- Ginger
- Ginkgo
- Feverfew
- Danshen
- Dong quai

Stop taking herbal supplements at least 2 to 3 weeks before surgery to allow them to clear from your body. If this isn't possible, bring the herbal product in its original container to the hospital, so the anesthesiologist knows exactly what you're taking.

Source: Mayo Clinic

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