



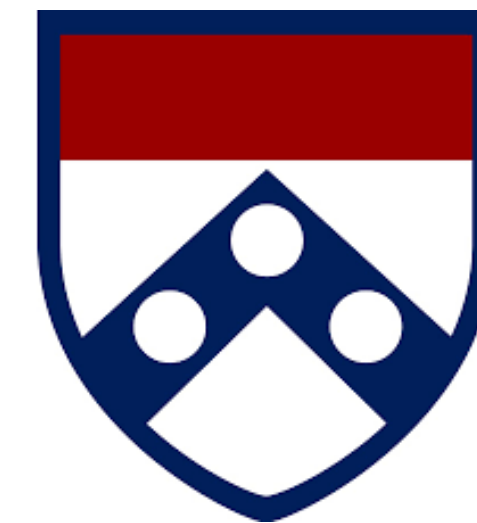
Mini Medical School: Bariatric Surgery

Elizabeth McCarthy, MD

A Little Bit About Me



ChristianaCare™





What will we learn today?

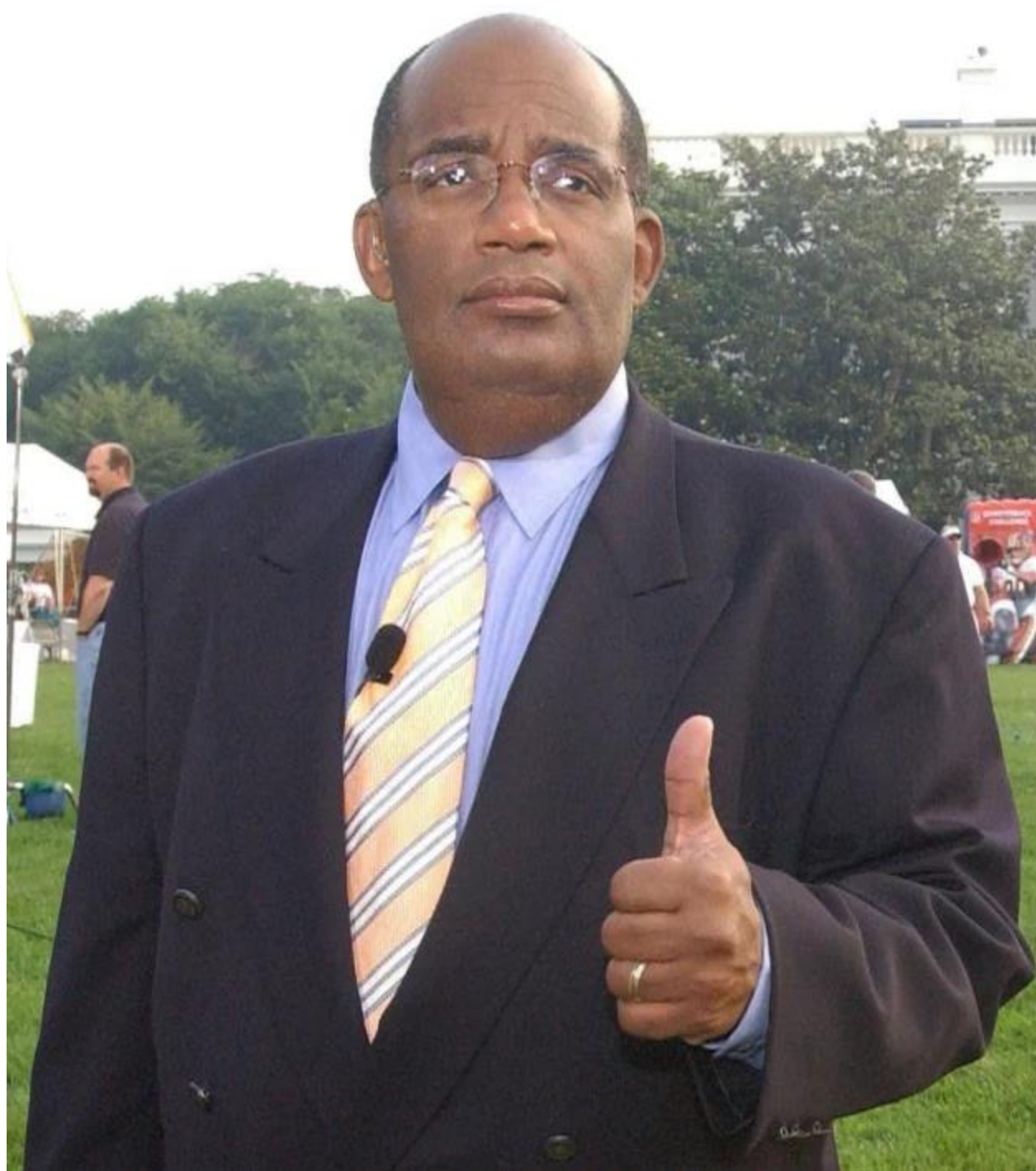
- What is bariatric surgery and what diseases does it treat?
- What are the types of bariatric surgery?
- How does one prepare for bariatric surgery?
- What are the outcomes of bariatric surgery?



What is bariatric surgery?

- Surgery of the gastrointestinal tract to improve obesity and metabolism
- Procedures not only help with weight loss but are also effective in treating other common health issues: diabetes, high blood pressure, sleep apnea, and high cholesterol

Bariatric Surgery in the Media

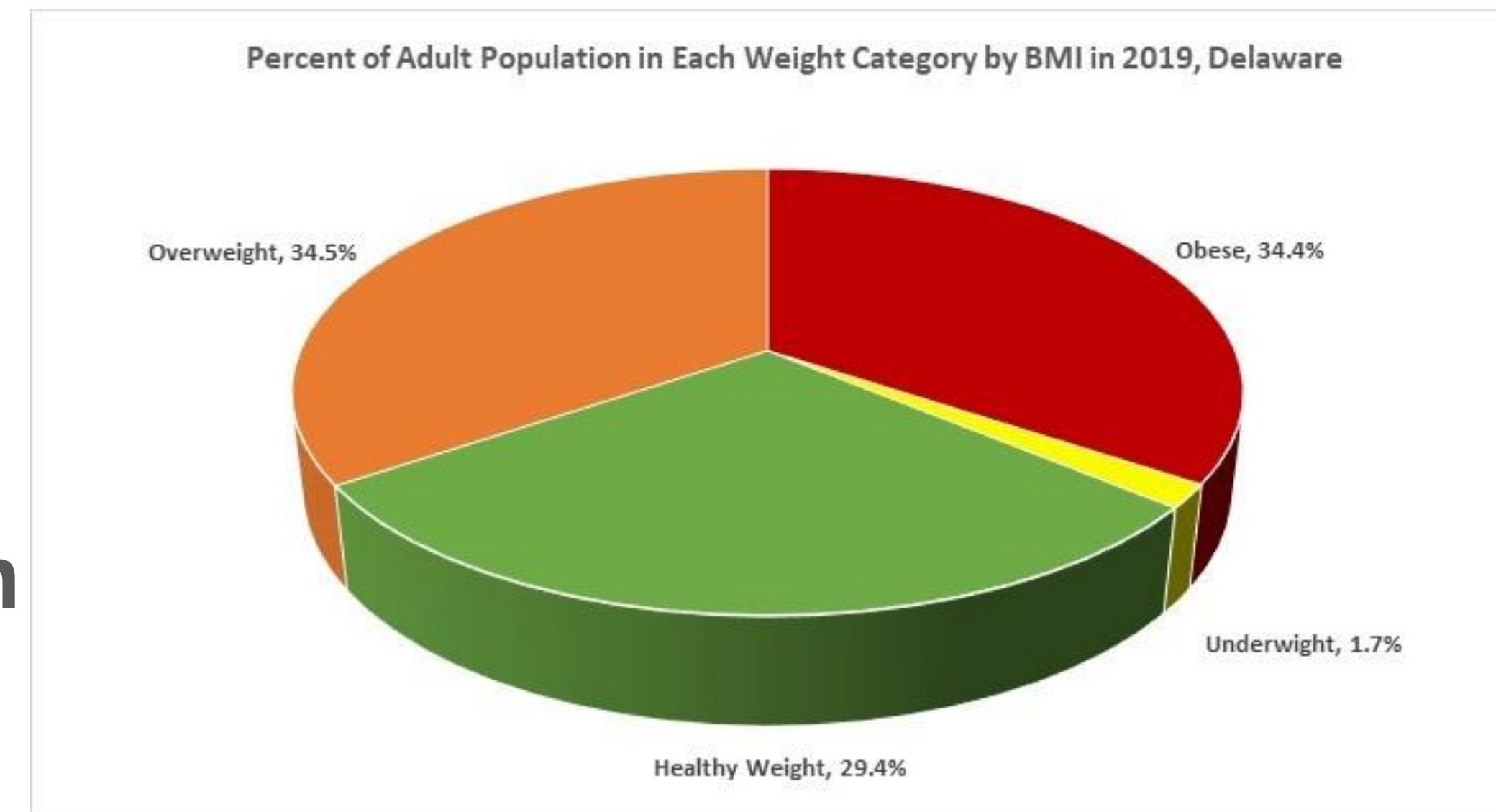




Why bariatric surgery?

What is obesity?

- Disease of excessive fat accumulation.
- 42.4% of Americans are obese.
 - **In Delaware over 1/3 if the population is obese**
 - Pennsylvania and Maryland over 30%
 - New Jersey over 25%



[Obesity Prevention Update - Delaware Health and Social Services - State of Delaware](#)



What is “morbid obesity?”

- 100 lbs. over ideal body weight.
- Body Mass Index (BMI) of 40 or above.
- Also known as clinically severe obesity.



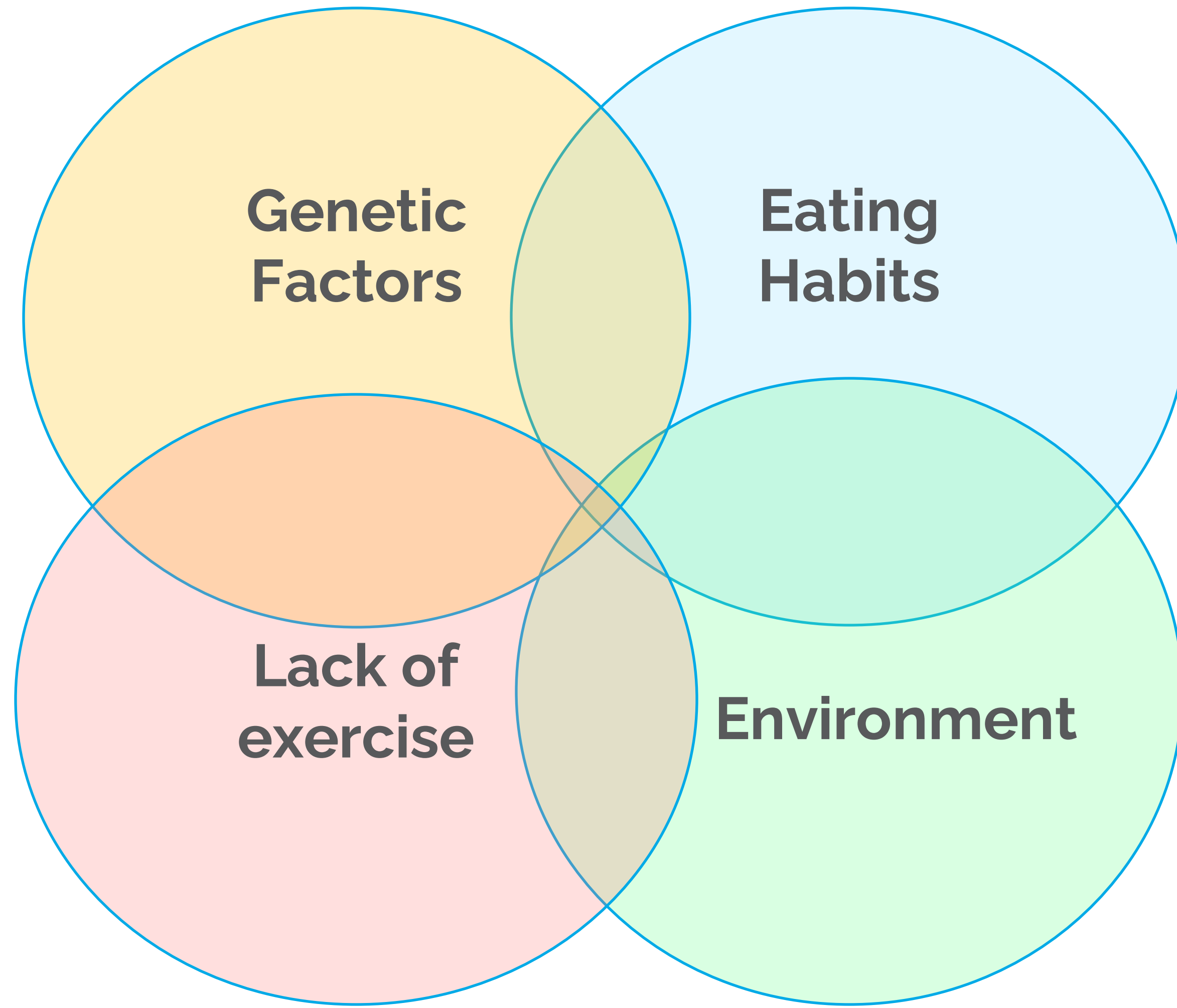
Who qualifies?

- BMI >40

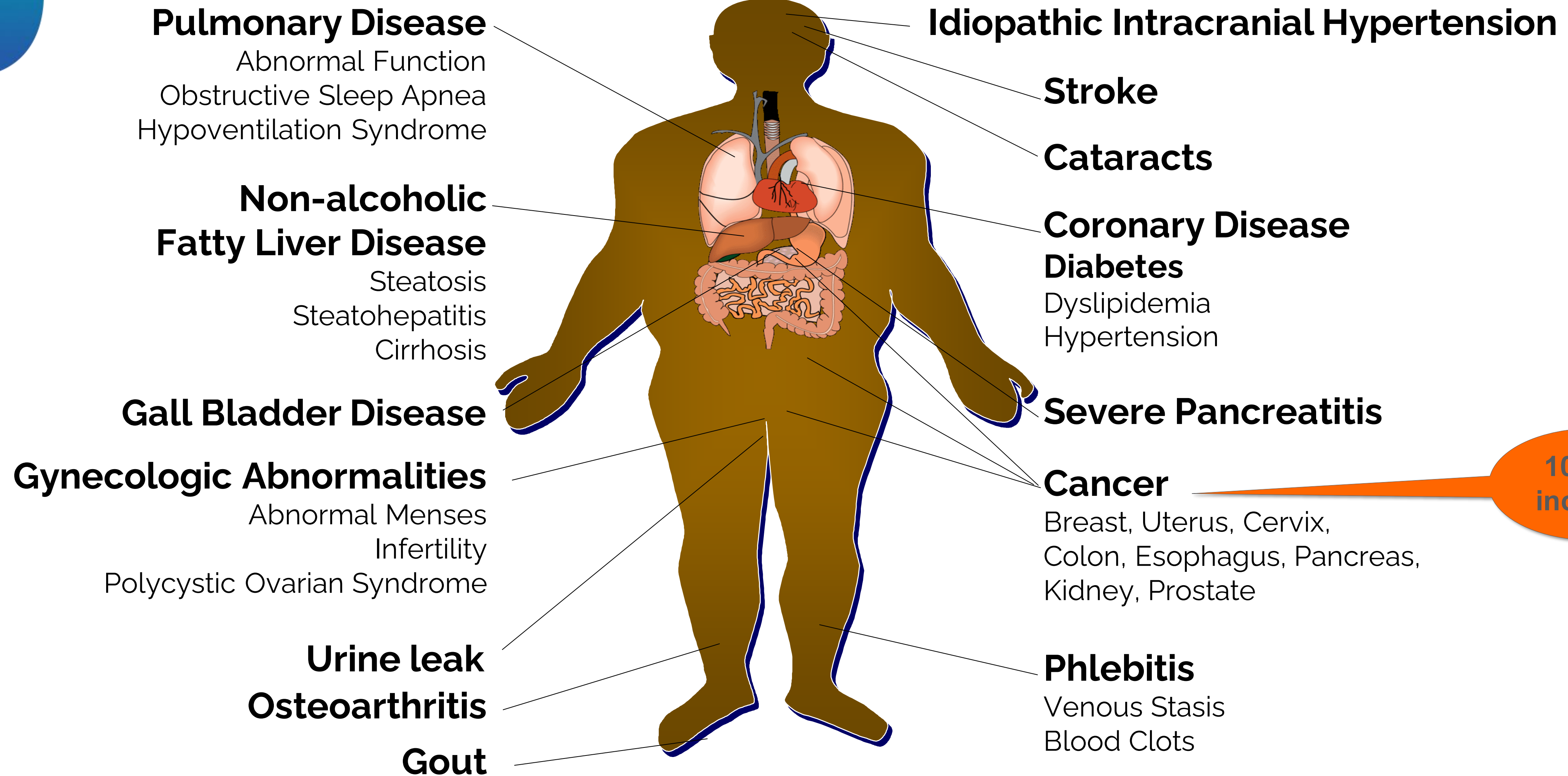
or

- BMI >35 with a comorbidity
 - Diabetes
 - High blood pressure
 - Sleep apnea

What Causes Obesity?



Dangers of Obesity



EARLY DEATH



Options for Weight Loss

- Diet and lifestyle modifications
- Medications
- Surgery



Weight Loss without Surgery

- Multiple diets to follow: Herbalife, Jenny Craig, Weight Watchers, Atkins, South Beach, Mediterranean, intermittent fasting...
 - Usually see about 1-2% weight loss long term
- Medications: Wegovy, Ozempic, Mounjaro, Bupropion/Naltrexone, Qsymia (phentermine/topiramate)
 - Can see up to 15% weight loss

What's all the hubbub about?

Weight Loss Medications

- Everyone is talking about Ozempic!
- GLP-1 receptor agonist
 - Increases pancreatic insulin release
 - Stops liver from making sugar
 - Delays stomach emptying

<https://www.ozempic.com/>



[Mindy Kaling's Abs Slayed The Oscars "Red" Carpet In These Photos \(womenshealthmag.com\)](https://www.womenshealthmag.com/)



Weight Loss After Surgery

- Expected excess weight loss after 2 years
 - Bypass: 61.4-79.8%
 - Sleeve: 60.8-77.8%
 - Switch: 65.1-69.4%
- Expected total weight loss after 2 years
 - Bypass: 21-37.4%
 - Sleeve: 23.4-34.1%
 - Switch: 33.8-36.7%

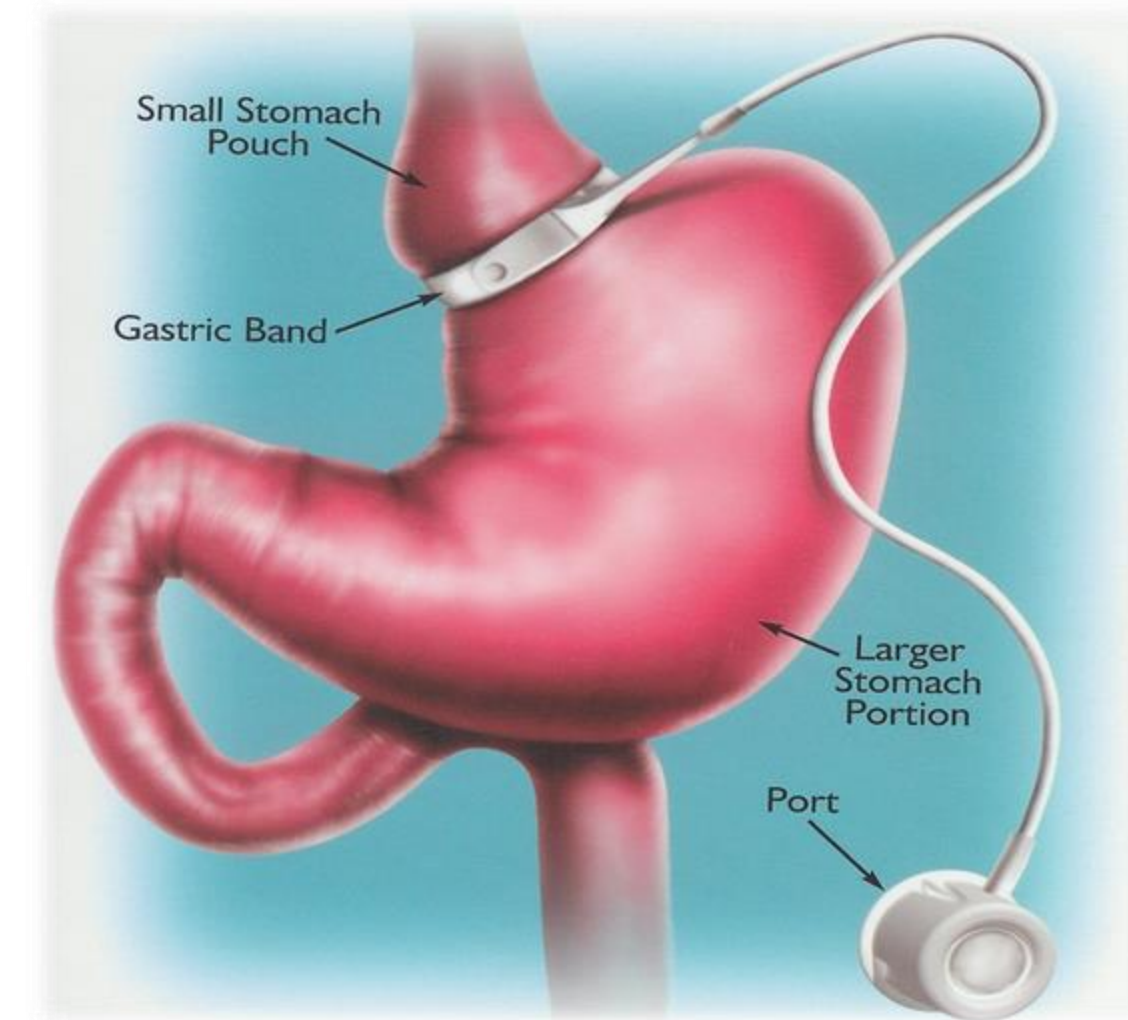


Methods of Bariatric Surgery

- Restrictive vs Malabsorptive vs Combination
- Adjustable gastric band
- Sleeve gastrectomy
- Gastric bypass
- Duodenal switch
 - BPD/DS or SADI

Adjustable Gastric Band

- Restrictive procedure
- Silicone inflatable band placed around the upper part of the stomach
- Has fallen out of favor due to long-term complications and questionable value



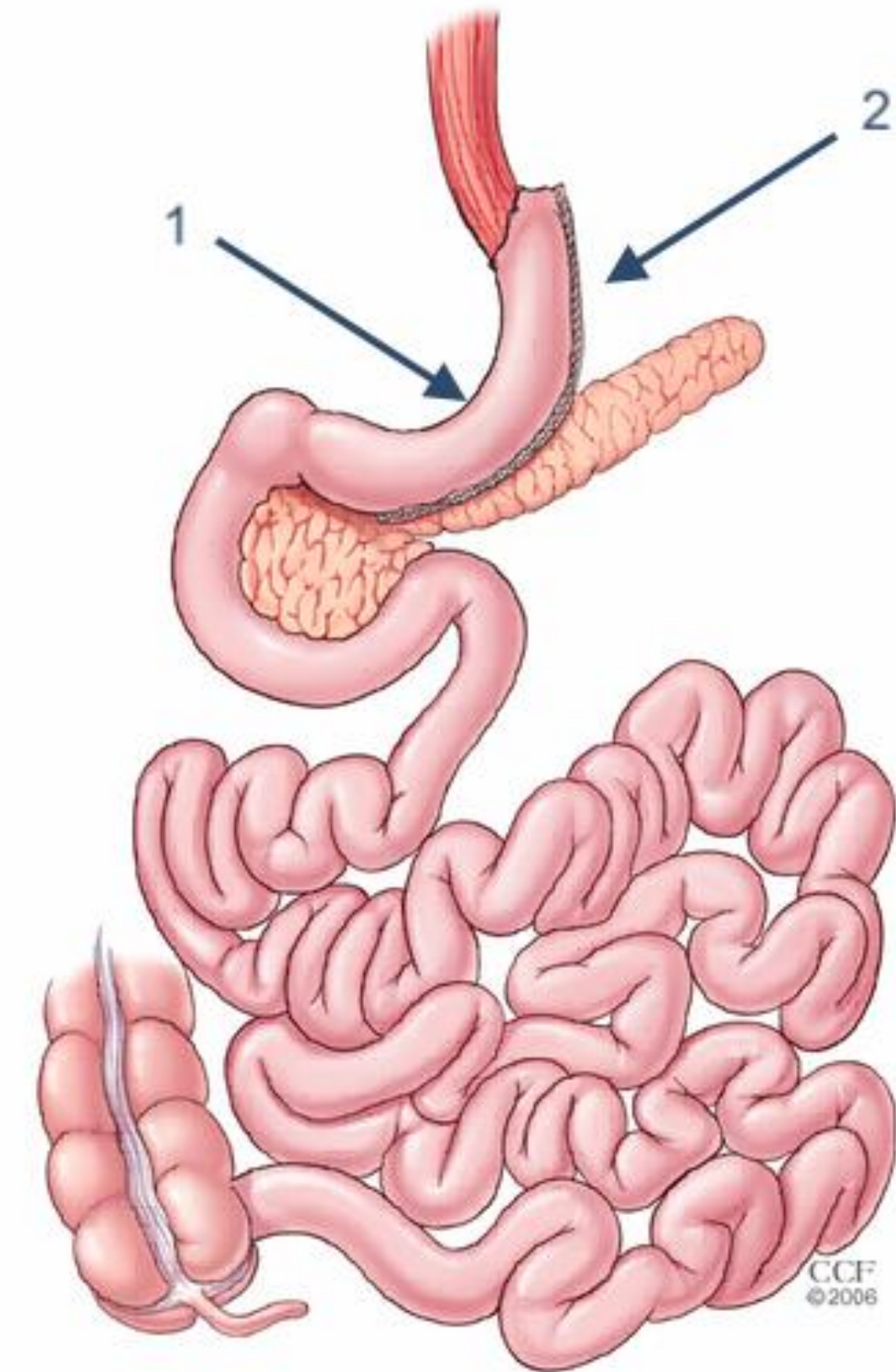
Sleeve Gastrectomy

Removal of about 80% of the stomach

Includes the portion of the stomach responsible for the “hunger hormone”: ghrelin

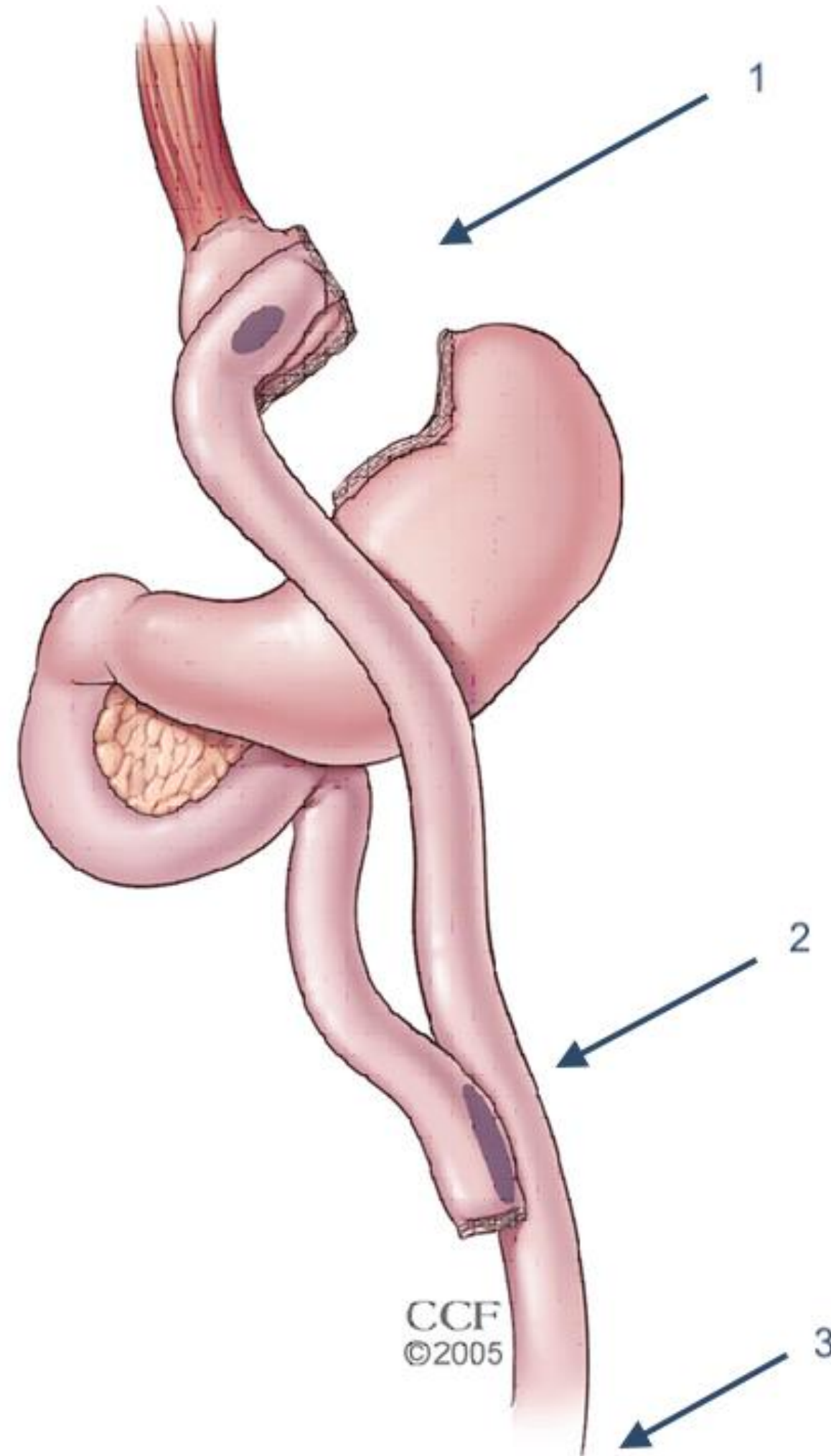
~60-65% excess weight loss

Most commonly performed bariatric surgery in the US and at Christiana





Gastric Bypass



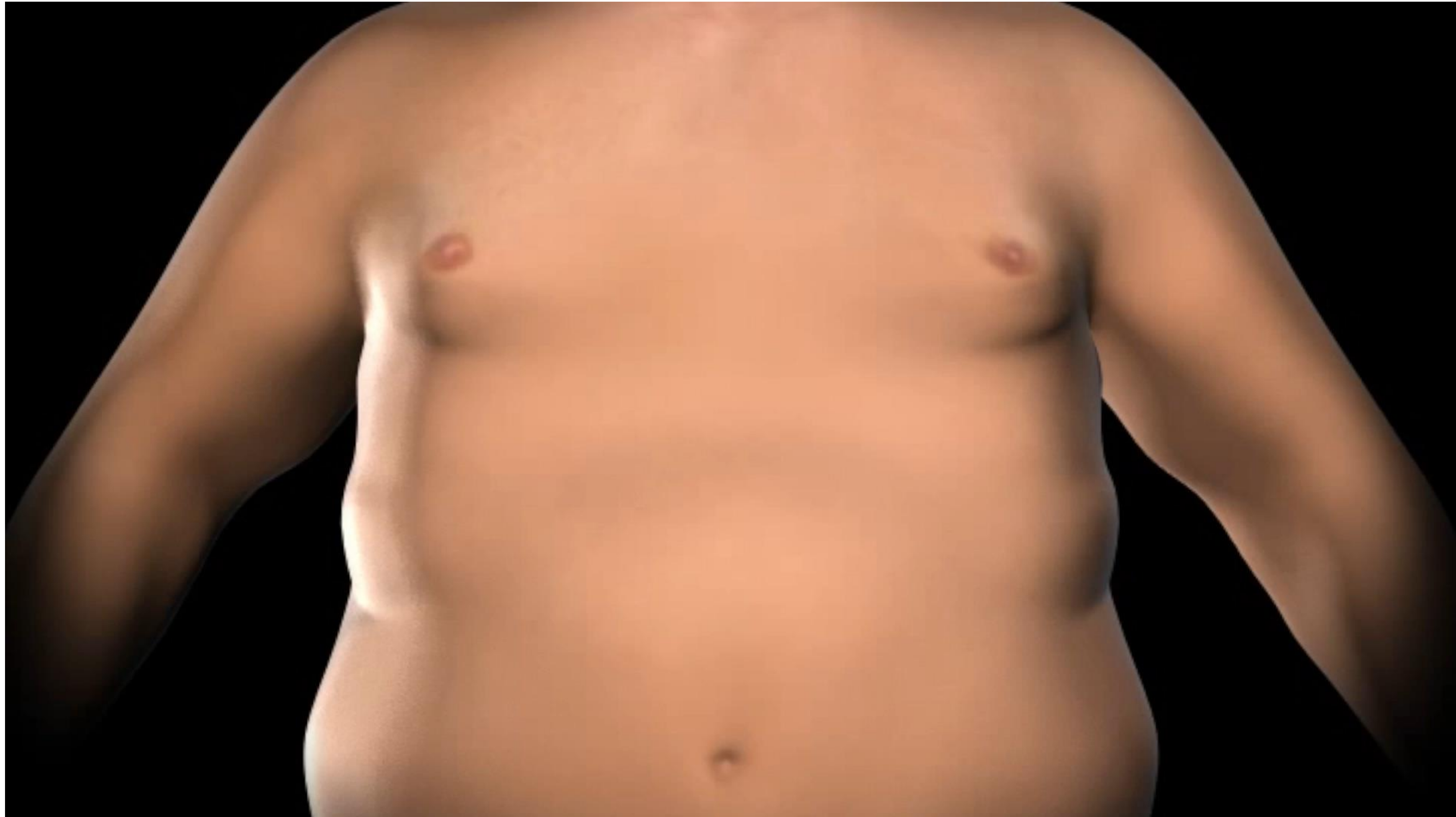
Creation of a “pouch”

Re-routing of small bowel to “bypass” digestion and create an element of malabsorption

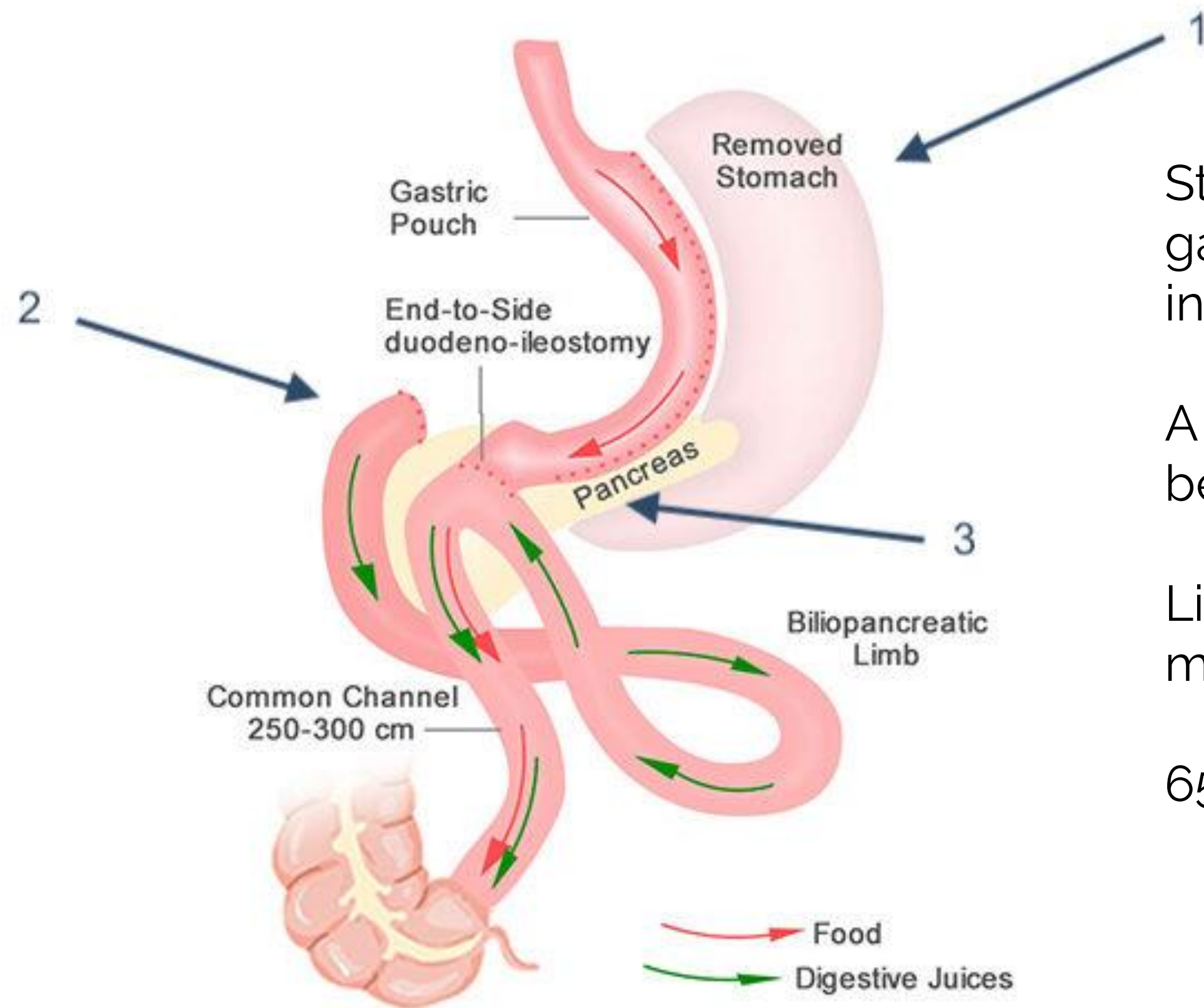
Food flows from the stomach pouch into the lower intestines

This is a combination procedure that is both restrictive and malabsorptive

~65-75% excess weight loss



Duodenal Switch

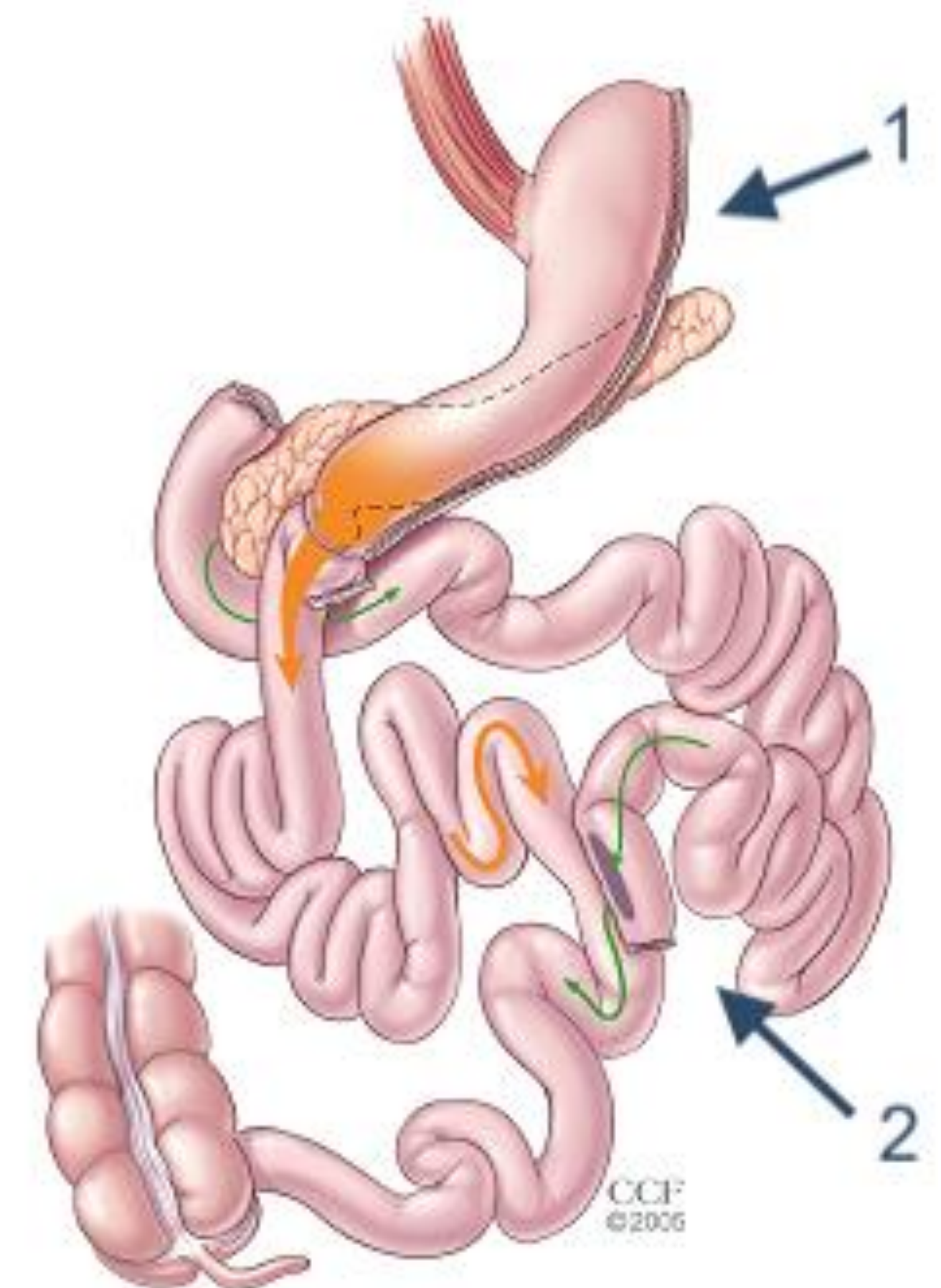


Stomach reduced in size like sleeve gastrectomy with rearrangement of small intestine

A single anastomosis procedure is becoming more common

Like the bypass this is restrictive and malabsorptive

65-80% excess weight loss

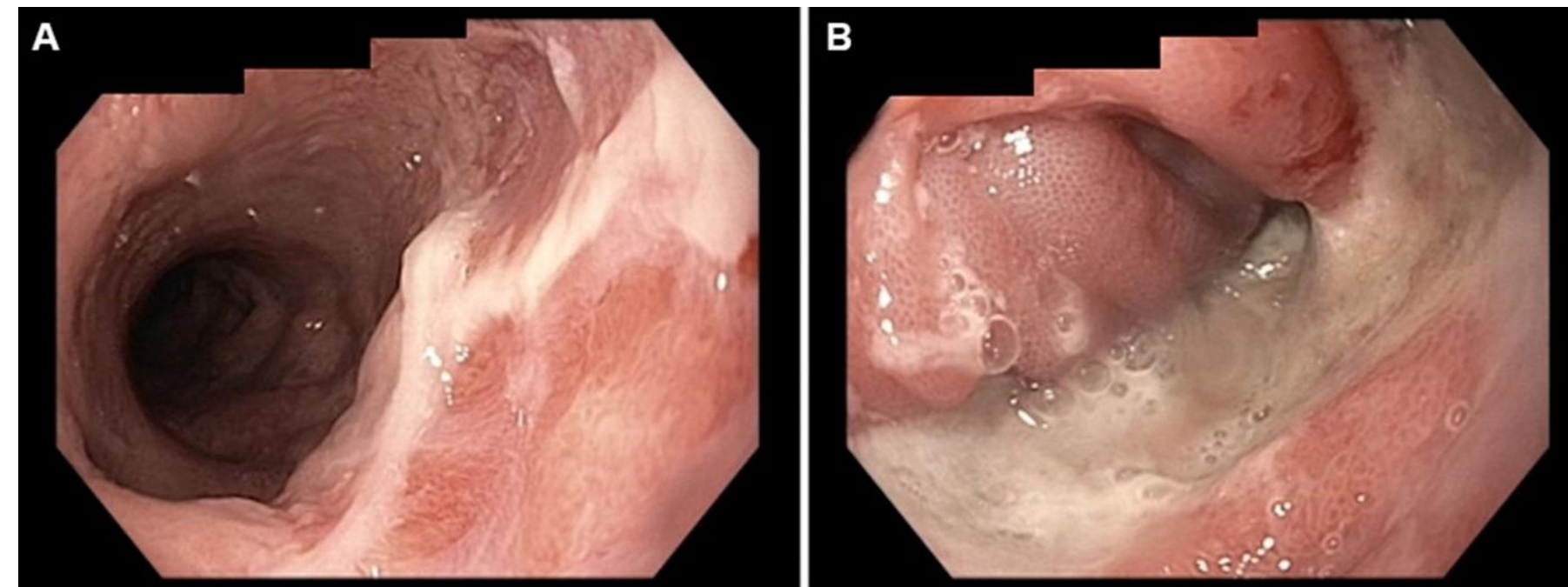


Risks

- Marginal ulcer
- Internal hernia
- Leak
- Blood clot
- Stenosis or stricture
- Dumping syndrome
- Vitamin Deficiency

Marginal Ulcer

- Can be seen in up to 16% of patients
- Associated with smoking, NSAIDs, steroids, large pouch size
- Presentation: upper abdominal pain, nausea, difficulty swallowing, vomiting
- Upper endoscopy



Edward Wang et al. BMJ Case Reports
2017;2017:bcr-2016-218829



Internal Hernia

- Can occur in up to 10% of patients
- Less likely now because of changes made to surgical procedure
- Need future surgery if this is discovered

Leak

- Can occur if up to 7% of patients
- Generally occurs early (<72 hours post-op)
- Can be fixed with endoscopy and stent placement

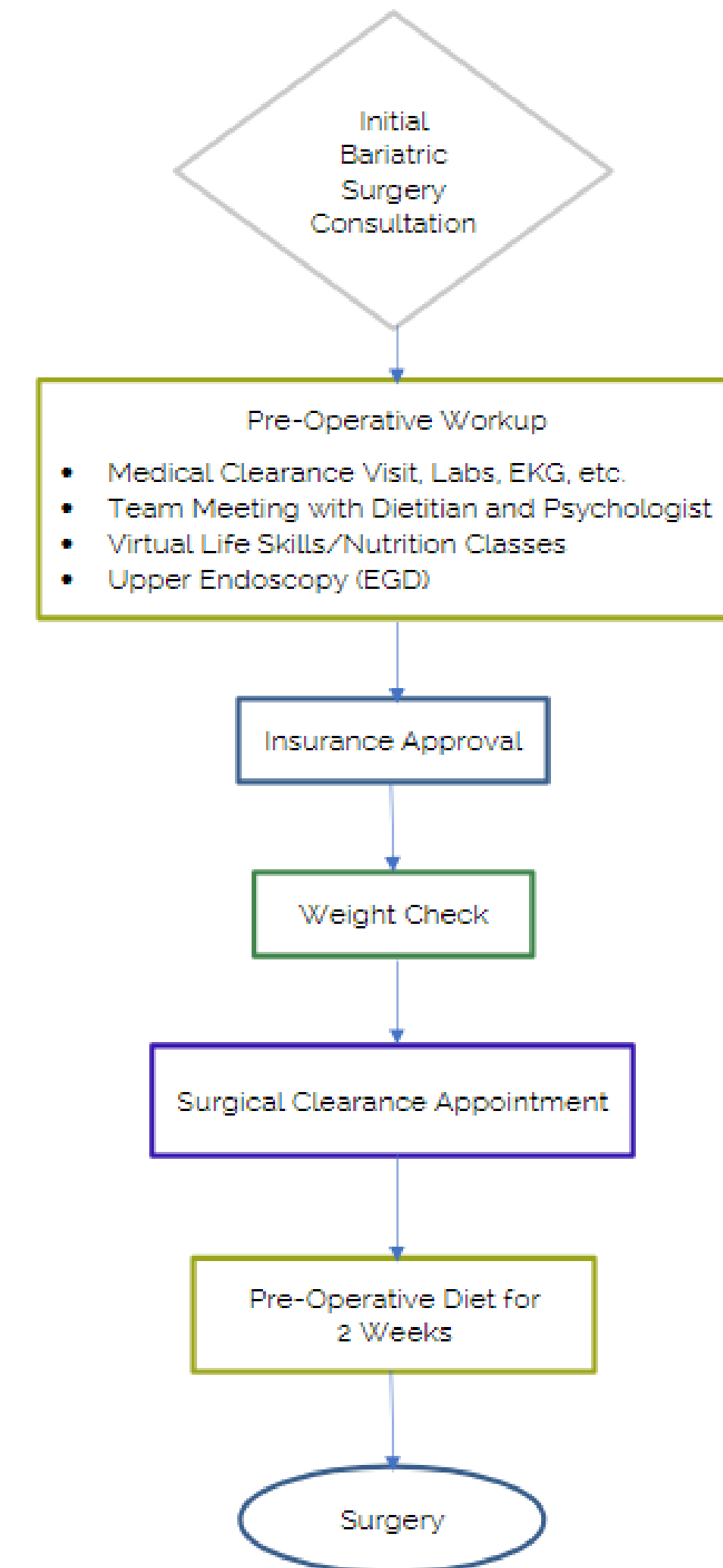


Dumping Syndrome

- Occurs in up to 12.6% of patients
- Occurs after ingestion of carbohydrate-rich foods
- Related to transit of large sugars in the jejunum causing a fluid shift and a sympathetic response including diarrhea, nausea, vomiting, palpitations, racing heart
- Early occurs within 20 minutes, late occurs up to 4 hours
- Protective??

Pre-Operative Preparation

- Lengthy process
- Dictated by individual insurance companies





Post-Operative Expectations

- Weight loss
- Comorbidity resolution
- Quality of life improvement



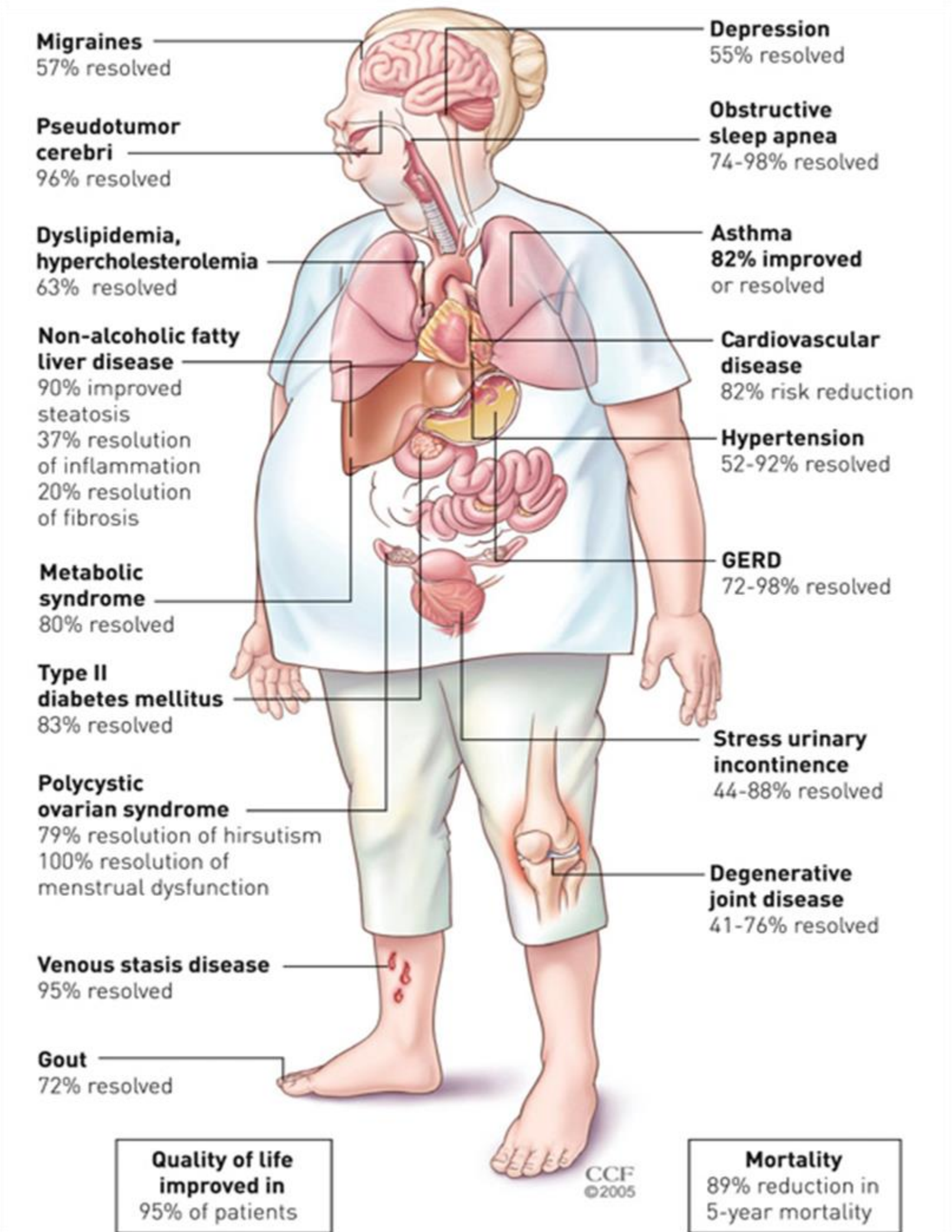
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Comorbidity Reduction

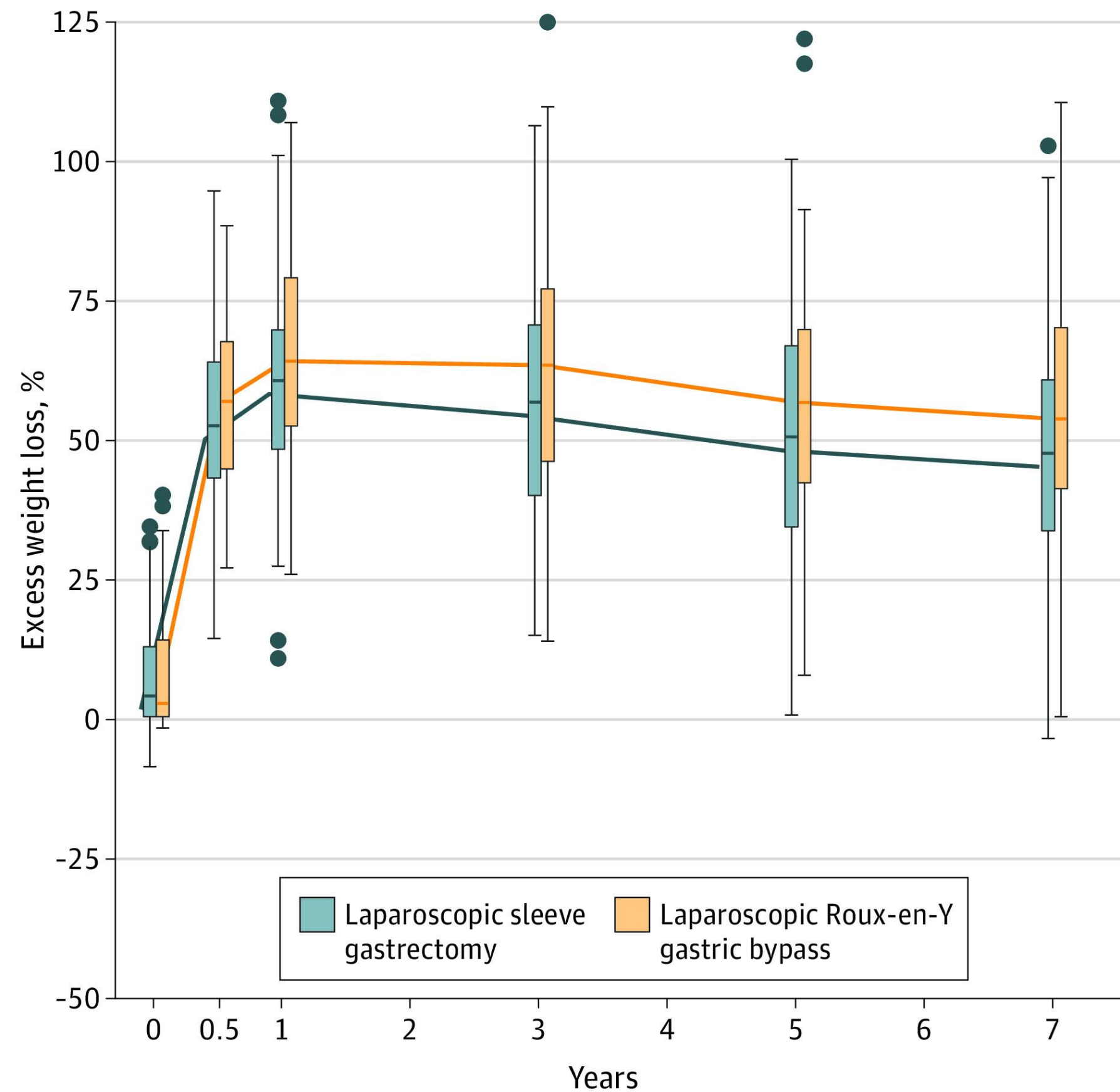
Condition	% Resolved or Improved
Type 2 Diabetes	92
Hypertension	75
Obstructive Sleep Apnea	96
Hyperlipidemia	76

<https://asmbs.org/resources/metabolic-and-bariatric-surgery>

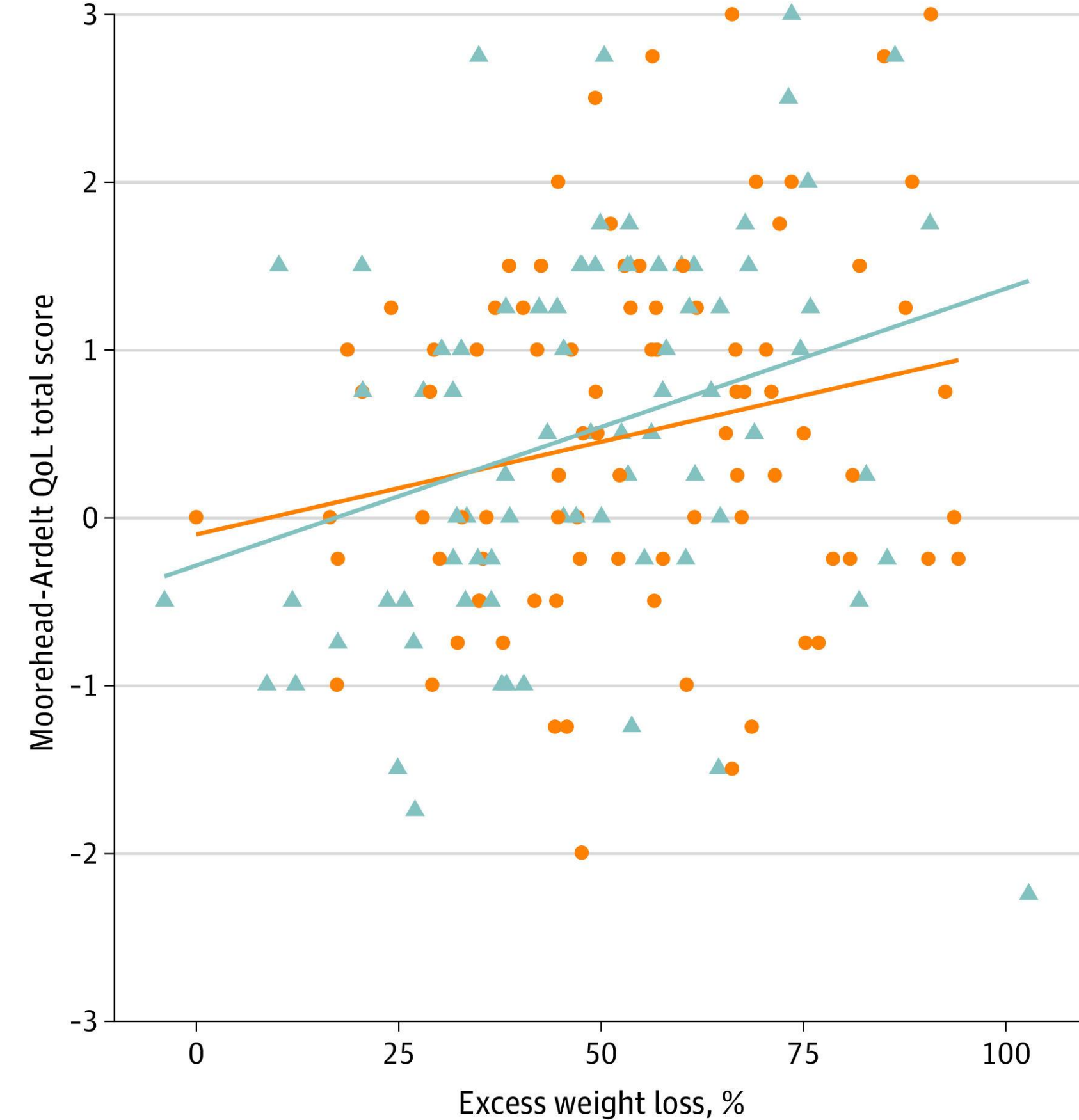


Correlation of % Weight Loss with Quality of Life Score

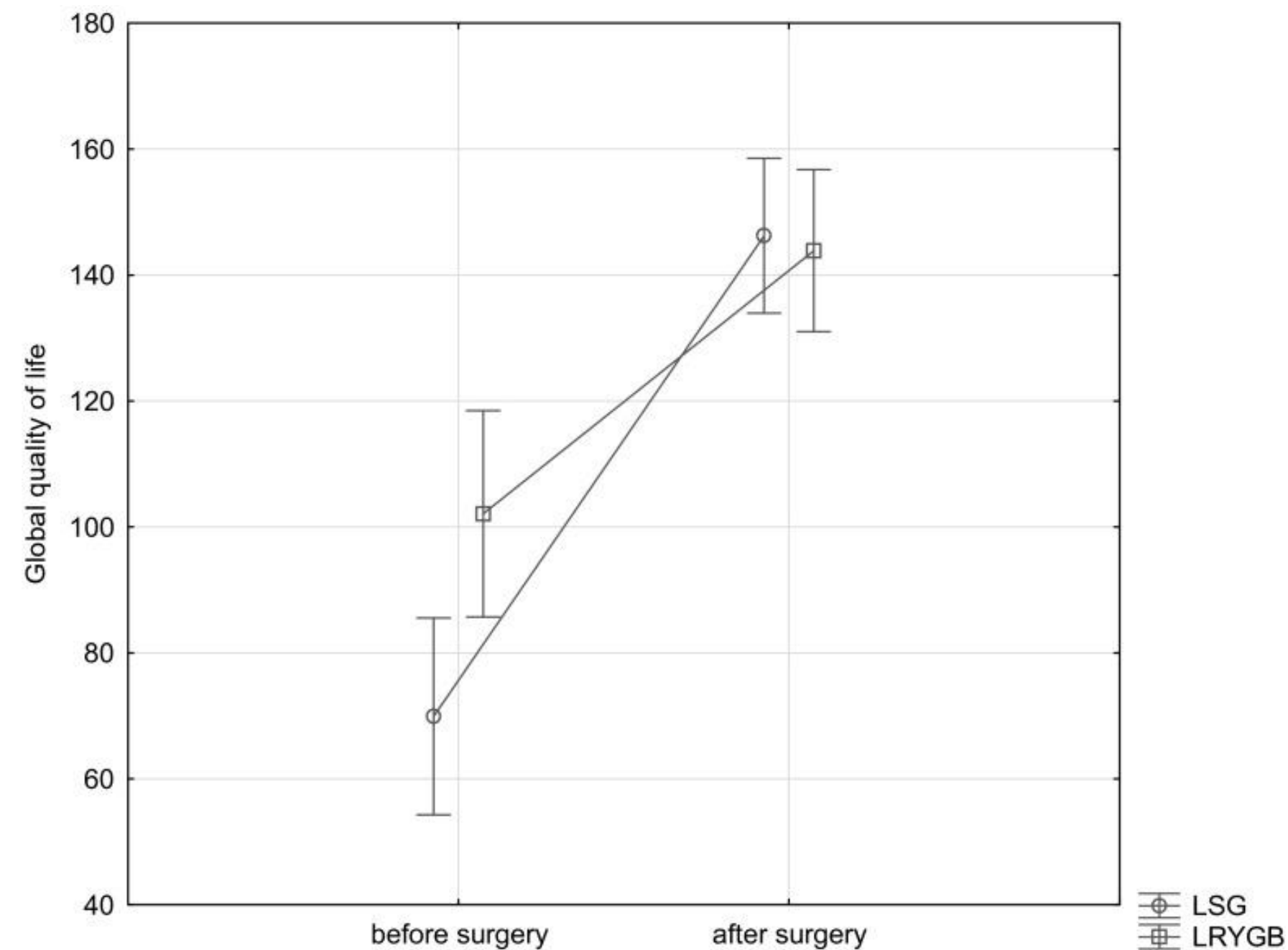
A Excess weight loss



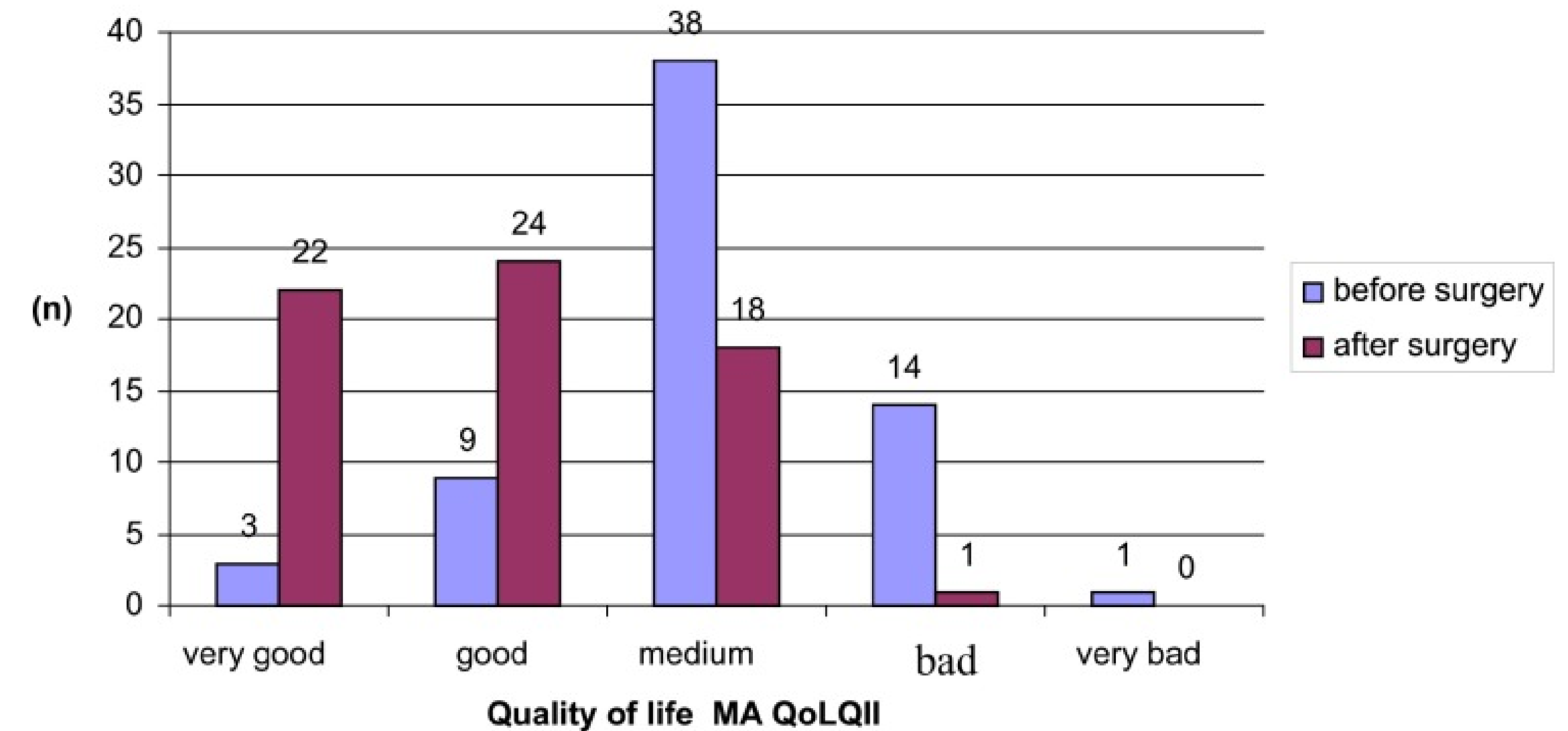
B QoL score correlation to excess weight loss



Quality of Life After Bariatric Surgery



The global quality of life in the group of patients post surgery, depending on the surgery type



An analysis of changes in the quality of life pre- and post-surgery, as determined with the Moorhead-Ardelt Quality of Life Questionnaire II



The Most Important Perspective

Hearing from a patient....

OUR VISION

**CREATING
HEALTH
TOGETHER
SO EVERY
PERSON CAN
*flourish***

