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Surgery

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SCHOOL OF MEDICINE
AND PUBLIC HEALTH

Perianesthesia Potpourri: A Bariatric Surgery Primer

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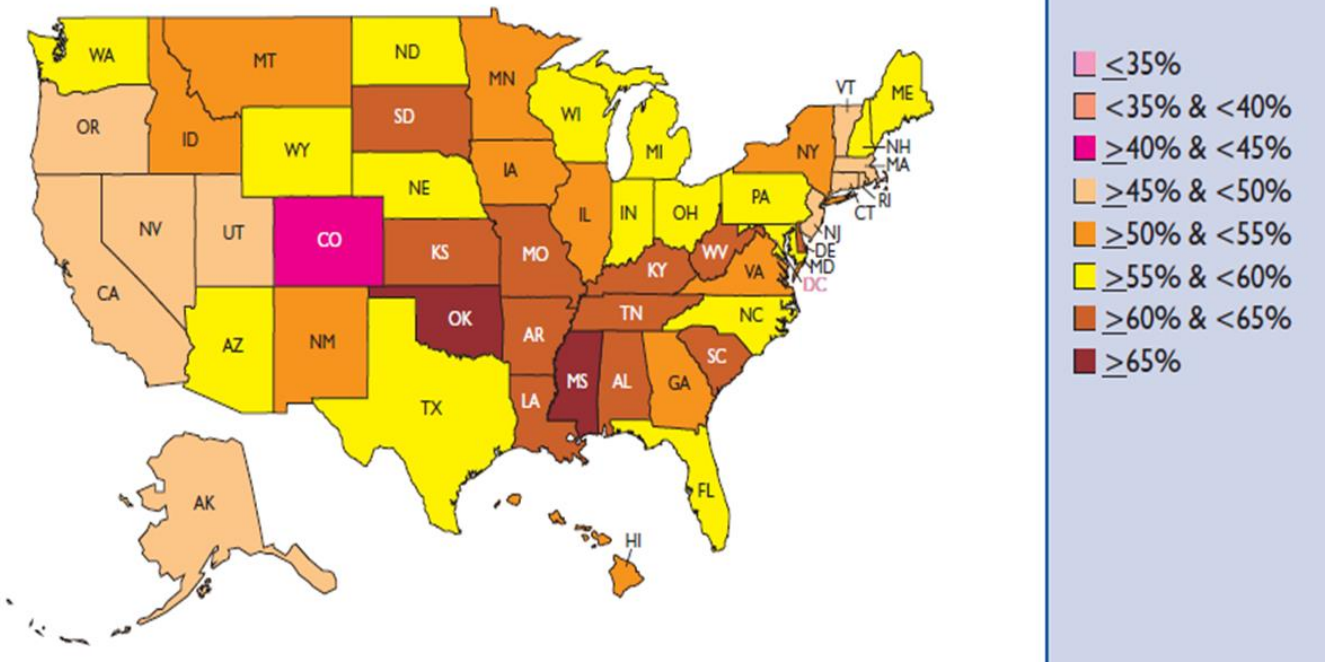
Director – UW Health Weight Management Program

Objectives

- Describe criteria for identification of surgical candidates
- Describe principles underlying a multidisciplinary approach to the care of obese patients: Nutritional, Behavioral, Medical
- Identify nursing roles in the bariatric program
  - Special OR concerns
  - Postoperative concerns
- Identify challenges in the physical assessment of the bariatric surgery patient

Why is this an issue?

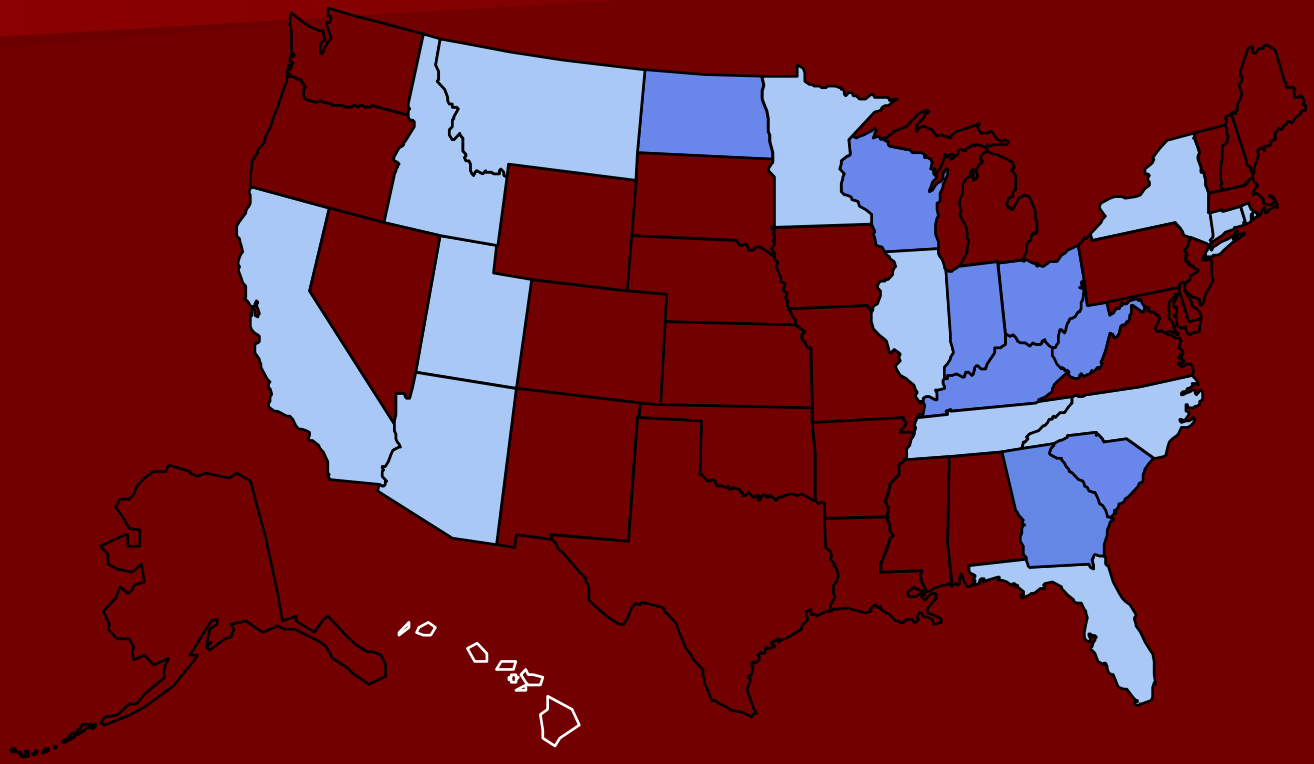
2030: Adult Obesity Rates if the Current Trajectory Continues



Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)



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Obesity Trends* Among U.S. Adults

BRFSS, 1991

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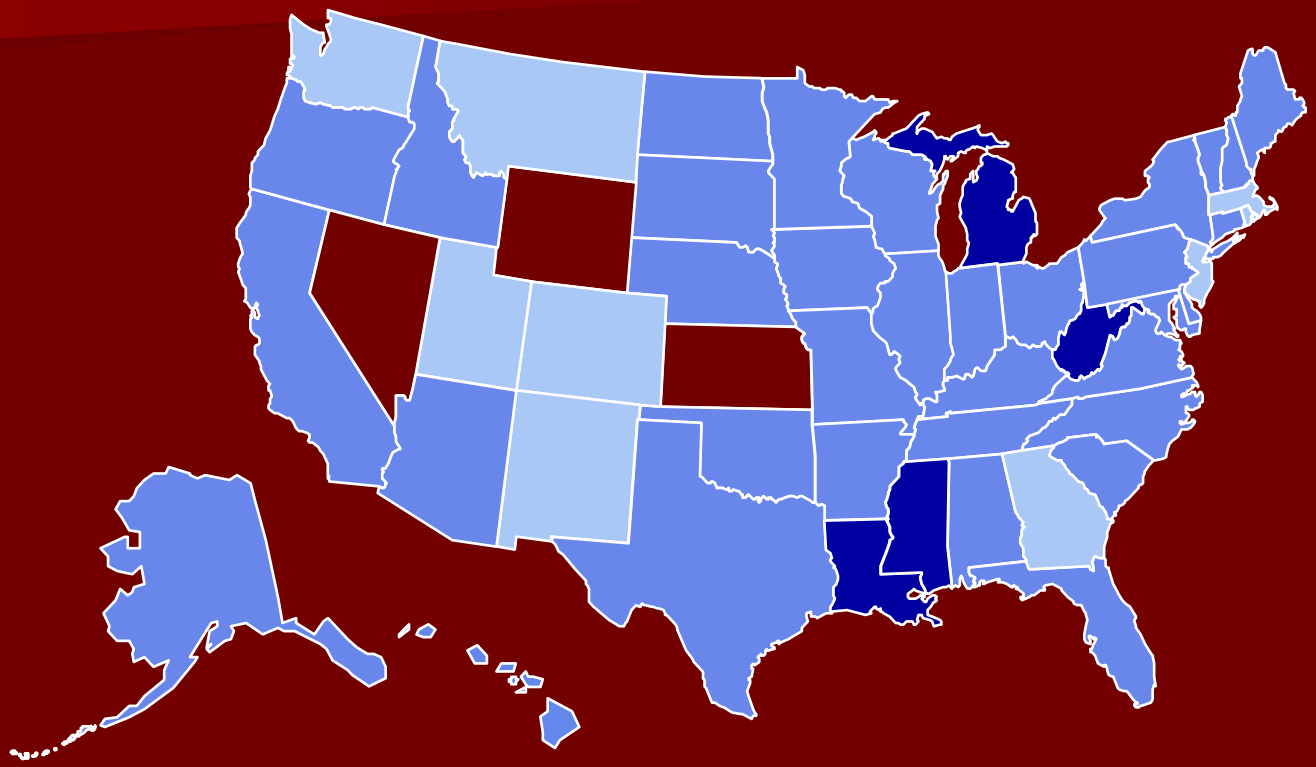

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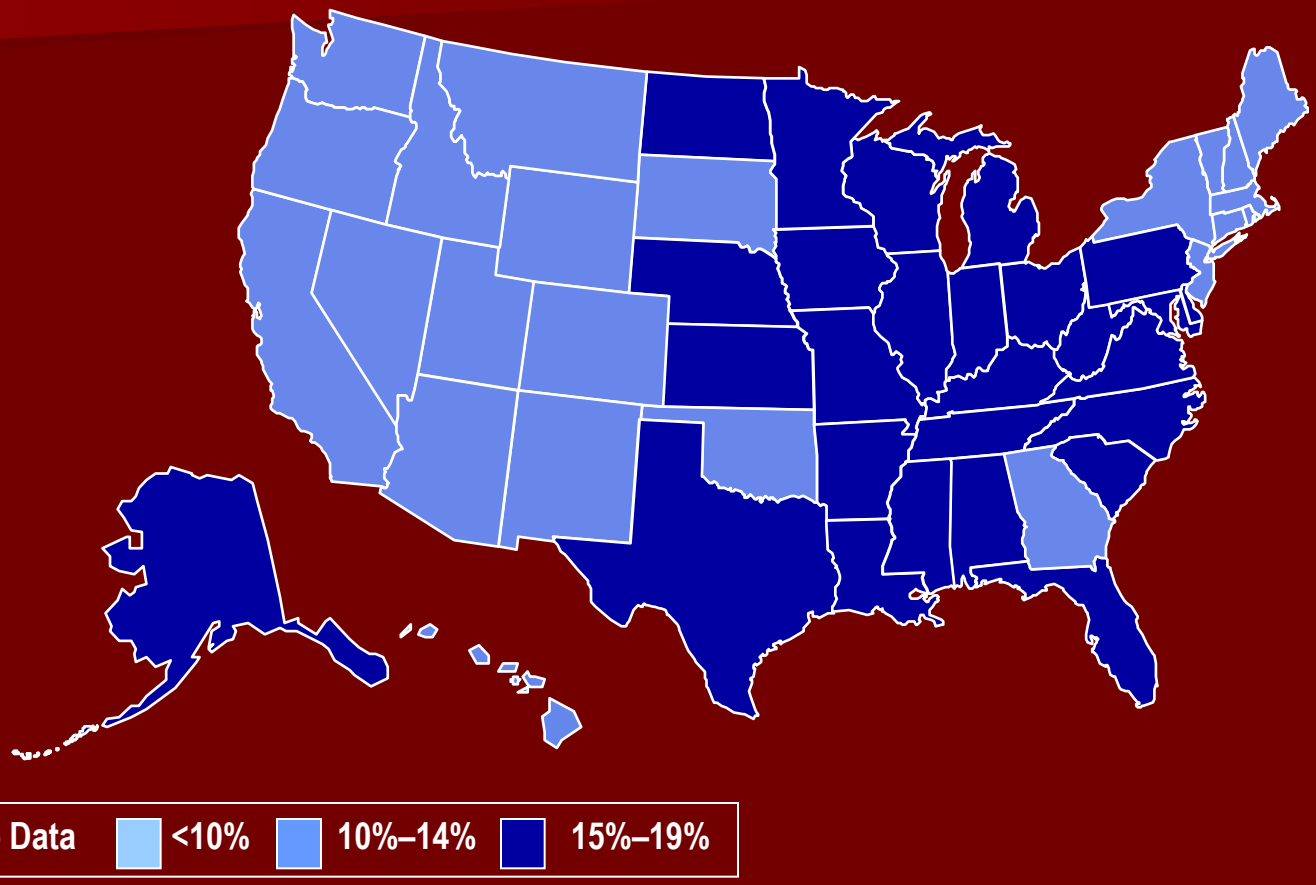

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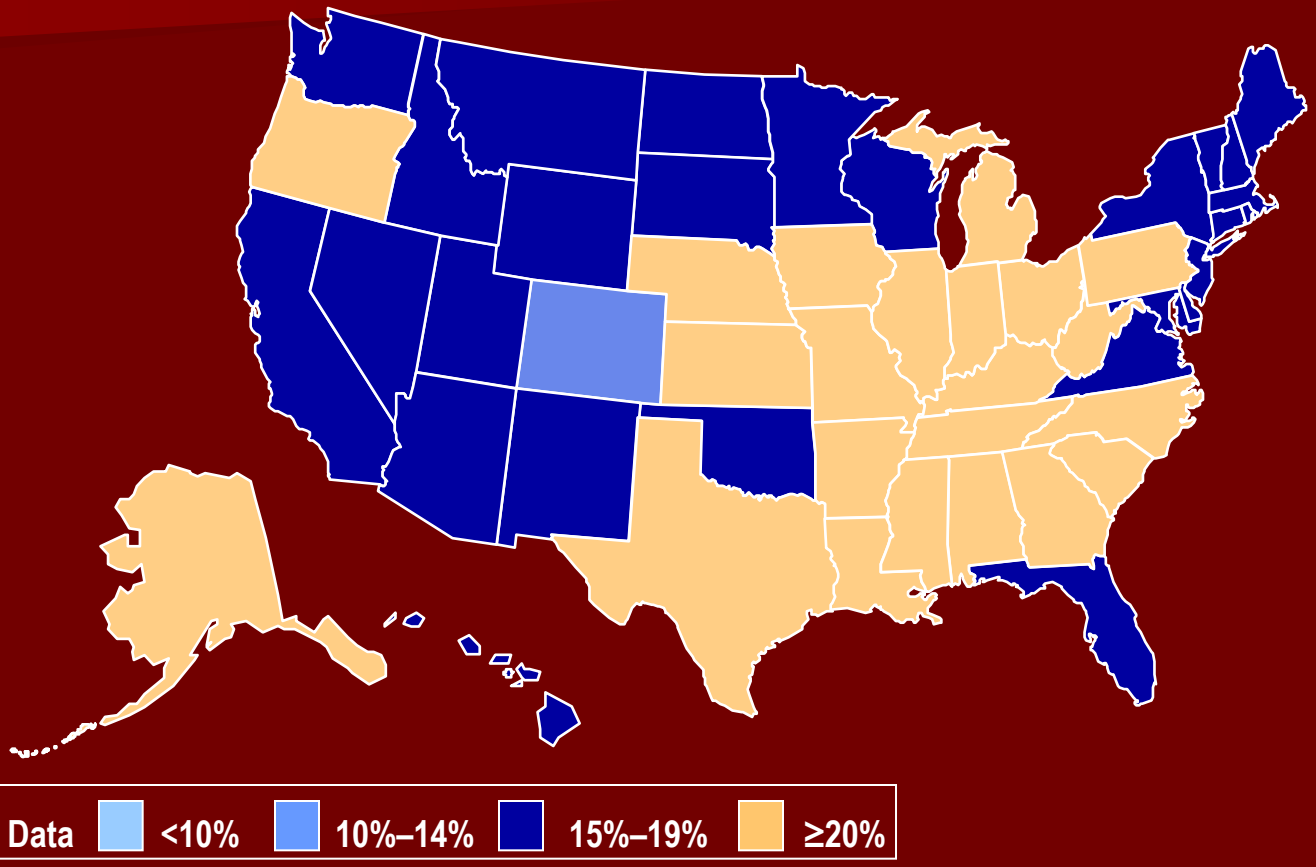

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Obesity Trends* Among U.S. Adults

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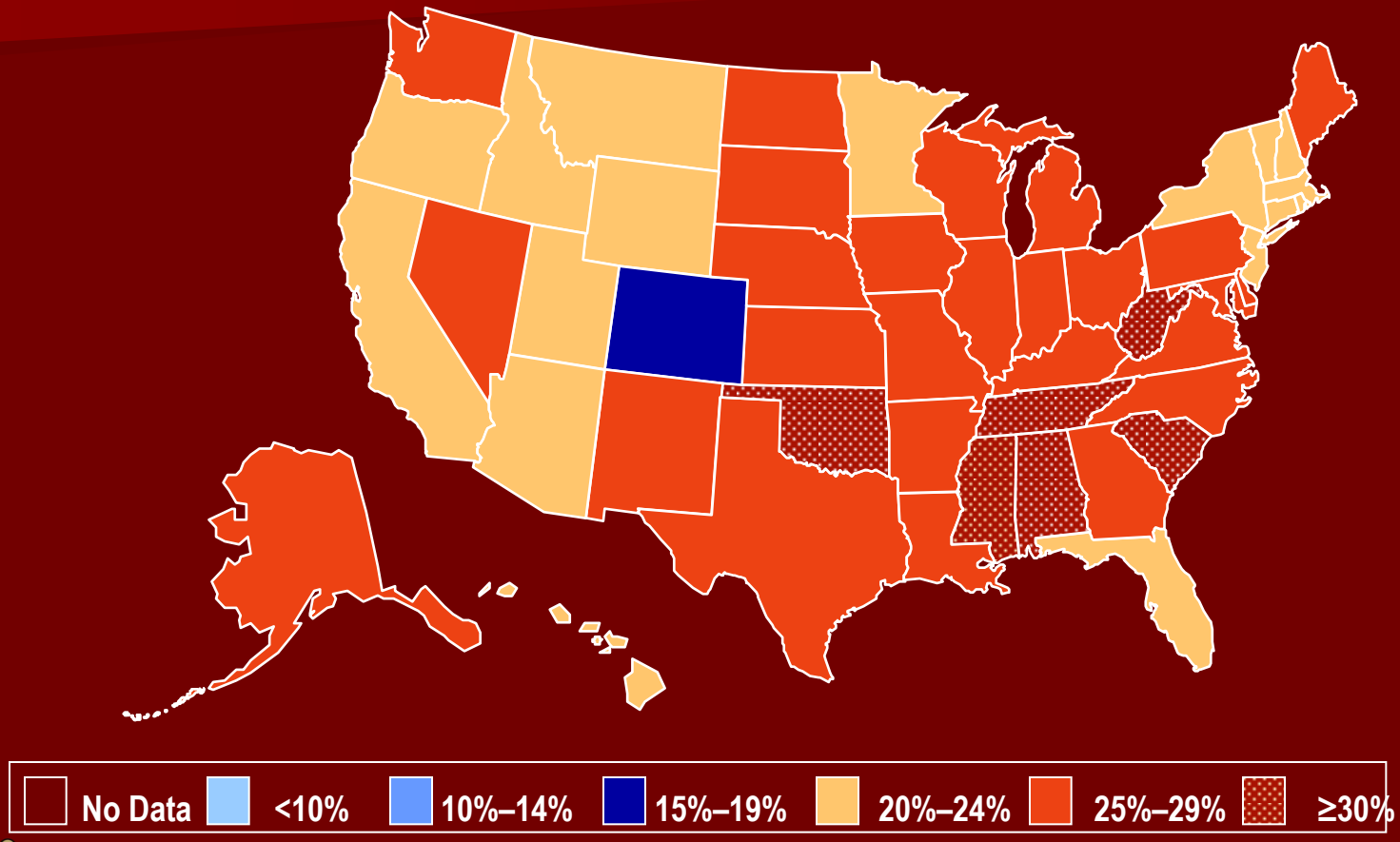

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Obesity Trends* Among U.S. Adults

BRFSS, 2010

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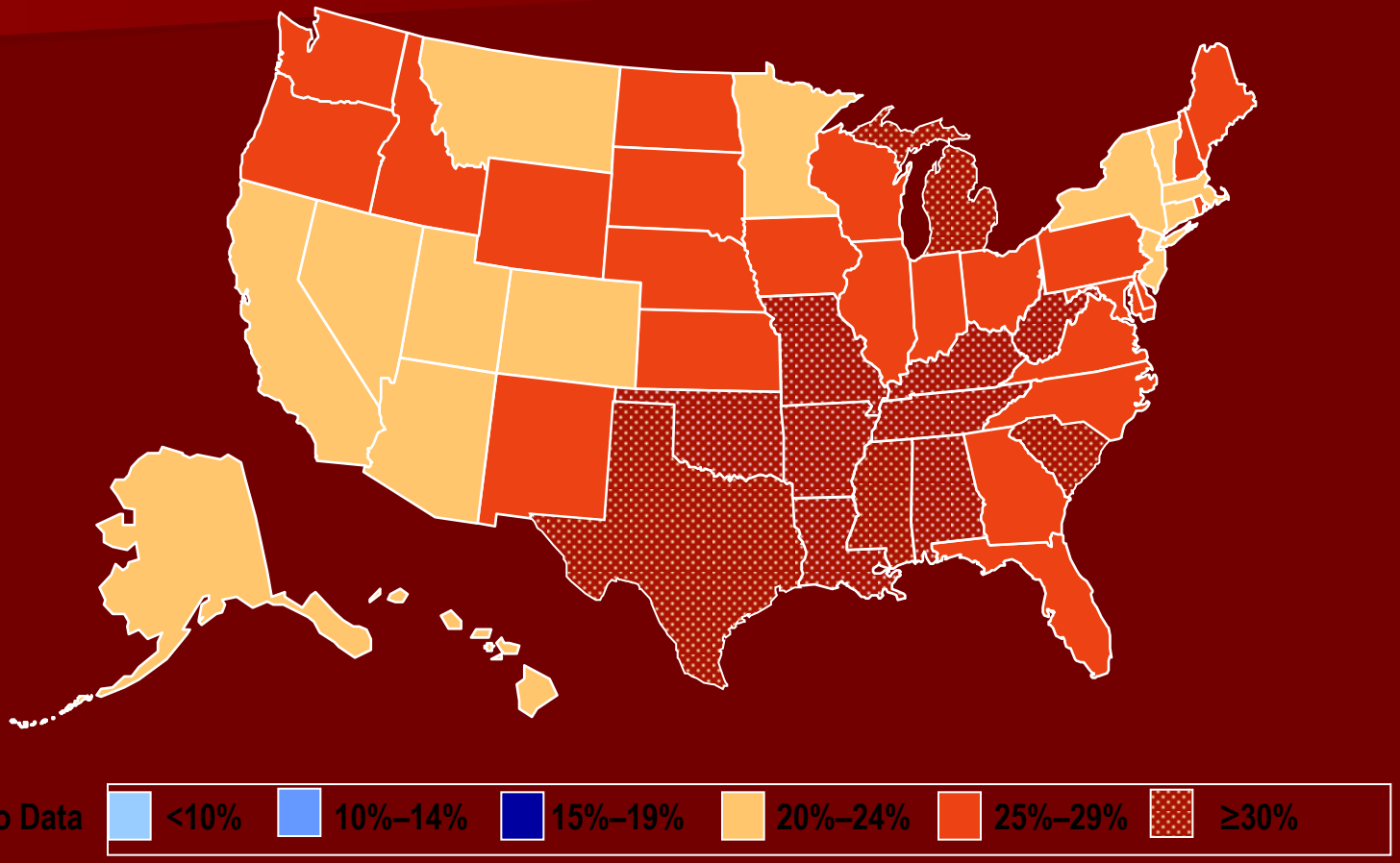

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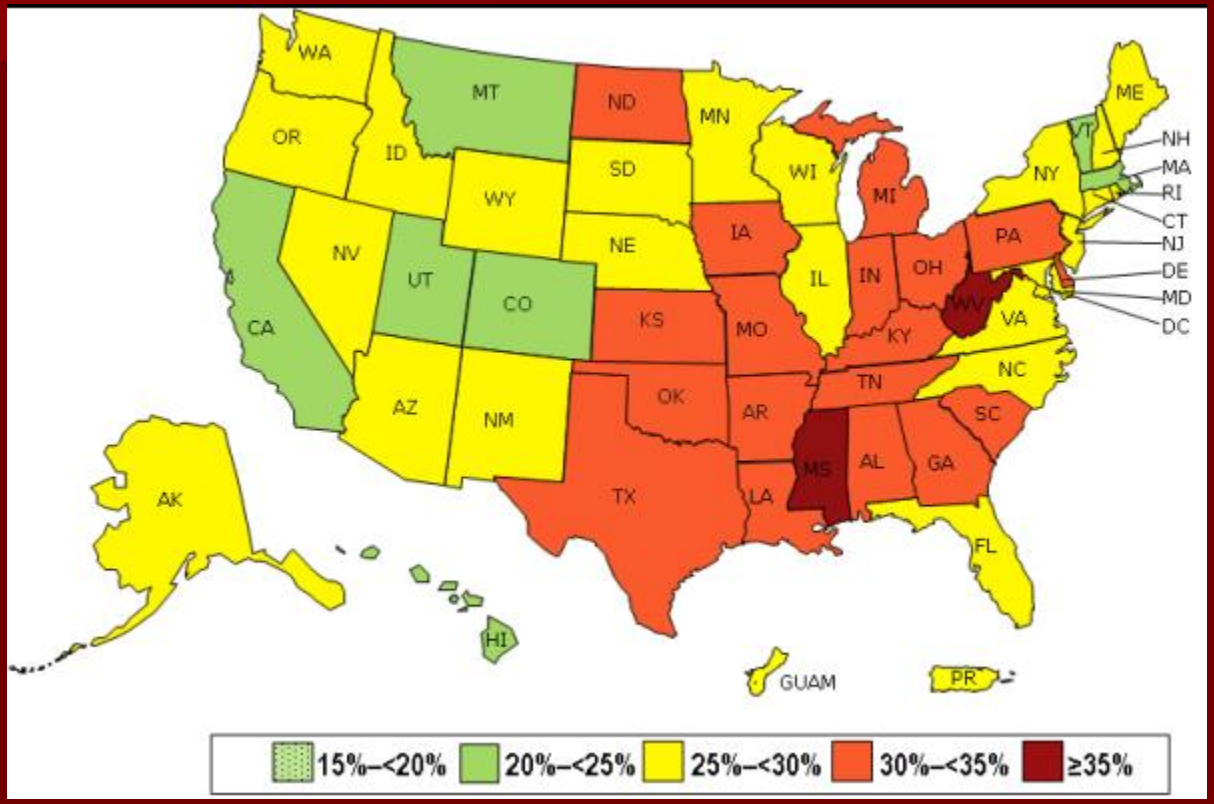
2013



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Classification of Obesity

	Class	BMI (kg/m^2)	Risk
Underweight		<18.5	Increased
Normal		18.5-24.9	Normal
Overweight		25.0-29.9	Increased
Obesity Class	I	30.0-34.9	High
Severe Obesity	II	35.0-39.9	Very High
Morbid Obesity	III	≥40	Extremely High
Super Obesity	IV	≥50	Extremely High
Super Super Obesity	V	≥60	Extremely High

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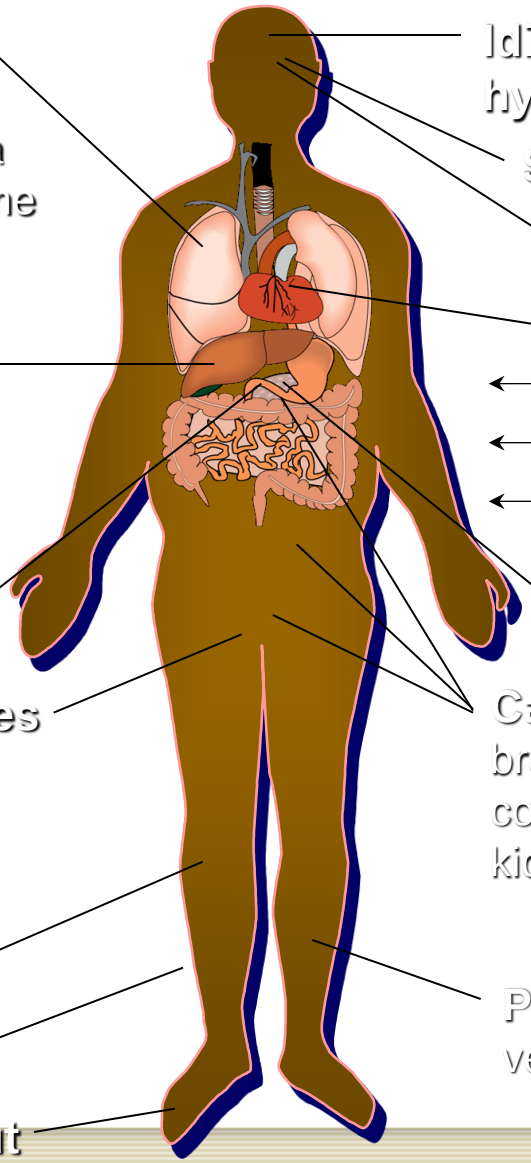
Physiological Impact of Obesity



Pulmonary disease
abnormal function
obstructive sleep apnea
hypoventilation syndrome

Nonalcoholic fatty liver disease
steatosis
steatohepatitis
cirrhosis

Gall bladder disease

Gynecologic abnormalities
abnormal menses
infertility
polycystic ovarian syndrome

Osteoarthritis

Skin

Gout

Idiopathic intracranial hypertension

Stroke

Cataracts

Coronary heart disease

Diabetes

Dyslipidemia

Hypertension

Severe pancreatitis

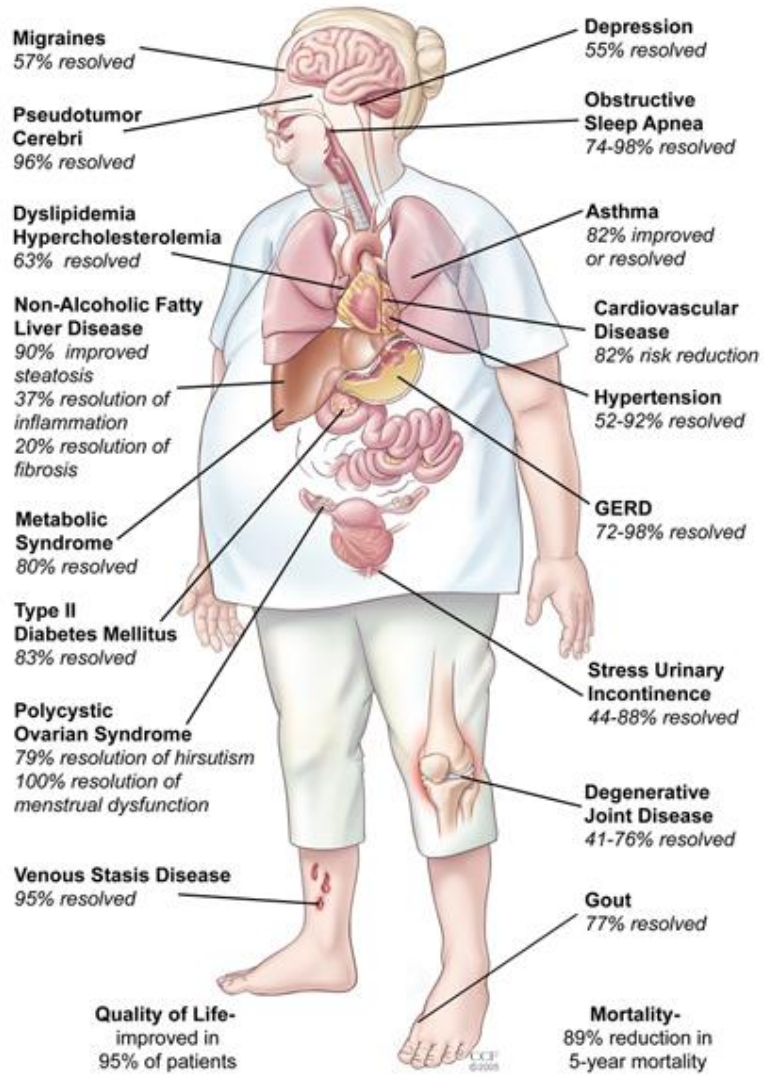
Cancer
breast, uterus, cervix
colon, esophagus, pancreas
kidney, prostate

Phlebitis
venous stasis

Bariatric Surgery

Bariatric Surgery

Why Bariatric Surgery?



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The Person Behind the Surgery

Candidates for Bariatric Surgery

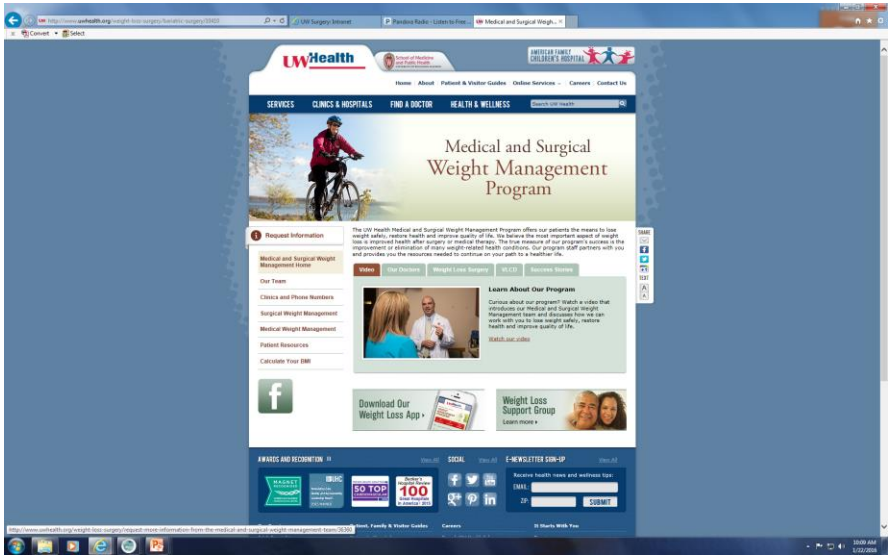
- Age ≥ 18 years
- Body Mass Index (BMI)
  - ≥ 35 with associated medical problem(s) or BMI ≥ 40
- Motivated to improve health
  - Prior attempts at weight loss
  - Compliant with medical regimens
  - Willing to make lifestyle and behavior changes
- Able to undergo major abdominal surgery
- Non-smoker
- No major eating disorders
- No inadequately treated mental health issues

Getting Started

Direct patient inquiry (patients contact us)

- Web-site → form
- Phone call

Health care provider referral



Getting Started

Insurance coverage is clarified

- Most insurances do not cover any form of weight loss services.
- Some require 6 months medically supervised diet prior to assessment and preparation for bariatric surgery.

Program Questionnaire is sent

- Reviewed by staff
  - Binge eating screen
  - Sleep Apnea screen

Getting Started With the TEAM

Assessments

- Personality testing
- *Health Psychologist* visit (60-90 minutes)
- Program *Dietitian* visit (60 minutes)
- *Surgeon* consultation

Multi-disciplinary teams proven best

- Team huddles to discuss cases and develop patient specific care plans

The ***REAL*** Team

- Steve Heuer, PA-C
- Health Psychologists
  - Lisa Nackers & Joel Wish
- Registered Dietitians
  - Wendy Hahn & Samantha Schmaelzle
- Michele Vargo, RN
- Medical Assistants
  - Dawn Gogert
  - Kristi Bettcher
- Connie Gilkey, RN – Clinic Manager
- Inpatient & Perioperative Team
- Hospital Administration

The Least Important Members of the Team

Luke Funk

Mike Garren

Jake Greenberg

Anne Lidor

Work-Up

Labs (including nicotine screen)

Stress test (perfusion)

Sleep study (Sleep Apnea)

EGD to assess anatomy

- particularly if considering the Sleeve Gastrectomy

Clearance by Cardiology or Pulmonology (as needed)

Weight loss goal (10 lbs minimum)

- Lifestyle compliance
- Girth/landmarks

Nutrition & Lifestyle Assessment

Motivation/reasons for seeking surgical intervention
Weight History
Onset
- Life events that may have caused weight change

Eating habits as a child
- Example: Clean Plate Club, structured family meals, pressure to lose weight, sneaking food, food used as reward/punishment

Successful and Failed Weight Loss Attempts
- Ability to make and stay consistent with lifestyle changes

Current Eating Environment
Who grocery shops/prepares food
Where are meals eaten (at home, eaten out, on the go, etc)
Pace of Eating

Emotional/Mindless Eating
Past/present disordered eating (treatment-if any)
Emotional connection with food
Explore eating triggers
- Trigger foods/beverages
- What (if any) coping mechanisms are in place or have worked in the past

Ability to self regulate
- Eating to discomfort

Nutrition Assessment Goals

- Identify eating prompts and alternative coping strategies
- Start to decrease intake of liquid calories, caffeine/carbonation, alcohol.
  - *(Required to be tobacco-free for 3 months)*
- Start to track water intake-goal of 64 fl oz
- Start to practice separating liquids from meals
- Start to practice chewing 30 times per bite (pureed consistency)
- Consume small, frequent meals (5-6) eaten every 3-4 hours
- Balance meals/snacks by pairing complex carbohydrates with lean protein and/or healthy fats
- Model plate diagram to determine appropriate portion sizes and balance
  - *(We develop a sample meal plan with the patient at this visit)*
- Start incorporating 3, 5-10 minutes increments of exercise into daily routine
- 10 pound weight loss during the pre-op process
  - *Unless otherwise specified by the surgeon*

Training and Education

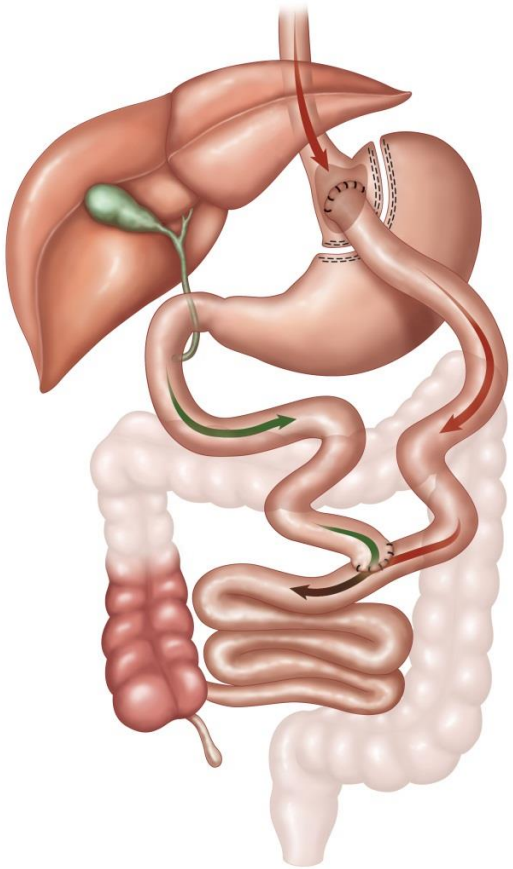
Steps A-B-C-D Classes

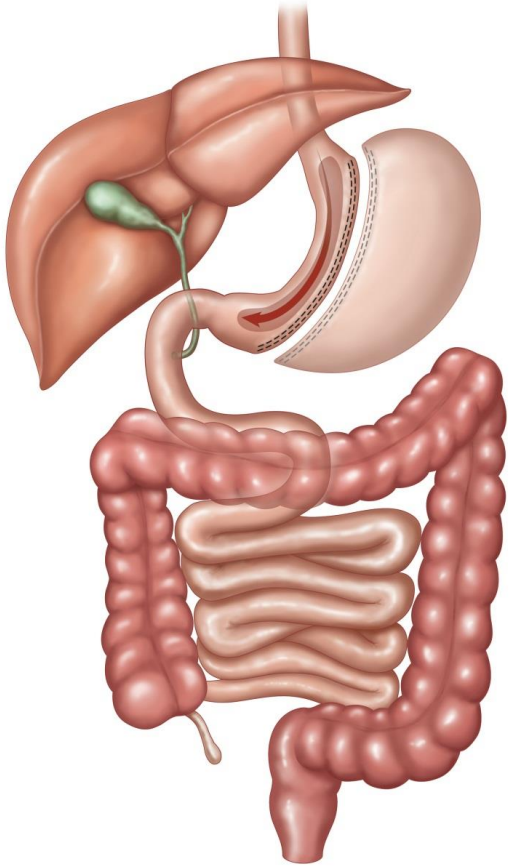
- Understand the specific surgical options
- Understand Possible Complications & Challenges
- Explore past issues with food
- Develop and practice food skills that will be necessary post-op

Individual Follow up (as needed)

- Dietitian
- Health Psychologist
- Surgeon or AP

Surgical Options





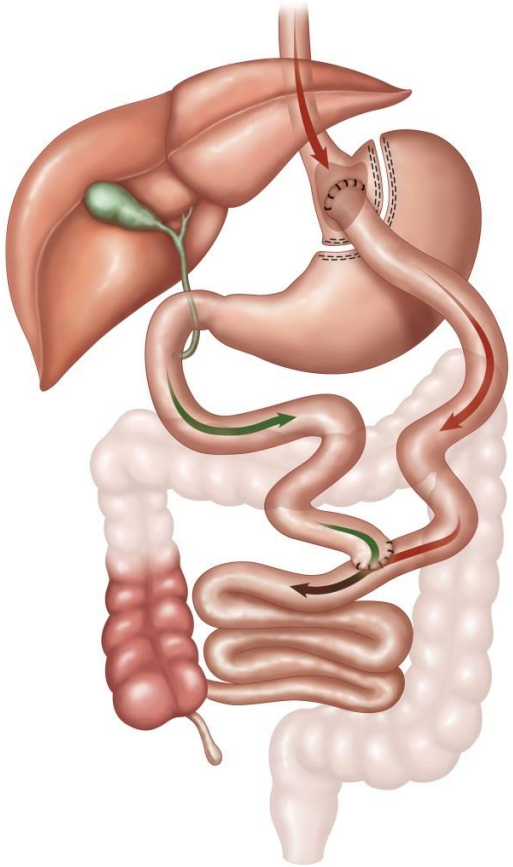
Other Surgeries

- Adjustable Gastric Band
- Biliopancreatic Diversion
- Gastric Balloon
- Revisional Surgery
  - VBG-to-RNY
  - Band-to-RNY or Sleeve

Surgical Choice

- Patient preference
- Prior surgeries
- Diabetes
- Prior/Future Transplants
- GERD
- Other comorbidities

Current Breakdown



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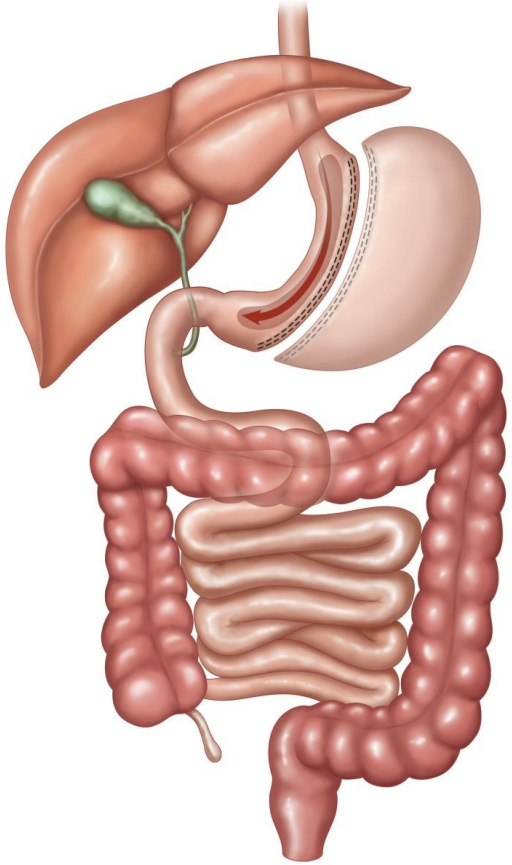


51%

Day of Surgery

- Hover Matt
- PREOPERATIVE chemoprophylaxis (heparin vs. enoxaparin)
- Type and Screen
- Void on call; no foley
- Average Surgical Time
  - Sleeve- 60minutes
  - Gastric Bypass-120 minutes

The Bariatric OR

- Appropriate table capacity
- Anesthesia Concerns – ASA III +
  - Airway
  - Monitoring
- Laparoscopic Surgery
  - Generally “normal” lap instruments
- No foley
- No drains if negative leak test (Endoscopic vs. OG)

Post-Operative Care

- Early Ambulation
- SCDs (Sequential Compression Device)
- Enoxaparin for some
- Clear fluids
  - Small volume
  - No natural sweeteners (dumping)
  - Not carbonated
  - No straws
- CPAP is FINE postop!

Post-Operative Care

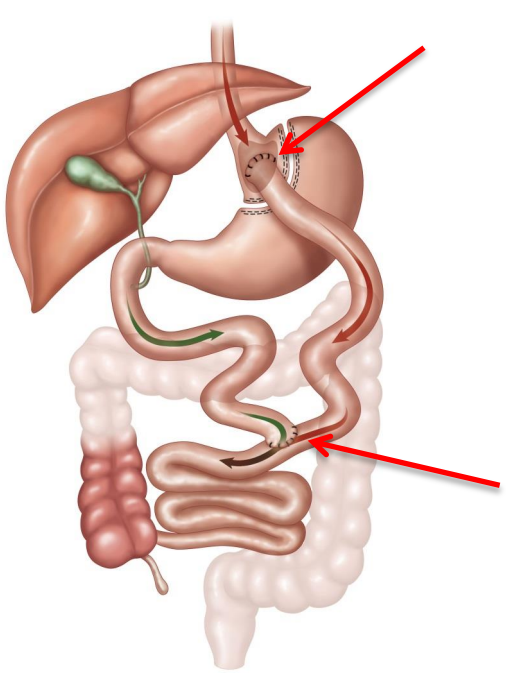
Advance to pureed foods (cautiously)

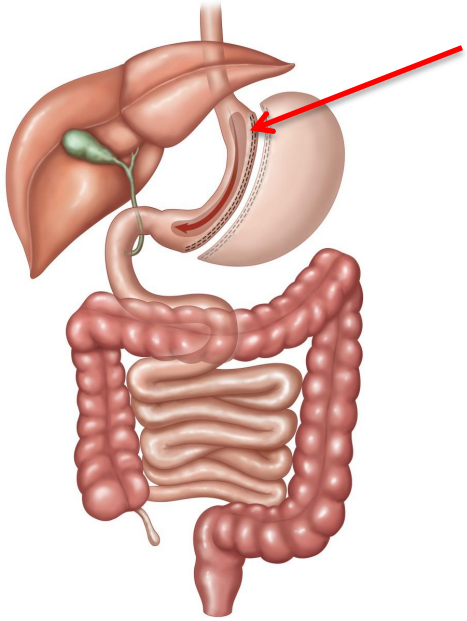
- Small volume (1-2 TBS/meal)
- Nothing that requires chewing
  - Thinner (pureed food) is better
- Nothing with natural sweeteners →dumping
- Wait 30+ minutes before resuming fluids

Postoperative Complications

- Leak
  - Tachycardia
  - Hypotension

} Rule out Hemorrhage





Complications

- DVT/PE
- Bleeding
  - Intraluminal
  - Intra-abdominal
- Wound Infection
- Bowel Obstruction

Discharge

Medication review

- Sustained-release medications will likely not fully absorbed (esp. with RNY)
- Larger tablets and capsules will need to be cut, crushed, or pulled apart (for 1st 4-6 weeks)
- Daily Meds may need to be divided into smaller, more frequent dosing per volume constraints
- Diuretics are typically discontinued
- Fibrates also are discontinued
- No NSAIDS (GI irritant)

Discharge

Diabetes

- Insulin reduction or discontinuation
- Stop Metformin (not well tolerated)
- Stop Sulfonureas

- Close glucose monitoring must be stressed >50% will come off insulin very soon after surgery (more promptly with RNY)

Diet on Discharge

First 4-6 Weeks

- Strict pureed diet
- Focus on protein-rich food/beverages

Transition to Solid Foods

- Once tolerating ¼ cup of pureeds, begin a slow transition to solid foods
- Goal is for all patients to transition to mostly solid diet by post-op month 3

Protein supplements (shakes) Daily

- 1st year post-op
- Goal is a minimum 60 grams protein daily

Early Challenges

Hydration

Protein

Vitamins

Medications

Dietary progression compliance

Strictures at Gastro-jejunal anastomosis

- Occurs about 3-6 weeks post-op in 5-8%

Later Challenges

Compliance with **supplements**

Adequate **protein** intake

Hydration

Food priorities/ old habits

Extra Skin

Hair loss

Muscle and Bone loss

Changing body image and relationships

- GERD (sleeve)

Post-op lifestyle

Necessary for success and safety

- Eating parameters
- Supplements (vitamins and protein)
- Medication restrictions
- Exercise
- Regular follow-up with Bariatric Team
  - As well as PCP, and other providers

Later **Complications**

- Malabsorption
  - Medications
  - vitamins, calcium, iron,
  - protein
- Ulcer at GJ anastomosis
  - Nicotine usage is highly associated with this
  - Daily NSAID usage
- Internal hernia (may be years later)
  - presents with ongoing abdominal pain (may be severe)
  - CT 1st
  - May need exploratory laparoscopy

Yearly labs

- CBC
- CMP
- Iron/TIBC
- Ferritin
- Folate
- Phosphate
- PTH

- Pre-Albumin
- Vitamin B-1
- Vitamin B-12
- Vitamin D
- Magnesium

Barriers to Surgery

- Insurance
  - Variety of requirements
  - Exclusionary policies
- Patient fears and misconceptions
- Physician misconceptions

- Operate on 1-2% of all patients who qualify for surgical intervention

Are Obese Patients Different?

- Physical Exam
  - Abdominal exam MUCH less reliable
  - Distension??
  - Bowel sounds
  - Breath sounds
  - VITAL SIGNS
  - More likely to “hide” things – hematomas, etc.

Summary

- The Obesity Epidemic is REAL
- Bariatric surgery is a proven safe and effective treatment
- The TEAM is critical to both short and long term success
- The obese patient does have unique challenges that we must be acquainted with as health care providers

Thank You

Questions?