

# METABOLIC & BARIATRIC SURGERY INFORMATION SESSION

<https://www.marshfieldclinic.org/specialties/bariatric-surgery>



**Marshfield Clinic<sup>®</sup>**

HEALTH SYSTEM

MARSHFIELD MEDICAL CENTER

# This session is FREE

- Topics
  - Questionnaire, Folder, Exam.
  - Obesity and health risks
  - Am I a candidate for surgery ?
  - Timeline/Process
  - Insurance
  - Dietary
  - Behavioral health
  - Procedures



## Terms

- Metabolic
  - Cellular changes
- Bariatric
  - Medical treatment of weight
- Body Mass Index (BMI)
  - $\text{BMI} = \text{body weight (in kg)} \div \text{height (in meters)}^2$
- Obesity
  - Medical diagnosis,  $(\text{BMI}) \geq 30 \text{ kg/m}^2$
- Morbid obesity
  - Medical diagnosis,  $(\text{BMI}) \geq 40 \text{ kg/m}^2$



# Metabolic and Bariatric Surgery Accreditation

Marshfield Medical Center is designated an **MBSAQIP** (*Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program*) Accredited – Comprehensive Center by the American College of Surgeons and American Society of Metabolic and Bariatric Surgeons.



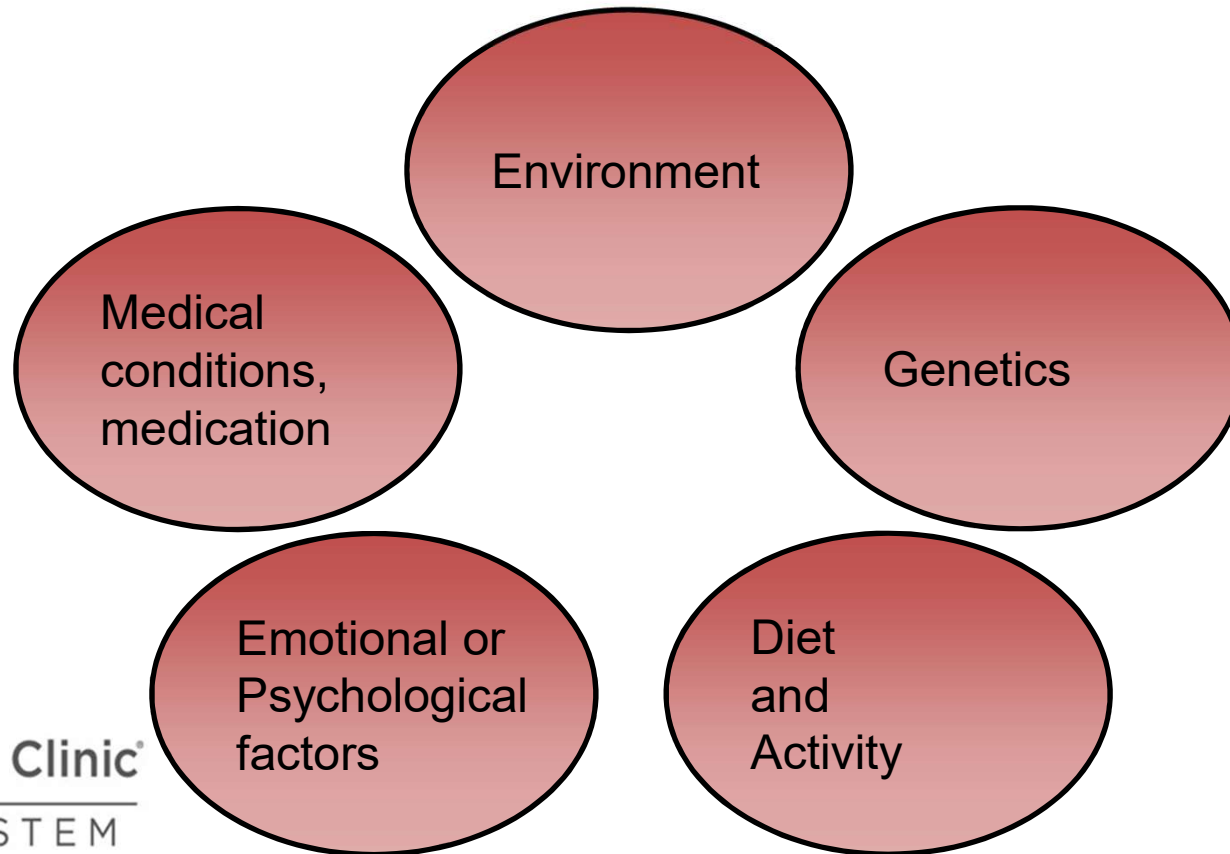
# Patient Handbook

Metabolic and Bariatric Surgery



Hennepin County Health System

# What causes obesity?



# POTENTIAL CONTRIBUTORS TO OBESITY

2015

## Inside the Person

## Outside the Person

### Contributors to Energy Storage

Increased Intake

Increased Intake

Decreased Expenditure

Decreased Expenditure

Intake & Expenditure (Or Unknown)

Intake & Expenditure (Or Unknown)

Disordered Eating  
(night eating syndrome,  
binge eating,  
"food addiction")  
Emotional Coping

Hyper-reactivity to  
Environmental Food Cues  
Heightened Hunger  
Response

Delayed  
Satiety

Age Related Changes  
(i.e. menopause, mobility  
decline, hormones)  
Pathological Sources of  
Endocrine Dysregulation  
(i.e. thyroid dysfunction, PCOS,  
Cushing's Syndrome)  
Central & Peripheral Regulators  
of Appetite & Adipose Tissue

Chronic Inflammation  
(i.e. altered insulin signaling  
and glucose homeostasis)  
Genetic & Epigenetic  
Factors  
Gestational  
Diabetes

Self-regulatory &  
Coping Deficits  
Trauma History  
Mood Disturbance  
(i.e. depression,  
anxiety, bipolar etc.)  
Mental Disabilities

Thermogenesis  
Gut Microbiota  
Pain Sensitivity  
Physical Disabilities  
(i.e. functional impairments  
and regulatory dysfunction)  
Social Anxiety  
(i.e. exercise  
avoidance)

Environmental/  
Chemical Toxins  
Increased Availability  
of Energy Dense, Nutrient Poor  
Foods & Beverages  
Larger Portion Sizes  
Eating as Recreation,  
Snacking, Special  
Occasions  
Lack of Nutritional  
Education  
Skipping  
Meals  
Food  
Insecurity  
Diet Patterns  
Eating Away  
From Home  
Lack of  
Family Meals  
Market  
Economy  
Food  
Surplus  
Pervasive Food  
Advertising

Maternal  
Employment  
Breast Feeding and/  
or Related Factors  
Maternal Stress  
Maternal Smoking  
Maternal Obesity  
Delayed Prenatal Care  
Birth Order  
(first-born in family)  
Having Children  
(for women)  
Non-parental  
Childcare  
Maternal Over-nutrition  
During Pregnancy  
Birth by  
C-section  
Infection  
(i.e. human  
adenovirus 36)  
Weight Gain  
Inducing Drugs  
Smoking  
Cessation  
Sleep  
Deficits  
Family Conflict  
Social Networks  
Entering into  
a Romantic  
Relationship  
Lack of Employer  
Preparedness to  
Assist with Obesity  
Westernization &  
Economic Development  
Low SES &  
Nutrition Support  
Living in  
Crime-prone Areas  
Stress  
Child  
Maltreatment  
Weight Cycling  
(yo-yo dieting)

Consistent Temperature  
(i.e. air conditioning/heating,  
thermoregulation)  
Increased Sedentary Time  
(i.e. inactive leisure "screen"  
time, inactive job requirements)  
Built Environment  
(i.e. stairwell design/access,  
building design, absence of  
or poor sidewalks)  
Decreased Opportunity for  
Non-exercised Based  
Physical Activity  
(i.e. driving vs. walking to work  
and school, sedentary jobs)  
Labor Saving Devices  
Pre-natal Air Pollution

### Contributor/Influencer

Environmental  
Pressures on Physical Activity

Biological/  
Medical

Maternal/  
Developmental

Economic

Food and Beverage  
Behavior/Environment

Psychological

Social

\* Potential contributors indicate anything that has been put forth in the research literature as a question of investigation and is not intended to be a verification of whether or not, or the extent to which, each may or may not contribute.

# Obesity Related Disability

- Heart disease
- Vascular disease
- Blood pressure
- Cholesterol
- Edema
- Obstructive sleep apnea
- Diabetes
- Kidney disease
- GERD
- Infertility
- Anxiety/depression
- Muscle/joint problems
- Cancers
- PCOS
- Urine incontinence
- Venous stasis
- Asthma
- Quality of life



# What Health Issues Improve with Weight Loss?

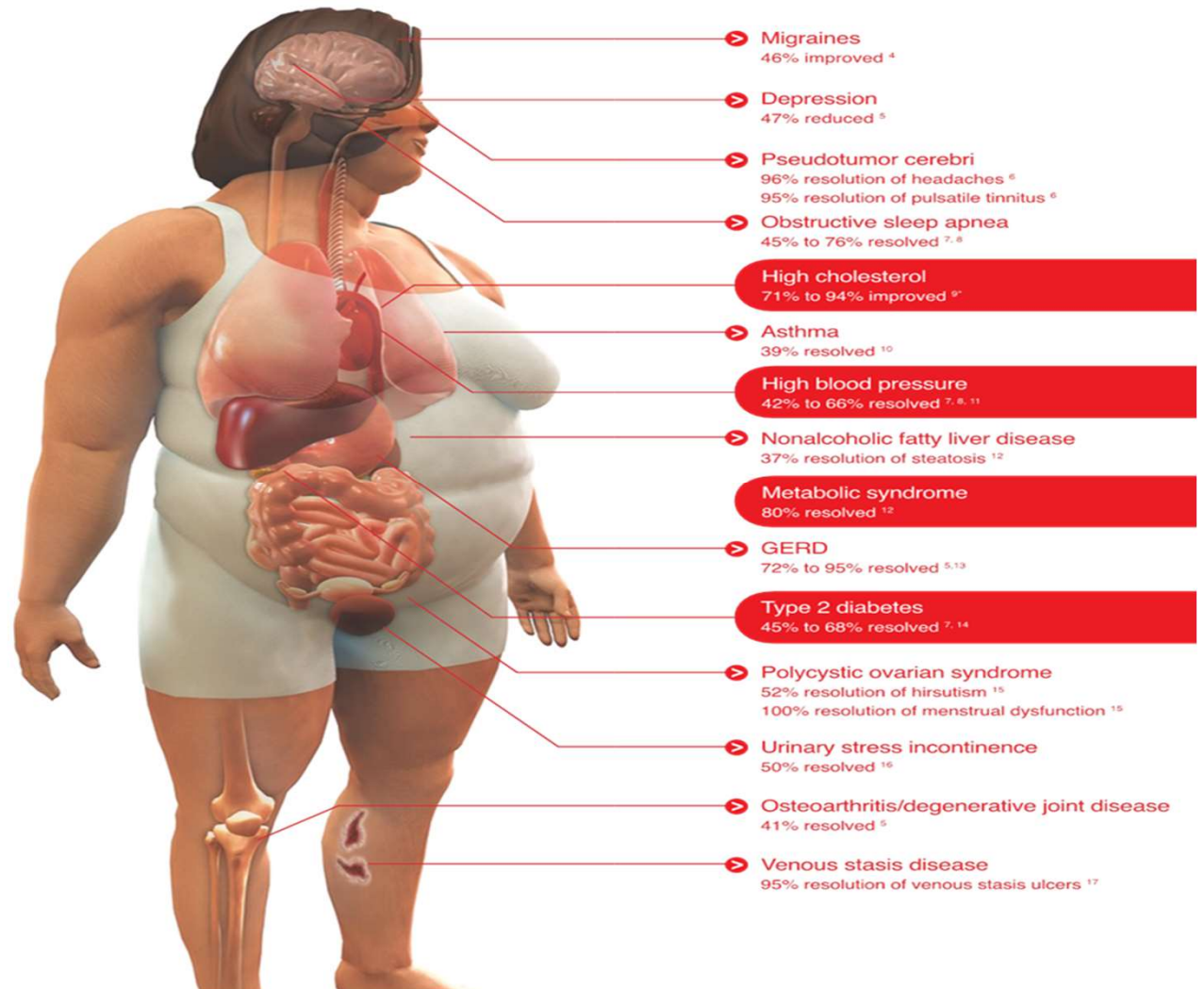
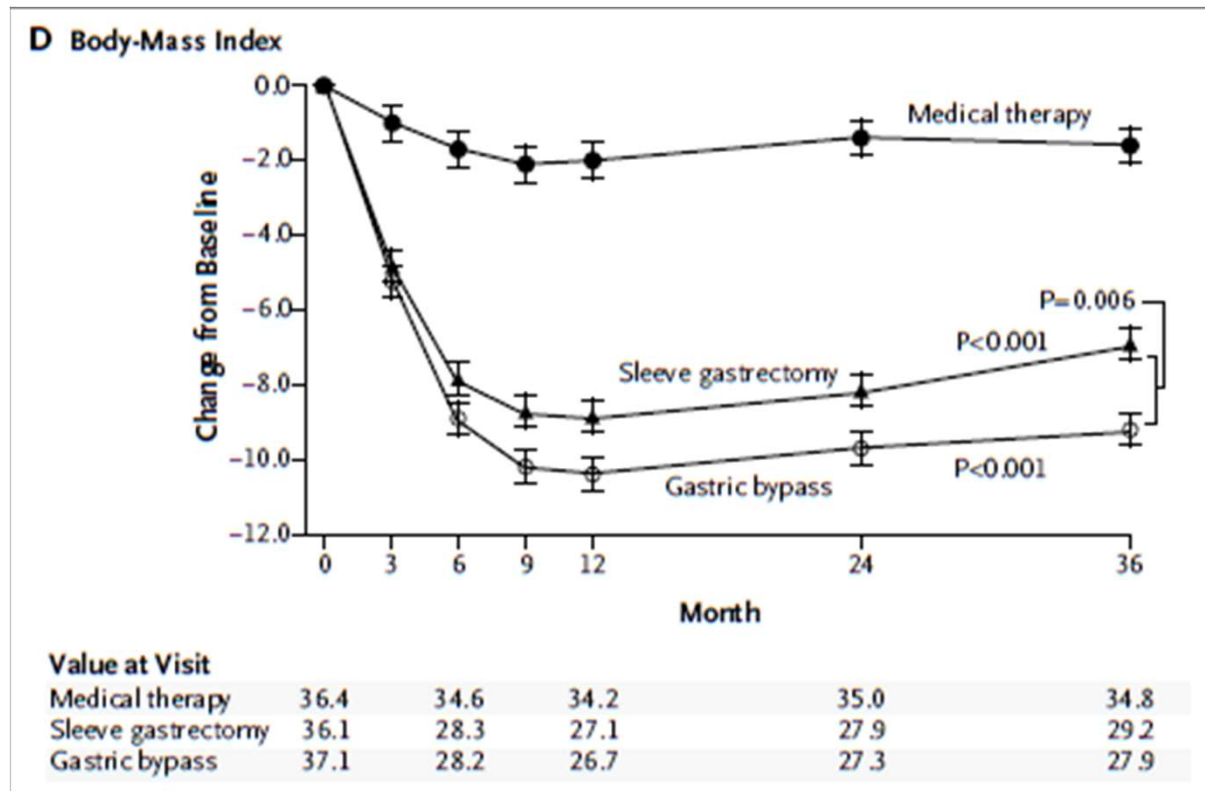


Image used with permission of Ethicon

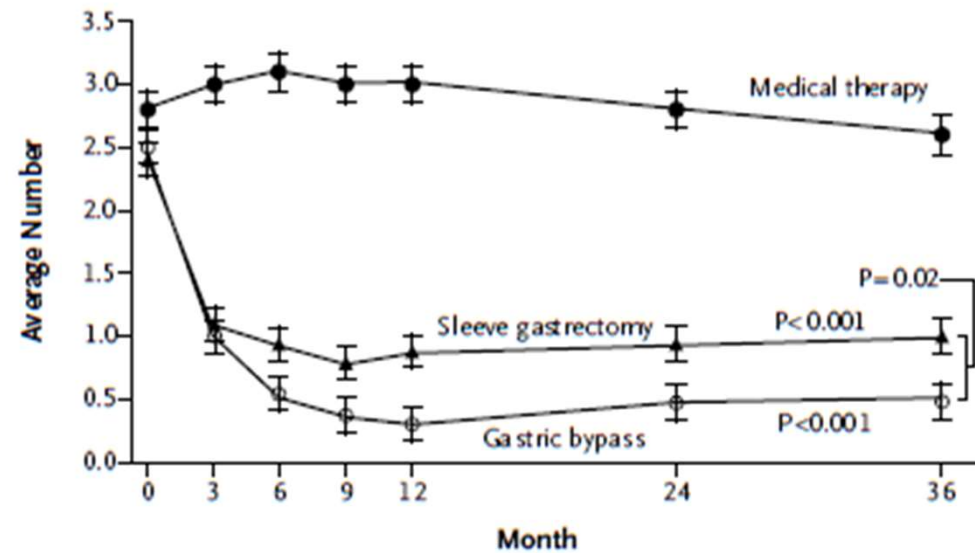
# Medical Care vs Surgery for Weight Loss



STAMPEDE Trial conducted at Cleveland Clinic by Phillip Schauer MD et al. N Engl J Med. 2014;370(21):2002-13. The final 5-yr data 2/2017 confirmed the previous 3 years of data.

# Medical Care vs Surgery for Diabetes

C Diabetes Medications

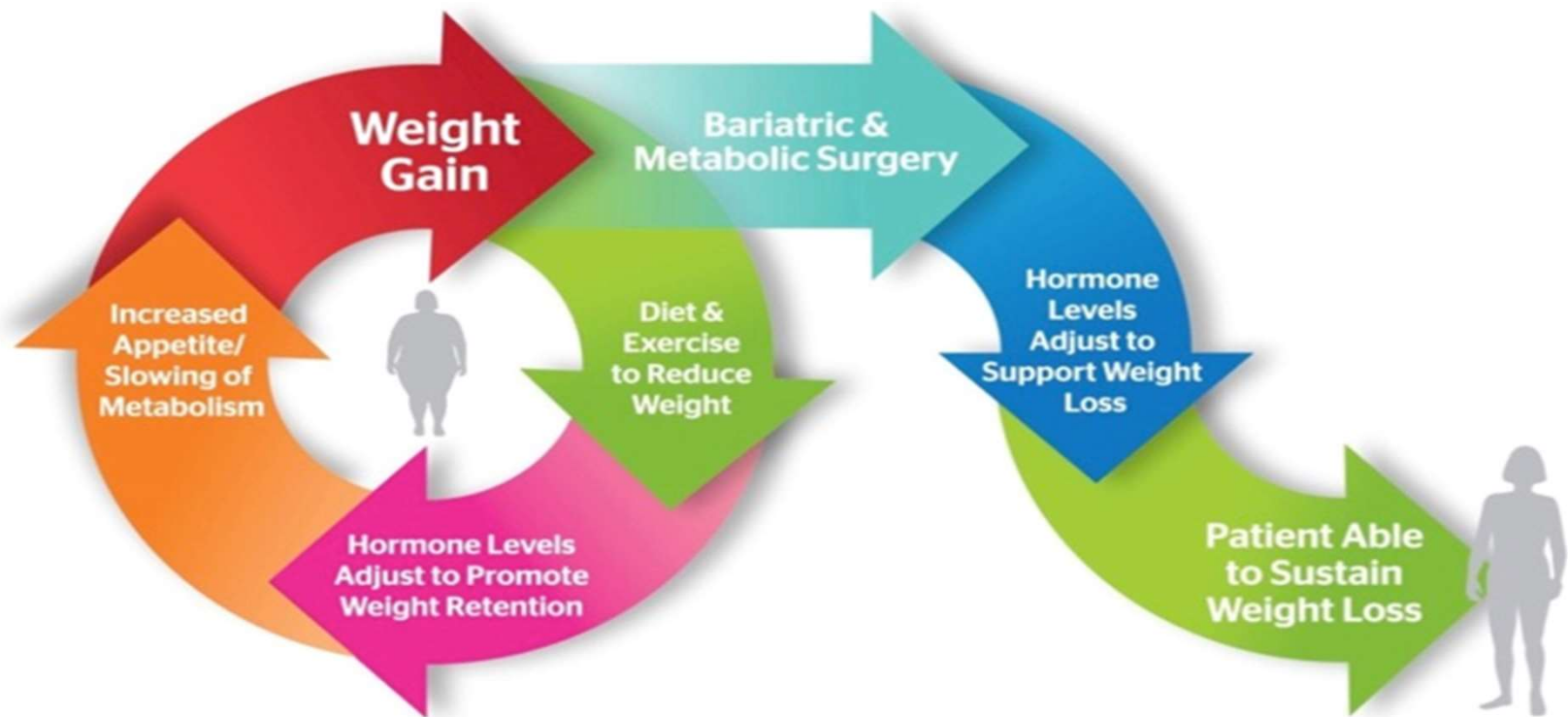


Value at Visit

Medical therapy	2.8	3.1	3.0	2.8	2.6
Sleeve gastrectomy	2.4	0.94	0.88	0.94	1.0
Gastric bypass	2.5	0.54	0.3	0.47	0.48

STAMPEDE Trial conducted at Cleveland Clinic by Phillip Schauer MD et al. N Engl J Med. 2014;370(21):2002-13. The final 5-yr data 2/2017 confirmed the previous 3 years of data.

# Metabolic & Bariatric Surgery Breaks the Weight Loss & Regain Cycle



# Metabolic and Bariatric Surgery to Improve Health

- Bariatric surgery is a **Tool**
- Requires **Lifestyle** changes by **You**
- We are your **Coaches** to help you reach a healthier weight and maintain it
- Our **Team** is here to **Support** you





# Am I a Candidate for Bariatric Surgery?



Images used with permission of Obesity Action Coalition

# STEP 1

## Do personal inventory -

- BMI

### About Morbid Obesity

#### What Is Body Mass Index:

The term "morbid obesity" is a **medical diagnosis** used when excess weight has caused, or is likely to cause, other medical problems. In general, an individual is considered morbidly obese if their weight is roughly 100 pounds over his or her ideal body weight (IBW) (See "Ideal body Weight Chart"). A commonly used method to measure weight as it relates to health is the Body Mass Index (BMI).

The BMI is calculated with a formula using your height and weight:  

$$\text{BMI} = \text{weight (kg)} \div \text{height (m}^2\text{)}$$

A much easier way to determine your BMI is by using a BMI chart. Find your height in the columns on the left and follow that row across to your current weight; your BMI is at the top of that column. Once you know your BMI, use the chart below to determine your BMI classification.

BMI	CLASSIFICATION
Below 18.5	Underweight
18.5 to 24.9	Healthy weight
25 to 29.9	Overweight
30 to 34.9	Class I Obesity
35 to 39.9	Class II Obesity
40 or greater	Morbid Obesity

		Body Mass Index																														
		Class I Obesity					Class II Obesity					Morbid Obesity																				
BMI		30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
Height (Inches)		Weight (in pounds)																														
58	4'10"	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258						
59	4'11"	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267						
60	5'0"	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276						
61	5'1"	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285						
62	5'2"	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295						
63	5'3"	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304						
64	5'4"	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314						
65	5'5"	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324						
66	5'6"	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334						
67	5'7"	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344						
68	5'8"	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354						
69	5'9"	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365						
70	5'10"	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376						
71	5'11"	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386						
72	6'0"	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397						
73	6'1"	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408						
74	6'2"	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420						
75	6'3"	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431						
76	6'4"	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443						

# Personal Inventory

- Health status
- Motivations
- Diet history
- Funding options
- Timing
- Support system
- Commitment long-term

Refer to Metabolic & Bariatric Surgery Handbook for additional details.

## Step-By-Step Process to Bariatric Surgery

### Step 1: Initial Screening Criteria

Determine whether you meet the screening criteria determined by the National Institutes of Health.

- ☐ My Body Mass Index (BMI) is 40 or greater

OR

- ☐ My BMI is 35 or more and I am treated for one or more of the following obesity-related health conditions:

- \_\_\_ Type 2 diabetes
- \_\_\_ Obstructive sleep apnea
- \_\_\_ High cholesterol or high lipids
- \_\_\_ High blood pressure
- \_\_\_ Coronary artery disease
- \_\_\_ Heart failure (Cor pulmonale)
- \_\_\_ Degenerative joint disease in hips, knees, or back
- \_\_\_ Reflux disease (GERD)
- \_\_\_ Asthma
- \_\_\_ Obesity hypoventilation syndrome

- ☐ I have made serious attempts at weight loss in the past
- ☐ I am able to understand the risks and potential complications associated with bariatric surgery.
- ☐ I am motivated to make permanent changes in my diet, level of activity, and lifestyle to lose weight and improve my health and well-being
- ☐ I agree to adhere to life-long medical management and the recommendations of my healthcare providers

### Step 2: Verify Insurance Coverage

Determine if bariatric surgery is a covered benefit of your policy and the preoperative requirements stated on your policy. If you do not know your policy coverage for bariatric surgery or your insurance company's requirements, call the customer service number on your member card. If you have trouble getting this information, you may contact our Patient Assistance Center for assistance at 800-782-8581 or 715-387-5165.

### Step 3: Candidate Evaluation

Our preoperative evaluation follows national guidelines and standards. The purpose is to determine whether bariatric surgery is the best option for you to reduce your weight and improve your health. During the evaluation process, we strongly encourage you to learn all you can about bariatric surgery and the permanent lifestyle changes required after surgery- ask questions and discuss your concerns.

Insurance requirements differ from one company to the next, but most include a comprehensive evaluation with psychological testing and a physician-supervised weight management program.

### Nutritional counseling

Typically, several months participation in a physician-supervised weight management program is required. If your dietitian is outside of the Marshfield Clinic system, we can provide teaching materials, if requested. This way we can help to insure that each patient has the educational material that is critical to success after bariatric surgery.





- Information session
- Physician Assistant or Surgeon visit
- 2 support groups
- 3 monthly dietitian visits in a row
- Bariatric psychology evaluation/testing **after 2 dietitian visits completed**
- Other visits as requested or needed



### Appointment Record

[illegible]

## Minimum Requirements – Special Reminders

- **Additional visits** - Your bariatric providers may request additional visits as needed based on your health condition(s), ability to comply with plan, etc. E.g. nutrition, physical therapy, other health providers, etc.
- **Drop out or Delay** - If you are not able to complete the program and drop out or delay for any reason, may need to redo everything depending on time passed and circumstances.
- **Mental Health** - If you have mental health provider, they must provide the bariatric team with letter or communication that your condition is stable.
- **Insurance** – Our program requires a minimum of 3 months of dietitian visits, but insurance frequently requires 6 months of dietitian visits for supervised medical weight loss and bariatric surgery preparation.

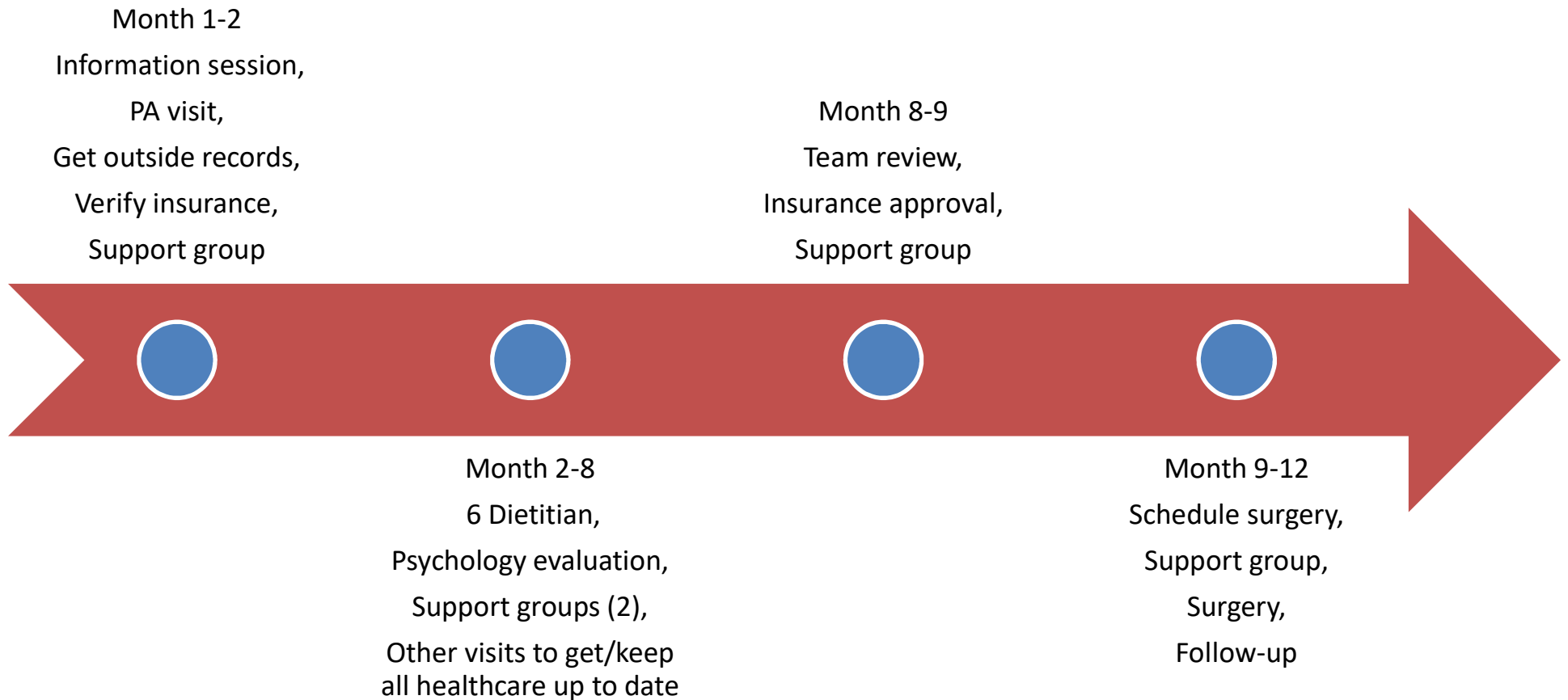


## Special Reminder

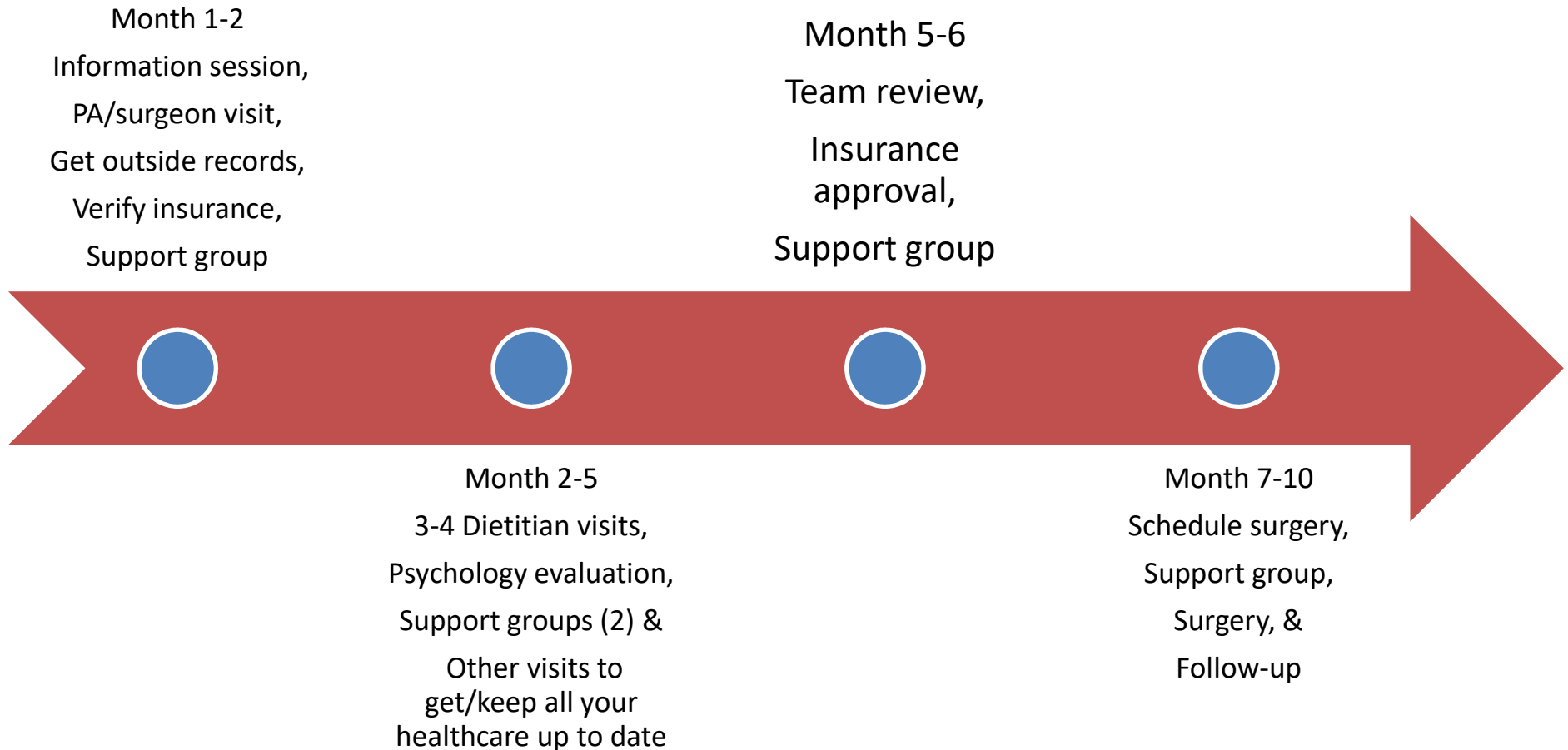
- Weight
- Weight loss is expected during the preparation phase
- Weight loss is required if BMI > 70 or as directed
- Weight gain may result in either denial, delayed, cancelled surgery



# Timeline – 6 Mo. Dietitian - Most Common



# Timeline – 3-4 Months Dietitian



# **STEPS TO SUCCESS and SAFETY**

- Attend appointments, bring your binder
- Manage other health conditions
- Annual physical and dental care up to date
- Daily activity
- Lose/maintain weight during preparation

# STEPS TO SUCCESS and SAFETY

- **Stop smoking** or using any **nicotine** products 3 months before surgery. We will confirm with lab tests as needed.
- **Sleep apnea** – if need CPAP wear it every night. If have trouble go back to provider ASAP to try different options. We check download to verify unless documented by provider you failed CPAP.
- **Diabetes** – A1c must be < 9.
- Females capable of **childbearing** - Adequate birth control in place 12-18 months after surgery.

# SURGERY



**Marshfield Clinic<sup>®</sup>**  
HEALTH SYSTEM  
MARSHFIELD MEDICAL CENTER



# Open vs. Laparoscopic Surgery Approach



Images used with permission of Ethicon

# Meet the Surgeons

**Dr. Julio Bird**

**Fellowship: MIMIS, Minnesota**

**MD, FACS**



**Dr. Vijaya Nirujogi**

**Fellowship: Cleveland Clinic, Ohio**

**MBBS, MD, MS, FRCS, FACS, FASMBS**



# Normal Anatomy

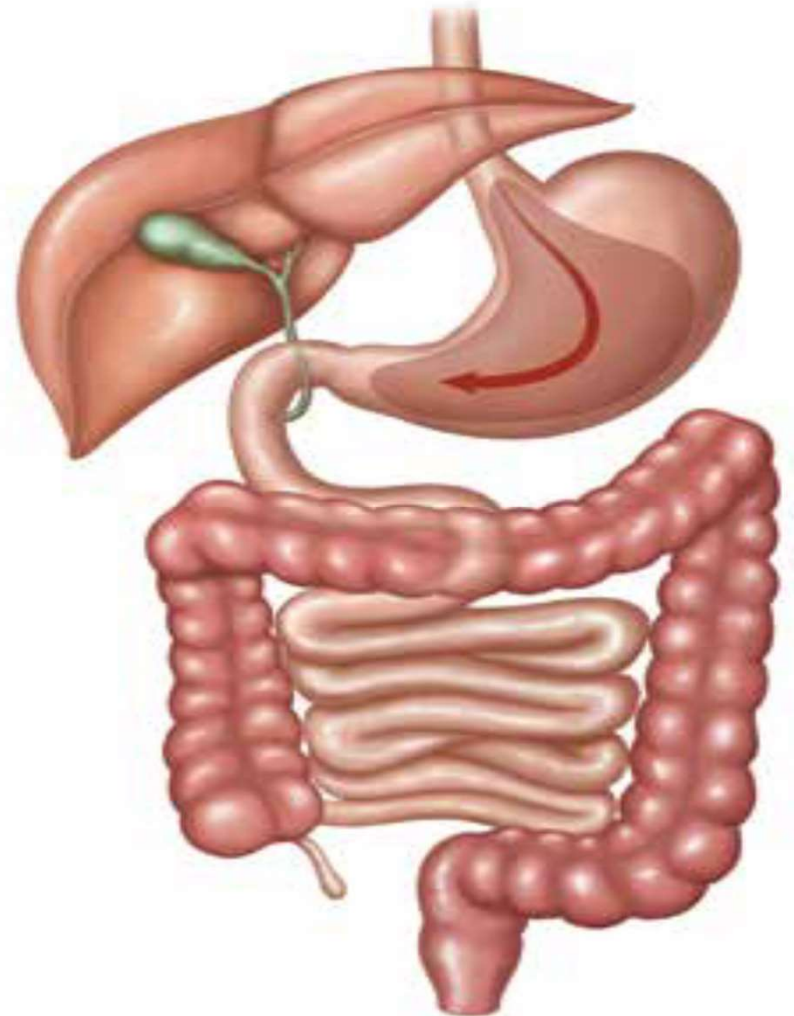


Image used with permission of Ethicon

# Sleeve Gastrectomy

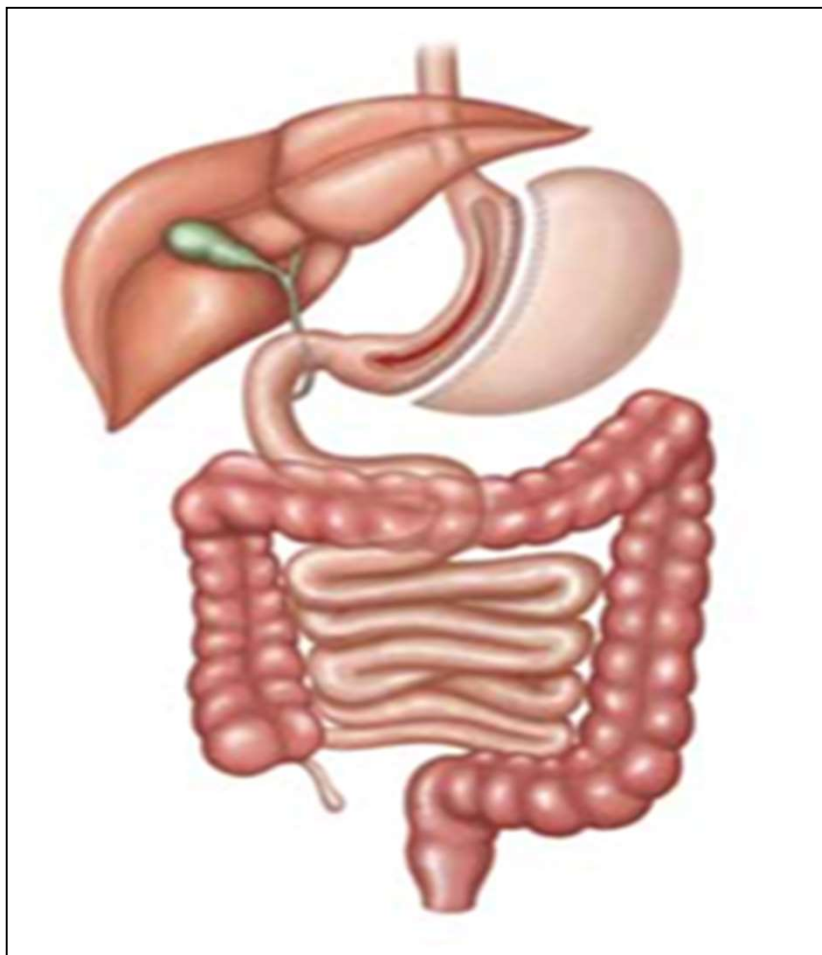


Image used with permission of Ethicon

# Roux-en-Y Gastric Bypass

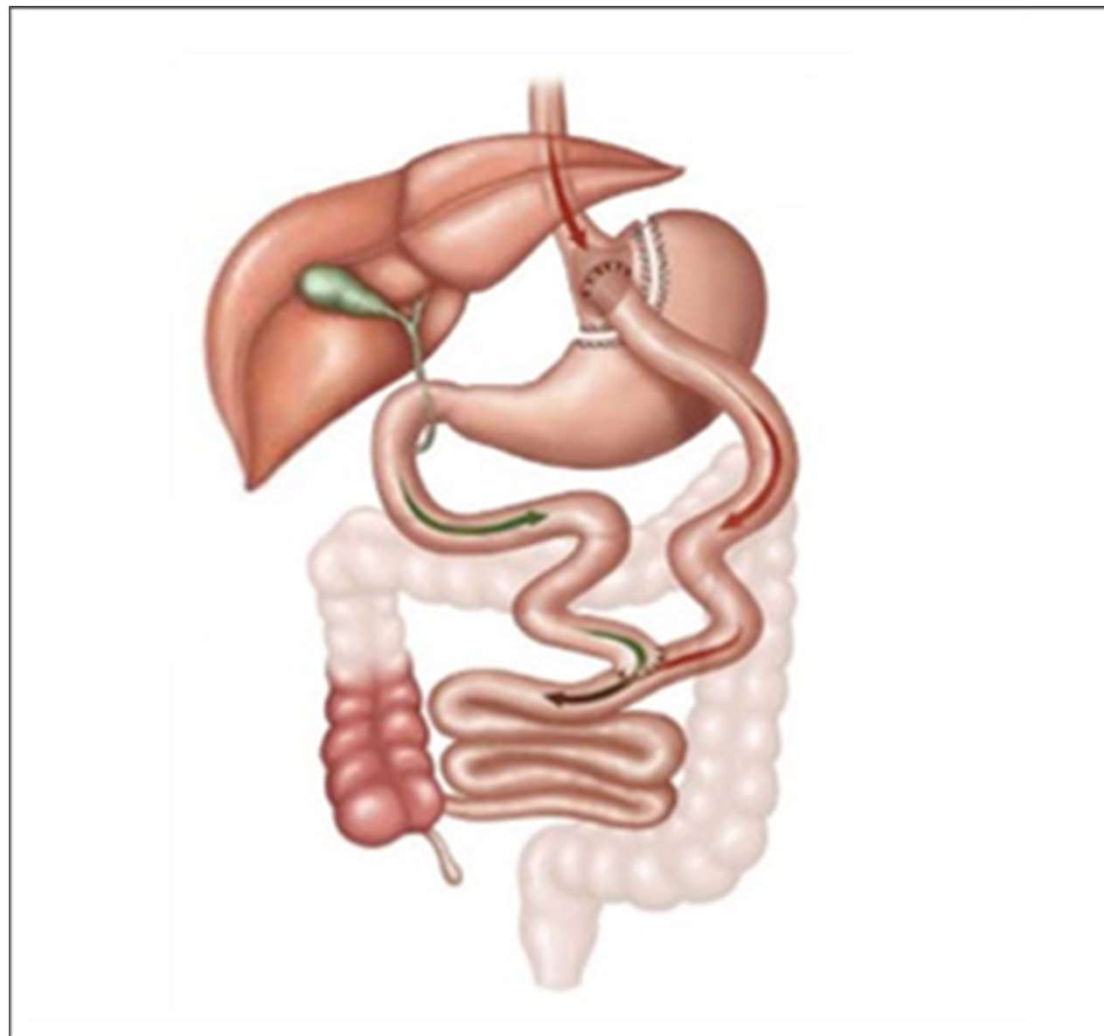


Image used with permission of Ethicon

# Metabolic and Bariatric Surgery Procedure Comparison

	Sleeve Gastrectomy	Roux-en-Y Gastric Bypass
Weight Loss and DM 2 Resolution Speed	Fast	Faster
Excess Weight Lost (average or range)	60% 2 yrs. 40-86% 5 yrs. 40-77% 6-9 yrs.	70-75% 2 yrs. 42-93% 5 yrs. 42-82% 10 yrs.
Restrictive or Malabsorptive	Restrictive	Restrictive and malabsorptive
Vitamin Deficiency Risk	medium	high
Average Hospital Stay	1-2 nights	1-2 nights



# Weight Loss Comparisons

	Medical Care Only	Sleeve Gastrectomy	Roux-en-Y Gastric Bypass
Average <b>Weight Lost</b> from Baseline (Percent or Pounds)	10yr. 7%* 12 yr. (~0-6.4 lbs.)**	1 yr. 23%* 4 yr. 18% (~56 lbs.)*	1 yr. 31%* 2yr. (~ 99 pounds)** 4yr. 27.5% (~ 90 lbs.)* 10yr. 21% * 12 yr. (~77 pounds)**
Average <b>Excess Weight Lost</b> (Percent)	10yr. 7.7%*	2 yr. 60% (55-80%)+ 4 yr. 43%* 5yr. 60% (40-86%)# 6-9 yr. 58% (46-77%)# 10 yr. 53% #	2 yr. 70% (60-85%)+ 4yr. 60%* 5yr. 65% (42-93%)# 6-9 yr. 56% (42-72%)# 10yr. 56.4%* 10yr. 59% (52-82%)# >10yr. 51% (49-59%)#
<small>Data compiled from multiple sources</small> <ul style="list-style-type: none"> <li>+ Lim, Robert B. Uptodate.baiatric procedures 10-4-18</li> <li>* jamasurg.2016.2317</li> <li>** N Engl J Med 2017;377;12</li> <li># ASMBS position statement long-term durability of wt. loss and diabetic outcomes</li> </ul>			

## Follow-up Expectations: Minimum

- 1-2 weeks
- 1 month
- 3 month
- 6 month
- 1 year
- Annually, **LIFELONG**.
- Multivitamins with iron & Calcium with Vitamin D **LIFELONG**, others as needed!





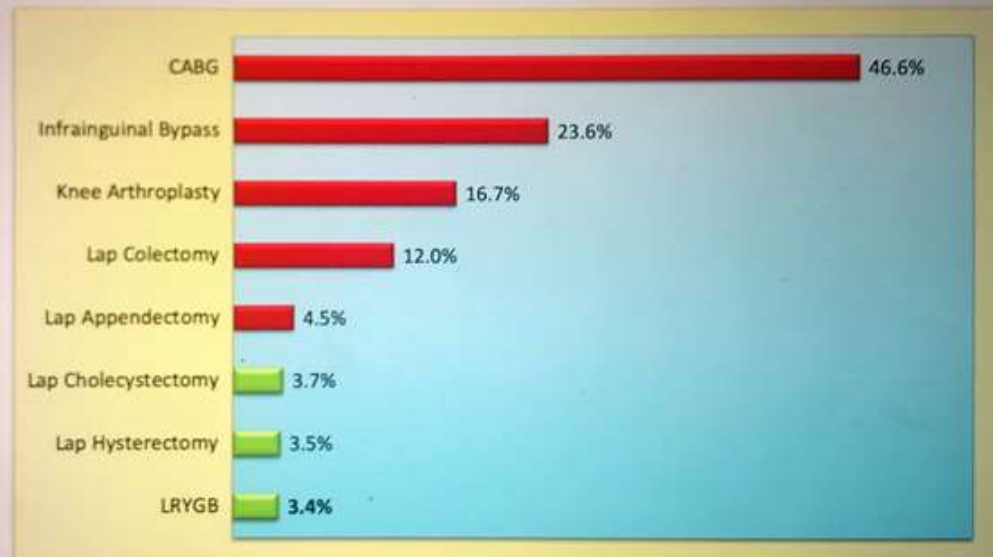
# Possible Complications

- **Blood clots** – legs, heart, lungs, brain, etc.
  - Could be life threatening and/or decrease quality of life
- **Smoking/nicotine use** leads to **decreased oxygen** to organ tissues
  - Poor healing
  - Wound infection or other problems
  - Overall organ function decreased
  - Ulcers possible long term
  - E-cigarettes, vapes, water/hookah pipes, mods, patches, gum, lozenges, pipe tobacco, cigars, chew, snuff, smokeless
  - E-cigs contain other harmful substances, including non-nicotine e-cigarette versions
  - **None allowed 3 months or more before surgery and NEVER after surgery**
- **Leaks, ulcers, strictures, infection, nutrition**
- **Transfer addictions** – alcoholism, gambling, etc.



# Safety

## US National Data of Postoperative Composite Complication Rate (%) of 8 Procedures in Patients with Type 2 Diabetes



***Of the 66,678 diabetic patients included, 16,509 underwent LRYGB.***

Aminian A, Brethauer SA, Kirwan JP, Kashyap SR, Burguera B, Schauer PR.  
How safe is metabolic/diabetes surgery? Diabetes Obes Metab. 2014 Oct 29.



## Next Step

- Schedule **Bariatric Physician Assistant** visit.
- If you have **commercial insurance** other than Security Health Plan, can **call them** and **find out their requirements**.
- **Follow** recommendations from all providers.
- Bring **booklet** with you to all appointments.



## RESOURCES & SUPPORT

**Financial questions should be directed to:**

- **Patient Assistance Center at 715-389-4475**



# THANK YOU

We are honored to serve you



---

HEALTH SYSTEM

MARSHFIELD MEDICAL CENTER