



# UPMC Central PA Weight Management

Info session on Medical and Surgical  
Weight Management

Presenter: Dr. John Powell



Welcome to-  
UPMC Central PA Weight Mangement !  
We are so glad you are here!

"Obesity is defined as a chronic, relapsing, multifactorial, neurobehavioral disease, wherein an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces, resulting in adverse metabolic, biomechanical and psychosocial health consequences."

## Our Goal:

- Provide you with support, guidance, and tools to achieve your weight management goals in an evidence-based manner.
- We follow four weight management pillars to help you achieve your goals, including behavior change, nutrition therapy, physical activity/exercise, anti-obesity medications and/or surgical intervention as clinically appropriate.

## Our Team:

- When it comes to weight management programs, “one size does not fit all.”
- We provide a medically supervised, comprehensive treatment approach in a safe and supportive setting.
- Our team includes a wide range of health experts and together, we will make a plan that can help reach health goals.

## Our comprehensive, individualized approach may/can include:

- Medical Assessment and evaluation
  - Physical exam
  - Weight history
  - Labs
  - Referrals
  - Medical screening
- Nutrition
  - Nutrition Classes
  - Meal replacement programs
  - 1:1 Support
- Exercise
- Behavior changes
  - Sleep habits
  - Stress management
- Anti-obesity medications
- Surgical tools

# Team and Locations

- Surgeons
- Bariatricians
- Nurse practitioners/nurses
- Dietician/nutritionist
- Insurance coordinators/navigators
- Cardiology
- Medical
- Gastrointestinal
- Psychiatric
- Pulmonary
- Harrisburg
- York
- Carlisle
- Lancaster
- Hershey
- Hanover
- Chambersburg

# Obesity as a disease

- Prevention and early identification
  - Stopping and preventing disease progression
  - Lifelong treatment is often needed
- Assessment and Diagnosis
- Treatment and Management
  - Four pillars of obesity medicine
    - Nutrition
    - Physical activity
    - Behavior therapy
    - Tool intervention- Surgical and medical



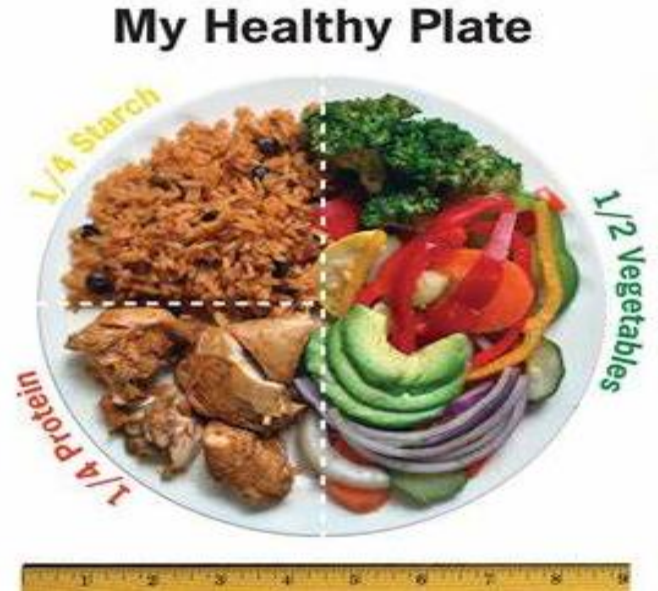
# Pillar One- Nutrition-

This isn't about proving yourself, another "diet" or just "eat less, move more" -You've likely tried that!

Lifestyle approach to support changes

Nutrition pillar focuses on dietary treatments meant to maximize healthy nutritional intake, achieve calorie balance, and encourage healthy eating habits.

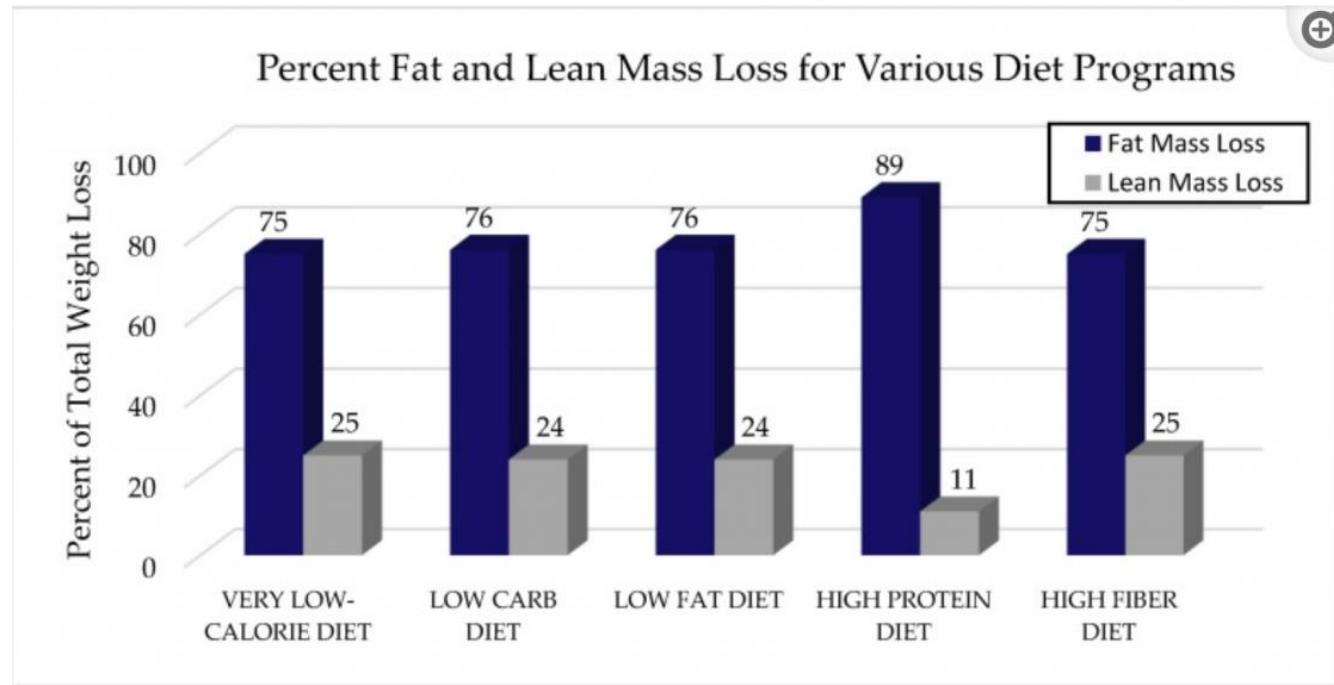
It entails creating individualized nutrition programs based on each person's requirements and desires, emphasizing nutritious food, portion management, and a balanced distribution of macronutrients.



# Pillar One-Nutrition-Continued

- Patients in our program are required to participate in nutrition support, here are the different options offered by our Weight Management RD's
  - 1:1 Dietitian support
    - Designed for any individual and encouraged for every patient
    - May be required by your provider depending on your individualized assessment
  - Virtual Nutrition classes
    - Designed for patients following in the lifestyle/medication pathway.
    - These must be completed before your 1:1 appointment with your provider to ensure appropriate support in your journey. \*
  - Surgical Class program
    - After having your initial surgical appointment, you will begin the surgical classes over six months led by the RD's to support you on your journey.
  - ROW program
    - 6 month VLCD (very low calorie diet) Intense lifestyle program





(Willoughby et al, 2018)

# Pillar Two-Physical Activity-



- Physical activity helps increase energy expenditure, enhances metabolic health, and supports weight loss and weight maintenance efforts; physical activity is essential for managing obesity.
- Focusing on this pillar entails creating customized exercise regimens that are safe, doable, and pleasurable for people with obesity, with a focus on resistance and aerobic training exercises.
- Numerous resources are available to help support you with this pillar throughout the program
  - Discounted Gym memberships- various locations
  - Metabolic Rehab resource- various locations
  - Resource to Medical Fitness Center in Hanover
- Customized goals and plans to help you reach your physical activity goals

# Pillar Two: Physical Activity Cont.



Long term goals:

- Adults need 150 minutes of moderate-intensity physical activity a week.
  - This can also be 75 minutes of vigorous-intensity or an equivalent combination of moderate- and vigorous-intensity physical activity.
- In addition, adults need **at least 2 days of muscle-strengthening activity each week.**

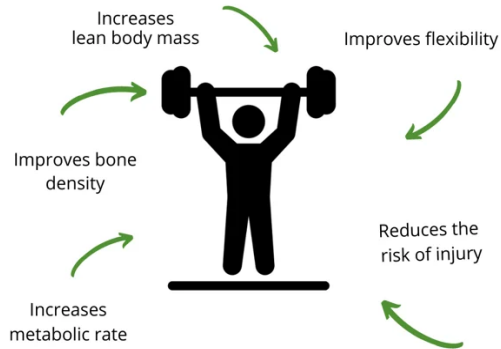
This can look different for everyone!

What does this feel like?

- Light:** Walking around the house, moving around at work, watching/playing with the kids. Activities of daily living- Recovery
- Moderate:** You just saw a cute dog, and you pick up your pace to go pet it- it's a warmup or a cool down. If you're doing moderate-intensity activity, you can talk but not sing during the activity. - Manageable
- Vigorous:** It is getting hot in here! It's when you're crushing it on the dance floor, the sweat is dripping, but you are killing it and are pushing through! - Feeling the burn. You will not be able to say more than a few words without pausing for a breath.
- Very Vigorous-** When your instructor tells you to push for the last 30 seconds even though you feel like you are actually dying! - All-out effort

# Pillar Two: Physical Activity Cont.

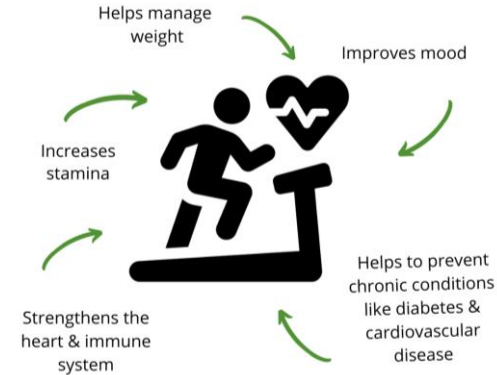
## BENEFITS OF STRENGTH TRAINING



### Types of Strength Training:

- Resistance bands
- Push-pull workouts
- Body weight exercises (e.g., squats, push-ups, chin-ups)
- Free weights (dumbbells, barbells, kettlebells)
- Medicine balls or sandbags
- Muscular endurance
- Muscular isolation training
- Muscular hypertrophy (promotes muscle growth and boosts muscle mass)

## BENEFITS OF CARDIO



### Types of Cardio:

- Cycling
- Walking
- Running
- Swimming
- Jumping rope
- Circuit Training
- Aerobic Interval Training
- Anaerobic Interval Training
- Fartlek or Speed Play Training
- High-Intensity Interval Training (HIIT)

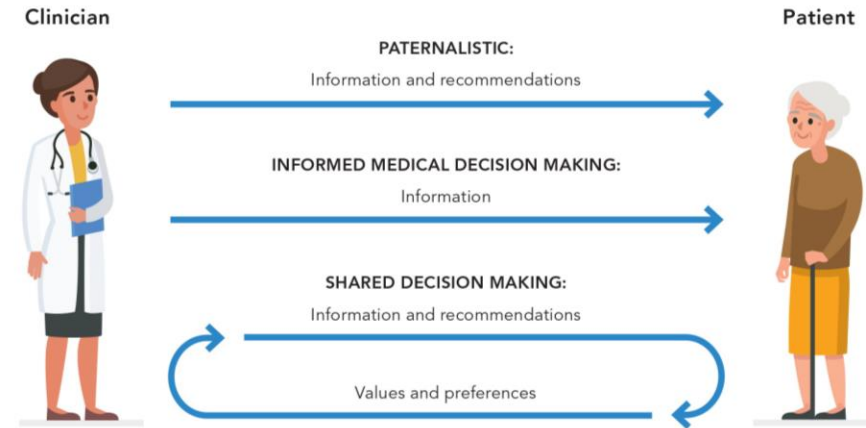
# Pillar three- Behavior modification

- Focus is on addressing mental and physical elements that are associated with obesity.
- This could include strategies and resources to help with:
  - Stress management
  - Emotional eating
  - Sedentary activity
  - Poor eating patterns
  - Sleep patterns
- To facilitate behavior, change and long-term adherence to healthy lifestyle behaviors, this pillar includes cognitive-behavioral tactics, motivational interviewing, goal setting, self-monitoring, and relapse prevention measures.
- Resources include referral to local psychology groups for therapy. Some groups have specialists for emotional and binge eating.



# Pillar Four- Treatment- Medical and Surgical

- Medical therapies such as medication and bariatric surgery are recommended for the treatment of obesity in individuals who have not lost sufficient body weight with lifestyle changes alone or who require further treatment due to obesity-related comorbidities.
- This pillar entails careful utilization of medication to encourage weight loss, control comorbidities associated with obesity, enhance metabolic health, and evaluate bariatric surgery as a therapeutic option for patients who meet the criteria.





# Weight Management- Medical

# Pillar Four-Medical treatment

- **Candidates:** BMI greater than or equal to 30 without comorbidity or BMI greater than or equal to 27 with comorbidity.
  - What counts as a comorbidity? Having any of the following: Hypertension (high blood pressure), High Cholesterol, Prediabetes, Type 2 Diabetes, Heart disease, Chronic Kidney Disease, Sleep Apnea
- Please note there are contraindications and financial considerations to medications and your provider will evaluate you for appropriate treatment options. **It is not a guarantee that medications will be prescribed.** Medications will likely not be prescribed at the first office visit.
- Our Team:
  - 9 Obesity Medicine Association (OMA)-Certified APPs, 1 American Board of Obesity Medicine (ABOM)-Certified MD (Dr. Suppiah)
  - Registered Dietitians



# Pillar Four-Medical treatment: Anti-Obesity Medications

## ORAL

- Phentermine (sympathomimetic amine, controlled substance, 5% - 10% total body weight loss- TBWL)
- Orlistat (GI lipase inhibitor, 5% TBWL)
- Naltrexone / Bupropion (Contrave – opioid antagonist and antidepressant, 5 – 10% TBWL)
- Phentermine / Topiramate (Qysmia – 5 – 10% TBWL)
- Metformin (used alone or in conjunction with other oral therapies)



## INJECTABLE

- Semaglutide (Ozempic, Wegovy – GLP-1 receptor agonist, 10 – 15% TBWL)
- Liraglutide (Saxenda, Victoza - GLP-1 receptor agonist, 10 – 15% TBWL )
- Tirzepatide (Mounjaro, Zepbound – dual GIP/GLP-1 receptor agonist, 10 – 20% TBWL)
- Not to be used in patients with any personal or family history of Multiple Endocrine Neoplasia or Medullary Thyroid Cancer



# Medical: Meal Replacement Program- ROW

- Replacing Old Ways-ROW is a weekly program where you will work closely with your dietitian (RD) weekly and medical provider (monthly) to achieve medically supervised accelerated weight loss with meal replacements.
- Medically supervised VLCD 800 calorie diet with ketogenic effect for accelerated weight loss
- **Candidates:** Designed for BMI >30 or >27 with co-morbidities.
- 6-month program and intense lifestyle nutritional intervention to help support behavior modification.
- Numetra (Robard) Products will be purchased by the patient via online store.
- Meal replacements, which are special foods designed to give you all the important nutrients you need. These meal replacements are lower in calories and smaller in portion size than regular meals, which can help you lose weight.
- Costs include:
  - 6 months of weekly virtual classes with a registered dietitian - \$450
  - Meal replacement products - \$85 per week (cost decreases after 9 weeks)
  - Appointments with the medical provider and lab work - will be processed through your insurance company.
- Weight Loss goals: 10% of body weight in first 6 months. Weight Maintenance afterward, with additional support as needed/appropriate
- Coming soon- Partial Meal Replacement Program!

# Pillar Four-Medical treatment: Compounded Injections?



- We do **not** recommend compounded injections and advise against them (semaglutide, tirzepatide) due to risk to the patient, lack of FDA surveillance and oversight.
- We do not prescribe, encourage, or administer compounded injections.



# Weight Management- Surgical

WEIGHT IN POUNDS (lbs)

	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330
4'6"	30	33	35	38	40	43	45	48	50	53	55	58	60	63	65	68	70	73	75	78	80	83
4'7"	29	31	34	36	39	41	43	45	48	51	53	56	58	60	63	65	68	70	72	75	77	80
4'7"	29	30	33	35	37	40	42	44	47	49	51	54	56	58	61	63	65	68	70	72	75	77
4'8"	27	29	31	34	36	38	40	43	45	47	49	52	54	56	59	61	63	65	67	70	72	75
4'9"	26	28	30	33	35	37	39	41	43	46	48	50	52	54	56	59	61	63	65	67	69	72
4'10"	25	27	29	31	34	36	38	40	42	44	46	48	50	52	54	57	59	61	63	65	67	69
4'11"	24	26	28	30	32	33	36	38	40	43	45	47	49	51	53	55	57	59	61	63	65	67
5'0"	23	25	27	29	31	32	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
5'1"	23	25	26	28	30	32	34	36	38	40	42	44	45	47	49	51	53	55	57	59	61	62
5'2"	22	24	25	27	29	31	33	35	37	38	40	42	44	46	48	49	51	53	55	57	59	60
5'3"	21	23	25	27	28	30	32	34	36	37	39	41	43	44	46	48	50	51	53	55	57	59
5'4"	21	22	24	26	28	29	31	33	34	36	38	40	41	43	45	46	48	50	52	53	55	57
5'5"	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48	50	52	53	55
5'6"	19	21	23	24	26	27	29	30	32	34	36	37	39	40	42	44	45	47	49	50	52	53
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5'10"	17	19	20	22	23	24	26	27	29	30	32	33	35	36	37	39	40	42	43	45	46	47
5'11"	17	18	20	21	22	24	25	27	28	29	31	32	34	35	36	38	39	41	42	43	45	45
6'0"	16	18	19	20	22	23	24	26	27	29	30	31	33	34	35	37	38	39	41	43	43	45
6'1"	16	17	19	20	21	22	24	25	26	28	29	31	32	33	34	36	37	38	40	41	42	44
6'2"	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36	37	39	40	41	42
6'3"	15	16	18	19	20	21	23	24	25	26	28	29	30	31	33	34	35	36	38	39	40	41
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6'5"	14	15	17	18	19	20	21	23	24	25	26	27	29	30	31	32	33	34	36	37	38	39
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6'9"	13	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31	32	33	34	35
6'10"	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	34	35

Severely Underweight: < 17.5

Optimal: 18.5 - 25

Overweight: 25.1 - 30

Obese: 30.1 - 40

Severely Obese: > 40.1

# Types of Bariatric Surgery

## Types of Surgeries performed:

### ➤ Primary:

- Laparoscopic Vertical Sleeve Gastrectomy
- Laparoscopic Roux-en-Y Gastric Bypass
- (Laparoscopic Adjustable Band (Lap-Band)) - Not Recommended\*\*\*

### ➤ Conversion surgery

### ➤ Revision surgery

# Roux-en-Y Gastric Bypass

## •Malabsorption

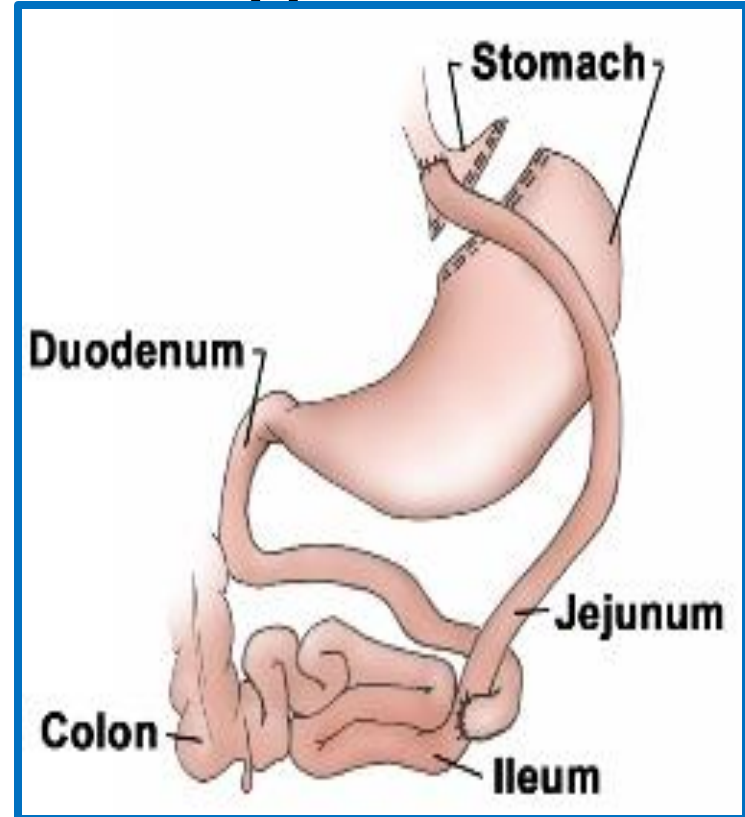
- Metabolic deficiencies

## •Restrictive

- The stomach is divided into two sections creating a small 15-30ml pouch

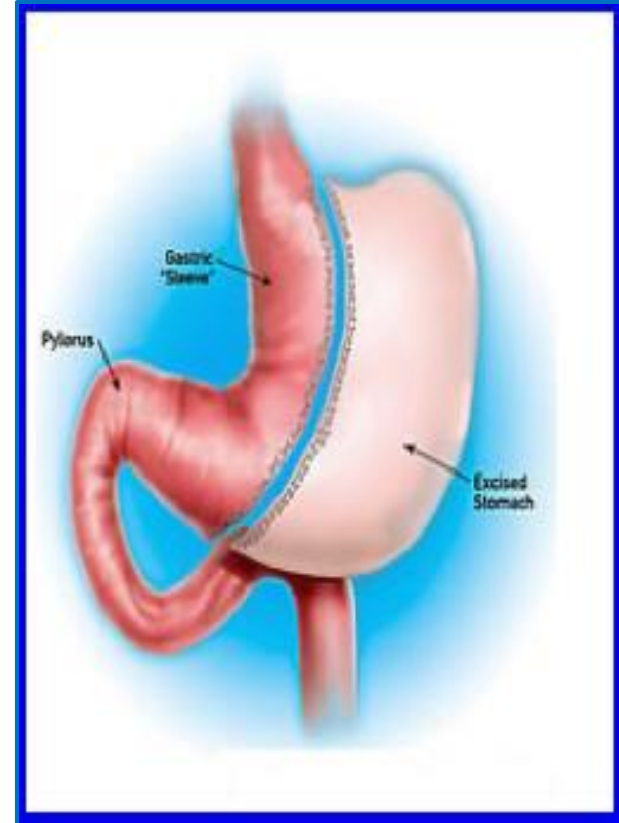
## Lifelong No no's: (ulcers)

- Nicotine
- NSAIDS
- Minimize caffeine and alcohol



# Vertical Sleeve Gastrectomy

- **Restrictive and Satiation**
- The Stomach is transected vertically creating a “tube” shaped stomach
- Approximately 75-80% of the stomach is removed
- The pylorus is left intact
- Originally developed as a step surgery in the super morbidly obese
- Decreases the production of Ghrelin by the stomach





# Results of Bariatric Surgery

## Weight Loss at 1 year

(expressed as % of excess body weight lost (EBWL))

- **Roux-en-Y Gastric Bypass**

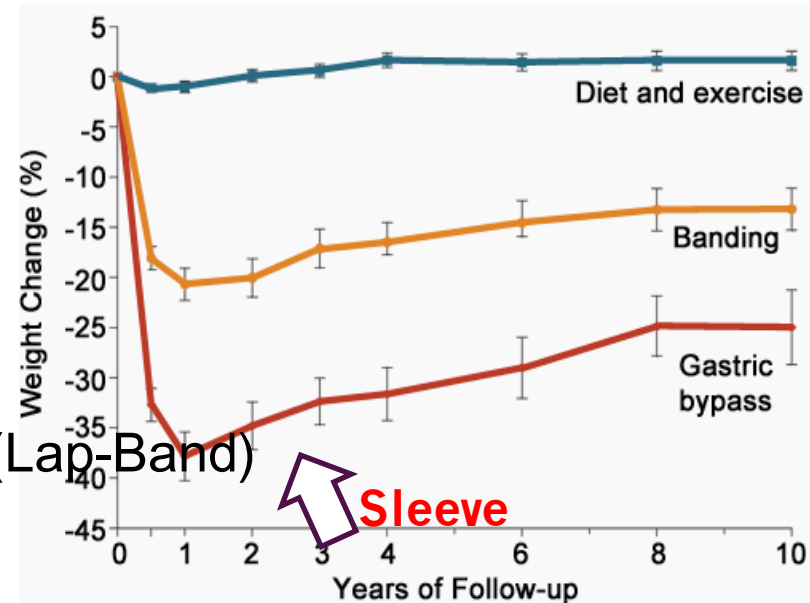
- **70+% EWL**

- **Vertical Sleeve Gastrectomy**

- **60-70% EWL**

- **Laparoscopic Adjustable Band (Lap-Band)**

- **50% EWL**

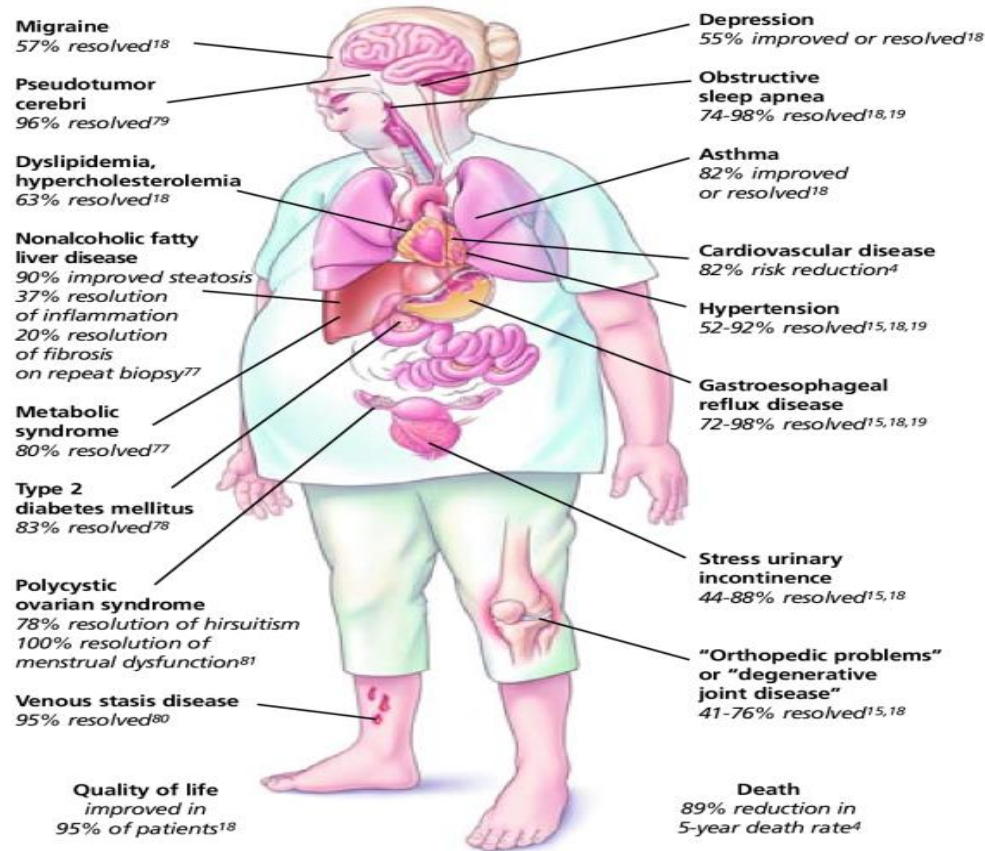


# **Complications of Bariatric Surgery**

## **1% or <**

- Nausea                      Respiratory
- Reflux/dysphagia        Cardiac issues
  - Bleeding                  Strokes
- Obstruction              Pneumonia
  - Hernia                  UTI
- Stricture    Wound infection
  - Leaks
- DVT/PE/Mesenteric clots (0.6%)

## Benefits of bariatric surgery



# Effect of Bariatric Surgery on Comorbidities

- Bariatric Surgery demonstrates a decreased mortality from all causes
- Bariatric Surgery has been shown to resolve or improve numerous comorbidities suffered by the morbidly obese including:
  - Type 2 DM
  - Hypertension
  - Hyperlipidemia
  - Obstructive Sleep Apnea

# Effect of Bariatric Surgery on Type 2 Diabetes Mellitus

- All bariatric surgeries:
  - Type 2 DM resolved- 76.8 %
  - Type 2 DM improved- 86%
- Gastric Bypass:
  - Type 2 DM resolved- 83%
  - Type 2 DM improved- 86%
  - Complete reduction of all diabetic medications
- Sleeve Gastrectomy
  - Type 2 DM partial /complete- 93.2%
  - Type 2 DM complete- 50.7%
  - Within year 1
- Lap-Band:
  - Type 2 DM resolved in 73% within 2 years vs 13% receiving conventional therapy
- ***Theory: increased GLP-1 activity, insulin sensitivity and decrease food intake and sugar cravings***

# Effect of Bariatric Surgery on Type 2 Diabetes Mellitus

- VS Lifestyle Intervention
  - 40% complete remission in RYGB
    - 65% reduction or off all DM medications at year 3
  - 0% remission in Lifestyle intervention group
    - 0% off DM medication at year 3
- JAMA Surgery 7/2015

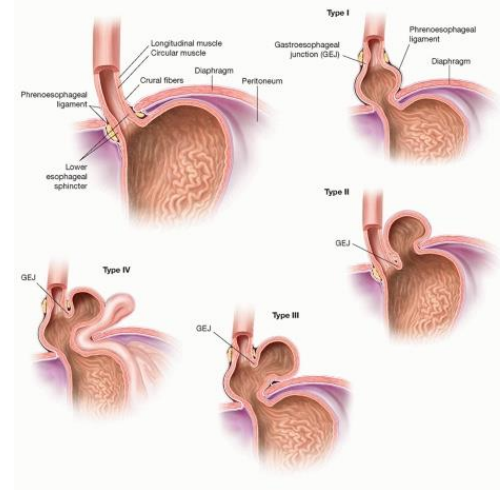
# Effect of Bariatric Surgery on other Comorbidities

- Hypertension
  - >75% resolution – RYGB
  - 77.8% resolution – Sleeve gastrectomy
- Hyperlipidemia
  - 80% resolution – RYGB
  - 56.8% resolution – Sleeve gastrectomy
- Obstructive Sleep Apnea
  - 86% resolution
- CVD risk
  - 52% reduction per Framingham parameters
  - **~50% risk reduction of heart failure**

# Effect of Bariatric Surgery on other Comorbidities

Bariatric surgery also improves many other comorbidities including:

- **GERD**
- Musculoskeletal pain
- PCOS, infertility
- Asthma
- Pseudotumor cerebri
- **Fatty liver disease (NASH)**
- Urinary stress incontinence
- Cognition





# Effect of Bariatric Surgery on Incidence of Cancers

➤ Weight related Cancers:

- Uterine
- Breast(postmenopausal)
- Colon
- Kidney
- Esophagus

➤ Annals of Surgery, 2011.

- ❖ Utah Study of morbidly obese patients
  - ✓ Surgically treated patients experienced a **46% lower cancer mortality** vs. nonsurgical patients.

# Bariatric Surgery Requirements

- BMI
  - >35 with Co-morbidities
  - >40
- **Weight Loss & No Gain**
  - **Plan on it!**
  - **Commitment and mental preparation**
- Nutrition education
  - 3-6 months
  - Insurance dependent!!
- Age limitations
  - >18 for surgery candidate
- Clearances
  - PCP
    - Renal
    - Cardiology
    - Pulmonology
  - Psychologic/Psychiatric
  - Labs
  - EGD/Imaging studies

# Additional Management Options

- **Revisional Bariatric Surgery**

- May be indicated if you have had inadequate weight loss and/or complications
- Remove band or previous stomach stapling
- Revision of bands
- Revision of Bypass

- **Intragastric Balloon (Program Pending)**

- Program to start with Gastroenterologist, Dr. Syed (UPMC Hanover)
- Endoscopically inserting a balloon into the stomach to limit portion sizes, will remain in place for 6 months, then removed.
- Often not covered by insurance unless there is a diagnosis of Metabolic dysfunction-associated steatotic liver disease (MASLD).
- Cost to be \$6500.00, including placement and removal of balloon, nutrition therapy.

# Obesity Treatment Pyramid:

Laying the foundation



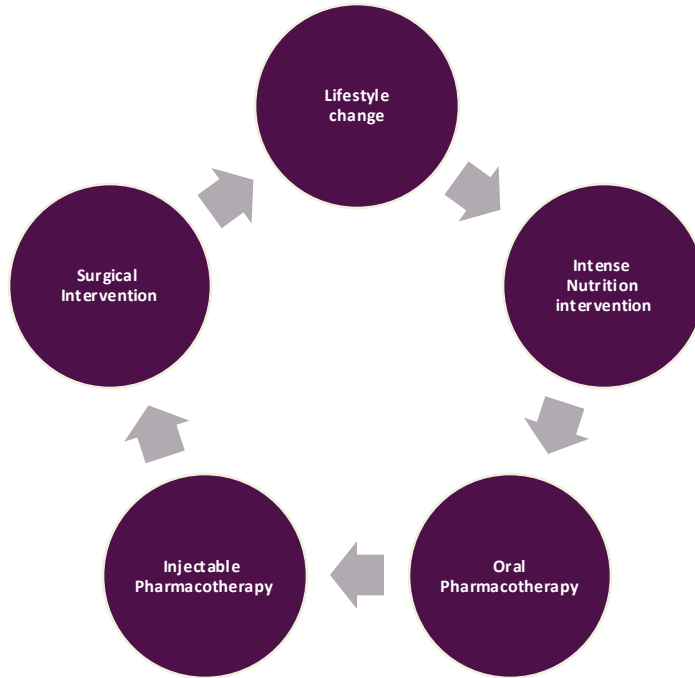
1. O'Neil PM, Birkenfeld AL, McGowan B, et al. A randomized, phase II, placebo-and active-controlled dose-ranging study of semaglutide for treatment of obesity in subjects without diabetes. Presented at the 100th Annual Meeting of The Endocrine Society, Chicago, Illinois; March 18, 2018. Abstract OR12-5.

2. *Lancet*. 2011 Oct 22; 378(9803): 1485-1492. 3. *Obesity (Silver Spring)*. 2019 Jan; 27(1):75-86.

4. *JAMA Surg*. 2016 Nov 1; 151(11):1046-1055.

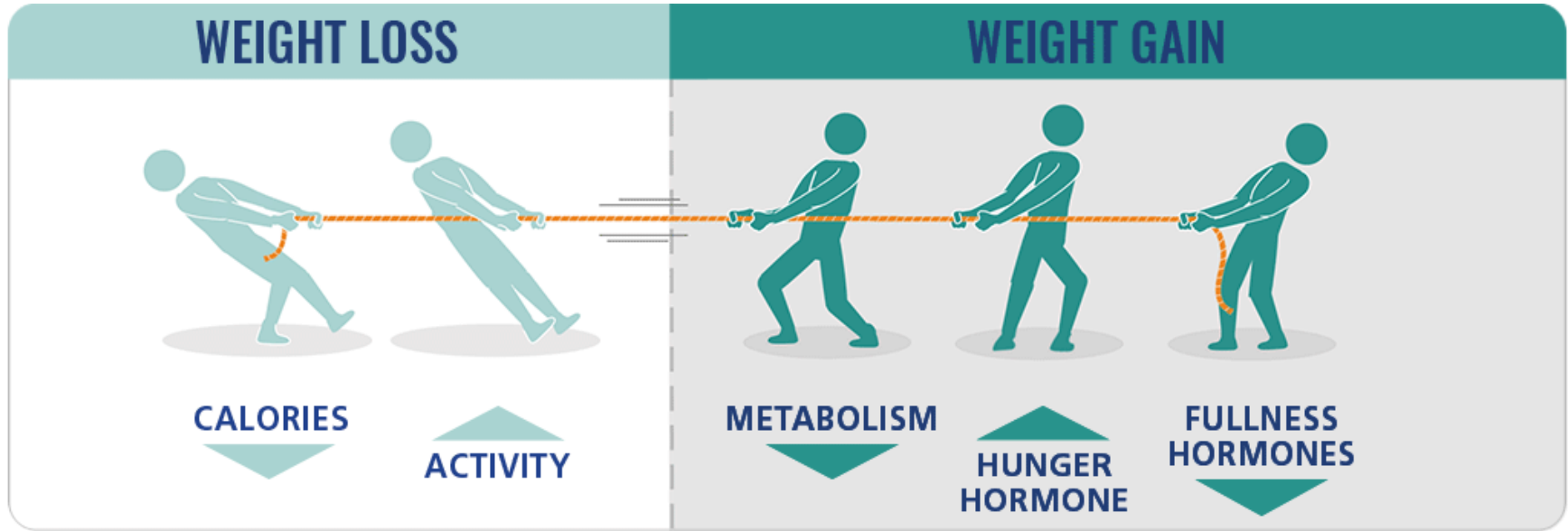
5. *Obesity (Silver Spring)*. 2011 Jan; 19(1): 110-120.

# Often treatment is combined:



Working with your provider- we will find a plan that works for you based on weight loss goals, health improvements, and co morbidities.

# Metabolic Adaptation

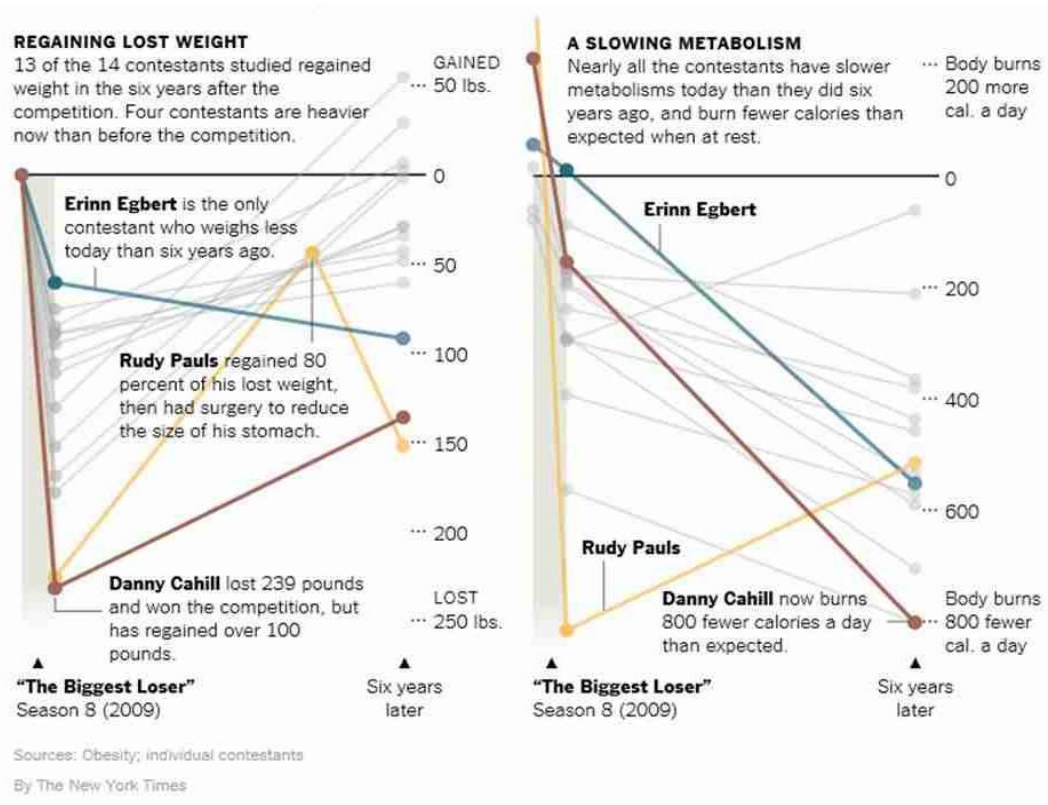




What are treatment goals?

# Sustainable-Maintainable

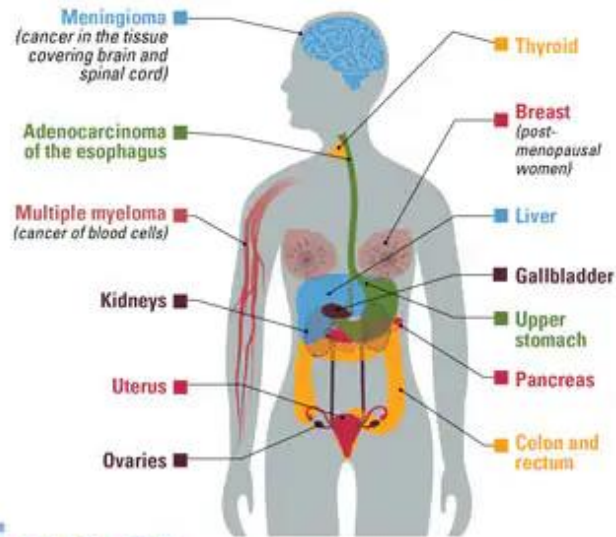
- Weight is harder to lose once it is regained
- Focus is on sustainable and maintainable weight loss
- If treatment is stopped, long term coordination is needed to prevent weight regain
- Need to address weight issues chronically and ongoing





# Reducing Cancer Risk

13 cancers are associated with overweight and obesity

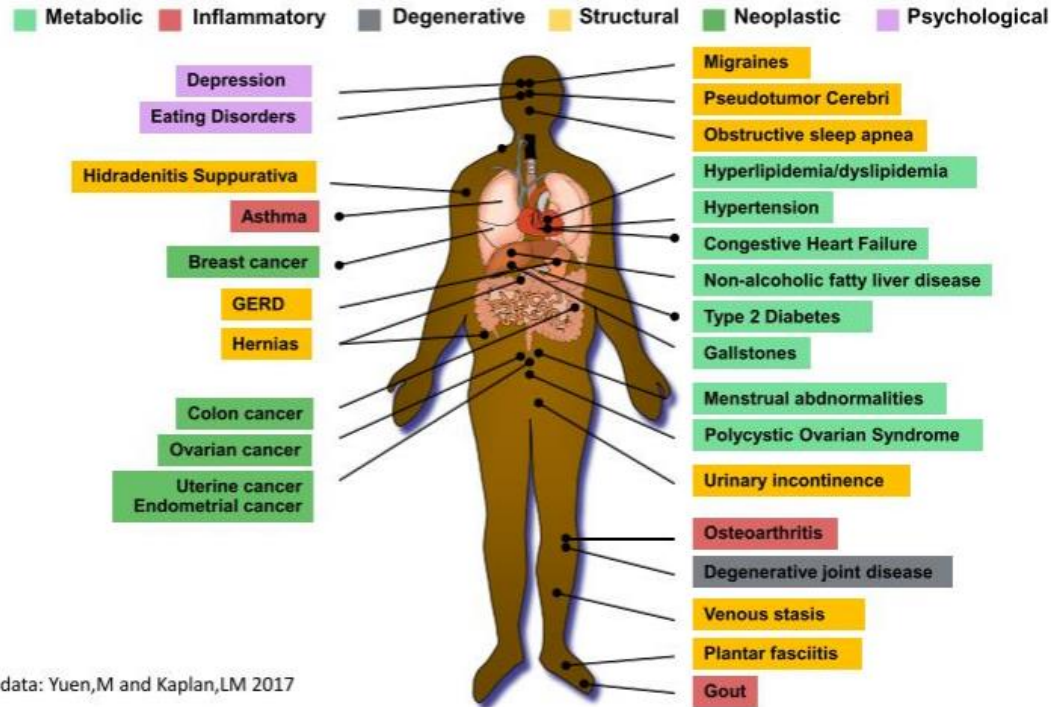


Vitalsigns<sup>TM</sup>

<https://www.cdc.gov/vitalsigns/obesity-cancer>



# Over 200 comorbidities can be linked to obesity



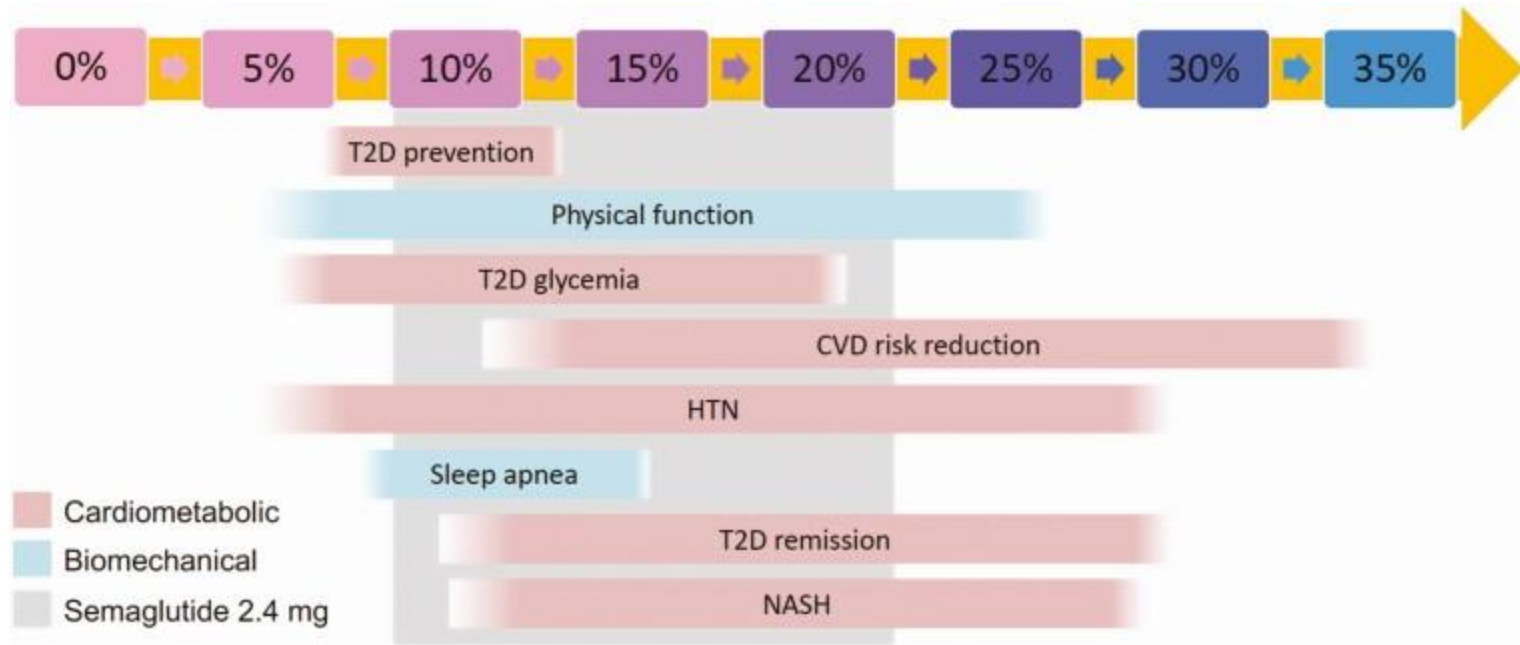
Unpublished data: Yuen,M and Kaplan,LM 2017

# Beyond BMI- Ideal weight?

- BMI is a screening tool that identifies people who might be at higher risk, but it IS NOT a goal indicator.
- Focusing on:
  - Percentages of body weight loss- we can see health improvements.
  - Body composition- Lean muscle mass vs adipose tissue
  - Realistic maintainable weight loss goals.

Percentage body weight loss:	Expectation:
3-5%	Prevention of metabolic diseases
10%	Improvement of BP, glucose, Lipids, arthritis, OSA
15%	Reduction of cardiovascular risks
20%	Improvement in ADLs and quality of life

# Goals of treatment





I'm so excited!  
What's next?

# There are a lot of options! How can I get started? I think...

## ... I want to start with lifestyle support!

- RD classes are a great place to start! These classes are a great foundation to help you better understand long term weight management
- If you want a 1:1 appointment with the dietitian, please let the scheduling team know and a referral will be placed for you
- At the completion of the classes if you want additional support, please let us know and we can schedule you with one of our providers for an individualized plan.

## ...I do want lifestyle support, but I also have been thinking about medical support- this is an ongoing struggle for me!

- Complete RD classes or 1-1 dietitian visits
  - 1:1 dietitian will evaluate your circumstances and give follow-up recommendations based on you as an individual before meeting 1:1 with the provider
- After these are completed, you will be scheduled 1:1 to meet with your provider to discuss an individualized plan
- Please note that there is paperwork that must be completed prior to your NP appointment.
  - This is to help your provider understand you as an individual and help you in the best way. Please be as detailed as possible.
  - If not completed prior to the appointment plan to arrive at least 30 minutes early to complete- to avoid needing to reschedule your appointment

## ...I do want lifestyle support but, I align more with the surgical weight loss goals!

- Let the scheduling team know you are ready to start this journey
- You will have your 1:1 with the surgical team who will ensure you are a surgical candidate and start the surgical process
- You will then be scheduled and start the RD classes that are tailored for the surgical program.

# Weight Management: Office Policies

- To serve you the best we can, and conduct a cohesive environment for our patients and staff, you are subject to adhere to our office policies
- No-show policy
  - 24 business hours are required to cancel your appointment. If not, it is counted as a no-show.
    - If reoccurring - you can be dismissed from the program
- Non-compliance policy- The non-compliance policy includes but not limited to the following:
  - Using profanity towards staff
  - Engaging in verbal arguments or physically aggressive behavior
  - Using raised voices, hostile tones of voice, or extremely loud noises
  - Using rude offensive or harassing comments based on race, color, religion, age, gender, sexual orientation, gender identity/expression, marital, disability status or culturally offensive remarks
  - Interfering with patient care
  - Displaying weapons, including but not limited to guns, knives, pepper spray, etc
  - Appearing intoxicated or demonstrating other behavior that suggest the abuse of drugs (illegal or prescription) or alcohol
  - Failing to appear at scheduled appointments
  - Making repetitive cancellations with less than 24 hour notice
  - Failing to comply with medical advice or cooperate with the medical plan of care
  - Forgery, fraudulent or unauthorized use of a physician signature on letterhead or other medical records or medical record documents



Questions?



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- Willoughby, D., Hewlings, S., & Kalman, D. (2018). Body Composition Changes in Weight Loss: Strategies and Supplementation for Maintaining Lean Body Mass, a Brief Review. Nutrients, 10(12), 1876.  
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Thank You!