

# Multimodal therapy Medications with surgery- How I do it



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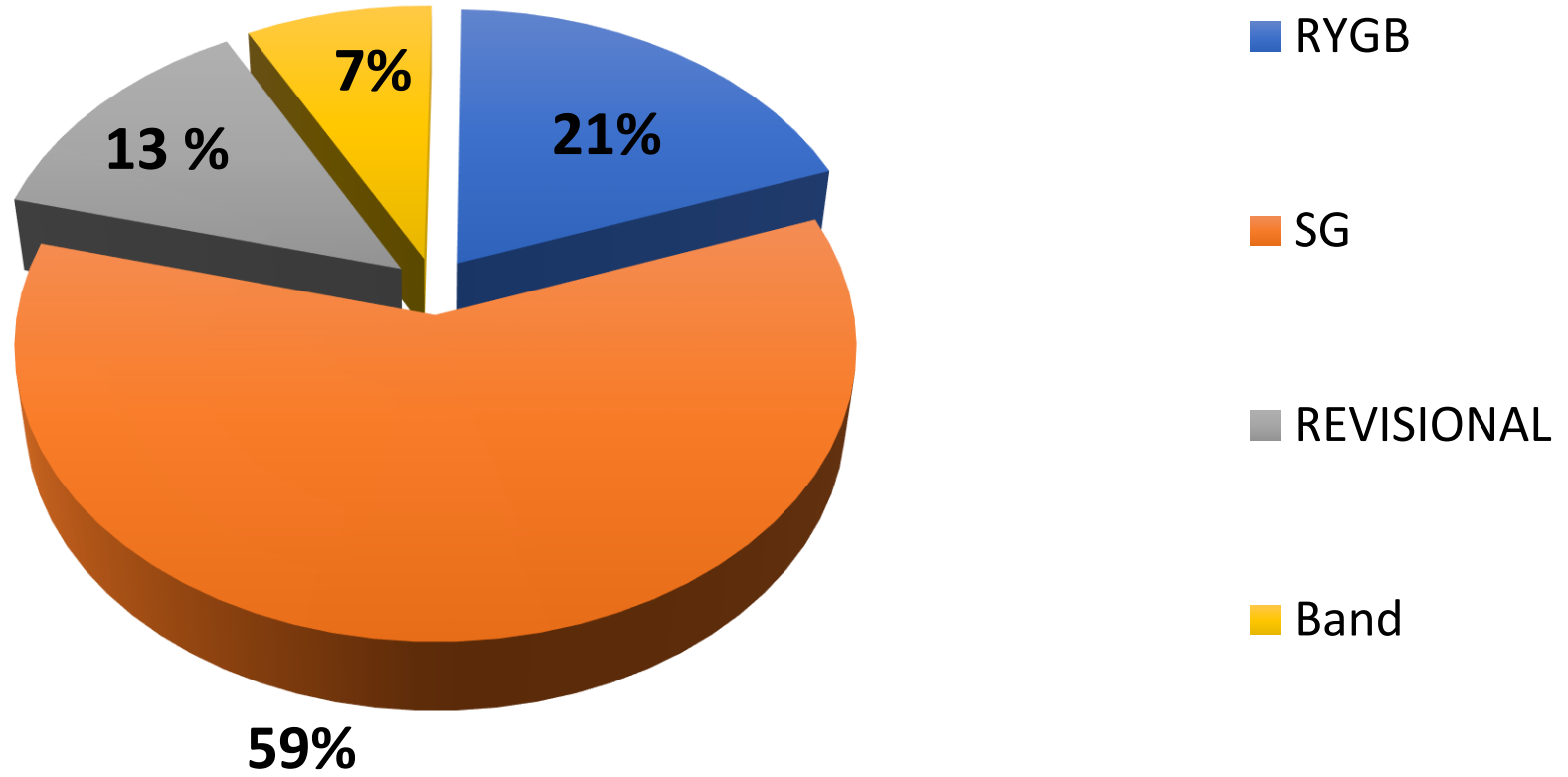
WL Gore- Speaker/Faculty Honoraria

Ethicon Johnson and Johnson- Speaker/Faculty Honoraria

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# CAREER CASE MIX DISCLOSURE



# Emerging data

- Data is still emerging to give us guidance
- Some art with this science



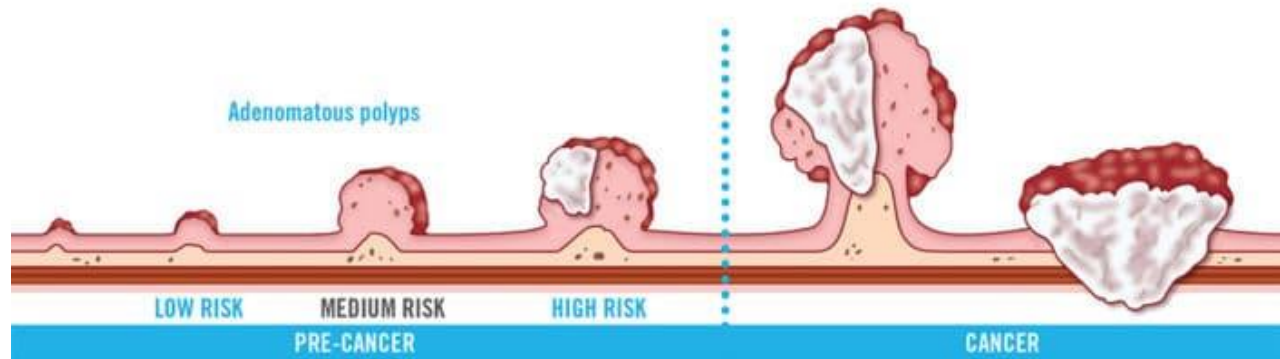
# Future of Obesity Treatment

- Oncology model: “What would the oncologist do?”
- Access to the full spectrum of therapy
- Least invasive to most invasive
- **Neoadjuvant therapy**
- **Surgical treatment**
- **Adjuvant Therapy**
- **Repeat Therapy**
- Combination Therapy
- Re-operative Therapy



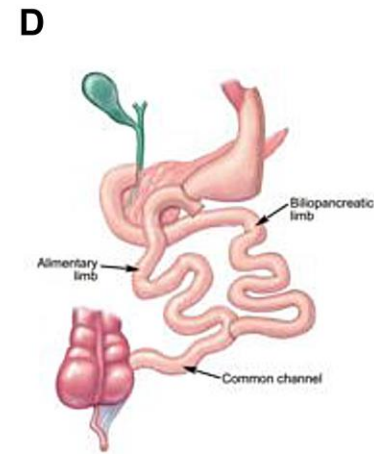
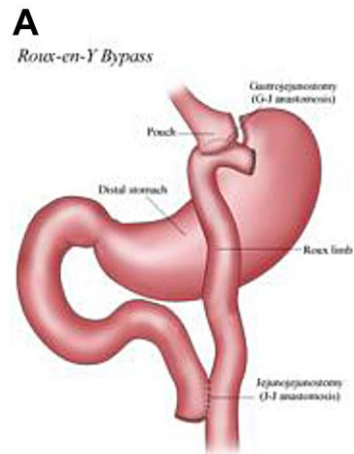
# What is Neoadjuvant Therapy?

- **Downstaging of Disease**
- Optimization of Co-morbidities
- Weight Loss
- **Medications**
- Diet and Exercise
- Behavior Modification
- Possibly Endoscopic Therapy in the Future



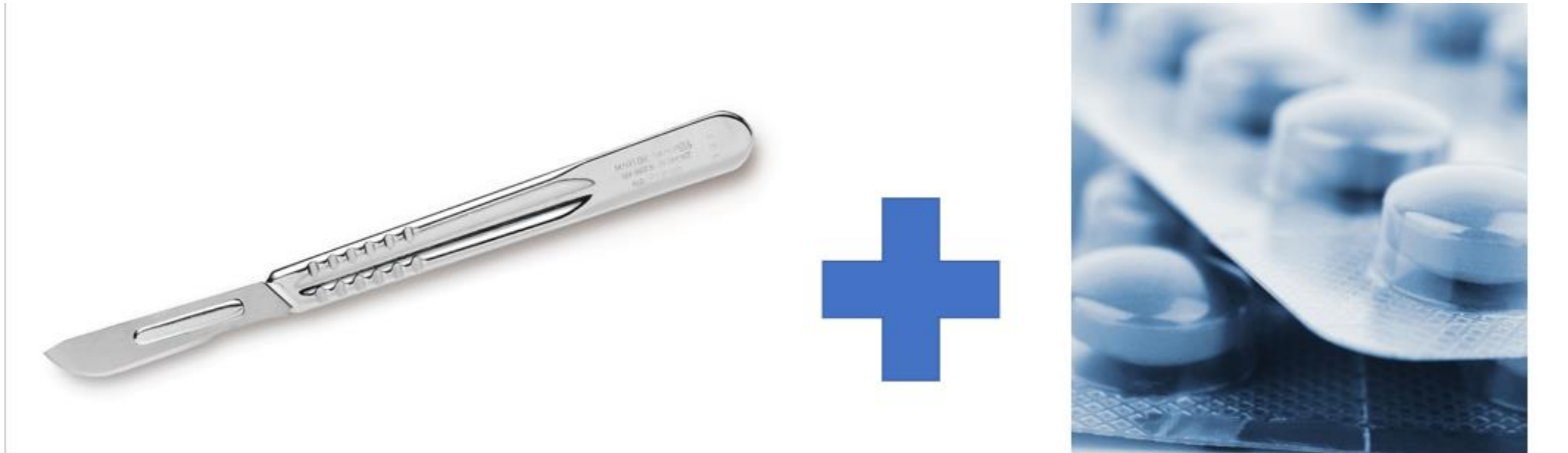
# Primary Intervention

- Surgery
- Possibly endoscopy



# Adjuvant therapy

- Enhance or prolong effects of surgery
- Treat persistent disease





# Secondary Intervention

- ***Recurrent or Progression of disease treatment***

- Medications
- Endoscopy
- Surgery
- Behavioral Therapy
- Diet and Exercise

# *Combination therapy*

- **Multi-modal treatment**

- Diet and Exercise are always a part of treatment
  - -Not very effective alone
- **Medications**
- Behavioral therapy
- Endoscopy

# My Approach

- **Neoadjuvant therapy** – High BMI, Metabolic Disease Burden, Aggressive personal goals of the patient for TBWL, any patient with BMI 40 who is interested
- **Adjuvant therapy** – Started after surgery – can be by 3 months post surgery, anyone not on expected weight loss curve or symptoms suggesting less response to surgery

# My Approach

- **Adjuvant therapy** – Started after surgery – usually by 3 months post surgery, anyone not on expected weight loss curve or symptoms suggesting less response to surgery
- **Secondary Intervention** -Recurrent or progressive of disease treatment, usually later after MBS surgery, rescue therapy



## ***Combination therapy***

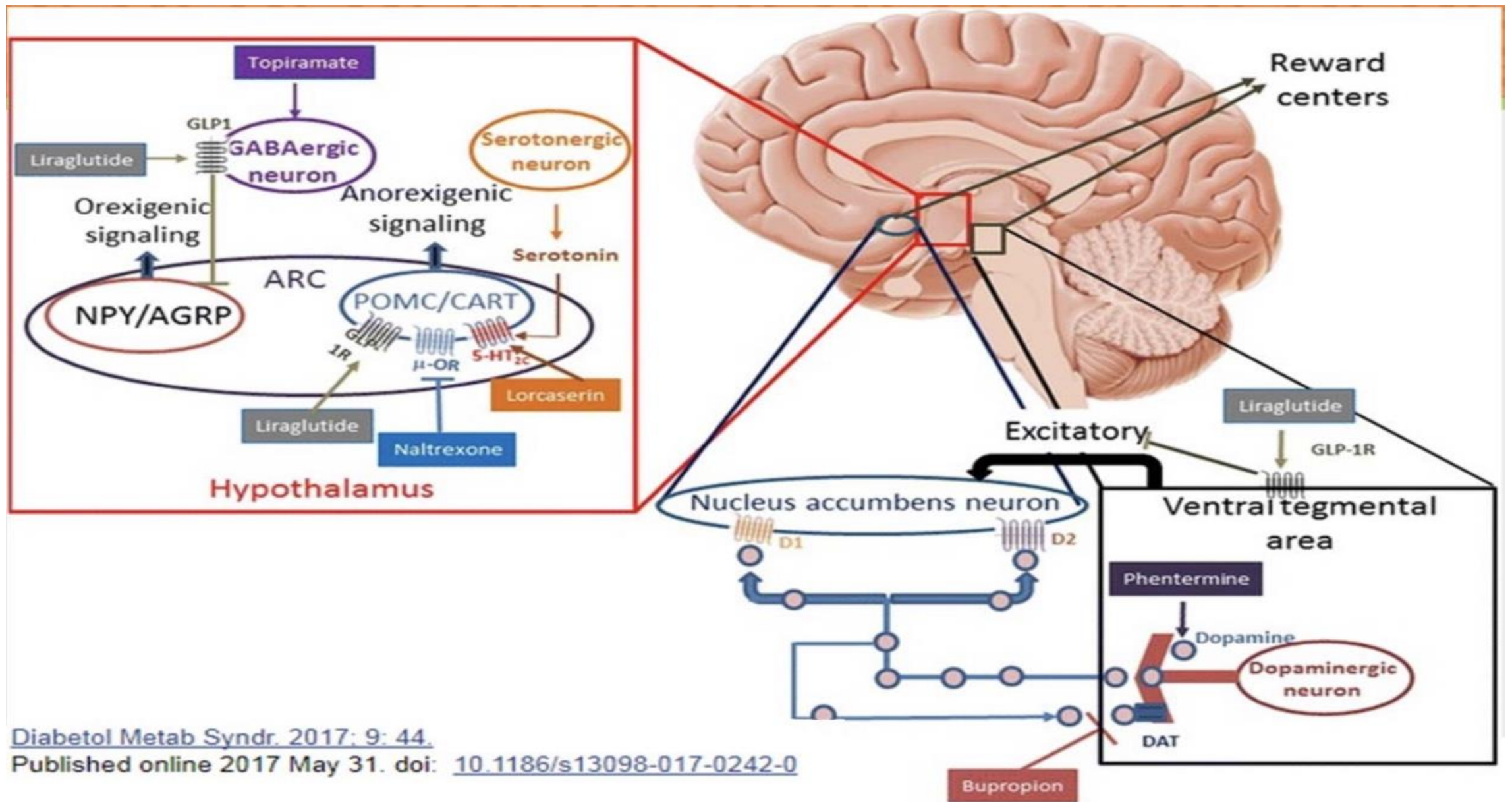
Planned Medication  
+ Surgery approach  
for at least 2 years  
total

- High BMI, severe  
Metabolic Disease Burden,  
Aggressive personal goals  
of the patient for TBWL

# My Approach

- What meds for what patients?
- Reality – Access, supply, and cost
- In General = GLP-1RA medications are most powerful with MBS
- Not right for every patient





Diabetol Metab Syndr. 2017; 9: 44.  
 Published online 2017 May 31. doi: [10.1186/s13098-017-0242-0](https://doi.org/10.1186/s13098-017-0242-0)

Adapted from Kim et al. and Wang et al. Obesity Medicine Association Pharmacotherapy 2018

**Physiology drives  
behavior**



**Controlling abnormal  
physiology supports  
good behavior**



# Take Home Pearls

**Medications can be very helpful in combination with surgery for treatment of severe obesity**

Metformin – helpful to offset weight gain mental health medications

GLP-1 – Liraglutide, Semaglutide, Tirzepitide, help appetite control and metabolic syndrome (hunger, taste changes, portion control)

Phentermine- helps sweet cravings and fatigue

Topiramate – helps sweet cravings, taste changes, headaches

Wellbutrin – help with mood, fatigue, some cravings

Naltrexone- help with cravings/snacking



# Case: Pre-surgery Optimization High BMI

- 42 yo female **starting weight 341#, Height 5'8", BMI 51.8**
- Co-morbidities – Metabolic syndrome with pre-dm, hyperlipidemia, centralized obesity, GERD controlled PPI daily, chronic back pain, history of DVT, history of kidney stones, OSA-CPAP, mild asthma, Depression- significant now controlled (Wellbutrin, Lexapro, Lamictal, Lyrica)
- Started **Metformin** 1000 mg daily and lifestyle management
- **Lost 22 pounds over 6 months (Wt 319# BMI 48.5, 6.5%TBWL)**



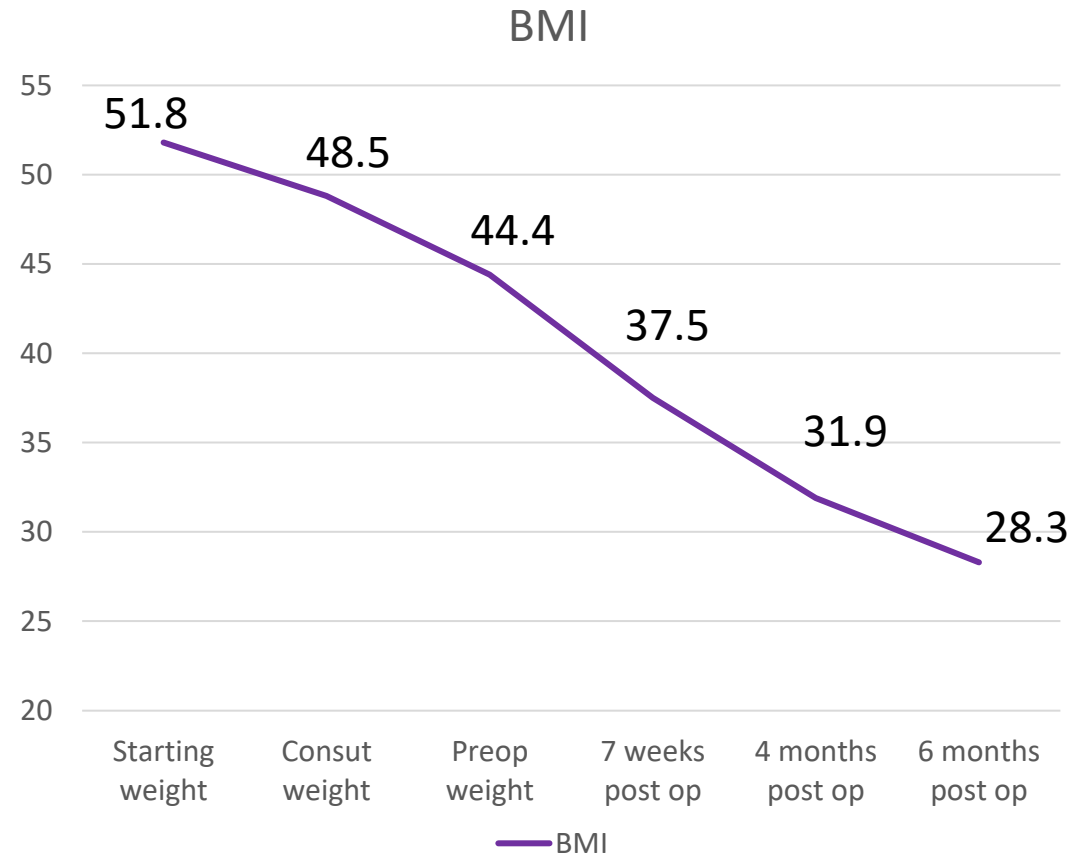
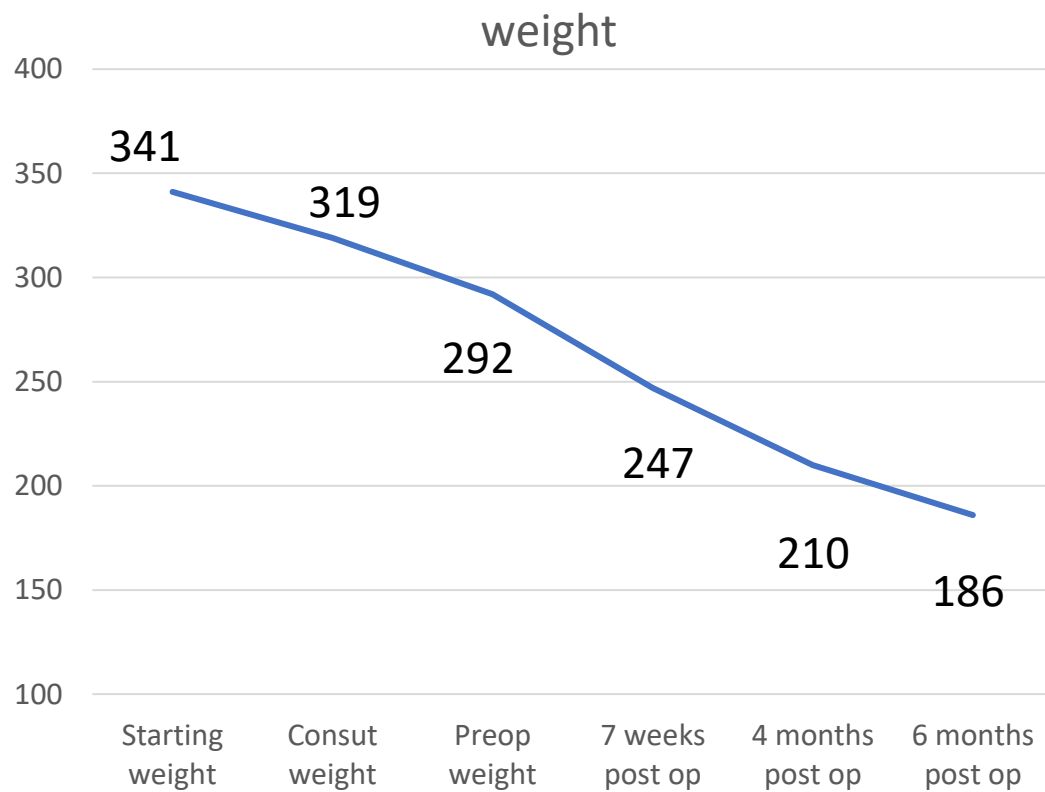
# Case: Pre-surgery Optimization

- At time of surgery consultation **weight 319# BMI 48.5** – desires sleeve gastrectomy (171 # EBW – target lose 103# (216# BMI 32.8) to achieve 60%EBWL, patient stated goal is to reach 190# = lose 129# BMI 28.9 or 75% EBWL)
- Further lifestyle modification and start **Semaglutide** (Ozempic) 0.25 mg weekly – taper up dose q 4 weeks
- At pre-op schedule visit **weight 292# BMI 44.4 (144# EBW at surgery)**
- **Lost 27# additional starting Semaglutide (8% TBWL),**
- **lost 49# total in pre-surgery optimization (14% TBWL)**
- Did report increased reflux and nausea with Semaglutide dose at 1 mg weekly – decreased to 0.5 mg weekly well tolerated

# Case #: Pre-surgery Optimization- post surgery

- Patient had LSG with HHR no complications, noted gastritis on EGD increased PPI to BID
- At **7 weeks post-op Weight 247# and BMI 37.5 (lost 45# since surgery and 94# since start=27% TBWL)**
- Restart **Semaglutide/Ozempic** and gradually increased dose
- At 3 months Patient reported epigastric pain and gastritis symptoms with nausea
- Stopped Semaglutide/Ozempic, treated with PPI BID and H2 - Abd pain and nausea resolved
- At 4 months post surgery weight 210#, lost 82# since surgery 57% EBWL, and 131# total since start (76.6% EBWL, **38.4% TBWL**), BMI 31.9
- Restarted **Semaglutide/Ozempic** at lowest dose 0.25 mg at 5 months post surgery
- **6 months post surgery weight 186#, BMI 28.3, lost 106# since surgery 73% EBWL (surgery 36.3%TBWL), and lost 155# total since start TBWL 45.5%**

**Pre surgical optimize with continue treatment.** Started at 341# lost 22# Metformin 6mon, sematglutide lost additional 27# total of 49# lost presurgery, (14%TBWL), surgery + medication (Metformin/Semaglutide) 6 months post surgery weight 186#, lost 106# since surgery 73% EBWL (since surgery 36.3%TBWL), and **lost 155# total since start TBWL 45.5%** (lost 133 # 77.7% EBWL since consult), BMI 28.3



# Case #: LSG Initial expected weight loss with regain Post-op Rescue

- 41 yo female with consultation weight 260 pounds, height 5'7", BMI 40.7.
- **Preop 260# BMI 40.7, lowest weight 185# (loss 75#) BMI 29, EBWL 65.8%, 28.9%TBWL**
- 3 years postop LSG started to have weight regain- weight 221 pounds (regained 36#), BMI 34.6, maintained 39# weight loss; 34.2% EBWL, 15% TBWL.
- Problem List:
  - PCOS- no meds
  - Elevated Vitamin A- from face cream. Liver evaluation normal.
  - Migraines- no meds
- Intervention????



# Case #: Post-op Rescue

- **Start metformin** 500 mg bid. Weight 221.
- 2 month follow up- lost 11 pounds (5%TBW). Increase metformin 1000 mg bid. Weight 210
- 2 month follow up- gained 4 pounds. Continue metformin, **start phentermine** 18.75 mg. Weight 214.
- 2 month follow up- lost 16 pounds. Continue current meds. Weight 198.
- 2 month follow up- lost 1 pound. Continue same plan. Weight 197.
- 4 month follow up- gained 5 pounds. Continue same meds, **add topiramate** 25 mg qhs. Weight 202. (lost net 20 pounds from starting med management-4 years post surgery)
- 3 month follow up- lost 21 pounds- continue same meds, **AND increase topiramate** to 50 mg qhs. Migraines have improved as well. Weight 181.
- (Lost additional 27 pounds with addition of Topiramate)

**Update: now 5 years postop. Weight 175, BMI 27.4; (maintains loss of 75% EBW, 32.7% TBWL).**

**Lost 46 pounds with addition of medications reached below initial post-surgery Nadir**

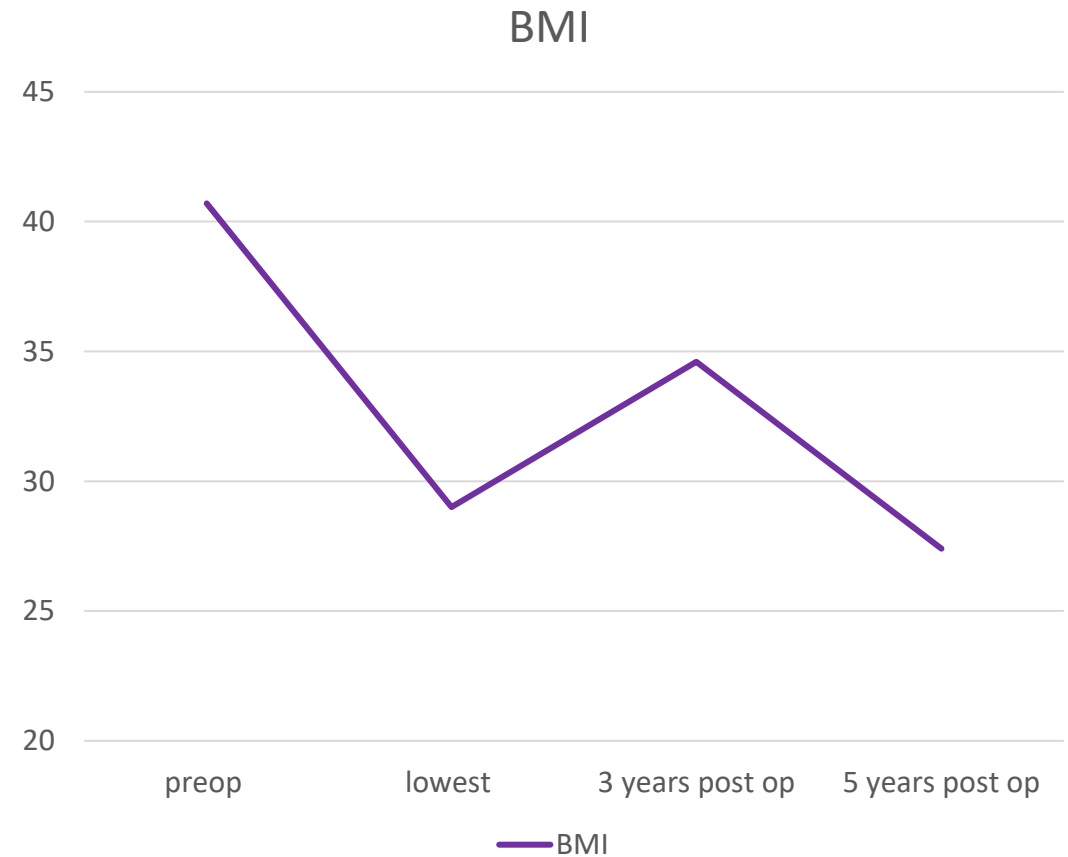
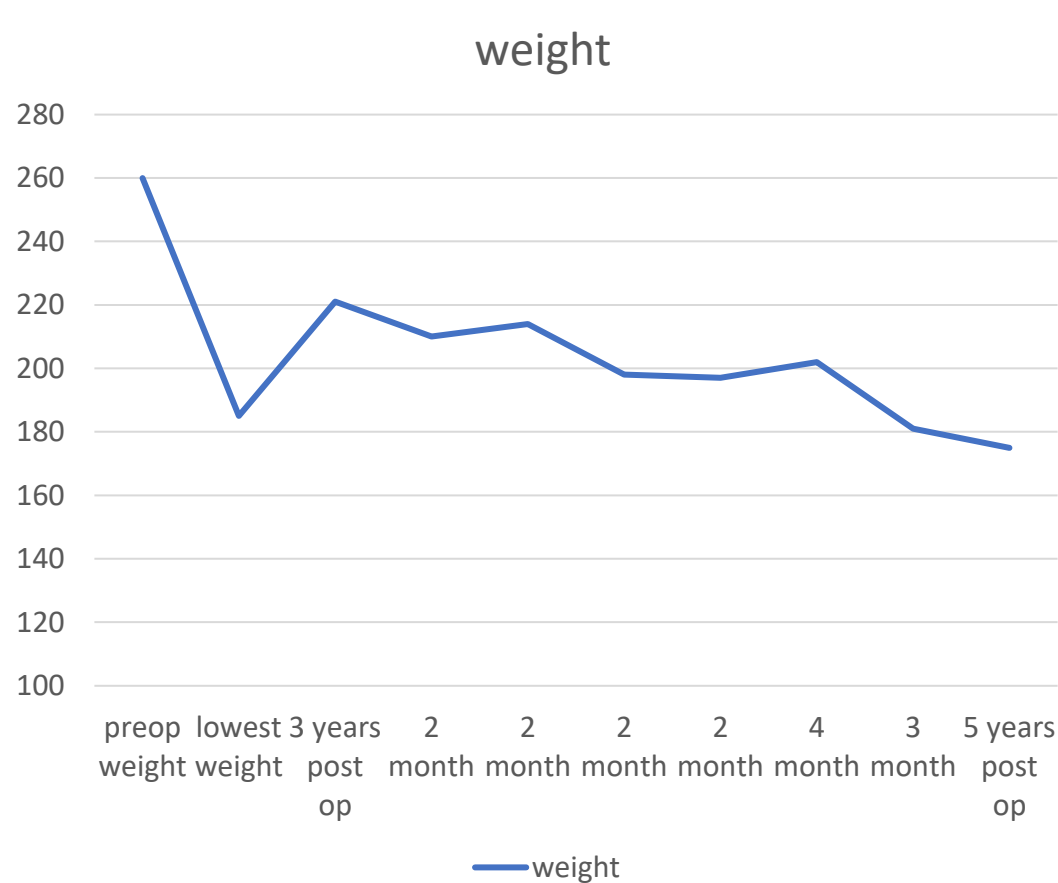
# LSG Initial expected weight loss with regain Post-op Rescue –

Preop 260# BMI 40.7, lowest weight 185# (loss 75#) BMI 29, EBWL 65.8%, 28.9%TBWL,

3 yrs post op gained 36#, wt 221 BMI 34.6, maintained 39# weight loss; 34.2% EBWL, 15% TBWL

5 years postop LSG. Weight 175, BMI 27.4; (maintains loss of 75% EBW, 32.7% TBWL).

Lost 46 pounds with addition of medications (metformin, phentermine, topiramate) reached below initial post-surgery Nadir





# Case #: Post-op LSG Rescue, late regain

- 63 yo female with consultation weight 226, Height 5'5", BMI 37.0, EBW 118,
- Lowest weight achieved post LSG surgery prior to intervention 150 pound, (76# weight loss) **BMI 24.6; 64.4% EBWL, 33.6% TBWL**
- Lost to follow up x 9 years. Had weight regain (+32#) when returned at 10 years postop. Weight 182, BMI 29.8 (at 37.3%EBWL and **19.4% TBWL**).
- Intervention????



# Case #: Post-op Rescue

## Problem List:

- Type 2 Diabetes- on amaryl and metformin. Recent a1c 8.2.
- OSA
- Asthma
- Glaucoma
- Depression- well controlled without medications.
- Intervention????

## • Problem List (continued):

- GERD- no medication. Denies symptoms.
- Hyperlipidemia
- HTN

# Case #: Post-op Rescue

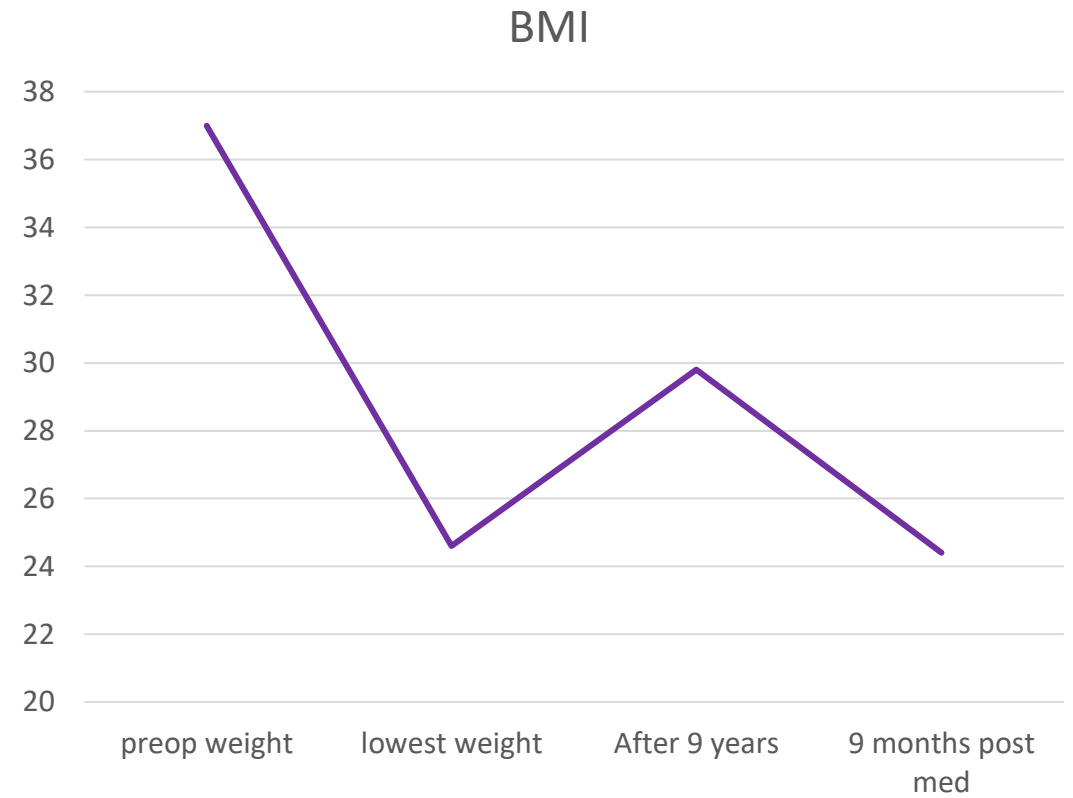
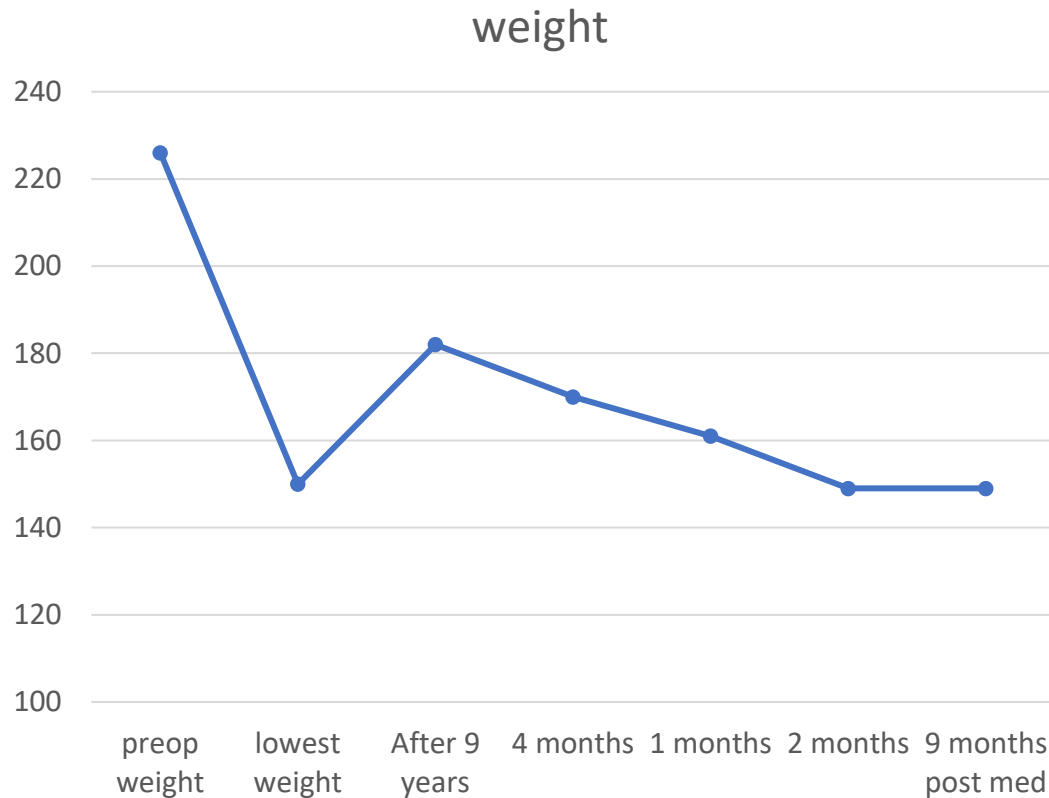
- Started on Semaglutide/Ozempic a GLP-1. Advised to monitor sugars. Weight 182 pounds. A1c 8.2.
- 4 month follow up- lost 12 pounds. Weight 170. A1c now 5.9. Stopped amaryl. Continue metformin and ozempic. Having some fatigue so added phentermine.
- 1 month follow up- lost 9 pounds. Weight 161. Continue metformin, ozempic, and phentermine.
- 2 month follow up- lost 12 pounds. Weight 149. Continue metformin and ozempic. Moved phentermine to prn use.
- **Update:** now 11 years postop, 9 months post medication intervention. Taking Semaglutide/Ozempic and metformin. **Weight 149, BMI 24.4. (lost 77 pounds since pre-surgery, lost 33# after medication intervention, 65.2% EBWL, 34% TBWL)**

## Post-op LSG Rescue, late regain

preop weight 226, BMI 37.0, 150 pound, (76# weight loss) BMI 24.6; 64.4% EBWL, 33.6% TBWL

11 years postop LSG, weight regain (+32#), Weight 182, BMI 29.8 (37.3%EBWL and 19.4% TBWL).

9 months post medication intervention. Taking **Semaglutide and metformin** Weight 149, BMI 24.4. (lost 77 pounds since pre-surgery, lost 33# after medication intervention, 65.2% EBWL, 34% TBWL)



# Case: Post RYGB Initial good response with weight regain

- 59 yo female prior lap band removed and converted to LRYGB
- Weight pre LRYGB 249 lbs, Height 5'5.5", BMI 40.8
- LRYGB –Lowest weight 143#. Initially lost 106# (96%EBWL, BMI 23.4, 42.6% TBWL )
- After 7 years weight 202 lbs. Regained 59 pounds from lowest weight 143#, now maintained weight loss is 47 pounds (42.7%EBWL, BMI 33.1, 18.8% TBWL)
- OSA-CPAP, HTN- 1 med, hypothyroidism, Depression/anxiety (3 meds)
  
- Intervention???



# Case # Post RYGB weight regain

- C/o Hunger, fatigue. Treated gastritis PPI and started **phentermine**.
- 3 mon later- lost 1 pound, had only taken phentermine 2 weeks, side effects. Restarted phentermine at ½ dose
- 2 mon later – gained 8 pounds, full dose phentermine, started low dose **Topiramate** 25 mg
- 2 mon later – lost 2 pounds (207), **start liraglutide/Victoza, Continue topiramate, stop phentermine**
- 2 mon later – lost 5 pounds (202), Continue liraglutide/Victoza, **Increased topiramate** to 50 mg nightly
- 3 mon later –lost 14 pounds (188), Continue same meds – helping with cravings

# Case # Post RYGB weight regain

- 3 mon later –lost 8 pounds (180), down total of 69 pounds since bypass
  - At 9 years post LRYGB –Initially lost 106 (96%EBWL, BMI 23.4), After 7 years regained 59 pounds (42.7% EBWL, BMI 33.1, 18.8% TBWL)
  - **With medication intervention (liraglutide/Topiramate) re-engage with program = lost 27 pounds additional**
  - Weight 180 pounds, BMI 29.5, 63% EWL, 27.8% TBWL
- Other changes including change of metoprolol to diltiazem with good control BP and less fatigue, liraglutide and topiramate helped most with soda cravings taste changes and improved fatigue

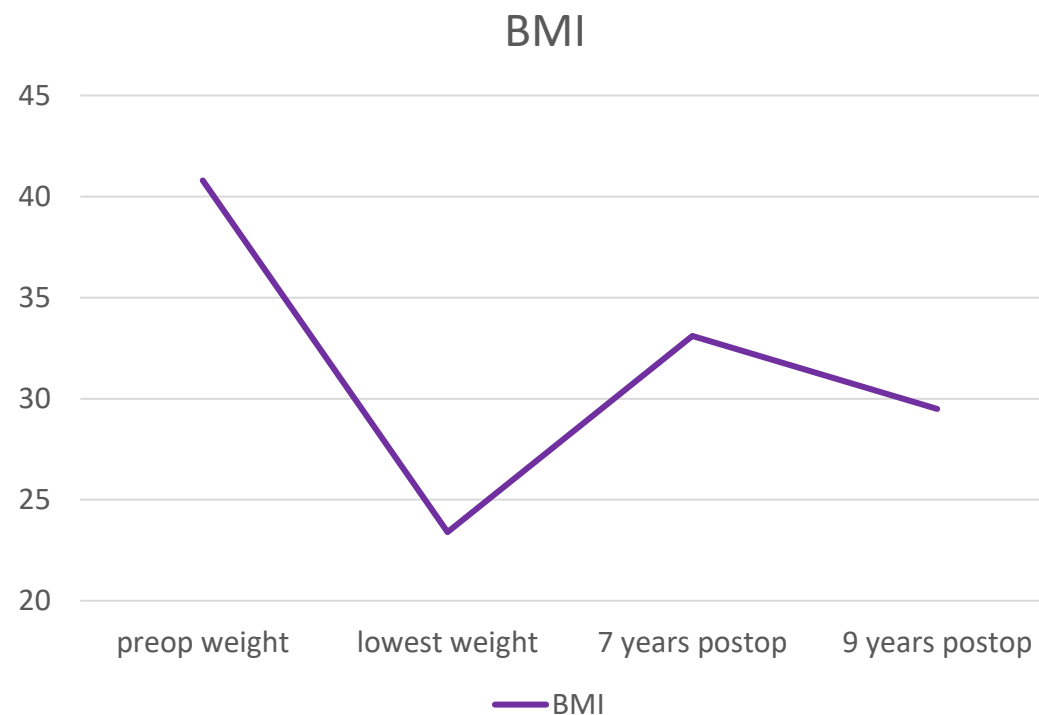
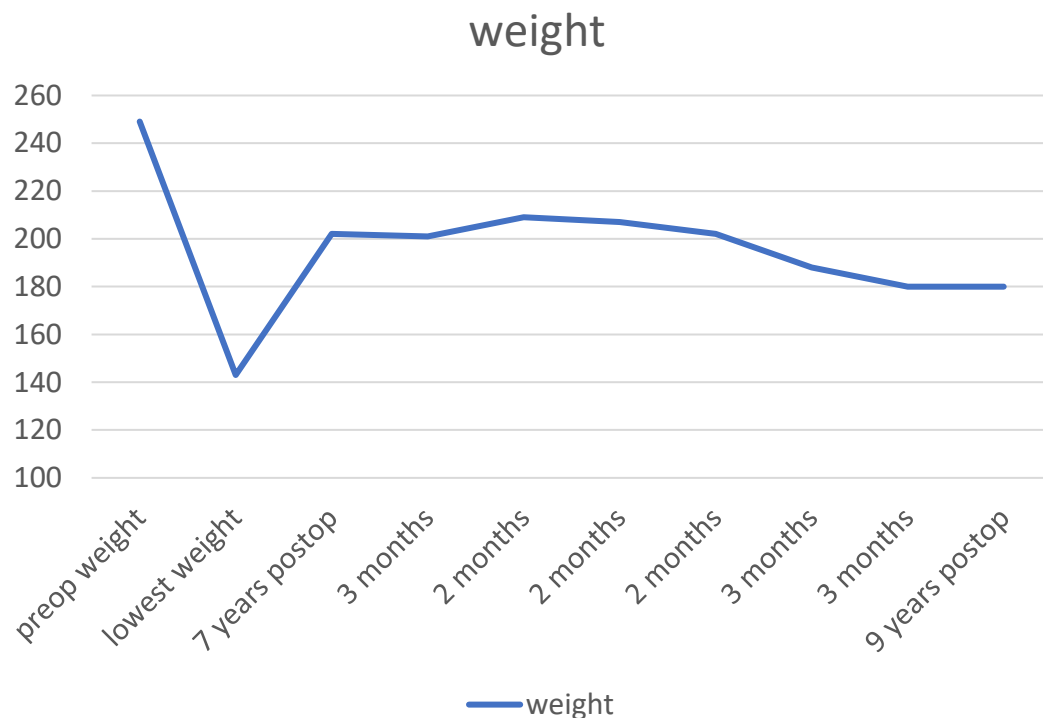


## Post RYGB Initial good response with weight regain

At 9 years post LRYGB –Initially lost 106 (96%EBWL, BMI 23.4), After 7 years regained 59 pounds (42.7% EBWL, BMI 33.1, 18.8% TBWL)

With medication intervention (Phentermine/Topiramate – Topiramate/Liraglutide)re-engage with program = lost 27 pounds additional

Weight 180 pounds, BMI 29.5, 63% EWL, 27.8% TBWL





YIKES!! Where  
do I begin?

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*Can you learn to do it? YES!!*

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I don't feel comfortable prescribing  
medications for weight loss and metabolic  
hormone alteration

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Now What?

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Get someone to help you



## Conclusions

- *Understanding the physiology of the disease of obesity can help us better understand mechanisms of Metabolic Bariatric Surgery*
- *Multi-modal therapy can enhance outcomes*



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