

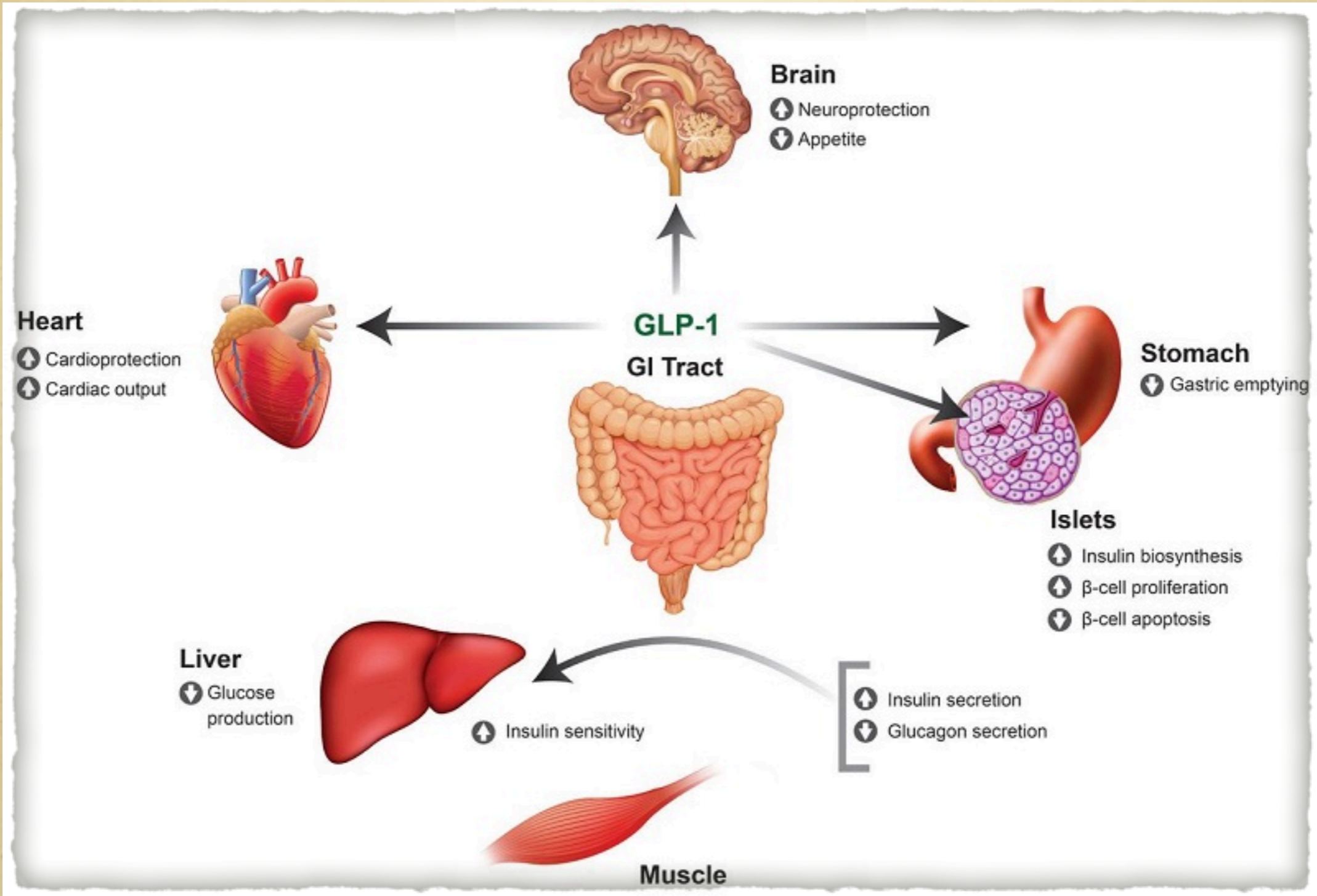
# Antiobesity Medication

*Ayesha Hassan*

GLP-1 and GLP-1/GIP  
Agonist (injectables)

# GLP-1 Agonist

- Glucagon like peptide approved for DM2 and obesity
- Reduce gastric emptying, stimulate insulin release, reduce glucagon release, increase insulin sensitivity, and reduce appetite in the brain



# Side effects and contraindications

- Nausea, reflux, diarrhea, constipation
- Severe side effect: pancreatitis (severe upper abdominal pain, nausea, vomiting, unable to tolerate PO intake can require hospital admission)
- Contraindications: medullary thyroid cancer (very rare for runs in families), pancreatitis, MEN

# Semaglutide (wegovy or ozempic)

- Wegovy FDA approved for obesity max dose is 2.4mg (mean loss of 15% weight loss in studies), New FDA approval for prevention of cardiovascular events in overweight and obese patients
- Ozempic FDA approved for DM max dose is 2mg
- Weekly injection require a ramp-up

**START**

**STEP UP**

**STAY**

INITIATION  
DOSE



The maintenance dose of Wegovy® in adults is either 2.4 mg (recommended) or 1.7 mg once weekly. Consider treatment response and tolerability when selecting the maintenance dose.



# Saxenda or Victoza

- Daily injectable
- Saxenda is FDA approved for weight loss 0.6mg —> 1.2mg —> 1.8mg —> 2.4mg —> 3.0mg
- Victoza is approved for DM2 0.6mg —> 1.2mg —> 1.8mg
- 5.9-8% weight loss in studies



# Mounjaro/Zepbound

- GLP plus GIP
- Mounjaro for DM and Zepbound for obesity
- Mean weight loss of 20.9% on 15mg dose
- GIP: stimulates insulin release and reduces stomach motility through inhibiting pepsin and gastrin and stimulates satiety in the hypothalamus
- Same side effects as other GLP-1 except it makes OCPs less effective and has black box warning for increased suicide risk

### Once-weekly Zepbound dosing

**2.5** mg



**Starting**  
For 4 weeks

**5** mg



For 4+ weeks

**7.5** mg



For 4+ weeks

**10** mg



For 4+ weeks

**12.5** mg



For 4+ weeks

**15** mg



Maximum dose

# Topamax

- Unknown mechanism maybe gabanergic
- Used off label FDA approved for seizures and preventing migraines
- Usually use max of 50mg will do 25mg QPM for 1 week then increase
- Reduces appetite and changes taste makes soda taste flat

# Topamax

- Side effects: Tiredness, drowsiness, dizziness, loss of coordination, tingling of the hands/feet, loss of appetite, low bicarb through RTA4, kidney stones, less effective hormonal contraception
- CI: kidney stones, glaucoma, pregnancy

# Phentermine

- Reduces appetite in hypothalamus
- Usually start 15 or 18.75mg and increase to 30 or 37.5 mg after 1 month if BP is good
- FDA approved for weight loss but off label after 12w, no long term harmful effects found
- Dry mouth, HTN, palpitations, insomnia, tremor, constipation
- CI: CAD arrhythmia, glaucoma, hyperthyroidism, MAOi, pulmonary HTN, substance use
- Taper to DC

# Qsymia

- Topamax and phentermine combination
- 10.5% weight loss
- FDA approved for weight loss
- Ramp up increase dose every 2 weeks
- Must have >5% weight loss in 12 weeks to continue therapy
- Must be tapered

12 weeks

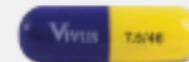
28 weeks

56 weeks



Diet and Exercise  
Alone  
(Placebo)

Diet and Exercise  
with **Qsymia 7.5/46 mg<sup>†</sup>**  
(Recommended dose)



Diet and Exercise  
with **Qsymia 15/92 mg<sup>†</sup>**  
(High dose)



NUMBER OF PATIENTS

N=790

N=338

N=918

WEIGHT LOSS (LBS)

**-6**

**-24**

**-32**

WAIST CIRCUMFERENCE  
REDUCTION (INCHES)

**-2**

**-4**

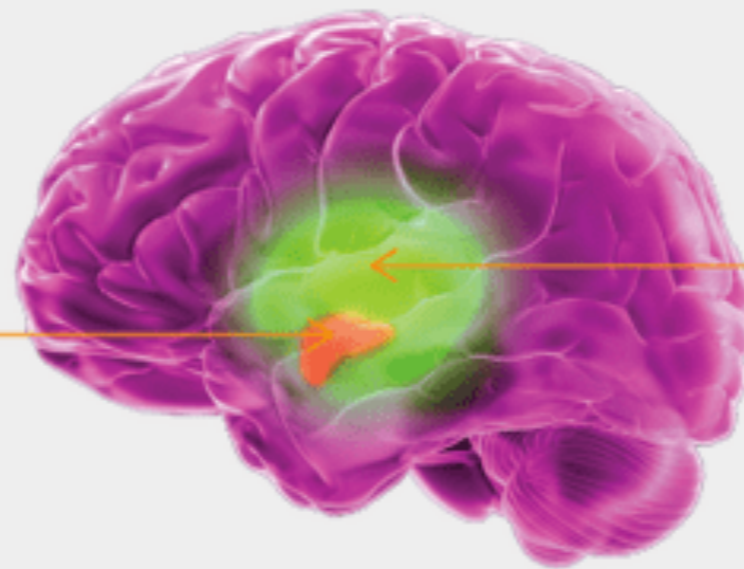
**-5**

# Contrave

- FDA approved weight loss combination of Wellbutrin SR and naltrexone
- Mean weight loss is 6.1%
- Most common side effect is nausea  
others: Headache, constipation, dizziness, vomiting, and dry mouth



The **hypothalamus (hunger center)** to reduce hunger



The **mesolimbic reward system** to help control cravings

# Wellbutrin

- Mixed effect used alone in studies
- FDA approved depression, and smoking cessation
- Used off label for weight management
- Side effects: HTN, anxiety
- CI: glaucoma, seizures, anorexia, bulimia
- Black box warning of increased suicidality

# Naltrexone

- Not effective alone
- FDA approved alcoholism
- Side effects: nausea, dizziness, anxiety, tiredness, trouble sleeping
- CI: cirrhosis, opiod medication

# Plenity

- Considered a medical device
- Approved for BMI 25-40
- Take 3 pills 20min before meals with water and it expands and reduces food intake
- Side effects: diarrhea, distended abdomen, infrequent bowel movements, and flatulence.
- CI: pregnancy



1 Flody is administered as capsules prior to a meal.



2 After swallowing Flody, you drink 4-6 oz water.



3 Flody particles adhere to the stomach, then mix with food to create a water emulsion.



4 Flody particles maintain their gel form and viscosity as they pass throughout the small intestine.



5 As Flody particles progress in the colon, water is released and reabsorbed in the colon.



6 Deposited Flody pass through the colon and are eliminated in the fecal movement.

# Metformin

- Effective for PCOS, antipsychotic induced weight gain
- CI: kidney dysfunction  $GFR < 30$
- Side effects: diarrhea, B12 deficiency

# Future Medications

- Retatrutide: GLP-1, GIP, glucagon agonist 24% weight loss at 48 weeks at studies currently in phase 2 trial
- Survodutide: GLP/GIP phase 2 trials