แบบฝึกทบทวน SIID355 Topic 4 Management of Obesity

จัดทำโดยวิชาการรุ่น 134 เพื่อทบทวนความรู้รายบท (Optional) ไม่ได้มีความเกี่ยวข้องกับข้อสอบจริง
และ หากมีข้อสงสัยในเฉลย/พบจุดผิดพลาดสามารถแจ้งมาได้ทางไลน์วิชาการ Premium ครับ

1. Which of the following weight loss methods works by inhibiting gastric and pancreatic lipase?

A. Phentermine
B. Bupropion
C. Liraglutide
D. Orlistat

Answer: D
Explanation: *Orlistat blocks fat absorption by inhibiting lipases*

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2. What is the approximate minimum value of clinically meaningful weight loss goal to reduce the risk of diabetes in a high-risk patient who weighs 90 kg for around 50%, according to the Diabetes Prevention Program (DPP)?

A. 2.5 kg
B. 6 kg
C. 10 kg
D. 15 kg

✅ **Answer: B**
DPP recommends ~7% weight loss; 7% of 90 kg = 6.3 kg, and 6 kg is the closest correct option.

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3. A patient is following the Plate Method for weight loss. In one meal, she consumes 200 grams of vegetables. According to the recommended Plate Method ratio, how many grams of protein should she consume to maintain the correct proportion?

A. 50 grams
B. 100 grams
C. 200 grams
D. 400 grams

Answer: B
Explanation: Plate Method ratio = Vegetables : Carbs : Protein = 2:1:1
If vegetables = 200g → 1 part = 100g → Protein = 1 part = 100g

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4. A patient aims to lose 2 kilograms of body weight over 4 weeks through calorie restriction alone. Based on the "3500 kcal per pound" rule, approximately how many calories per day must be reduced from the patient's diet to meet this goal?

A. 250 kcal/day
B. 350 kcal/day
C. 500 kcal/day
D. 1000 kcal/day

Answer: C

Actually, you should remember this value from the slide (Negative 500 kcal/day)

Proof: *1 pound ≈ 0.45 kg → 2 kg ≈ 4.4 pounds, 1 pound = 3,500 kcal → 4.4 pounds = 15,400 kcal*
15,400 kcal ÷ 28 days = ~550 kcal/day → closest answer = 500 kcal/day

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5. Which anti-obesity drug is contraindicated in pregnancy due to risk of oral clefts?

A. Liraglutide
B. Bupropion
C. Phentermine/topiramate
D. Orlistat

Answer: C
Phentermine/topiramate is teratogenic

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6. A 50-year-old man with type 2 diabetes is concerned about weight gain. He is already obese (BMI 32 kg/m²). Which of the following antidiabetic regimens is the most appropriate to help avoid further weight gain?

A. Sulfonylurea and insulin
B. GLP-1 agonist and metformin
C. Thiazolidinedione and insulin
D. Sulfonylurea and SGLT-2 inhibitor

Answer: B
GLP-1 agonists and metformin are associated with weight loss, while sulfonylureas, TZDs, and insulin are associated with weight gain.

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7. A 35-year-old woman has a BMI of 29 kg/m² and was recently diagnosed with hypertension and dyslipidemia. She has unsuccessfully attempted lifestyle modifications (diet and exercise) for the past 6 months. What is the most appropriate next step in management?

A. Refer for bariatric surgery
B. Initiate pharmacotherapy with orlistat
C. Recommend intermittent fasting
D. Prescribe Tirzepatide as first-line therapy

Anti-obesity medications *are indicated when: BMI ≥27 kg/m², Presence of comorbidities (e.g., HTN, DLP) and Inadequate response to lifestyle modifications.* ***Orlistat*** *is a suitable first-line agent in such patients.* ***Bariatric surgery*** *is reserved for BMI ≥35 with comorbidities.* ***Tirzepatide*** *has high efficiency but not first-line in this scenario (most used in DMII instead).*

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8. A patient lost 10% of initial body weight in 3 months, but begins to regain weight despite adherence. Labs show low T3 and preserved muscle mass. Which of the following best explains her condition?

A. Malabsorption
B. Adaptive thermogenesis
C. Insulin resistance
D. Glucocorticoid excess

Answer: B
↓T3 and ↓EE > ↓body composition → AT

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9. In addition to the answer in Question 8, a decrease in which parameters further promotes weight regain after initial weight loss indirectly in this patient?

A. Serum glucose
B. Serum free fatty acids (FFA)
C. Subcutaneous fat
D. Protein synthesis

Answer: C

*A decrease in **subcutaneous fat** leads to reduced **leptin** and **insulin**, which in turn **increases appetite** and **promotes energy storage***

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10. Which of the following most likely explains superior diabetes remission and weight loss observed after Roux-en-Y gastric bypass compared to LSG?

A. Longer operative time
B. Larger stomach volume
C. Enhanced hormonal effect
D. Lower protein intake post-op

Answer: C

RYGB improves glycemic control more than LSG due to hormonal effects (e.g. Enhanced hormonal changes including bile acid signaling)

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11. A patient is prescribed GLP-1 agonist for weight loss but reports severe nausea and vomiting in the first week. Which best explains the underlying mechanism?

A. Inhibition of α-cell glucagon release
B. Inhibition of GI motility via vagal afferents
C. Increased NE release
D. Reduced fat absorption

Answer: B

GLP-1 agonists decrease GI motility → nausea, via vagal afferents

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12. Which of the following statements correctly distinguishes phentermine/topiramate from amphetamine-like drugs in the treatment of obesity?

A. Both needs co-administration with MAOIs and are contraindicated in glaucoma.
B. Amphetamine-like drugs are used long-term and have fewer cardiovascular side effects
C. Phentermine/topiramate is approved for short-term use and is contraindicated in pregnancy.
D. Phentermine/topiramate is off-label while amphetamine-like drugs are on-label in Thailand.

Answer: D

In Thailand, phentermine is on-label, but phentermine/topiramate is not available as a fixed combo, so it's considered off-label.

Option A is incorrect: co-administration with MAOIs is contraindicated in both drug
Option B is incorrect: amphetamine-like drugs have more cardiovascular risks.
Option C is incorrect: phentermine/topiramate is not short-term — it's for long-term use.

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13. Which of the following combinations of factors is most predictive of long-term weight loss maintenance success?

A. Early large weight loss, strict dietary restraint, avoidance of high-fat foods
B. Regular self-weighing, moderate eating restraint, and strong determination
C. Use of pharmacologic therapy, external accountability, and low-carbohydrate diet
D. Daily physical activity, relies on hedonic system, and avoidance of social eating situations

Answer: B

Choice A *includes rigid restraint (less sustainable)* ***Choice C*** *includes drug use but lacks behavioral foundation* ***Choice D*** *omits the crucial element of* ***self-monitoring*** *and emphasizes avoidance rather than adaptation, also relies on emotional/reward system doesn't work.*

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14. What is the primary physiological purpose of incorporating occasional cheat days or diet breaks during prolonged calorie restriction?

A. To increase serum insulin and suppress appetite
B. To stimulate adaptive thermogenesis and enhance weight loss
C. To reverse reductions in resting metabolic rate
D. To replenish glycogen stores and improve exercise performance

Answer: C

Cheat days/diet breaks *help the body* ***recover from prolonged calorie restriction****, which often leads to:* ↓ ***Resting metabolic rate (RMR)*** ↑ ***Adaptive thermogenesis (AT)****, prevent* ***metabolic downregulation****, allowing for more* ***sustainable weight loss****.*

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15. A patient receives a subcutaneous injection once <u>daily</u> of substance X for weight reduction. After significant weight loss, the patient develops cholelithiasis, and labs show increased serum insulin levels.
Which of the following is the most likely identity of substance X?

A. Liraglutide
B. Semaglutide
C. Tirzepatide
D. Diethylpropion

Answer: A

Liraglutide is a GLP-1 receptor agonist given once daily as incretin (increase insulin secretion). ***Semaglutide*** *and* ***tirzepatide*** *are* ***once weekly (tirzepatide*** *binds with albumin =* ↑ *half-life).* ***Diethylpropion*** *is a* ***sympathomimetic oral agent****, not injectable and lacks GLP-1 effects.*

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16. All of the following anti-obesity drugs are no longer used in current practice due to association with serious cardiovascular adverse effects, EXCEPT:

A. Thyroid hormone
B. Dinitrophenol
C. Fenfluramine
D. Sibutramine

Answer: B

Dinitrophenol (DNP) *is* ***no longer used****, but the reason is* ***fatal hyperthermia and metabolic toxicity****, not cardiovascular complications.* ***Thyroid hormone****,* ***fenfluramine****, and* ***sibutramine*** *are all linked to* ***cardiac arrhythmias, pulmonary hypertension, and myocardial infarction****, respectively*