

1. A 20-year-old woman presents to your clinic for an initial visit. She has always been heavy, but she has gained almost 13.5 kg (30 lb) since starting college 2 years ago. She has a diet rich in convenience and snack foods. She has several alcoholic beverages on most weekends but does not consider alcohol to be a problem for her socially. She has never smoked cigarettes. She used to play soccer competitively but finds little time for regular physical activity. Her father is overweight and has type 2 diabetes mellitus and hypertension. The patient does not have polyuria, polydipsia, blurred vision, changes in her skin or hair, changes in her regular menses, or cold intolerance. On physical examination, she is 167.5 cm (66 in) tall and weighs 99.5 kg (219 lb); her body mass index (BMI) is 35. Her blood pressure is 148/92 mm Hg. What would be the most appropriate management of obesity in this young woman?

- A. Sibutramine, 10 mg/d, plus a protein-rich, carbohydrate-restricted diet
- B. Orlistat, 120 mg with meals, plus a calorie-restricted diet with a calorie deficit of 500 kcal/d, less than 30% calories from fat, and limited refined sugars
- C. An exercise prescription for 30 minutes of brisk walking 5 or more times a week, progressing to 45 to 60 minutes of vigorous exercise on most days
- D. A calorie-restricted diet with a calorie deficit of 500 kcal/d, less than 30% calories from fat, and limited refined sugars, combined with a progressive exercise program
- E. Base recommendations on the results of laboratory testing, including serum thyroid-stimulating hormone level, fasting lipid panel, and determination of fasting serum glucose level

2. A 56-year-old woman is evaluated during a routine annual visit. The patient would like to lose weight. She works as a teacher and is physically active, walking briskly 2 or 3 times a week for 20 or 30 minutes. She does not smoke and drinks alcohol only on occasion. Her medical history includes hypertension and hyperlipidemia, both well controlled with medications.

On physical examination, the blood pressure is 135/88 mm Hg and the BMI is 36 kg/m². The remainder of the physical examination is normal. Laboratory studies include a fasting plasma glucose level of 105 mg/dL (5.83 mmol/L) and a serum thyroid-stimulating hormone level of 2.5 μ U/mL (2.5 mU/L). A goal is set for a reduction in weight of 5% to 15%.

Which of the following diets should be advised for this patient?

- A. A balanced low-calorie diet (1200 to 1500 kcal/d)
- B. A very-low-calorie diet (<1000 kcal/d)
- C. A reduced-fat diet (fat constitutes <30% total caloric intake/d)
- D. A low-carbohydrate diet (<35 g carbohydrates/d)

3. A 55-year-old man is evaluated for obesity. The patient has been overweight all his life. He has tried a balanced calorie-restricted diet over the past 6 months and has increased his exercise to include walking for 20 minutes three times weekly. Although he was initially successful in losing weight, he has not been able to maintain the weight loss. He works as a high school teacher and believes that his weight has interfered with his success in being asked to take leadership positions in his field. He does not smoke, and he drinks alcohol occasionally in a social context. His medical history is significant for hyperlipidemia and hypertension, both controlled with medications.

On physical examination, the pulse rate is 65/min, and the blood pressure is 142/88 mm Hg. The BMI is 40 kg/m². Fasting plasma glucose level is 106 mg/dL (5.88 mmol/L), serum low-density lipoprotein cholesterol level is 120 mg/dL (3.1 mmol/L), serum total cholesterol level is 204 mg/dL (5.28 mmol/L), and serum creatinine level is 1.2 mg/dL (106.1 μmol/L). A chest radiograph shows borderline cardiomegaly, and the electrocardiogram is normal.

Which of the following is supported by the best evidence for sustained weight loss in this patient?

- A. Sibutramine
- B. Orlistat
- C. A low-carbohydrate diet
- D. A restricted-fat diet
- E. Gastric bypass surgery

4. A 67-year-old man is evaluated for pain in his knees with ambulation. He smokes 1 pack of cigarettes per day and drinks alcohol occasionally. His medical history includes hypertension controlled with metoprolol, and hyperlipidemia controlled with simvastatin. On physical examination, the pulse rate is 65/min, respiration rate is 14/min, and blood pressure is 145/92 mm Hg. The BMI is 36 kg/m^2 , and the abdominal circumference is 130 cm (51 in). The musculoskeletal examination reveals crepitus on knee flexion and extension but no synovial joint effusions or signs of inflammation. Laboratory studies indicate a fasting plasma glucose level of 110 mg/dL (6.11 mmol/L). A moderate weight loss of 5% will be associated with which of the following outcomes in this patient?

- A. Decreased risk for cardiovascular mortality
- B. Decreased risk for overall mortality
- C. Decreased risk for progression to type 2 diabetes mellitus
- D. Improvement in symptoms of osteoarthritis
- E. Social and economic benefits from weight loss