

Chapter 10: Study Guide
Energy Balance & Weight Control

1. What type of tissue make up the bodies two compartments: fat-free mass and total body fat?
2. When do adipose cells release fat into the blood?
3. What is the difference between subcutaneous tissue and subcutaneous fat? What is the function of subcutaneous fat?
4. What is visceral fat?
5. What is the difference between “white fat” and “brown fat”? When in life do we naturally have “brown fat” and how do we use it?
6. How many people in the United States are either overweight or obese?
7. What percentage of body weight fat determines if a man or woman is overweight? Obese?
8. What does measuring “skin fold thickness” tell you? What is this a measurement of?
9. Calculate your Body Mass Index: What is your weight status (see table 10.2)?
10. Is being overweight a risk factor for serious disease conditions? Explain
11. What is the significance between “a pear shape” vs “an apple shape” for fat distribution? How is the portal vein associated with this fat distribution pattern?
12. How much energy from the macronutrients you eat is saved by forming ATP? What happens to the rest of the energy?
13. What is basal metabolism? How much of the total energy is consumed for basal metabolism? When do you measure basal metabolism? What activities are included in basal metabolism? Which activities are not included in basal metabolism?
14. What is the “rule of thumb” for “basal metabolic rate”? How do you calculate your daily basal metabolic rate? What “units” are used to express BMR?
15. What is added to your daily basal metabolic rate to determine the “Estimated Energy Requirement”? (Three Things!)
16. What is the concept of “energy equilibrium” and what are the two opposing sides?

17. What systems and tissues play a role in the regulation of eating behavior? What are the two key sensation associated with eating behavior? What is the role of these molecules: orexins, ghrelin, and leptin?
18. Do you think you have “thrifty metabolism” genes? Explain.
19. Can a new weight standard be set according to the “set-point theory”?
20. What is the definition of appetite? Is advertising and “super sizing” portion good for your diet?
21. How many kilocalories are represented in one pound of body fat? How much weight would you gain in a one year period if you consumed 100 extra calories per day?
22. What are the four key factors associated with a medically sound weight-loss plan?
23. What are the typical practices of successful dieters?
24. What mechanism will allow the drugs sibutramine and orlistat to reduce or prevent weight gain?
25. What are several positive results associated with many patients after bariatric surgery?
26. Is liposuction considered necessary surgery?
27. Are fad diets dangerous?
28. What is the BMI of an underweight person?