MUSCULAR STRENGTH AND ENDURANCE

1. Increased muscular strength and endurance lead to all of the following EXCEPT
   a. increased physical performance.
   b. Decreased metabolic rate.
   c. Reduced chance of injury.
   d. Enhanced self-image.

2. Injuries such as low-back pain are reduced if the spine is properly aligned by strong muscles in the
   a. abdomen and hips.
   b. shoulders and chest.
   c. neck.
   d. feet.

3. What percentage of all Americans will be afflicted with low-back pain at some point in their life?
   a. 20%
   b. 35%
   c. 50%
   d. 85%

4. Strength training improves body composition by
   a. decreasing body weight.
   b. increasing muscle mass.
   c. increasing fat weight.
   d. decreasing muscle mass.

5. Metabolic rate increases if
   a. fat mass increases.
   b. fat mass decreases.
   c. muscle mass decreases.
   d. muscle mass increases.

6. An essential hormone that men have in higher amounts than women and that allows men to build more muscle mass than women is
   a. estrogen.
   b. testosterone.
   c. adrenaline.
   d. insulin.

7. Which of the following is NOT a result of inactivity and aging?
   a. muscles that contract more slowly
   b. nerves disconnecting from muscles they control

c. loss of bone tissue
d. increase in fat-free mass

8. People begin to lose muscle mass after age
   a. 30.
   b. 40.
   c. 50.
   d. 60.

9. The percentage of women over the age of 75 years that are NOT able to lift over 10 pounds is
   a. 25%
   b. 40%
   c. 60%
   d. 75%

10. Which is not a cause of the decrease in muscle strength as we age?
   a. disconnection of nerves from muscles
   b. osteoporosis
   c. inactivity
   d. lack of a strength training program

11. Strength training helps in the prevention and management of chronic disease by
   a. increasing systolic blood pressure.
   b. increasing LDL cholesterol.
   c. improving glucose metabolism.
   d. decreasing bone density.

12. Muscular strength is best defined as
   a. the maximum amount of force a muscle can produce in a single maximal effort.
   b. the maximum amount of force a muscle can produce in 10 repetitions.
   c. the ability to exert a submaximal force repeatedly over time.
   d. the ability to exert force rapidly.

13. Muscular endurance is best defined as
   a. the maximum amount of force a muscle can produce in a single maximal effort.
   b. the maximum amount of force a muscle can produce in 10 repetitions.
   c. the ability to exert a submaximal force repeatedly over time.
   d. the ability to exert force rapidly.

14. Tendons connect
   a. bones to other bones.
   b. motor nerves to muscle fibers.

c. Muscles to bones.
d. Bones to ligaments.

15. Muscle fibers are
a. motor nerves attached to muscle cells.
b. protein structures within cells.
c. enzymes that facilitate metabolism within muscle cells.
d. individual muscle cells.

16. Hypertrophy is defined as
a. an increase in muscle fiber size.
b. a decrease in muscle fiber size.
c. an increase in muscle fiber number.
d. a decrease in muscle fiber number.

17. Slow-twitch muscle fibers are characterized by all of the following EXCEPT
a. use in endurance activities.
b. fatigue resistance.
c. rapid contraction.
d. aerobic energy system.

18. Fast-twitch muscle fibers are characterized by all of the following EXCEPT
a. rapid contraction.
b. fatigue resistance.
c. anaerobic energy system.
d. use in sprinting.

19. Activities that would predominately use slow-twitch muscle fibers are
a. walking and jogging.
b. jumping and sprinting.
c. weight training.
d. shot putting.

20. Activities that would predominately use fast-twitch muscle fibers are
a. walking and jogging.
b. bike riding.
c. sprinting.
d. hiking.

21. A motor unit contains
a. a tendon and a muscle fiber.
b. fast- and slow-twitch muscle fibers.
c. a motor nerve connected to muscle fibers.
d. a motor nerve connected to a tendon.

22. Isometric exercise is best described as applying force

a. with movement.
b. at a constant speed.
c. without movement.
d. while a muscle is lengthening.

23. Which of the following is NOT an advantage of isometric or static exercise?
a. they require no equipment
b. they mimic the speed of contraction needed for some sports.
c. they can be done almost anywhere.
d. they can overcome weak points in a joint's range of motion.

24. Muscular force exerted as a muscle shortens is best classified as
a. eccentric.
b. isometric.
c. concentric.
d. isotonic.

25. A muscle lengthens as it contracts in a(n)
a. isometric exercise
b. concentric contraction
c. speed-loading exercise
d. eccentric contraction

26. The best weight training technique for developing explosive strength is
a. eccentric loading
b. plyometrics
c. isokinetics
d. isometrics

27. A type of isotonic exercise used by athletes during training to simulate the speed of movement during sprinting or throwing is called
a. variable resistance
b. plyometrics
c. speed loading
d. eccentrics

28. Isokinetic exercise is best described as applying force
a. with movement
b. at a constant speed
c. without movement
d. while a muscle is lengthening

29. Compared to free weights, weight machines are considered all of the following EXCEPT

a. safer
b. better for developing explosive strength
c. easier to use
d. more convenient to use

30. All of the following are true of free weights, in comparison with weight machines, EXCEPT that they
a. are more widely available
b. allow more dynamic movements
c. require less skill
d. allow a greater variety of exercises

31. The number of different exercises in a complete weight training program for general fitness is usually about
a. 2-3
b. 5-6
c. 8-10
d. 12-14

32. An antagonist muscle is one that
a. is stretched when an agonist muscle contracts
b. is a contracting muscle
c. is a strong, powerful muscle
d. is a small, weak muscle

33. Training intensity for weight training is determined by
a. number of sets
b. amount of weight lifted
c. numbers of repetitions
d. amount of time lifting

34. The recommended amount of resistance and number of repetitions for improving muscular endurance is
a. 40-60% RM and 15-20 repetitions
b. 40-60% RM and 1-5 repetitions
c. 70-80% RM and 1-5 repetitions
d. 80-100% RM and 5 repetitions

35. The recommended amount of resistance and number of repetitions for improving muscular strength is
a. 40-60% RM and 15-20 repetitions
b. 10-60% RM and 1-5 repetitions
c. 70-80% RM and 1-5 repetitions
d. 90-100% RM and 10-15 repetitions

36. In weight training, a set is a
    a. group of exercises
    b. group of repetitions
    c. group of similar exercises
    d. single muscle contraction

37. To gain muscular strength and endurance for general fitness, the rest interval between sets should last
    a. less than q minute
    b. 1-3 minutes
    c. 3-5 minutes
    d. more than 5 minutes

38. A cool-down period after a weight training workout should include
    a. repeated bouts of sprinting
    b. high-intensity plyometrics
    c. 5-10 minutes of relaxation and stretching
    d. 30 minutes of aerobic activity

39. The MINIMUM number of training days per week for gaining strength is
    a. 2-3
    b. 3-4
    c. 5-6
    d. 6-7

40. The rate of strength gains will depend on all of the following EXCEPT
    a. motivation
    b. a person's age
    c. heredity
    d. equipment used

41. As advanced weight training program focusing on strength development would use
    a. fewer sets and more reps
    b. more sets and fewer reps
    c. more sets and more reps
    d. fewer sets and fewer reps

42. All of the following are recommended guidelines when working with free weights EXCEPT
    a. bounce the weights against your body
    b. use a spotter or train with a partner
    c. lift with your legs
    d. keep the weight close to your body

43. Use of anabolic steroids may cause all of the following EXCEPT
    a. liver damage
    b. high blood pressure
    c. greater bone growth and lengthening
    d. psychological disturbances

44. What is the most effective way to improve muscle size and strength?
    a. a consistent program of weight training
    b. consumption of protein supplements
    c. use of amphetamines
    d. potassium supplementation

45. Actual changes in muscle size usually begin after _____weeks.
    a. 1-2
    b. 2-4
    c. 4-6
    d. 6-8

46. Muscle soreness is caused by
    a. breakdown of muscle tissue by chemicals
    b. loss of myofibrils
    c. lactic acid buildup
    d. increases androgen levels

47. Which of the following is NOT recommended if you have reached a plateau with your weight training program?
    a. change the type of exercises
    b. increase the training frequency
    c. vary the number of sets and reps
    d. vary the load and number of repetitions

ANSWERS

1. b	14. c	27. c	40. d
2. a	15. d	28. b	41. b
3. d	16. a	29. b	42. a
4. b	17. c	30. c	43. c
5. d	18. b	31. c	44. a
6. b	19. a	32. a	45. d
7. d	20. c	33. b	46. a
8. a	21. c	34. a	47. b
9. d	22. c	35. c	
10. b	23. b	36. b	
11. c	24. c	37. b	
12. a	25. d	38. c	
13. c	26. b	39. a	