Neuromuscular and Hormonal Adaptations to Resistance Training

Note: This quiz may be used by the CSCS- and NSCA-Certified Personal Trainer to acquire 0.5 CEUs. The article for this quiz begins on page 51.

1. Gender differences in strength have been found to be reduced when strength is expressed relative to
   A. body weight.
   B. body mass.
   C. muscle cross-sectional area.
   D. exercise training protocol.

2. The catabolic effect of cortisol is to
   A. allow for the breakdown of amino acids.
   B. encourage a lowering of blood glucose levels.
   C. contribute to protein synthesis.
   D. increase the level of exercise intensity.

3. Resistance training involving which of the following %1RM ranges is associated with the greatest increase in serum testosterone concentrations in males?
   A. more than 95%
   B. 85–95%
   C. 70–80%
   D. less than 70%

4. Resistance training involving which of the following RM ranges is associated with the greatest increase in cross-sectional muscle fiber area?
   A. less than 4
   B. 4–7
   C. 8–12
   D. more than 12

5. Which of the following describes how the nervous system adapts to increase muscular strength?
   A. neural efficiency decreases
   B. neural resistance increases
   C. motor unit activation decreases
   D. motor unit recruitment increases

6. As compared to females, males have the greatest pre- and posttraining serum concentrations of which of the following hormones?
   A. TST
   B. GH
   C. IGF-I
   D. cortisol

7. Resistance training involving which of the following exercises (as an example) is associated with the greatest increase in acute postexercise serum GH concentrations?
   A. biceps curl
   B. hip sled
   C. lat pulldown
   D. shoulder shrug

8. Which of the following describes the factors influencing the extent of hormonal response to resistance training?
   I. amount of muscle repair needed
   II. amount of muscle tissue impacted
   III. type of nutritional assistance from the individual’s diet
   IV. type of stimulus caused by the resistance training program
   A. I and II only
   B. I and III only
   C. I, II, and IV only
   D. II, III, and IV only

9. Which of the following are factored together to result in muscle hypertrophy caused by responses and adaptations to resistance exercise?
   I. protein synthesis
   II. carbohydrate synthesis
   III. protein degradation
   IV. carbohydrate degradation
   A. II and IV only
   B. I and III only
   C. II and III only
   D. I and IV only

10. According to the article, which of the following is the most likely fiber type that results from conversion due to heavy resistance training?
    A. Type I
    B. Type IIa
    C. Type IIb
    D. Type IIc

The answers to this quiz will appear in Vol. 24(4).

Answers to the CEU Quiz in Vol. 24(2) of the Strength and Conditioning Journal
### CSCS and NSCA-CPT CEU Quiz Answer Form

#### Neuromuscular and Hormonal Adaptations to Resistance Training: Implications for Strength Development in Female Athletes (Pages 51-59)

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