

Quiz Policies

Eligibility

The NCSF online quizzes are open to any currently certified fitness professional, 18 years or older.

Deadlines

Course completion deadlines correspond with the NCSF Certified Professionals certification expiration date. Students can obtain their expiration dates by reviewing either their certification diploma or certification ID card.

Cancellation/Refund

All NCSF continued education course studies are non-refundable.

General Quiz Rules

- You may not have your quiz back after sending it in.
- Individuals can only take a specific quiz once for continued education units.
- Impersonation of another candidate will result in disqualification from the program without refund.

Disqualification

If disqualified for any of the above-mentioned reasons you may appeal the decision in writing within two weeks of the disqualification date.

Reporting Policy

You will receive your scores within 4 weeks following the quiz. If you do not receive the results after 4 weeks please contact the NCSF Certifying Agency.

Re-testing Procedure

Students who do not successfully pass an online quiz have the option of re-taking. The fees associated with this procedure total \$15 (U.S) per request. There are no limits as to the number of times a student may re-test.

Special Needs

If special needs are required to take the quiz please contact the NCSF so that appropriate measures can be taken for your consideration.

Quiz Rules

What Do I Mail Back to the NCSF?

Students are required to submit the quiz answer form.

What do I Need to Score on the Quiz?

In order to gain the .5 NCSF continued education units students need to score 80% (8 out of 10) or greater on the CEU quiz.

Where Do I Mail My Quiz Answer Form?

You will mail your completed answer form to:

NCSF

Attn: Dept. of Continuing Education

5915 Ponce de Leon Blvd., Suite 60

Coral Gables, FL 33146

How Many CEUs Will I Gain?

Professionals who successfully complete the any continuing education quiz will gain .5 NCSF CEUs per quiz.

How Much does each quiz cost?

Each quiz costs the student \$15.00.

What Will I Receive When The Course Is Completed?

Students who successfully pass any of the NCSF online quizzes will receive their exam scores, and a confirmation letter.

How Many Times Can I Take The Quizzes For CEUs?

Individuals can take each NCSF quiz once for continuing education credits.

Training System for New Clients

When people are new to exercise or returning from a long time away from the gym, there are often deficiencies in key metabolic and movement systems of the body. Initial training often has several system-limiting factors which include:

Low VO₂max – which suggests that the actual capacity to burn calories via the use of oxygen is limited.

High rate pressure product (HR x SBP) – represents myocardial oxygen demand, which when elevated leads to premature fatigue due to inefficient cardiopulmonary musculature.

Lack of movement proficiency – limits the type, quantity, and quality of anaerobic work performed

Lack of musculoskeletal balance/general deconditioning – contributes to the aforementioned and reduces the total work performed.

While each of these areas requires some specific focus they can be combined to increase the rate of adaptations and goal oriented accomplishments. The use of tri- and quad- sets or circuit training can promote more adaptations than a single exercise employed with traditional rest intervals. Due to the fact that the neuromuscular system will adapt most rapidly to new stress it makes sense to take advantage of this phenomenon to optimize results. Much like a casted arm or leg, general deconditioning is associated with muscle atrophy from lack of use. Once the limb becomes uncasted and is once again used regularly, the rate of protein synthesis and

subsequent hypertrophy occurs very quickly. Similarly, deconditioned individuals will experience a much more rapid adaptation rate than a trained individual when comparable intensities are employed. The body will reach its homeostatic potential from a deconditioned state much more efficiently (10-20%/week) than it will attain new levels of fitness from an already fit state (2-5%/week). Much like the immediate acclimation of riding a bike after a decade layoff, the rapid response in the nervous system the first 4-6 weeks of training represents opportunity to maximize return for effort.

This relatively quick adaptation response occurs via a complete system efficiency adjustment to meet the demands of pre-existing stress. The nervous system is the first to respond as repeated movements trigger recruitment and firing rate adjustments through motor rehearsal. Proprioceptors and mechanoreceptors function to accommodate coordination requirements while the active muscle's fast twitch type IIX fibers shift characteristics to accommodate endurance by adjusting to fast twitch type IIA fibers. Cardiopulmonary response is a bit slower. The initial muscle gain is most dependent on the level of deconditioning. Again, much like the casted limb, if the body experienced limited tension over an extended period of time due to sedentary living conditions it dumped its protein, which will return quickly to accommodate the deficiency. Others returning to exercise may notice weight gain initially as well, as muscle glycogen stores increase, leading to more water in the muscle without the same protein adjustments. Note: This is important to point out as many exercisers are disappointed to see they actually gain weight in

the first two-three weeks as their musculoskeletal system comes back on line and holds more energy (1 molecule of glucose + 3 molecules water = glycogen) in the muscle and bone density improves.

Due to the fact that the first steps back or first steps forward in exercise always begin with an acclimation period, motor patterning should be emphasized. This means repeating quality movements to improve the efficiency and endurance of the client while maximizing work. Strategies to prevent fatigue related decline include:

- Employing total body movements rather than isolated actions
- Transitioning the tension and stability requirements to different muscle groups
- Employing descending difficulty in appropriate doses

Examples of this concept can be seen with each of the training systems below but should only be implemented once the individual skills are appropriately mastered. Note: Do not use any loading beyond body weight until the biomechanics are correct. Premature loading always leads to sloppy movement patterns.

Tri/Quad Sets

Depending on the goal, these exercise groupings can be used to maximize quality work and caloric expenditure. They allow for prime mover emphasis with consideration for coordinated movement and appropriate force couple interaction. The more difficult activities should regress to the least challenging in the third or fourth action of the multi-“super set”. The actual loading is the biggest determinant of

the order followed by the amount of tissue under tension and movement complexity. (Three sets of ten with new exercise routines are far less effectual).

Tri-Set Examples:

1. (Lower-Upper-Middle sequence):

1) MB squat to 2) Overhead Press to 3) Swiss ball step and rotate

2. (Lower-Pull-Push sequence):

1) DB deadlift to 2) Modified pull-up to 3) Bench push-up

3. (Sagittal-Frontal-Transverse):

1) Lunge to MB throw to 2) Lateral lunge to MB reach to 3) Reverse lunge w/MB rotation

Or

1) Squat to 2) Military press to 3) Closed chain plate rotation

Quad-Set Examples:

1. (Total-Push-Pull-Trunk):

1) DB or MB squat to press to 2) Split stance forward band press 3) Reverse step to pull to 4) Ab curl on ball

2. (Lower-Upper-Lower-Upper):

1) MB OH Step-ups to 2) Chest press to 3) RDL to 4) Cable row

Circuits are those groupings of exercise that generally range from 5-10 exercises but exceptions or variations exist. The general order of operations (metabolically speaking) suggests

- 1) Phosphocreatine (CP) power to strength
- 2) Glycolytic power to strength to hypertrophy
- 3) Anaerobic endurance
- 4) Aerobic endurance

That said, the selection of the exercises and the respective order should follow this metabolic path as well as pay attention to the basic exercise order principles mentioned above. This is relevant so that as the body fatigues the activities regress from more encompassing and difficult to progressively less demanding as acute peripheral fatigue can lead to poor technique. Circuits are also very good for correcting postural distortions and improving ROM and exercise technique as less emphasis can be placed on the load and consequently the number of reps can be elevated.

Sample Circuit for an individual with tight posterior chain (hamstrings, glutes, low back)

and mild upper cross (tight lats, pecs, subscapularis). Circuit objective – perform each exercise for 45 seconds using controlled form, transitional rest between exercises, stop upon volitional failure.

- 1) High box alternate step-ups
- 2) Reverse lunge w/band row
- 3) MB Deadlift swings
- 4) Forward step with rotation
- 5) Closed chain ITY reaches
- 6) Alternating split stance forward reaches
- 7) Quadruped

This is one just one example, and for some, the exercises may not be too familiar. Luckily, there are numerous combinations that can be used correctly, assuming the client is proficient in all the tasks. In some cases exercise machines may make more sense, whereas in others the only equipment available is a physioball and two dumbbells. Some clients may need a short rest between exercises, while others may need more resistance, as the activities were underestimated for work. Matching the activities to the needs analysis, the client's fitness level and exercise tenure will all help to identify the optimal matrix for the training system.

Training System for New Clients

CEU Quiz

1. Rate pressure product (RPP) gives an indication of _____.
 - A. capacity to utilize O₂ in the muscles
 - B. amount of anaerobic work performed
 - C. myocardial oxygen demand
 - D. adaptational response time to flexibility training
2. Individuals beginning a workout program after a long layoff may not have a high capacity to burn calories via oxygen utilization, represented by a _____.
 - A. high VO₂max
 - B. low VO₂max
 - C. high HRmax
 - D. low resting heart rate
3. From a deconditioned state, an individual will reach homeostatic potential _____ compared with a fit individual.
 - A. faster
 - B. slower
 - C. at the same pace
 - D. none of the above
4. Individuals who are already fit generally progress at what percentage per week when presented with adequate and appropriate overload?
 - A. 2%-5%
 - B. 6%-10%
 - C. 12%-15%
 - D. 20%-25%
5. The _____ system is the first to respond to new stress from training, resulting in improvements of firing rate and recruitment.
 - A. respiratory
 - B. circulatory
 - C. pulmonary
 - D. nervous

6. The initial weight gain experienced by many exercisers during the first couple weeks of training is a result of _____.
- A. increased muscle mass
 - B. increased body fat stores
 - C. increased glycogen storage (and associated water)
 - D. all of the above
7. Which of the following is an example of a strategy to prevent fatigue-related decline?
- A. employing total body movements rather than isolated actions
 - B. transitioning tension and stability requirements to different muscle groups
 - C. employing descending difficulty in appropriate doses
 - D. all of the above are correct
8. _____ should be the biggest determinant of the exercise order when planning tri- or quad-sets.
- A. Load
 - B. Velocity
 - C. Momentum
 - D. Number of repetitions
9. Which of the following lists represents the correct order of operations (metabolically speaking) for a circuit program?
- A. aerobic endurance, anaerobic endurance, glycolytic power, phosphocreatine power
 - B. anaerobic endurance, phosphocreatine power, aerobic endurance, glycolytic power
 - C. phosphocreatine power, glycolytic power, anaerobic endurance, aerobic endurance
 - D. glycolytic power, aerobic endurance, phosphocreatine power, anaerobic endurance
10. A valid concern when utilizing circuits _____.
- A. is that acute peripheral fatigue can lead to poor technique
 - B. is that the client cannot complete more than 8-12 exercises
 - C. is that transitional rest between exercises reduces caloric expenditure
 - D. is that ROM cannot be improved due to limited rest

Quiz Answer Form

FIRST NAME _____ LAST NAME _____ M.I. _____

TITLE _____

ADDRESS _____ APT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____ POSTAL CODE _____

CERTIFICATION NO. _____ CERTIFICATION EXP. ____/____/____

MEMBERSHIP NO. _____ MEMBERSHIP EXP. ____/____/____

Quiz Name	Member Price	Total
	\$15	



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Check/Money Order

Account No. _____

Exp. Date _____

Security Code _____

Signature _____

Date _____

Quiz Answers

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

Fill in each blank with the correct choice on the answer sheet. To receive 0.5 CEUs, you must answer 8 of the 10 questions correctly.

Please mail this Quiz answer form along with the proper enclosed payment to:

NCSF
5915 Ponce de Leon Blvd., Suite 60
Coral Gables, FL 33146

Questions? 800-772-NCSF