

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.

New Training Recommendations for Osteoporosis and Spinal Fractures

Experts from the Too Fit to Fracture Initiative recently presented new study results to establish exercise recommendations for individuals with osteoporosis, including those who have suffered a spinal fracture. The results were presented at the World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases in Seville, Spain. An international multidisciplinary panel identified important clinical questions regarding the efficacy of exercise on pre-specified outcomes in individuals with osteoporosis, such as risk of falls, fractures, adverse events and bone mineral density (BMD), as well as pain, quality of life, and physical function after a spinal fracture. The panel examined existing literature and assigned a rating, high, moderate, low, or very low, pertaining to the quality of evidence available to address the aforementioned outcomes. In addition, a consensus process was used to establish recommendations on assessment, exercise, and physical activity in the context of three groups with varying risk (1) those who are osteoporotic based on their BMD, (2) those who are osteoporotic and have suffered a single spinal fracture, and (3) those who are

osteoporotic, present with hyperkyphosis, have suffered multiple spine fractures and experience chronic pain.

The panel recommended that all individuals with osteoporosis, as well as those with vertebral fractures, should engage in a multi-component exercise program that includes resistance and balance training. Aerobic training should be avoided to the exclusion of resistance or balance training. It is also recommended that individuals with vertebral fractures consult a physical therapist to ensure safe and appropriate exercise.

Lead author Dr Lora Giangregorio, University of Waterloo, Waterloo, Canada, stated, “People with osteoporosis and spinal fractures should be encouraged to participate in resistance training and balance training, as the strongest evidence we have supports multimodal exercise programs. We have developed evidence-based recommendations, as well as a report that addresses the “frequently asked questions” of patients and health care providers around physical activity. We hope that the recommendations are helpful to health professionals worldwide as they guide their

Key points as presented by the panel:

- Current national physical activity guidelines are appropriate for individuals with osteoporosis in the absence of a spinal fracture, but not for those who have suffered from one
- After a spinal fracture, moderate-intensity aerobic training is preferred to vigorous; physical therapy consultation is recommended in all cases
- Daily balance training as well as endurance training for the spinal extensors is recommended for all individuals with osteoporosis
- Restrictions are a disincentive to activity participation; individuals with osteoporosis but no history of spinal fracture should be encouraged to engage in activities they enjoy if they can be appropriately modified and performed safely
- Health care providers should provide specific instruction for safe movements rather than generic restrictions (e.g., lifting from the floor)
- Physical/occupational therapist consultation concerning appropriate physical activity among those with a history of spinal fracture is advised; particularly in the presence of balance or posture impairments, pain, comorbid conditions, or disorders that increase the risk of adverse events during exercise

osteoporosis patients in safe, effective – and enjoyable – exercise regimens.”

Bone stress from appropriate load-bearing activity is a very important factor in bone remodeling and providing potential improvements in BMD. Bone cell formation occurs in response to mechanical loading, which improves structural balance and density. Trainers should understand that in addition to mechanical factors, nutrition, medications, hormones concentrations and age all have relative contributory impacts on bone health and strength. Appropriate resistance and balance training can greatly reduce the risk for falls. The magnitude of benefit seems to be related to the level of activity, however, certain thresholds must be considered based on the individual’s relative risk strata. In a client with osteoporosis, risk for falling and fracturing a bone correlates

with their performance-related component of fitness scores (e.g., balance, power) as well as measures of functional task efficiency.

Compromised gait, balance, reaction time, strength, range of motion, and impaired vision are all strongly associated with an increased risk of falling. Well-structured resistance training can improve strength, balance, functional capacity, gait efficiency, speed, and reaction time to counteract these common shortcomings often associated with falls among individuals with osteoporosis. Trainers should integrate the following training guidelines to develop an exercise prescription which can greatly improve movement confidence and overall quality of life in individuals with osteoporosis.

General exercise program guidelines for osteoporosis:

- **Aerobic exercise** – include large muscle group activities such as walking, cycling or swimming
 - Goal is to improve and maintain work capacity and improve bone mass
 - Non-loadbearing activities such as water walking can be used for especially frail, elderly individuals with a high risk for falling
 - Perform work at 40-70% of peak heart rate (HR), 3-5 days per week for 20-30 minutes
 - Aerobic work should not take the place of resistance or functional balance training (depending on associated risk factors for the client)
- **Strength training** – use free weights, resistance training machines, cables, bands, balance equipment and bodyweight applications as permitted and safe for the client
 - Goal is to improve functional force capacity in the core and peripheral musculature with an emphasis on endurance in the trunk (e.g., spinal extensors) to improve postural balance
 - Perform work at ~75% 1RM for 2 sets of 3-10 repetitions per muscle group; 2-3 days per week for a total of 20-40 minutes
- **Flexibility training** – include static and dynamic stretching actions
 - Maintain or increase range of motion (ROM) in tight areas which impact postural balance and increase the risk for falling (e.g., tight pectorals with presence of hyperkyphosis)
 - Perform 15-45 second holds for 2-3 repetitions for each tight muscle group; engage 5-7 days per week

- **Balance/functional training** – include daily activity-specific exercises, brisk walking with safety measures, chair sit-to-stand work, etc.
 - Goal is to maintain or improve the ability to engage activities of daily living and reduce the risk for falling and associated fractures
 - Appropriate daily balance training is considered critical for all clients with osteoporosis
 - Functional exercises specific to the client’s daily actions, recreational activities and/or occupation should be performed 3-5 days per week

- **Special considerations:**
 - All modes of aerobic work are possible as long as repeated forward flexion and twisting are minimized
 - Clients with severe osteoporosis must minimize or completely refrain from impact loading activities such as jumping
 - Clients with extreme kyphosis may be limited to stationary equipment or walking with additional support; many will not be able to perform prone exercises
 - Many clients with osteoporosis will be over the age of 50; signs and symptoms of cardiovascular issues must be quickly recognized
 - Many clients with previous vertebral fractures will have a very low work capacity within their back extensor musculature; the trainer must seek to improve extensor endurance, but progress slowly using a very low work rate to start
 - Assure a safe exercise environment with minimal obstacles of any kind, especially objects laying on the floor; this will reduce anxiety in many clients and reduce the possibility of falling

New Training Recommendations for Osteoporosis

CEU Quiz

1. Experts from the Too Fit to Fracture Initiative panel suggested that daily _____ is especially important for all individuals with osteoporosis.
 - a. Water aerobics
 - b. Flexibility training
 - c. Balance training
 - d. Stress management techniques
2. *True or False?* According to the Too Fit to Fracture Initiative, daily endurance training for the spinal extensors is recommended for all individuals with osteoporosis.
 - a. True
 - b. False
3. Which of the following have an impact on bone strength and mineral density?
 - a. Mechanical factors
 - b. Nutrition
 - c. Hormones
 - d. All of the above
4. All of the following are associated with an increased risk for falling, except:
 - a. Impaired vision
 - b. Low reaction time
 - c. Compromised gait speed
 - d. Functional flexibility
5. *True or False?* Aerobic exercise is important for osteoporotic clients, but it should not take the place of resistance and balance training.
 - a. True
 - b. False
6. Resistance training should be performed at about _____ for 2-3 days per week.
 - a. 45% of the 1RM
 - b. 60% of the 1RM
 - c. 75% of the 1RM
 - d. 85% of the 1RM

7. Which of the following muscle groups should be addressed within the flexibility component of a program for a client who presents with hyperkyphosis?
- Rhomboids
 - Erector spinae
 - Hip flexors
 - Pectorals
8. Which of the following should be minimized during aerobic training when working with an individual with osteoporosis?
- Repeated forward flexion
 - Repeated twisting
 - Repeated high-impact forces
 - All of the above
9. Clients with extreme kyphosis will have issues performing exercises in which of the following positions?
- Seated
 - Standing
 - Prone
 - Stationary
10. True or False? Individuals with no history of spinal fracture should be encouraged to engage in all physical activities they enjoy as long as they can be properly modified when necessary.
- True
 - False

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	



Discover



Visa



Mastercard



Amex



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