

# 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.

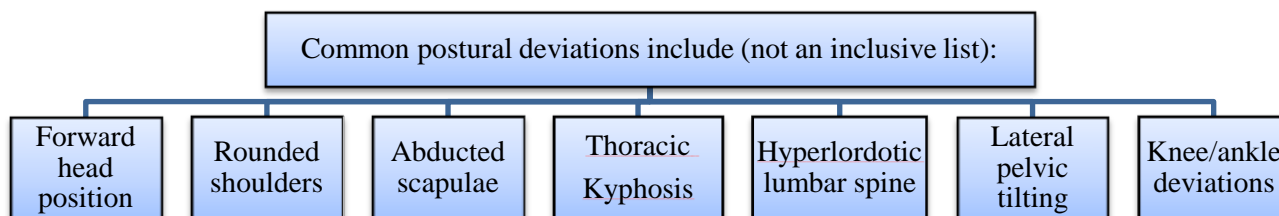
## **How Many Times Can I Take The Quizzes For CEUs?**

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

## Understanding Common Postural Distortions

Many clients will possess postural distortions or imbalances which greatly impede their ability to safely and effectively engage in a comprehensive exercise program. Postural imbalances can impair joint function and stability, compromise coordination between bodily segments, increase energy demands during completion of any given task, reduce force transfer through the kinetic chain, and increase the overall risk for injury (among other negative effects). In some cases the distortions impede neural signaling which impacts proper activation causing movement compensations which lead to injuries.

These postural issues may arise from a number of factors associated with activities of daily living (ADLs) as well as recreational endeavors or sport participation. ADLs that promote postural inefficiencies are often related to repeated occupational or social habits, such as slouching in front of a computer while at work leading to pelvic instability. Among more athletically-inclined clients, common causes of postural distortion may include performing repetitive actions that lead to overdevelopment or overuse issues, previously engaging in poorly-devised weight training programs, being improperly instructed on proper exercise technique, and movement compensations with or without the presence of an injury. In any case, distortions create localized dysfunction which may extend across the kinetic chains. They often present with pain as well as reduced skeletal function and performance. Forward shoulders will likely cause impingement syndrome, an example of localized dysfunction. Whereas, IT band syndrome developed from gait changes associated with a lateral pelvic tilt would be an example of an interactive disturbance.



Assessment of posture can be easily accomplished by using a plumb line to observe variations in anatomical positions. A plumb line aligned to the side of a client should run vertically through the hole of the ear, acromioclavicular joint of the shoulder, central vertebral bodies, the greater trochanter of the hips, slightly anterior to the midline of the knee, and end at the heel through the lateral malleolus of the ankle. Variations to this posture suggest a possible consequence in static posture and movement. If a plumb line is not available or a trainer is not proficient in identifying the anatomical locations, other observational assessments can be employed to discern postural issues as will be detailed later.

Certainly genetic predisposition may increase one's propensity toward postural deviations, but in general, afflictions are usually developed over time. And while acute responses may trigger problems; in most cases they are brought on by chronic behaviors.

Examples:

- Repetitive forward and rotational (internal) acceleration at the shoulder common to baseball, tennis, or swimming may lead to anterior migration of the shoulder
- Tightness in the hip flexors from running or cycling can rotate the pelvis anteriorly

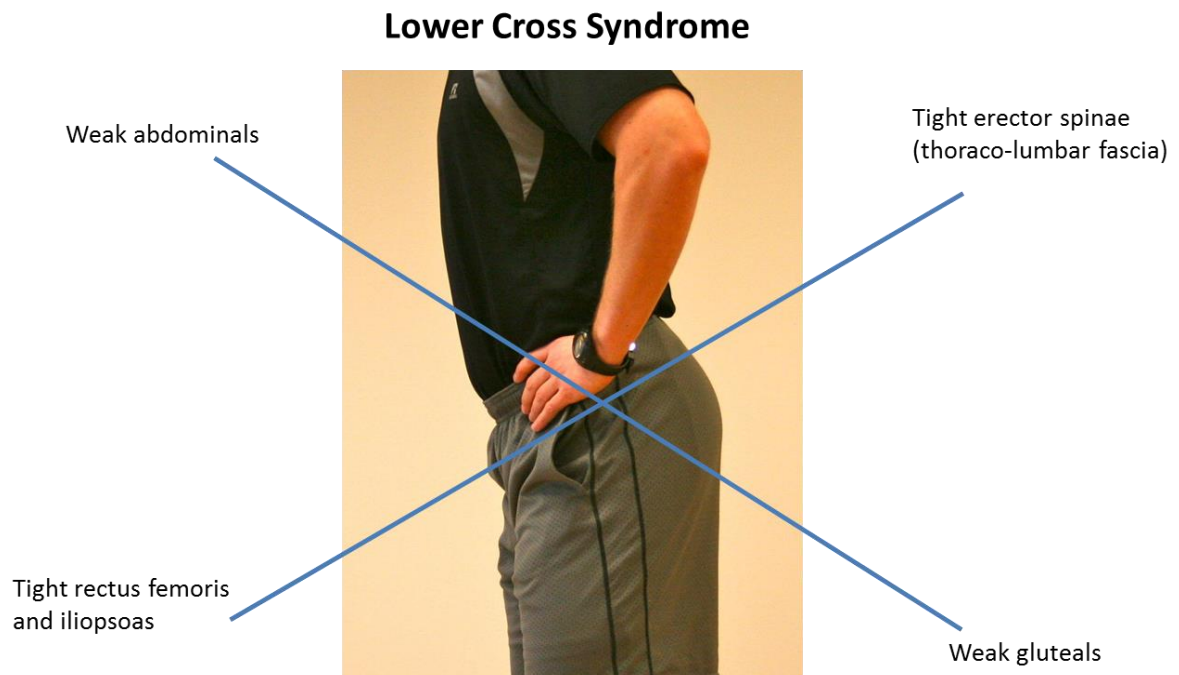
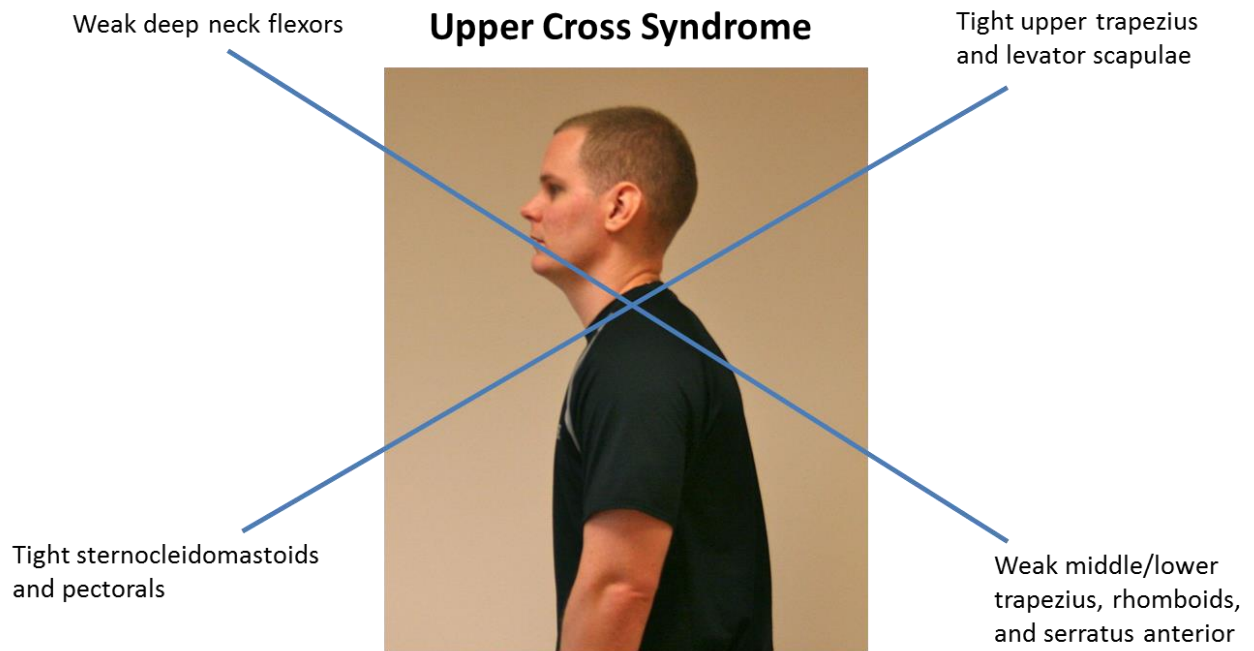
- Activation issues in the gluteals and imbalances in the knee extensors may lead to a propensity for an inward knee

When one joint becomes misaligned, the resultant asymmetries can lead to several additional problems down the kinetic chain. For instance, recruitment of agonist muscles can become inhibited by overactive antagonists. This is commonly seen when the hip flexors take on a greater role in pelvic stability, resulting in inhibition of the abdominals and hip extensors. These inefficiencies play a part in what is referred to as the lower-cross syndrome. When any of these interactive types of postural issues occur, the body experiences a greater resistance to movement as well as a reduction in stability and energy transfer during exercise.

Each client can be evaluated for musculoskeletal efficiency to detect any flaws in their static and dynamic postures. In doing so, the trainer ensures that the program incorporates activities to correct potentially-damaging postural distortions. The first step in this process involves an understanding of the underlying characteristics that perpetuate postural limitations. Commonly, postural and phasic muscles (those that allow for the transfer of force between joints) become either too tight/overactive or lax/underactive, depending on the chronic conditions applied. Interestingly, postural muscles tend to exhibit tightness and increased strength from over-activity whereas phasic muscles tend to progressively weaken. Without efficiency in joint function, postural muscles will incur increasing demands. In response, phasic muscles experience reduced stress and become weakened over time, inhibited by compensatory actions. In order to influence phasic muscle activity while inhibiting postural muscle activation, traditional programs must be redesigned to emphasize specific activation patterns. For example, a client presenting with the upper-cross syndrome should be instructed by a knowledgeable trainer to increase the quantity of upper body pulls while reducing loaded presses in exchange for ROM activities to help balance out issues within the shoulder complex.

Postural deviations have been categorized into clinically-diagnosed musculoskeletal problems, including:

- Upper-extremity postural distortions
  - Include forward chin, kyphotic exaggeration, and upper-cross syndrome
  - Among elderly clients, an additional condition may occur as exaggerated structural changes coincide with osteoporotic microfractures, presenting as a Dowager's Hump
  - While Dowager's Hump is a structural deformity, the other three distortions can be corrected with exercise
- Lumbo-pelvic-hip postural distortions
  - Include lower-cross syndrome (lumbar lordosis) and lateral pelvic tilting
- Lower-extremity postural distortions
  - Present as foot pronation or supination at the ankle (knees in or knees out)



The following table provides a segmental overview of common postural distortions. The muscles involved in each distortion as well as training limitations/issues are addressed. Consider the correction strategies as part of a dynamic warm-up or as exercise modifications in your program. See the NCSF YouTube Channel for more examples.

Segmental Problem	Issues	Limitations	Correction strategy
<b>Forward chin</b>	<p><b>Overactive:</b> Upper trapezius, scalenes, sternocleidomastoids, levator scapulae</p> <p><b>Underactive:</b> Serratus anterior, mid-low trapezius, deep cervical muscles</p>	<p>Contributes to upper cross/upper thoracic hump, limits spinal function, reduces shoulder complex efficiency and ROM</p> <p><b>Training issues</b> – vertical transfer from pulls, overhead pressing limitations, difficulty in receive positions of cleans and snatches and compromised core stability during front squats</p>	<p>Theraband Y-reaches Goodmorning with I-reach Straight-arm trap dips 30° straight-arm band pulls</p>
<b>Kyphotic exaggeration</b>  (Upper cross)	<p><b>Overactive:</b> Pectoralis muscles, subscapularis, latissimus dorsi, teres major</p> <p><b>Underactive:</b> Rhomboids, mid-lower trapezius, teres minor, infraspinatus, posterior deltoid</p>	<p>Shoulder complex dysfunction, impingement and kinetic chain disturbances leading to injury</p> <p><b>Training issues</b> – inability to perform overhead lifts, receives, and proper bilateral row position; compromise to spinal position during pulls and squats</p>	<p>Prone back extension Cobra on stability ball Bench ITY-reaches with trunk extension Scapular adduction Posterior deltoid – T-pulls w/band</p>
<b>Lumbo-pelvic-hip postural distortion</b>  (Lower cross)	<p><b>Overactive:</b> Calves, hip adductors, hamstrings, erector spinae, rectus femoris, latissimus dorsi, iliopsoas</p> <p><b>Underactive:</b> Glutes, abdominals, spinal stabilizers</p>	<p>Hamstring strains, groin strains, and low back pain</p> <p><b>Training issues</b> – compromise to bilateral hip and knee flexion activities such as squats, inability to access core musculature, inhibition to glute-driven hip extension, and knee position during heavy loading</p>	<p>Bulgarian squats High box step-ups Broad reverse lunges Overhead walking lunges Single-leg balance w forward reaches</p>
<b>Lumbo-pelvic-hip postural distortion</b>  (Fixed lateral pelvic displacement)	<p><b>Overactive:</b> <i>High side:</i> Quadratus lumborum, iliopsoas, adductors <i>Low side:</i> Gluteus medius, TFL</p> <p><b>Underactive:</b> <i>High side:</i> Gluteus medius, TFL <i>Low side:</i> Quadratus lumborum, erector spinae, adductors</p>	<p>Unilateral low and/or mid-back pain, hamstrings strains, adductor strains, IT band friction syndrome, lateral hip pain</p> <p><b>Training issues</b> – compromise to all squatting actions, compensatory dominance in leg exercises and ballistic hip extension, difficulty in spinal stabilization</p>	<p>Ipsi-lateral cross reaches Overhead cross lunge Overhead lunge to lateral lean</p>
<b>Lower-extremity postural distortion</b>  (Foot pronation or supination)	<p><b>Overactive:</b> Calves, peroneals, adductors, iliotibial band, iliopsoas and rectus femoris</p>	<p>Plantar fasciitis, shin splints and patellar tendonitis (jumper's knee)</p> <p><b>Training issues</b> – improper activation during squats and compromised pull position, difficulty during single-leg balance exercises</p>	<p>Lateral lunge with anchor Single-leg bench or floor reaches Manual dorsiflexion</p>

## Understanding Common Postural Distortions

### CEU Quiz

1. Which of the following postural distortions could potentially be caused by behaviors of daily living?
  - a. Rounded shoulders
  - b. Lateral pelvic tilting
  - c. Lumbar hyperlordosis
  - d. All of the above
2. Postural distortions can create all of the following changes relative to kinetic chain function, except:
  - a. Increased activation efficiency of local stabilizers
  - b. Increased energy demands during exercise
  - c. Decreased joint stability
  - d. Decreased coordination between bodily segments
3. True or False? A postural distortion at a given joint can create problems in other areas within the kinetic chain.
  - a. True
  - b. False
4. If a plumb line is used to assess standing posture, which of the following anatomical landmarks is not used to identify healthy, upright posture?
  - a. The hole of the ear
  - b. The acromioclavicular joint
  - c. Posterior to the midline of the knee
  - d. The ball of the foot
5. If a competitive cyclist develops excessive tightness in his or her hip flexors, which of the following postural deviations is associated with this issue?
  - a. Ankle supination
  - b. Anterior pelvic tilting
  - c. Ankle pronation
  - d. Posterior pelvic tilting

6. Which of the following statements is correct?

- a. Postural muscles tend to exhibit progressive weakness from activity
- b. Phasic muscles tend to exhibit progressive tightness from activity
- c. When joint inefficiency exists postural muscles tend to incur increasing demands
- d. All of the above are correct

7. Which of the following cannot be fully corrected with appropriate exercise as it is a structural deformity rather than a simple postural distortion?

- a. Kyphotic exaggeration
- b. Lumbar lordosis
- c. Dowager's hump
- d. Lower-cross syndrome

8. Which of the following muscles tend to be overactive in a client who is suffering from the upper-cross syndrome?

- a. Rhomboids
- b. Infraspinalis
- c. Pectoralis major
- d. Posterior deltoid

9. Which of the following muscles should be addressed to improve activation efficiency for a client who is suffering from the lower-cross syndrome?

- a. Rectus femoris
- b. Erector spinae
- c. Hamstrings
- d. Gluteus maximus

10. Which of the following issues may occur with clients who present with lower-extremity postural distortions?

- a. Shin splints
- b. Patellar tendonitis
- c. Plantar fasciitis
- d. All of the above



# 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

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|----------|-----------|
| 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