

# ACE<sup>®</sup> Certifiednews<sup>®</sup>

\$5.00

Volume 16

Issue 1

December 2009/January 2010

AMERICAN COUNCIL ON EXERCISE

A NON-PROFIT ORGANIZATION

## What to Expect When Training Postpartum Clients





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### IS EXERCISE BECOMING DYSFUNCTIONAL?

ACE Exercise Physiologist Fabio Comana discusses whether exercise without regard to stability and mobility could potentially be doing more harm than good, advancing the concept of “dysfunctional fitness.”

### WHAT TO EXPECT WHEN TRAINING POSTPARTUM CLIENTS

Even though your postpartum clients aren’t pregnant anymore, they still require careful consideration. Amanda Vogel addresses some of these considerations, including possible exercises to avoid or modify, as well as beneficial moves for new moms.

### INCORPORATING INTERVAL TRAINING INTO TRADITIONAL GROUP FITNESS CLASSES

Interval training is a popular way to burn calories, increase fitness, stay motivated and save time on exercise—and not just for individuals working one-on-one with a personal trainer. Learn how to incorporate interval training into traditional group exercise classes comprised of diverse participants.

### GFI SERIES: SENIORS—YOUR NEW TARGET AUDIENCE

Baby boomers continue to grow the senior population and these individuals are increasingly interested in improving their health and fitness levels.

### GUEST EDITORIAL: TOO MANY FITNESS PROS OVERLOOK COMMUNICATION SKILLS AS A KEY COMPONENT OF SUCCESS

Tracie Rogers, an exercise psychologist, argues that too many fitness professionals ignore the role that basic psychological and social skills play in the success of building and maintaining a training clientele.

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# Is Exercise Becoming DYSFUNCTIONAL?

BY  
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COMANA,  
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**T**HE HUMAN BODY IS DESIGNED TO MOVE AND DEVELOPS IN RESPONSE TO THE OVERLOAD PLACED UPON THE PHYSIOLOGICAL SYSTEMS. HOWEVER, DECREASING LEVELS OF PHYSICAL ACTIVITY COUPLED WITH A PROPENSITY TOWARD POOR POSTURE AND MUSCLE IMBALANCE ALTER NORMAL PHYSIOLOGICAL FUNCTION WITHIN THE NEUROMUSCULAR SYSTEMS (LENGTH-TENSION RELATIONSHIP, FORCE-COUPLING AND NEURAL TONICITY). THIS MODIFIES THE LOADING FORCES PLACED ACROSS THE JOINTS AND THE MECHANICS WITHIN THE JOINTS, TRIGGERING COMPENSATIONS IN MOVEMENT DURING EXERCISE AND ACTIVITIES OF DAILY LIVING.

Ultimately, this precipitates breakdowns along the kinetic chain, potential injury and pain. Technology is another contributing factor that promotes dysfunctional movement. As technology continues to advance the complexity of exercise equipment design (toward what some may erroneously define as “more functional”), many exercises have become equally technical, enhancing the potential for poor technique. These potential breakdowns raise concerns with traditional programming that largely ignore the need to re-establish appropriate levels of stability and mobility within the kinetic chain first.

- Joint stability is defined as the ability to maintain or control joint movement or position. It is achieved by the synergistic actions of the components of the joint (e.g., muscles, ligaments, joint capsule) and the neuromuscular system, and must never compromise joint mobility.
- Joint mobility is defined as the range of uninhibited movement around a joint or body segment. It is achieved by the synergistic actions of the components of the joint and the neuromuscular system, and must never compromise joint stability.

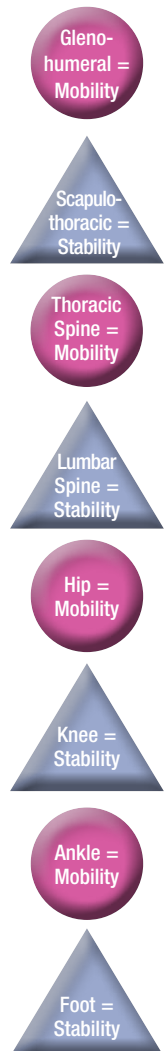
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Individuals who exhibit limited mobility and stability will often resort to compensated movement during complex exercises or when using advanced equipment. This raises the question of whether exercise without regard to stability and mobility could potentially be doing more harm than good, advancing the concept of “dysfunctional fitness.”

Movement efficiency involves a synergistic approach between stability and mobility where we can generally state that proximal stability promotes distal mobility. For example, if the hips, trunk and shoulder girdle are stable, it facilitates greater mobility of the legs and arms. While this statement is fundamentally true, the relationship between stability and mobility throughout the kinetic chain is slightly more complex and should serve as the template from which all flexibility and resistance programming originate (Figure 1). It is important to remember, however, that while all joints demonstrate varying levels of stability and mobility, they tend to favor one over the other, depending on their function within the body. For example, the lumbar spine is generally stable protecting the low back from injury, whereas the thoracic spine contributes significantly to the great range of mobility of the upper extremity.

Individuals who exhibit good posture generally demonstrate a good relationship between stability and mobility throughout the kinetic chain. But what happens when an individual exhibits bad posture and how does this influence this relationship? What happens when a joint lacks the appropriate level of mobility needed for movement?

*Continued on page 4*



**Figure 1:**  
**Mobility and  
Stability of  
the Kinetic  
Chain**



When mobility becomes compromised, movement compensations typically occur in one of the following ways:

1. The joint will seek to achieve the desired range of motion by incorporating movement into another plane. For example, if your client performs a bird-dog exercise with hip extension (sagittal plane movement) and lacks flexibility in the hip flexors, it is not uncommon to see the extended leg and hips externally rotate into the transverse plane, thereby producing a compensated movement pattern.
2. Adjacent, more stable joints may need to compromise some degree of stability to facilitate the level of mobility needed. For example, if your client exhibits kyphosis and attempts to extend the thoracic spine, an increase in lumbar lordosis may occur as a compensation for the lack of thoracic mobility.

How do we lose mobility and stability within the body? A lack of mobility can be attributed to numerous factors, including reduced levels of activity and events that promote muscle imbalance (e.g., repetitive movements, habitual poor posture, side-dominance, poor exercise technique, imbalanced strength-training programs). As Figure 2 illustrates, muscle imbalances alter the physiological and neurological properties of muscles that ultimately contribute to dysfunctional movement and inevitable breakdowns within the systems. While we have identified several causes for muscle imbalance, this article will focus upon the need to improve exercise technique by addressing the sum of all parts

(i.e., the entire kinetic chain) as opposed to individual joint movement.

We will use an exercise to illustrate how to evaluate a client's ability to promote efficient movement throughout the entire kinetic chain, or whether his or her movement is compromised. Keep in mind, that almost any exercise can be used as a movement screen. Plan to utilize kinesthetic and visual feedback in addition to any verbal feedback during the exercise to enhance your client's comprehension, understanding and awareness of his or her body and proper form. My preferred method for analyzing movement is to use two 2-foot pre-cut pieces of ½" PVC pipe, which can be purchased at a hardware store for less than \$2.00.

As trainers we need to understand the intent behind the exercises we recommend (i.e., desired joint movements), as well as the involvement of the entire kinetic chain. Utilize the acronym M.O.V.E. to direct your assessments and coach your clients to proper exercise form.

- **Movement** – Identify what desired movements you want at specific joints.
- **Observe** – Ask your client to perform the movement.
- **Validate** – Analyze the client's ability to maintain proper alignment between segments within the kinetic chain.
- **Educate** – Provide various forms of feedback (e.g., kinesthetic, visual, verbal) to correct and help self-correct.

Let us evaluate the classic bird-dog movement, used frequently with core and lumbar extensor conditioning, and in shoulder stabilization exercises. Utilize mirrors in both the frontal

and sagittal views to help your client learn how to move more efficiently. Position the client in a quadruped position, with the knees directly beneath the hips and hands directly under the shoulders. Ask the client to stabilize the trunk (as they know how—correctly or incorrectly), then place one dowel along the length of their spine. Given limb-length discrepancies between the upper and lower extremities, the dowel may lie parallel with the floor or at an angle. Regardless of the angle, there should be some space between the low back and the dowel, reflecting normal lumbar lordosis. Next, ask the client to perform the bird-dog movement, extending one hip and flexing the contralateral (opposite) shoulder until both limbs are parallel or near parallel with the floor. Have the client repeat this movement while facing the mirror, placing one dowel across the hips while the other is placed across the shoulders.

• **Movement:** What are the desired joint movements?

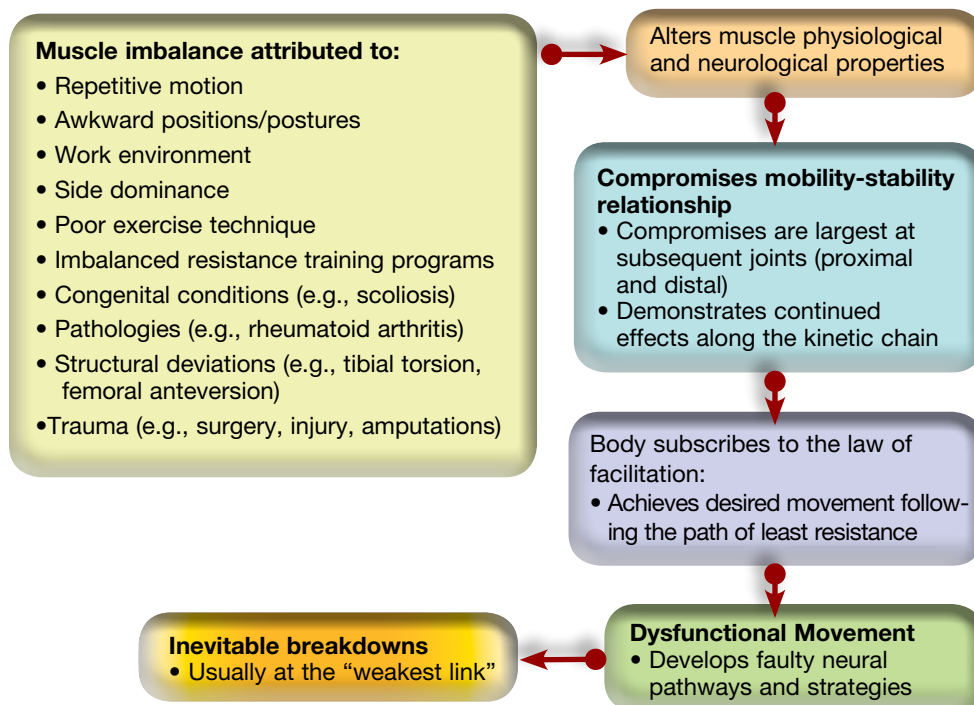
- ✓ Sagittal plane extension at the hip (mobility)
- ✓ Sagittal plane flexion at the shoulder (mobility)
- ✓ Maintenance of normal lordosis within the lumbar spine (stability)
- ✓ Promoting normal shoulder flexion from the scapulothoracic joint or region (stability)

• **Observe:** Ask your client to perform the movement and observe for the following:

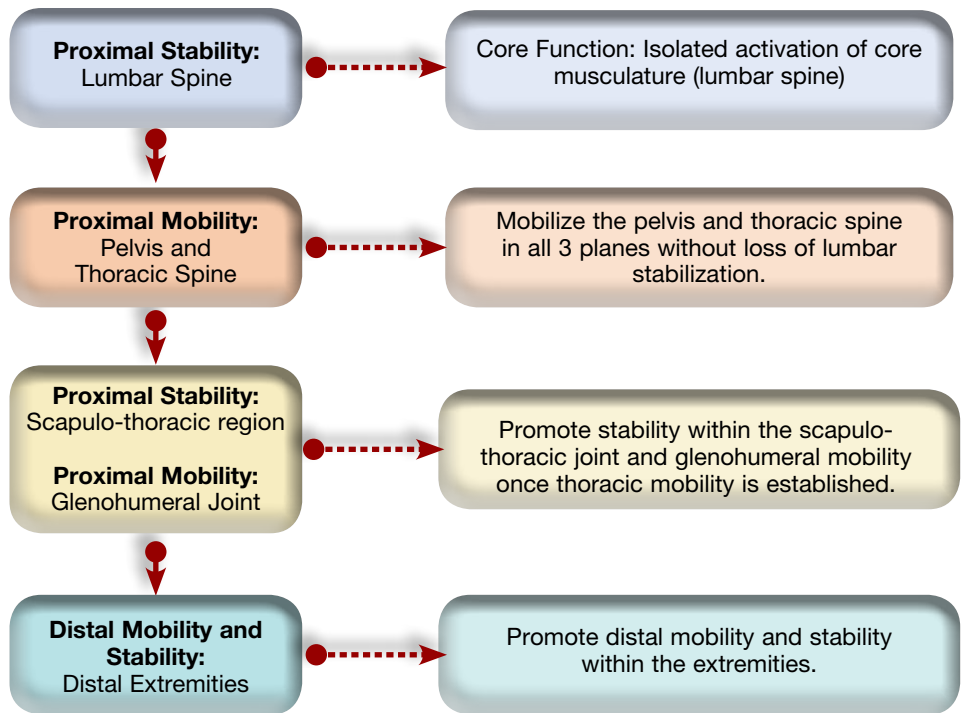
- ✓ Is there any increase in lumbar lordosis during the movement?
- ✓ Is there movement in the hips beyond the sagittal plane?
- ✓ Is there any movement in the leg beyond the sagittal plane (external rotation is frequently observed in the foot)?
- ✓ Is there any movement in the scapular beyond upward rotation and some rearward titling?
- ✓ Is there any movement in the arm beyond the sagittal plane (internal rotation is commonly observed due to tightness in the latissimus dorsi and pectoralis muscles)?

• **Validate:** Determine potential reasons for the loss of alignment within the chain.

- ✓ Is the increased lordosis attributed to a lack of core stabilization/abdominal engagement during hip extension or due to tight hip flexors pulling the pelvis into anterior tilting regardless of core function (evaluate hip-flexor length for your answer)?
- ✓ Why does the foot externally rotate?
- ✓ Why does the hip rotate?
- ✓ Why does the flexed shoulder elevate?



**Figure 2: Dysfunctional Movement**



**Figure 3: Programming Components of the Stabilization and Mobilization Training Phase**

• **Educate:** Using multiple forms of feedback (e.g., visual, verbal) and teaching styles (e.g., modeling behavior), instruct your client on how to correct their technique and help facilitate awareness of their own body and ability to self-correct.

- ✓ The use of the dowels placed along the spine and across the hips and shoulders, and the mirrors provides both visual and kinesthetic feedback so the client can feel and see what needs to be done to correct the movement.

When dysfunctional movement is observed, trainers will most likely need to break down the movement pattern segmentally (part-to-whole learning). The chart in Figure 3 can be used to guide you chronologically as you sequence your segmental learning.


Proximal stability of the lumbar spine entails core muscle activation and conditioning of the core muscles. Although the focus with this region is to improve stability, tightness in the lumbar extensors may impede the ability to train this region effectively. Trainers should therefore address muscle tightness simultaneously. Once your client demonstrates the ability to maintain appropriate levels of stability during a modified bird-dog movement (performed with shorter levers—flexed elbows and knees), progress the training to tackle mobility through the hips and thoracic spine. Remember, because muscles function three-dimensionally, trainers should always seek to improve muscle extensibility in all three planes.

One of the most problematic areas of the body is the shoulder girdle. The glenohumeral joint is a highly mobile joint and its ability to

achieve this degree of movement is contingent upon the stability of the scapulothoracic region from which it operates (i.e., the ability of the scapulae to maintain appropriate proximity against the ribcage during movement). Because many of the parascapular (around the scapulae) muscles that help stabilize the scapulae also influence glenohumeral movement, it is generally necessary to include stretching within the scapular region while simultaneously promoting stability or muscle strengthening. The type of exercises selected (i.e., close-chain or open-chain exercises) are an important consideration for promoting scapulothoracic stability.

- During closed-kinetic chain (CKC) movements where the distal segment is more fixed (e.g., pull-ups and push-ups), a key role of the serratus anterior is to move the thorax toward a more fixed, stable scapulae.
  - ✓ CKC exercises load and compress joints, increasing kinesthetic awareness and proprioception, which translates into improved parascapular and shoulder stability.
- During open-kinetic chain (OKC) movements, a key role of the serratus anterior is to control movement of the scapulae against a more fixed ribcage.
  - ✓ OKC exercises are not as effective in restoring coordinated parascapular control.

The challenge with CKC exercises lies with the fact that many are too challenging for deconditioned individuals. Therefore, consider using OKC movements initially to improve some scapular control. Performing OKC exercises while lying supine on the floor also increases kinesthetic feedback of good scapulae position.

This sequential progression through the segments provides one example of how trainers can work to achieve the appropriate levels of stability and mobility within the entire kinetic chain. Once the client's activities become integrated, his or her enhanced movement efficiency will no doubt become increasingly evident. 

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# What to Expect When Training Postpartum Clients

BY  
AMANDA  
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M.A.

**S**OME TRAINERS AND FITNESS INSTRUCTORS MISTAKENLY ASSUME THAT POSTNATAL CLIENTS ARE LIKE REGULAR CLIENTS, BUT WITH “BABY FAT” TO LOSE. TRUE, YOUR POSTPARTUM CLIENTS AREN'T PREGNANT ANYMORE, BUT TRAINING THIS SPECIAL POPULATION STILL REQUIRES CAREFUL CONSIDERATION. NEW MOMS ARE DEALING WITH A HOST OF PHYSICAL AND EMOTIONAL CHANGES THAT MAY AFFECT EXERCISE SAFETY, SUITABILITY AND ENJOYMENT. THIS ARTICLE ADDRESSES SOME OF THESE CONSIDERATIONS, INCLUDING POSSIBLE EXERCISES TO AVOID OR MODIFY, AS WELL AS BENEFICIAL MOVES FOR NEW MOMS.

## Physical Changes

When it comes to the physical changes of post-pregnancy, postpartum clients typically face everything from much-talked-about sleep deprivation to more private issues such as breast tenderness and pelvic discomfort.

### Sleep Deprivation

Changes in sleep patterns (or barely any sleep at all!) can greatly affect a client's energy level, mood and ability to concentrate. For this reason, it is often best to avoid complex choreography or complicated exercise sequences—sleep-deprived postnatal clients who already face plenty of daily multi-tasking may welcome simple, straightforward workouts.

### Back and/or Pelvic Pain and Discomfort

Clients who have just been pregnant have weak, over-stretched abs, and many of the postural changes that developed during pregnancy (e.g., forward-rounded shoulders, anterior pelvic tilt) persist after delivery. One reason is because the tasks of new motherhood encourage that same posture. New parents tend to slouch forward while changing diapers, bottle- or breastfeeding, and/or wearing a baby in a front-carrier. Pectoral/anterior deltoid stretches, scapular retraction and other exercises that

counteract these postural tendencies should be a top priority for training postpartum clients.

Another important consideration is pelvic pain/discomfort and/or incontinence (i.e., involuntary leaking of urine), which can make wide-stance or prolonged-sitting exercises and/or high-impact activity uncomfortable for some postpartum women. Remember that some clients may be embarrassed about explaining why they don't want to do a certain exercise, so be attentive. “Read” your clients for signs of reluctance or discomfort.

Most women do Kegels (pelvic floor exercises) during pregnancy, and they should continue to do them after delivery. But some clients may be more diligent than others. A study published in the *American Journal of Obstetrics and Gynecology* found that women who'd had a C-section were less likely to do pelvic floor exercises, perhaps because they did not deliver through the birth canal. However, since pregnancy itself affects the pelvic floor, Kegels are still important for clients who've had a C-section. (See also “Exercise After Delivery: Special Considerations for Training Following a C-Section,” by Amanda Vogel, *ACE Certified News*, April/May 2007.)

### Breast Tenderness and Infections

Women who breastfeed may experience breast tenderness during exercise. A client who nurses should aim to feed her baby right before a workout to lessen the discomfort of milk-engorged breasts. If breast discomfort is still an issue, modify or avoid prone or high-impact movements.

Another consideration for nursing clients is breast infections, which can occur in the early postpartum phase or even many months or beyond a year after delivery if the client is still breastfeeding. This is important for fitness professionals to be aware of because clients should not exercise if they have a breast infection. Breastfeeding moms are generally aware of the signs—which include

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redness and a sore or tender spot on the breast, and fever and chills—but most women tend to watch most closely for these indicators soon after delivery.

### Joint Issues

The hormone relaxin makes joints looser and less stable during pregnancy, after delivery and for as long as a woman nurses. This laxity can aggravate old injuries, contribute to joint pain and increase injury risk. With that in mind, ensure that postpartum clients avoid overstretching and progress gradually with high-impact exercise.

Pregnant and postpartum women are more susceptible to carpal tunnel syndrome, and any exercise or baby-related activity that causes the wrists to excessively flex or extend—improper dumbbell grip or carrying a car seat—can worsen the problem. Check that postpartum clients perform resistance exercises with neutral wrists, and modify or avoid weight-bearing on hands and wrists if pain is an issue. If it is not, plan on gentle wrist and forearm strengthening and stretching exercises.

### Diastasis Recti

After delivery, new moms are anxious to strengthen and tighten ab muscles, but even some basic ab moves are not appropriate for women who have diastasis recti, which is a separation of the two halves of the rectus abdominis muscle.

To test for diastasis recti, have your client lie face up with her legs bent and feet on the floor. Ask her to lift her head and shoulders off the floor as if doing a crunch. Use your fingertips, or have your client use her fingertips, to feel for a ridge or separation about one inch above or below the bellybutton. A separation that is wider than two fingers indicates diastasis recti. Clients with this condition should avoid twisting and spinal flexion, such as oblique crunches. Do progressive core stabilization moves instead (see exercises at right).

## Emotional Changes

In addition to the myriad of physical changes postpartum clients face, there are lots of emotional ups and downs due to hormonal fluctuations and also because caring for a newborn is a major lifestyle adjustment! Some women experience postpartum depression and/or ongoing body-image dissatisfaction. And even a highly fitness-focused client can feel guilty or anxious about taking time away from her baby to go to the gym or exercise on her own.

### Guilt or Anxiety About Working Out

It is not uncommon for a first-time mom to cut exercise short or skip it entirely because she feels guilty about being away from her baby. For clients who feel pressure to rush home for baby's sake, short workouts or activities that include the baby may be most successful in the early postpartum stage.

### Body Image

Women who have just had a baby often feel as if they are in the worst shape of their lives. And with all the media attention on celebrity moms who appear to bounce back

*Continued on page 17*

## Exercises

The following exercises are appropriate for clients who are six or more weeks postpartum (with a green light to exercise from a healthcare provider). Clients can perform these moves in the gym or at home with baby nearby.

### Transverse Abdominis Activation with Kegels

**Starting position:** Sitting on the floor with baby lying beside her. Have the client place her hands on her lower abdominals in a triangle shape, with both palms between the lower hip bones, fingers pointing down and thumbs touching each other.

**Movement:** Cue your client to breathe in and relax the abs. As your client exhales, she draws her bellybutton toward the spine so she feels her lower abs gently pull away from her palms. Ask your client to squeeze the pelvic muscles upward without letting go of the ab contraction. Cue to hold for five to 10 seconds; release and repeat.



### Four-Point Kneeling (Bird-dog)

**Starting position:** Kneeling on all fours with hands aligned under shoulders and knees under hips; baby lies face up on the floor between her hands.

**Movement:** Have your client contract her abs and raise one arm, palm in, and the opposite leg until they are both parallel to the floor. Cue to hold for three seconds; release and switch sides. Note: Avoid this exercise if client experiences wrist pain or discomfort.

### Heel Slides

**Starting position:** Lying on her back with legs bent and feet on the floor; baby lies on her chest.

**Movement:** As your client tightens her abs, she straightens one leg, sliding the heel away from her body. Have her return to the starting position and then alternate right and left legs, doing 12 to 15 repetitions with each leg.



*Exercises and photos courtesy of Baby Boot Camp: The New Mom's 9-Minute Fitness Solution, by Kristen Horler with Amanda Vogel (Sterling Publishing, January 2010).*

# Incorporating Interval Training into TRADITIONAL GROUP FITNESS CLASSES

BY  
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**I**NTERVAL TRAINING IS A POPULAR WAY TO BURN CALORIES, INCREASE FITNESS, STAY MOTIVATED AND SAVE TIME ON EXERCISE. HOWEVER, MUCH OF THE INFORMATION AND GUIDANCE REGARDING INTERVAL TRAINING IS DIRECTED AT PERSONAL TRAINERS WHO WORK ONE-ON-ONE WITH CLIENTS. THIS ARTICLE IS SPECIFICALLY FOR GROUP FITNESS INSTRUCTORS WHO WISH TO INCORPORATE INTERVAL TRAINING INTO TRADITIONAL GROUP EXERCISE CLASSES COMPRISED OF DIVERSE PARTICIPANTS.



## Understanding Interval Training

Interval training in traditional group exercise is not about hammering participants with repeated bursts of anaerobic exercise until they're exhausted. "Interval training, at its simplest level, involves working a little out of your comfort zone," says Douglas Brooks, M.S., a California-based exercise consultant for product and research development at multiple fitness companies and the head physiologist/strength and conditioning coach for Mammoth Power Sports. Think of it as bouts of working out slightly harder than the steady-state exercise most people are accustomed to in traditional group exercise. According to Brooks, the idea is to move beyond a 2 to 3 on the rating of perceived exertion (RPE) scale—which equates to a warm-up, recovery or cool-down effort—toward a RPE of 4 to 5, where exercise feels moderate, somewhat challenging or challenging and slightly beyond the normal comfort zone. (RPE values mentioned in this article refer to an exertion scale of 0 to 10.)

With that in mind, here are three important considerations for teaching safe and effective intervals in traditional group exercise.

### 1. Explain and coach intensity.

"Without a doubt," says Brooks, "instructors must incorporate perceived exertion into the class to help monitor the level of effort. This way, individuals can be working at absolute levels of effort that are different, but everyone is focusing on attaining a similar RPE." For example, one participant might perform a certain exercise at a more vigorous pace than another, but both participants still perceive exertion to be about 4 to 5 (somewhat challenging to challenging). To make interval training work in a multi-level group, instructors must educate participants on what they should be feeling so every person—regardless of his or her fitness level—experiences the intended level of intensity at the right time. Doing so helps you avoid having one person experience an interval as somewhat challenging while other group participants perceive the same interval as either somewhat easy or very challenging.

To help participants better understand RPE, instructors should explain what physical signs to look for. "Describe the intensity you are after, such as almost breathless, breathless, burning in the thighs," says Shannon Fable, an international fitness educator, program developer and owner of Sunshine Fitness Resources in Boulder, Colo. Tell participants how long

the interval will last so they know the timeframe they have to achieve the specified feeling. "Then describe several ways to get to that end result in the specified time," says Fable, who suggests offering a few movement choices, such as leaps or step-touches side to side, then cuing participants to do whichever move will make them go "breathless" (as an example) in the time it takes to complete the interval. This works regardless of whether the interval lasts 30 seconds, 45 seconds, 60 seconds or some other similar duration.

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Finally, avoid the mistake of only coaching participants through periods of exciting, higher-intensity exercise. “Recovery is equally important in interval training,” says Fable. Participants need your guidance just as much during this “down time.” Fill them in on how long the active recovery will last and what to expect by the end of it (e.g., being able to speak easily in full sentences). Then monitor the group and coach accordingly. “To make it user-friendly to everyone, let participants know that if they don’t achieve that recovery feeling you asked for, it’s OK to skip the next interval or go for it after resting a little longer,” says Fable. “On the flip side, if a participant is recovering quicker than you’re allowing, give [him or her] permission to start the next push earlier.”

Regardless of what stage you’re at in the interval-training cycle, keep your class informed. “Coaching is a must to make sure everyone gets what they need out of interval training and to be successful,” says Fable.

## 2. Offer movement options.

Another way to make everyone feel successful during interval training is with movement layering and/or options. Most instructors already do this in traditional group exercise, so it’s simply a matter of applying that skill to the coaching techniques described above. Before class, plan each interval with a variety of participants in mind. “Always have more than one option for the interval,” says Amy Bomar, an ACE Master Practical Trainer and the owner and education director of FIT Launch, Inc. in Snohomish, Wash. “Think in layers from high to higher to highest intensity,” she says.

Another strategy is to encourage participants to self-select different movement speeds by changing how you use music in class. “Ignore the 32-count [phrase] sometimes,” says Bomar. Or turn the music off for a moment and “just let students work at their own speed and pace,” she suggests. Doing so frees them from having to stick to a set tempo or beats per minute. Just make sure there is no danger of people colliding if they’re going from point A to point B at different rates, cautions Bomar.


## 3. Plan appropriate work/rest ratios.

Another consideration in teaching interval training is deciding on the duration of each interval. This is where the work/rest (or effort/recovery) ratio comes into play. Work/rest ratio refers to how long a person exercises at a higher-than-normal intensity compared to how long he or she recovers at or below steady-state activity. A work/rest ratio of 1:2 means participants exercise at a higher-than-steady-state effort for—as an example—30 seconds before returning to an easily sustainable level for one minute (i.e., twice as long as the work effort). Work intervals generally last two to three minutes or less. In a traditional exercise-to-music class, you could track intervals by a clock/watch or even by a certain number of 32-count phrases.

“I generally encourage a 1:1 effort-to-recovery interval for general fitness training,” says Brooks, who wrote a detailed section on interval training in his book, *The Complete Book of Personal Training* (Human Kinetics, 2004). However, he advises against getting too caught up in ratios. “More important than effort/recovery ratio, is that participants work at an effort that matches and challenges their current levels of fitness,” says Brooks.

To that end, plan work intervals that allow participants to demonstrate a solid effort without running out of steam too soon, resorting to poor technique and/or generally feeling unsuccessful. Recovery should be long enough to return participants to an RPE of 2 to 3. “The ratio may actually be 1:2 or 1:3 or whatever length of time allows an appropriate recovery and physical response,” says Brooks. When in doubt, he says, “err on the side of being conservative with your effort/recovery ratios.” And use RPE and coaching to guide participants. “At the end of the day, it’s all about the coaching as there is really no [definitive] answer for the right work-to-rest ratios for multi-level classes,” says Fable.

## Finding the Right Balance

Interval training is a welcome addition to group exercise for instructors and participants who could use a change from traditional steady-state formats. Still, interval training is just one part of a well-rounded group fitness program, which should involve a variety of approaches. “Interval training is not better or worse when compared to other intensity levels. It’s simply different!” says Brooks. 



# Adding Interval Training to Traditional Group Fitness Classes

Group fitness experts Shannon Fable and Amy Bomar offer tips and ideas for how to incorporate the principles of interval training into four popular group exercise classes.

**Shannon Fable of Sunshine Fitness Resources, Boulder, Colo.**

### Step Classes:

- Once you’ve taught and performed a 32-count combination for about five to seven minutes, begin corner-to-corner knees. Offer students the option to stay with the knees, add arms or add propulsions. Continue for 60 to 90 seconds with a final push at the conclusion to increase heart rate.

### Indoor Cycling:


- Do three hill repeats in 12 minutes. On each hill, participants have one minute to push to breathless and three minutes to recover. Participants can stand up or sit down during the push, as long as they add resistance as many times as needed to reach breathlessness without slowing down pedal cadence. During recovery, participants should come back to a place where they can speak in sentences.

**Amy Bomar of FIT Launch, Inc., Snohomish, Wash.**

### Hi-Low Classes:

- Use one movement, such as an amped-up grapevine (i.e., shuffling with a hop/jump), as a holding pattern between moves to break up the class and allow students to get a feel for a higher-intensity interval.

### Muscle-conditioning Classes:

- Do a set of dumbbell squats (or other strength exercise), performed for 30 seconds, followed by 30 seconds of mountain climbers and/or squat thrusts to increase heart rate. Or, space permitting, have participants run, jog or walk briskly after performing three combination strength exercises. 

# Seniors

## YOUR NEW TARGET AUDIENCE

BY  
CHRIS  
FREYTAG

**F**LO MEILER SAILED OVER THE 6'6" BAR, SETTING A POLE VAULTING WORLD RECORD FOR HER 75-80 AGE GROUP AT THE 2009 SUMMER NATIONAL SENIOR GAMES. THE "MAGIC SENIORS," THE TENACIOUS MEN'S BASKETBALL TEAM FROM FLORIDA, WENT UNDEFEATED IN THEIR 80 AND OVER AGE GROUP. AND THESE WEREN'T THE ONLY SENIOR ATHLETES VAULTING OR DRIBBLING THEIR WAY TO FIRST PLACE FINISHES.

There were actually 10,000 athletes registered for the 2009 Senior National Games. Adults over the age of 50 competed in everything from archery to volleyball—and provided inspiring proof that the body thrives on activity at every age.

Of course, it is unlikely that the seniors attending your classes participated in the triple jump or triathlon at last year's games. In fact, you may be faced with seniors who, after 60 years of inactivity, are just now embarking on an exercise routine. Working with these different fitness levels can be an exciting and rewarding challenge. Baby boomers continue to grow the senior population and these individuals are increasingly interested in improving their health and fitness levels.

"I don't understand why a gym of this size doesn't cater to its bread and butter," commented a 70-year-old gentleman as he walked into the gym one Wednesday morning. He is on to something: many seniors have the extra time and money to spend at the gym. Creating classes that attend to the needs of this population can equate to significant growth in your group fitness program participation.



And my personal experience has been that no age group is more appreciative of your time than seniors.

The ultimate goal is to create classes that are welcoming, safe, enjoyable and physically challenging for your senior participants. This can be done by addressing common exercise barriers such as lack of social support, low self-efficacy and common health problems (Orsega-Smith, et al., 2008).

### Social Support

Lack of social support can be a real hindrance for seniors interested in exercise, but what better way to increase social support than to engage in a group fitness class? A study reported in the *Journal of Applied Biobehavioral Research* found that a team or group-mediated approach to exercise increased adherence for a group of adults aged 65 and older (Brawley, et al., 2000). Consider employing the following techniques to increase the social support for those attending your class.

### Work Together

Create a team-building atmosphere by integrating shared goals into your class format. For example, if you have 10 participants in your class, you can set a group goal of 50 push-ups. This means that each person is challenged to complete five push-ups—most likely on

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their knees or on their toes—to achieve the group goal. Have your class count out loud as they complete the five push-ups together, and let those who need more time take it while the rest of the group cheers them on. Pick new goals to mix things up—some days the goal can be as easy as giving a big smile for the day. Just make sure that a group goal is physically available for every person and offer modifications to make difficult exercises more accessible.

### **Step Up the Competition**

Competition can be a great motivator at any age, as evidenced by the popularity of the senior games and other masters competitions. Integrate competition into your class by challenging your participants to out-rep you in an exercise or set a realistic time goal for your class to hold an isometric exercise.

You could also create a goal chart on a big sheet of gridded poster board. Write the “goal exercise” at the top of the board, the class dates across the top row and the names of your participants in the far left column. (Be sure to first obtain the permission of each participant and don’t pressure them to participate.)

If your “goal exercise” is balancing on one foot, integrate a five-second hold near the beginning of the class, followed by a 10-, 20- and even a 30-second hold near the end. Remind participants that balance is a “use it or lose it” skill so they should just give it their best effort. After class, encourage participants to write on the goal chart if they attempted the goal for that day. Participants can use the board to track their progress and encourage one another. A goal chart can be an instant ice breaker for new classes and is also a helpful tool for learning each other’s names.

### **Play Appropriate Music**

Though you may get pumped up during class by fast techno or hard bass beats, it is likely that your seniors will find the music too loud, too fast and, possibly, annoying. Find songs that connect with the era of the majority of your participants. Check out swing music, big band, Motown and even 70’s rock, depending on the age of your participants. Music that your class can sing along to and connect with can help bring a sense of community to your class.

### **Create Virtual Connections**

Another effective way to increase social support among your senior participants is to assist them in developing relationships. An easy way to do this is to create an online group. Gather everyone’s e-mail addresses and send a master e-mail list where they can hit “reply to all” on their e-mail. Participants can get to know one another, share class experiences and even arrange car-pools to class. You can also send messages to your participants as a group to remind them about class, encourage motivation or inform them of local health events.

### **Create a Phone List and Plan Some Social Gatherings**

It may be that your seniors are not yet as Internet savvy as you are. If that is the case, ask each participant to provide his or her phone number for a class phone list. Create a list for those who choose to participate and hand it out in class. The phone list can be used to arrange rides to class and plan get-togethers.

You could also plan a monthly or bi-monthly coffee clutch after class. (Be sure to ask your employer if this type of gathering is allowed.) If you get approval, encourage your employer to provide the coffee and cups. Gatherings like this can be a huge draw to seniors and can assist in strengthening their fitness habit.

### **Self-Efficacy**

The hardest part of stepping into the gym can come when a new exerciser feels intimidated. Older adults, in particular, may feel this way when entering a new class. Watching the “regulars” or younger participants move gracefully to complex choreography or coasting through tough exercises can be enough to tempt some of your participants to sneak out the back door in the middle of class.

Jill Bennett, a researcher and certified Fallproof instructor, has worked with many older adults in research settings to identify enjoyable, safe and effective exercise techniques. “Convey to your participants that it is never too late to start exercising and

commend them for being there,” suggests Bennet. “Regardless of their age or physical limitations, there is always something seniors can do to improve their current fitness level.”

Help build your participants’ sense of self-efficacy with these tips:

### **Be Generous with Your Praise**

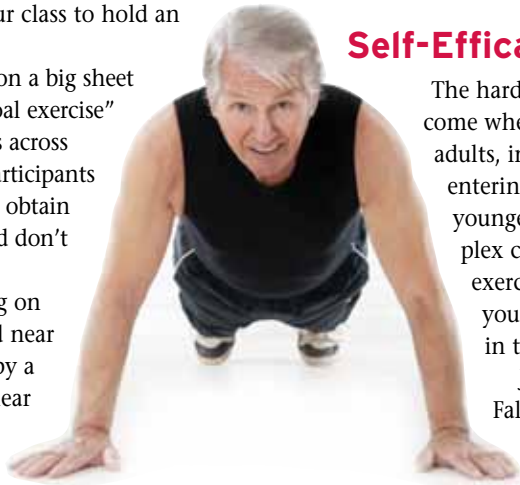
One of your toughest jobs is to stoke the confidence of your participants so that they work hard and continue coming back to class. Refrain from talking down to your participants or babying them, but do congratulate them on new exercise achievements and assure them that it doesn’t matter what the person next to them can or cannot do. Encourage participants to focus on their own movements and to feel strong and confident just as they are.

### **Set Realistic Expectations**

It is common for non-exercisers to think that the only way they can get in shape is to engage in vigorous boot camp-style workouts. Assure your older-adult participants that simply raising one’s heart rate and engaging in consistent activity can bring wonderful health benefits and add years of quality to their lives.

Help your participants find a happy medium between over-exertion and a lazy social hour by carving out one minute in the middle of class for a heart-rate check. Explain to your class

*Continued on page 12*





how perceived exertion works and help them get in touch with their breathing patterns and how they feel. Give them encouragement to try hard by inviting them to slow it down at any time.

## Health Problems

Health problems are a common exercise barrier for seniors. Oftentimes, seniors believe that a particular health condition prohibits them from participating in regular exercise. Of course, always encourage your seniors to get their doctor's approval prior to beginning any new exercise routine. But you can assist your senior participants in releasing these fears and beliefs by introducing exercises that are safe and accessible to them. Here are a few tips to help you:

### Listen and Modify

Providing modifications for exercises is necessary in most group classes, and is especially true for classes with seniors. Be sure to include exercises in your class plans that provide specific benefits to seniors. "It is critical that a fitness program designed for older adults involves balance and mobility components," says Bennett. "Incorporating these

components greatly reduces their risk of falls."

However, when you have a sea of participants in front of you, it is impossible to include exercises that address all of the aches and pains that a class may present.


To help guide your focus, listen for the common physical complaints of your participants. The most frequent complaints I hear from seniors are overall stiffness, knee issues, low-back pain, and shoulder stiffness and pain. Based on the common concerns you hear from your participants, you can decide to stay away from certain movements that may exacerbate conditions or vocally provide modifications for these exercises.

For example, participants with back pain should be cautious when engaging in unsupported forward bends. Because back pain is a common concern for seniors, always encourage participants to bend their knees as much as needed. They can also use a wall or chair assist (if available in class) or modify to a seated forward bend. Participants who have serious back injuries or osteoporosis may want to skip these types of forward bends altogether. Paying attention to the abilities and concerns of your participants will help you know which modifications to cue

and which exercises are too complicated or intense for the class at that time.

### Get Started—and Finish—on the Right Foot

Attend to participants' overall stiffness by including at least five minutes for both the warm-up and cool-down. Allow participants to work through initial stiffness with a warm-up that includes range-of-motion and slow-and-controlled movements. Use the cool-down to slowly reduce heart rates and then take at least five minutes at the end of class for easy stretching.

Integrating even just a few of these tips into your class can help create an effective and enjoyable experience for your senior participants. As a bonus, you will likely increase your class attendance and diversify your abilities as a teacher. 

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# Too Many Fitness Pros Overlook Communication Skills as a Key Component of Success

BY  
TRACIE  
ROGERS,  
PH.D.

**F**itness professionals, like all others working in a service industry, are feeling the strain of a suffering economy. People are tightening their budgets, and the expense of a gym membership and personal training are often eliminated. This has left newly certified and seasoned fitness professionals alike feeling the pinch and wondering what they can do to help maintain their jobs and continue to build their clientele. When trainers look for ways to expand their knowledge base to better serve their clients, they commonly turn to courses and seminars to learn a new exercise technique or method, use a new piece of equipment, or design the perfect program.

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There are countless options for these types of fitness programming courses and, while it is important to stay current and educated on the physical aspects of programming and design, too many fitness professionals ignore the role that basic psychological and social skills play in the success of building and maintaining a training clientele. In fact, I would argue that trainers cannot succeed in the current marketplace without the ability to create not just a workout, but an experience for their clients.

As the owner of a personal training studio, an educator and behavior-change expert, I have come to realize that there is a big disconnect between the skills that owners and managers are looking for in the trainers they hire and the skills that trainers think are most important. Successful fitness business owners are looking for trainers who can bring a unique level of customer service, care and attention to detail to their training. It is more difficult for owners to teach these psychological and social skills than it is to teach the components of safe and effective exercise programming, so “qualified” trainers are being passed over for less-experienced fitness professionals who understand and can execute the components of customer service. This doesn’t benefit anyone who makes a living in the fitness industry. It also is a source of great frustration for owners who can’t seem to find a “complete” trainer who is ready to perform. Similarly, it is frustrating for personal trainers who are passionate about fitness, but can’t seem to find stability and success.

*Continued on page 14*



Through my experience in building and running a fitness business during both prosperous and challenging times, it has become clear that there are several issues impeding the credibility and continued growth of the fitness industry. These are all things that can be controlled and changed, but the question that remains is whether or not we, as an industry, are ready to hold ourselves accountable. Either way, it is time to start focusing on the skills that are ultimately responsible for whether or not we will succeed.



## 1. Don't underestimate the importance of learning and perfecting the skill of communication.

By definition, good communication is the ability to effectively express your thoughts, feelings and needs, and to understand the thoughts, feelings and needs of others. In other words, communication is a process of mutual sharing and understanding, and it is critical to success (Orlick, 1986). Those who practice and benefit from good communication, however, understand that it goes beyond talking and listening, as it is really about making connections with people (Yukelson, 2001). Too often, fitness professionals fail to put in the work required to establish systems of quality communication and make true connections with their clients. This, in turn, prevents many fitness professionals from reaching the next level of success in building or even sustaining their businesses and in helping their clients reach their goals.

Not taking the time to build quality communication channels with clients can lead trainers to make assumptions about what their clients think, feel and need. Instead of building relationships that are based on listening and understanding, trainers not only assume that their clients are clear about expectations and program involvement, but also make assumptions about what their clients are feeling about the program. For example, when a client starts to have problems with adherence, trainers too often assume that the client is simply not motivated to work out and that there is nothing the trainer can do until the client is really

ready to make a change. In fact, a key indicator of weak communication in a relationship is when we think that people around us are not pulling their own weight. It is common for trainers to perceive that their clients are not holding up their end of the deal, and usually this is the result of the fact that the client does not have the same expectations for him or herself that the trainer has. Once this type of disconnect is perceived by the client, building a system of quality communication based on trust and respect will be

an uphill battle, and the trainer will likely be unable to get that client to buy into the program again.

Fitness professionals must realize that they are responsible for the quality of communication in their relationships and they must take ownership of the poor communication that exists. It is easy to blame the client for faulty communication, but if trainers want to see an improvement in the quality of their interactions and in the growth of their businesses, they must first take responsibility for their own ineffective communication skills. In other words, fitness professionals must start to view themselves as leaders.

In a leadership position, it is critical to clearly express expectations and to take the time to listen to others as they express their challenges, concerns and insights. The stress and insecurities that a new exerciser brings to the table is too often ignored, discounted or overlooked by trainers, yet these emotions can prevent the client from ever succeeding in an exercise program. Additionally, these emotions can be dramatically decreased when a trainer takes the time to clearly and consistently communicate program components and expectations while making the effort to understand individual client needs, beliefs about exercise participation, previous experiences, barriers and emotions. Personal trainers' success as communicators will be based on their ability to understand that each person with whom they communicate has had a unique set of experiences and

that each person will respond to the trainers' communication style in a different way (Yukelson, 2001). Establishing a system of clear communication at the start of a relationship requires more time and energy than simply getting started on the program, but the long-term payoff will be increased trainer and client satisfaction, focus and respect.

Professional success for a trainer is based on the ability to communicate effectively, consistently and efficiently. Communication, like all skills for success, must be learned, practiced and perfected. Fitness professionals must be aware of their natural communication style and the effect it has on those around them. He or she must also be prepared to take full responsibility for creating systems of quality communication in their professional relationships.

## 2. Don't underestimate the importance of professionalism in your daily activities.

Fitness business owners receive resumes and requests for employment on a daily basis from both qualified, experienced trainers and from individuals who are looking to start a

new career in fitness.

As an owner, I have never been able to get used to how many fitness professionals present themselves for review by a potential employer. There is a strange attitude among many fitness

professionals that because we work in a gym, we should dress and look like we are ready for a workout or, even worse, like we just finished a workout. For those who understand the importance of the fitness professional's role in the community and in the lives of others, there are few things more frustrating than the lack of professionalism that so many trainers bring to this industry. A key for success for all fitness professionals is the ability to develop and maintain credibility, trust and mutual respect in our professional relationships, and we often fight an uphill battle because of the lack of professionalism that we as an industry bring to the table.

Current and potential clients are looking for help. They are turning to the fitness professional for answers, guidance and support. When trainers are unable to hold a conversation in which they effectively express empa-

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*Fitness professionals must realize that they are responsible for the quality of communication in their relationships and they must take ownership of the poor communication that exists.*

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thy, care and concern for the individual and his or her unique challenges, and when they sit, talk to others in the gym, eat or look at the clock during a client workout, they are failing to provide clients the service for which they are paying. Furthermore, they are damaging the credibility of all fitness professionals. Imagine going to a bank looking for financial advice to have the advisor joke with his buddy, talk about how great he is at managing his money, or look away during the conversation. The behaviors that we exhibit as fitness professionals are not accepted in other service industries and this lack of professionalism is preventing us from gaining credibility and respect and from being taken more seriously by other health fields.

Being professional and taking the time to give others the attention they need requires patience and practice. However, when a trainer learns to put clients' needs, feelings and thoughts ahead of his/her own, the trainer will be better able to build safe and effective programs that are customized not only to the client's physical traits, but to his or her psychological traits as well. Creating a professional exercise training experience that allows the client to feel respected, valued and important will be perceived to be "worth the investment" and will be less likely to be eliminated from a budget.

### 3. Don't underestimate the importance of your role in helping people adopt and adhere to fitness programs.

Fitness professionals are aware of the link between physical inactivity and the health crises in our country. Additionally, most fitness professionals are active and fit and are frustrated with the fact that more people don't maintain a regular exercise program to improve their health. However, many fitness professionals underestimate the challenges associated with making lifestyle changes and their role in helping people make lasting behavior changes. Personal trainers who treat each client the same, and focus solely on the development of an exercise program, are often left wondering why their clients are not sticking to the program or achieving results. Being

physically active, or not being active, is a habit and it should be treated as such. Like other habits, such as teeth brushing or sitting on the couch after getting home from work, it is possible to learn to be more "automatically" active throughout the day. By working with a client on making a behavior change and finding regular time for exercise, a personal trainer will often help identify undesirable, time-wasting behaviors that can, over time, be replaced by healthy, active habits.

As personal trainers, we can never put enough emphasis on the individual differences that each client brings to the gym. The exercise environment, the stress of the situation, the personality characteristics of the clients, and the traits of the trainer all uniquely influence each client's exercise experience.



Successful trainers understand that each client has his or her own set of unique needs, fears and habits that need to be addressed in a unique manner.


It is important to understand that clients are making not only a financial commitment, but are also placing a tremendous amount of trust in the trainer to help them make a change. The decision to start a new exercise program leaves a person feeling very vulnerable and scared and when clients' needs are not met or when they feel misunderstood by their trainers, they may feel additional stress and anxiety associated with program participation. As a result, the quality of the relationship begins to suffer and this typically leads to client withdrawal from the program and from being physically active.

Personal trainers need to understand that they are in a unique position to help people adopt significant lifestyle changes that will decrease their risk factors for numerous diseases and increase quality of life. It is critical to understand the psychological and social components of behavior change and use them to help each client adopt and maintain an active lifestyle. It is commonly believed that 50 percent of people who start a new program will drop out within the

first six months, and this fact demonstrates that existing programming models are not effective for getting the majority of people to stick with a program. While the solution is not simple, it is time that fitness professionals understand the importance of their role in creating an exercise experience that not only helps clients reach their goals, but that builds long-term adherence as well.

Because building motivation and triggering behavior change can be the most challenging and frustrating part of a trainer's job, and because there is no one solution that works for all people, personal trainers must be aware, creative and compassionate in their client interactions and programming on a daily basis. Interpersonal and motivational skills need to be incorporated into each workout and trainers need to think outside the box to create a client experience that is focused on relationship development, support, understanding and, of course, exercise! Personal trainers should be aware of their clients' past experiences, self-efficacy levels, apprehensions, comfort zones, beliefs (often misconceptions) about physical activity, and social-support networks. It is this type of programming that will not only leave clients with great workouts that are helping them reach their fitness goals, but also with an experience that will keep them coming back for more.

To achieve long-term success in this industry, trainers must start to think about more than physical program design and start focusing on clients and their individual needs. Fitness professionals need to challenge themselves to approach their jobs with more professionalism and respect and to take the time to continue their education by mastering the principles of communication, customer service and behavior change.

There is no better time for fitness professionals to consider revamping their training and programming styles. In fact, career security and industry growth are depending on it. 

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# An Exercise Pill That Does All the Work For You?: Evaluating the Science



BY  
NATALIE  
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It is supposed to be the stuff of late-night infomercials and traveling salesmen: a pill that provides the benefits of exercise without leaving the comfort of the living-room couch. But last summer *Cell*, one of the most prestigious and credible scientific journals, published a study whose authors concluded that a particular biological pathway can be “targeted by orally active drugs to enhance training adaptation or even to increase endurance without exercise” (Narkar et al, 2008).

Before rushing out to find this pill or fretting that exercise may become an historic pastime, we decided to put this study and its findings to the test. Using the steps advised in an *ACE Certified News* on strategies for critically evaluating medical news and scientific research (Muth, 2005), here’s what we found.

## 1. Pay Attention to “Red Flags”

In “The Seven Words You Shouldn’t Use in Medical News” (2000), journalist Gary Schwitzer

encourages consumers to be wary of any news reports that include the words: *cure, miracle, breakthrough, promising, dramatic, hope and victim*. While it would have been easy for reporters to add some of these “red flags” to report on the study: “miracle cure for the couch potato” or “breakthrough in the fight against physical inactivity,” the mainstream media was both impressed and skeptical.

The actual headlines read: “Couch Mouse to Mr. Mighty by Pills Alone” in *The New York Times*; “For Mice at Least, Exercise in a Pill” in the *Washington Post*; and “Exercise pill burns fat—if you’re a mouse” on CNN.com. Each noted one important and key fact—the research was done in mice which, despite sharing the same underlying genes in the control of muscle tone as humans, are not quite the same as a 170-pound sedentary man. Dr. Ronald M.

Evans, senior author of the study, summarized the results in *The New York Times* with a statement most would find too good to be true: “It’s a little bit like a free lunch without the calories” (Wade, 2008).

## 2. Go Directly to the Source: Read the Abstract or Article

Review of the actual study was essential to further investigate these questionable claims. Reputable scientific peer-reviewed journals, which are less tolerant of hype and exaggeration, require authors to report the full story, including study implications and limitations. This study’s credentials are impressive: *Cell* is one of the top scientific journals; the Salk Institute in La Jolla, Calif., the location where the research was done, is a leading research institute; the Howard Hughes Medical Institute, the study’s funding source, only funds the most promising research ideas; and Dr. Evans is a past recipient of a Lasker Award, one of the most respected science prizes in the world.

But still, the research was done on mice, not humans. And the findings do not seem to make sense—we all know that it takes hard work to be fit and reap the rewards of exercise.

Here’s what the article abstract said, and what it means:

*“The benefits of endurance exercise on general health make it desirable to identify orally active agents that would mimic or potentiate the effects of exercise to treat metabolic disease.”*

Interpretation: The authors aimed to identify drugs that act to induce the same response in the body as endurance exercise with the ultimate goal of being able to treat metabolic diseases that benefit from exercise such as diabetes and obesity.

NATALIE DIGATE MUTH, M.D., M.P.H., R.D., is a resident in pediatrics at UCLA Mattel Children’s Hospital. She is also a registered dietitian and ACE Master Trainer.

*"Although certain natural compounds, such as resveratrol, have endurance-enhancing activities, their exact metabolic targets remain elusive."*

Interpretation: We already know of some compounds that improve exercise endurance, such as resveratrol, a compound found in red wine (though not in high enough doses to make a significant impact). However, we do not know how it acts to improve endurance.

*"We therefore tested the effect of pathway-specific drugs on endurance capacities of mice in a treadmill running test. We found that PPAR $\alpha$ /agonist and exercise training synergistically increase oxidative myofibers and running endurance in adult mice."*

Interpretation: The authors identified a drug (GW1516) that when combined with exercise training led to increased production of type 1 muscle fibers (oxidative myofibers) and improved overall endurance on a treadmill running test. Type 1 muscle fibers have an increased capacity for aerobic metabolism and endurance. Use of the drug combined with exercise was much more beneficial than exercise alone, though the drug alone did not improve endurance.



*"Because training activated AMPK and PGC1 $\alpha$ , we then tested whether the orally active AMPK agonist AICAR might be sufficient to overcome the exercise requirement."*

Interpretation: Exercise training activates AMPK and PGC1 $\alpha$ . Among other roles, AMPK and PGC1 $\alpha$  increase the expression of type 1 muscle fibers. The authors tested whether the drug AICAR, which functions similarly to AMPK, would be enough to increase the number and activity of type 1 muscle fibers in the absence of exercise.

*"Unexpectedly, even in sedentary mice, 4 weeks of AICAR treatment alone induced metabolic genes and enhanced running endurance by 44%."*

Interpretation: The authors did not think it would, but the drug worked! AICAR led to increased activity of type 1 muscle fibers and improved running endurance in the absence of exercise training.

*"These results demonstrate that AMPK-PPAR $\alpha$  can be targeted by orally active drugs to enhance training adaptation or even to increase endurance without exercise."*


Interpretation: These drugs were able to improve aerobic endurance, even in the absence of prior aerobic conditioning in mice and may be able to do the same in humans.

### 3. Be Skeptical of the Science

Rather than accepting these findings at face value, we dug deeper into the text of the study to evaluate the study design and methodology. The authors studied a fairly small number of mice—a total of 36 (nine in each of four groups) using a well-designed experimental methodology. While the results are compelling, two major considerations limit the application to humans: (1) what works well in mice may not work well in humans; and (2) the potentially harmful side effects of the drugs, which were not explored in this study, could prohibit use in humans. Still, the chemicals used in the study are widely

available and should a drug company pursue the study's findings, you may see some form of GW1516 or AICAR on the market one day. In fact, Dr. Evans reported to *The New York Times* that athletes repeatedly have attended his public lectures asking him about the drugs (Wade, 2008). The World Anti-Doping Agency of the International Olympic Committee and Dr. Evans are currently working on the development of a test to detect whether an athlete has taken these drugs (Wade, 2008).

### 4. Make It Relevant

While it is fascinating that researchers have identified a drug that might help to improve fitness in the absence of exercise, which in theory could benefit a variety of diseases, any FDA-approved application in humans is many years away at best. Meanwhile, you have time to help your clients realize the extraordinary benefits of exercise the old-fashioned way. 

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## What to Expect When Training Postpartum Clients

*Continued from page 7*

from pregnancy in no time, it's no wonder that postpartum women feel anxious about getting their pre-pregnancy physique back quickly. However, it takes time—some experts say about nine months—for the body to fully return to its pre-pregnancy shape (or close to it). Still, many postpartum women expect faster results. So watch for clients who attempt too much exercise, too soon.

In addition to losing fat, postpartum clients want to tone and strengthen muscles, which they might perceive as especially "soft," especially the abdominals. From a body-image perspective, working the abs and core can be emotionally challenging for women who were quite fit before pregnancy because in the early postpartum phase it is difficult to feel any abdominal activation at all. It is as if there is an "abyss" where the ab muscles used to be! You can assure them that this feeling goes away with both time and careful, progressive core training.

### Delivering What Postpartum Clients Want and Need

Postpartum clients are not pregnant anymore, but their bodies are still in flux. Remembering that a new mom's physical and emotional concerns extend far beyond losing "baby fat" will help you deliver the safest, most effective program possible. 

### References

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For more on this topic, order ACE's Pre- and Postnatal Exercise Continuing Education Course at [www.acefitness.org/continuingeducation](http://www.acefitness.org/continuingeducation)



# ACE Partners with Peaksware

*Comprehensive TrainingPeaks Solution Now Offered to ACE Pros Helps Trainers and Their Clients Monitor Workouts and Track Overall Fitness Goals*


**A**CE has selected Peaksware, LLC, to provide all ACE-certified professionals with TrainingPeaks Professional Edition software, a comprehensive solution for improved client management; exercise program planning, featuring exercises from ACE's *Exercise Library*; and a publishing platform for exercise videos, custom workouts, and training and meal plans. As a result of this partnership, clients that train with ACE pros will have the opportunity to access TrainingPeaks Personal Edition software to view their recommended programs, track their exercise progress and record their meals from any computer or Web-enabled mobile device, resulting in enhanced accountability and value to both fitness professionals and clients.

TrainingPeaks delivers functionality for strength and cardio exercise, indoor and outdoor workouts, and both training and nutrition, providing a complete package for professionals and their clients. In addition to the intuitive interface for planning and tracking, TrainingPeaks allows users to upload files from more than 80 popular training devices, map activities, easily search databases of routes, foods, workouts and exercise videos, and receive daily communication reminders.

Peaksware will offer online webinars to teach ACE professionals how to manage their clients' physical-activity programs and interactively deliver exercises from the *ACE Exercise Library* using the TrainingPeaks Professional Edition software. ACE pros will also receive preferred pricing on the software and will be awarded Continuing Education Credits (CECs) for attending the webinars.

ACE-certified professionals can sign up for a free trial of the TrainingPeaks Professional Edition software at [www.trainingpeaks.com/ace](http://www.trainingpeaks.com/ace).

## About Peaksware

Peaksware, LLC, founded in 1999, develops software systems to help motivated individuals and professionals achieve health, fitness and peak performance. In addition to the world's leading online training and nutrition log, TrainingPeaks.com, Peaksware also produces the desktop products Device Agent and WKO+. Each of these products is sold both direct to consumers and can also be customized in a white label format for enterprise customers. For more information or to discuss business development opportunities contact [info@peaksware.com](mailto:info@peaksware.com). 



## Online CEC Webi

**O**ur new monthly webinar series has been such a hit, we've added more events to the schedule for 2010. Enjoy this convenient and valuable way to keep up with the latest tools and techniques—while earning CECs—all in the comfort of your own home and with the benefit of live instruction from ACE educators. Visit [www.acefitness.org/continuingeducation](http://www.acefitness.org/continuingeducation) to learn more and to register.

### Tap Into Your Fat Burn: Fat Metabolism

January 13, 2010 | 4–6pm Pacific | 0.2 CEC

Instructor: Fabio Comana, M.A., M.S.

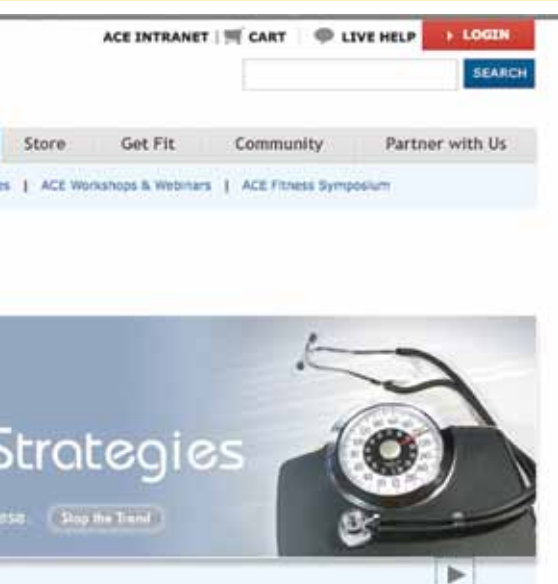
Metabolism and fat loss remain highly popular, but controversial and often misunderstood topics in fitness. This live webinar explains key physiological principles of metabolism and fat utilization within the body, and discusses the impact of exercise upon fuel utilization and metabolism. Discover information on the integrated roles of diet, exercise metabolism and behavior (both emotional and cognitive thinking). Learn some of the latest strategies and applications to influence fatness and fitness.

### How to Design Sports Conditioning Workouts for Clients & Group Fitness

February 17, 2010 | 4–6pm Pacific | 0.2 CEC

Instructor: Pete McCall, M.S.

Sports conditioning drills are a great way to



## inars for 2010

add variety to client programs and group exercise classes, but they require knowing how to appropriately design a workout that is both challenging and safe. Learn how to structure challenging workouts for all clients based on appropriate progressions of exercise intensity. Hear strategies for designing and teaching a sports conditioning workout that will challenge any skill level and keep clients and class participants coming back for more.

### Strategies for Designing & Marketing a Small-group Personal Training Program

March 4, 2010 | 4–6pm Pacific | 0.2 CEC  
Instructor: Pete McCall, M.S.

The challenge of being a full-time fitness professional is having only three opportunities per day when most people are available to work with a trainer: early morning before work, lunchtime and after work. Another challenge is the limitation of being compensated for working with only one client at a time. Discover how to increase your earning potential and maximize your time with small-group training. Learn specific strategies and techniques for designing small-group programs that will allow you to maximize your earnings by training more people simultaneously. **A**



## ACE in the News

Serving as America's Authority on Fitness®, the American Council on Exercise and its extended spokesperson network are regularly featured or quoted in print, online and broadcast media, reaching more than 450 million people each year. Check out these recent highlights:

**SELF** (September 2009) – In a recent article in *SELF* magazine titled, “Desire,” ACE Exercise Physiologist, Pete McCall, talks about the sexual benefits related to exercise, which can include a boost in confidence that spills over into the bedroom. He also mentions how playing Wii as a couple—a year-round activity that can qualify as physical activity—can lead to sexier-than-expected outcomes.

**WebMD** (September 4, 2009) – ACE's Jessica Matthews discusses the growing trend among women over 40 of focusing on achieving toned arms, inspired by Madonna and even Michelle Obama, in a recent *WebMD* article titled, “Over 40, Fit, and Ready to Bare Arms.” She warns against unrealistic expectations, stating that, sometimes, celebrities have very low body fat—even lower than some athletes—but there are healthy ways to achieve toned arms, such as moderate-intensity cardio and strength-training workouts.

**MSNBC.com** (September 15, 2009) – Recently featured in Jackie Stenson's weekly MSNBC.com column, “Smart Fitness,” ACE spokesperson Sabrena Merrill addressed the fact that many mothers are not engaging in as much physical activity as they think, offering tips for moms on how to spend more time with their kids while getting the exercise they need.

**Better Homes and Gardens** (October 2009) – In the October issue of *Better Homes and Gardens*, Jessica Matthews offers key strategies for working out with a partner or a group in “Take it Off Together,” which suggests that working out with a partner or group rather than going solo may increase your chances of success. Some of Matthews' tips include: choosing activities everyone will enjoy, setting goals intended for everyone and choosing a reward system that reflects the team's personality.

**Oxygen** (October 2009) – ACE spokesperson Sabrena Merrill was once again featured in the October 2009 issue of *Oxygen* magazine, this time to offer advice to women about staying fit during their menstrual cycles. In the article, Merrill mentions a little-known fact: “The simple act of aerobic exercise, as long as it doesn't exacerbate cramping, will help the serotonin production to help alleviate the mood.” **A**



# AMERICAN COUNCIL ON EXERCISE FITNESS SYMPOSIUM09



To view additional photos, visit  
[www.facebook.com/acefitness](http://www.facebook.com/acefitness).









# CALENDAR OF EVENTS

## Personal Trainer Exam Review Webinar

Cost: \$199 CECs: 1.0

Dates: Jan. 6, 13, 20, 27 (Wed.)  
Feb. 2, 9, 16, 23 (Tues.)  
Mar. 2, 9, 16, 23 (Tues.)

Start time: 7 p.m. Eastern (4 p.m. Pacific)

The Personal Trainer Exam Review Course is a valuable study tool to help you prepare for the ACE Personal Trainer Certification Exam. The webinar format offers live, real-time lectures and an interactive environment to ask questions, all through the convenience of your own home computer. This course is ideal for people who prefer to learn in their own setting but want the teaching and live support of an ACE instructor.

This complete course includes all four individual modules presented in weekly live webcasts that cover all the key topic areas of the exam content outline along with a review of key concepts and an open forum. The individual modules for the course can also be purchased separately.

- Module 1 - Foundational Knowledge: Applied Science
- Module 2 - Client Interview and Assessment
- Module 3 - Program Design, Implementation, Progression, Modification & Maintenance
- Module 4 - Keys to Success: Test-Taking Strategies & Professional Role



## Functional Training & Assessment Workshop

Cost: \$175 CECs: 0.8

Date: February 20, 2010

Locations: Atlanta, GA; Baltimore, MD; Chicago, IL;  
Denver, CO; Los Angeles, CA

Functional training continues to grow in popularity as the foundation for fitness and sports conditioning programs. Training to improve posture, movement efficiency and overall muscular performance related to a variety of activities defines functional training. Enhance your knowledge and applied skills with the latest tools and techniques in personal training to stay ahead of the game.

The one-day (8.5-hour) ACE Functional Training workshop teaches the important concepts of functional training by instructing personal trainers on how to:

- Conduct postural assessments and movement screens
- Develop core-training progressions
- Design exercise progressions for postural compensations
- Implement effective dynamic warm-ups
- Introduce sport-conditioning principles into your clients' training programs



For additional information  
or to register, go to  
[www.acefitness.org/liveprograms](http://www.acefitness.org/liveprograms)

## Heartsaver First Aid with CPR and AED Workshop

Cost: \$99 CECs: 0.6

ACE and the American Heart Association (AHA) have teamed up to deliver a dynamic message of hope — the hope of saving lives. New treatments have improved the possibility of survival from cardiovascular emergencies, cardiac arrest, and stroke in a fitness setting where individuals are most at risk when exercising. Increasing public awareness of the importance of early intervention and ensuring greater public access to defibrillation will save many lives.

The seven-hour Heartsaver First Aid with CPR and AED training course will provide fitness professionals with the critical lifesaving skills needed to care for a victim of an illness or injury until EMS arrives.

Course materials will be shipped to you prior to the live workshop date. Please review the materials and bring them with you to the workshop.

The course runs from 9:00 am to approximately 3:30 pm on the date selected.



**February 20, 2010**  
Atlanta, GA  
Baltimore, MD  
Boston, MA  
Dallas, TX  
Irvine, CA  
Minneapolis, MN  
New York, NY  
Philadelphia, PA  
San Diego, CA

## Personal Training in Practice: Effective Tools & Techniques

Cost: \$249 CECs: 1.6

A must-have practical training experience for personal trainers, ACE's new interactive two-day workshop provides a comprehensive learning opportunity you won't find elsewhere. Traditional personal training workshops are generally limited to physiological assessments, program design and exercise instruction, but ACE goes beyond this to include sports conditioning, balance and the core, weight management and the behavioral and emotional components essential to creating an overall experience for your clients that empowers them towards long-term change. This is the true art of personal training.



**January 30–31, 2010**  
Chicago, IL  
Denver, CO  
Houston, TX  
Phoenix, AZ  
Portland, OR  
San Diego, CA  
St Louis, MO

# ACE Certified News

## Continuing Education Self-test

To earn 0.1 continuing education credits (CECs), you must carefully read this issue of *ACE Certified News*, answer the 10 questions below, achieve a passing score (a minimum of 70 percent), and complete and return the credit verification form below, confirming that you have read the materials and achieved a minimum passing score. In a hurry? Take the quiz online at [www.acefitness.org/cnquiz](http://www.acefitness.org/cnquiz) for instant access to CECs.

Circle the single best answer for each of the following questions.

- When assessing your clients form, utilize the acronym M.O.V.E., which stands for \_\_\_\_\_.  
A. Motion, Observe, Vision, Evaluate  
B. Movement, Objective, Validate, Educate  
C. Movement, Observe, Validate, Educate  
D. Motion, Objective, Validate, Evaluate
- When working with postpartum clients, trainers should \_\_\_\_\_.  
A. Treat them just like any other healthy female client.  
B. Focus on helping them lose weight as quickly as possible.  
C. Recognize that postpartum clients face unique physical challenges.  
D. Concentrate on helping them lose abdominal fat.
- Interval training \_\_\_\_\_.  
A. Requires attentive coaching from the instructor during both the work and rest phases.  
B. Should always follow a specific interval ratio of 1:2.  
C. Is inappropriate for a group fitness class with participants of different fitness levels.  
D. Is effective for increasing cardio endurance but not muscle strength.
- Which of the following statements is NOT true regarding closed-kinetic chain (CKC) and open-kinetic chain (OKC) exercises?  
A. CKC exercises increase kinesthetic awareness and proprioception.  
B. OKC movements are generally considered more functional.  
C. Many CKC exercises are too challenging for deconditioned individuals.  
D. CKC exercises load and compress joints.
- Experts recommend that fitness programs designed for older adults should always include \_\_\_\_\_.  
A. Chair-based exercises  
B. Core training  
C. Balance and mobility components  
D. Plyometrics to increase bone mass
- A study to examine the effects of a chemical compound on the endurance capacities of mice concluded that \_\_\_\_\_.  
A. Drug therapy was more beneficial than exercise for improving endurance.  
B. It is not possible to increase endurance with orally active drugs.  
C. Orally active drugs can be used to increase muscle endurance.  
D. Four weeks of drug therapy enhanced running endurance.
- Which of the following is NOT considered a factor in an individual's lack of mobility?  
A. Habitual poor posture  
B. Poor exercise technique  
C. Imbalanced strength-training programs  
D. Intensity of cardio workouts
- Individuals who exhibit good posture generally \_\_\_\_\_.  
A. Demonstrate a good relationship between stability and mobility throughout the kinetic chain.  
B. Have strong back and abdominal muscles.  
C. Have acquired movement compensations to facilitate good posture.  
D. Are free of any structural issues, such as kyphosis or lumbar lordosis.
- Which of the following is NOT one of the common physical changes postpartum clients may be experiencing?  
A. Back and/or pelvic pain and discomfort  
B. Diastasis recti  
C. Lack of joint mobility  
D. Breast infections
- Research suggests that adherence to exercise among seniors increased when \_\_\_\_\_.  
A. Individuals were able to exercise at home.  
B. They exercised as part of a team or group.  
C. They focused exclusively on walking or water-based exercise.  
D. They avoided exercise that was too strenuous.

### Evaluation of credit offering:

- |  |                              |  |
|--|------------------------------|--|
| 1. Was material  | <input type="checkbox"/> New | <input type="checkbox"/> Review for you? |
| 2. Was material presented clearly?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No              |
| 3. Was material covered adequately?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No              |
| 4. Will you be able to use the information learned from this credit offering in your profession? | <input type="checkbox"/> Yes | <input type="checkbox"/> No              |
- If yes, how? \_\_\_\_\_

### Please attach business card, or type or print legibly:

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Degree/Major/Institution: \_\_\_\_\_

I attest that I have read the articles in this issue, answered the test questions using the knowledge gained through those articles and received a passing grade (minimum score: 70 percent). Completing this self-test with a passing score will earn you 0.1 continuing education credit (CEC).

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Change my address as shown at left. Effective date: \_\_\_\_\_

### SAVE MONEY BY TAKING THE QUIZ ONLINE FOR \$15

To receive ACE Credits, mail this page, with a \$20 **Processing Fee** for ACE-certifieds or \$25 for non-ACE-certifieds, to the following address:  
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# GETFIT

[www.acefitness.org/getfit](http://www.acefitness.org/getfit)

Your NEW! trusted online source for safe and reliable fitness information from the American Council on Exercise® (ACE®). Visit the new GetFit section of the ACE website for FREE information and tools to keep you active and healthy.

- Exercise Library
- Workouts
- Fitness Product Reviews
- Tools & Calculators
- Ask the Expert Blog
- Healthy Recipes
- Fit Facts
- Research & Studies

Join the ACE online community to leave your comments, rate exercises and workouts, provide feedback on fitness products you've tried, and more. Visit [www.acefitness.org/getfit](http://www.acefitness.org/getfit) today and check back often as new content is added weekly.

