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MARKETING YOUR FITNESS BUSINESS WITH ONLINE SOCIAL MEDIA



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one-way communication. People still do that, but now they're also busy interacting online and creating their own content.

The Internet has become more consumer-controlled, more social and more driven by word of mouth. People share ideas, links, favorite content and video clips, all of which create fertile ground for successfully marketing a business on the Web. Because many of your clients and prospects probably participate in social media, you should, too.

Consider how you might use the power of online social media to promote yourself and your fitness services in 2009. What follows is a beginner's guide to navigating what is currently popular in the world of marketing with online social media.

Categories of Popular Social Media

The Web contains an ever-growing number of social media applications and Web sites. For the sake of simplicity, this introductory article offers basic direction on four social media categories that are particularly popular right now:

- social networking
- video sharing
- blogging
- micro-blogging

Note that these categories are not necessarily mutually exclusive. Many social media tools overlap in terms of what they offer—for example, some networking sites provide capabilities for blogging and video sharing. YouTube is a video-sharing platform, but it's also a social network.

Social Networking

How to Market With It

Social networking sites allow you to stay in close contact with your clients and quickly connect to a bevy of prospects. Belonging to the same online network as your clients makes it easier to build stronger relationships with them and also to communicate with their contacts, who might be interested in your services, as well. It's like a high-tech ice-breaker or referral system.

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MARKETING

BY
AMANDA
VOGEL,
M.A.

YOUR FITNESS BUSINESS WITH ONLINE SOCIAL MEDIA

A FEW YEARS AGO, I THOUGHT MY WEB SITE WAS ALL I NEEDED TO STAY ON TOP OF marketing to clients and prospects on the Internet. I was wrong. Back then, I didn't know about social media. Now it serves as the hub of my online marketing (although my Web site is still foundational to my online presence). Social media is about Internet users freely publishing and sharing info, and interacting with other people on the Web on sites such as Facebook, MySpace and YouTube. Other forms of social media include blogs and online discussion forums—like the one ACE offers

on its Web site. If you've participated in any of these activities, you know how user-friendly social media is. You don't need to be a Web master or a whiz at html (or even know html) to make your mark with social media. Plus, it's free.

How Is Social Media Different From Traditional Web sites?

Before social media took off, Internet users spent time on the Web searching for and receiving cyber-content. They looked at Web sites that mostly displayed

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In addition to major social networking sites, such as Facebook, MySpace and the more professional-minded LinkedIn, there are do-it-yourself sites where you can tailor the network to your target market using ready-made templates. Ning.com lets you build a network with social media technology such as discussion forums, video/photo uploads and blogging. You can message everyone who joins your Ning group so they are reminded to visit and engage in the network often. This is important because loyal, active members are key to making social networking a viable marketing tool.

Benefits and Obstacles

One major benefit to these sites is that they come with a built-in audience because of their enormous popularity. At the time this article was written, Facebook reported 140 million active users,¹ and LinkedIn reported 30 million users.² Obviously, it's not your goal to communicate with everyone, but the more of your target market you reach through social networking, the more influence you stand to gain as a recognizable and trusted fitness professional.

People spend a lot of time perusing content, interacting and sharing links in online networks. To that end, you can use the technology to motivate and educate others, promote upcoming fitness events, share your favorite resources and encourage word of mouth about your services. Join ACE's "fan" page on Facebook, and consider how you can do something similar for your fitness services or facility.

One drawback associated with any type of social media, but especially social networking, is its time-wasting potential. Social networking is, well, social, and people like to socialize. It's easy to log on to your networks for business purposes only to get sidetracked with non-business-related activities like updating your status or commenting on a friend's family photos. To maximize your time, set a limit for how long you stay logged in to a network.

Video Sharing

How to Market With It

Gone are the days when you needed a camera crew and a high-tech production studio to be in a fitness video. Any fitness pro with a Webcam or video recorder can broadcast health and fitness moves and ideas on YouTube, Facebook, blogs and more. Starring in online

videos builds your credibility and personal brand as a fitness pro. The greater the number of Internet users who view, comment on, share and, ultimately, benefit from your videos, the more people you will help and the more word-of-mouth marketing you will enjoy.

The fitness-related videos on YouTube usually contain exercise demos and instruction, choreography, motivational messages, fitness tips or client testimonials. To get an idea of the types of online videos you could produce, search YouTube for "exercise" and "fitness" in addition to specific keywords that interest you (e.g., "fitness boot camp," "Pilates" or "ab training"). For more inspiration, be sure to subscribe to the ACE channel on YouTube.



Benefits and Obstacles

A brief online video that shows you "in living color" can be more powerful for showcasing your talents and skills than traditional text-based marketing. And using multiple media to communicate with your target audience can be more effective because some people might happily watch a two-minute video, but lose interest in reading text from a screen.

One challenge associated with do-it-yourself online video production is ensuring that your efforts properly reflect you and your business. You might be a highly dynamic bootcamp instructor on the field, but if you appear stiff or flat on film, you may give viewers an inaccurate impression of you. Poor camera or sound quality, lack of on-camera presence, cheesy effects and even using lots of technical jargon that the average person wouldn't understand can all negatively influence how consumers perceive you.

Before the camera rolls, review other Web-based fitness clips to analyze what you like and don't like about them. Consider which presentations resonate with you the most, and why. And click on the YouTube Handbook link at the bottom of YouTube's homepage for tips and tricks to producing better videos.

Blogging

How to Market With It

There are a number of ways to market yourself with blogs. The most obvious angle is to maintain a blog of your own using blogging sites, such as WordPress and Blogger. Another approach is to add thoughtful, relevant comments to other people's blogs with links

back to your blog and/or Web site. Or you may opt to be a guest blogger, and contribute to a blog that's related to your business.

Blogs need regular attention, but your posts don't have to be long. Even 100- or 200-word entries published several times a week or month can add to your business's marketing power. Blog entries don't have to be all text either. For example, it's easier than ever to embed video from YouTube and other sites into a blog. Simply add written content about why the video will help your visitors. ACE-certified fitness pros who subscribe to ACE's YouTube channel have permission to re-post videos from there.

Benefits and Obstacles

As blogs become more commonplace, clients and prospects might eventually expect you to have one, similar to how they expect you to have a Web site. Getting started now shows that you are ahead of the curve. More importantly, blogs position you in the public eye as a health and fitness expert. And readers get to know you better, which makes it more likely that they will hire you or join your facility when they are in the market to do so.

Perhaps one of the biggest challenges of blogging is getting your clients and prospects to visit your blog on a regular basis. The trick is to provide enough thoughtful and lively content to get people to consistently read and respond to your blog. It helps to write in a casual tone that shows your personality and focus your communication on one or more angles relevant to your target audience (e.g., weight loss or mind-body fitness).

Micro-Blogging

How to Market With It

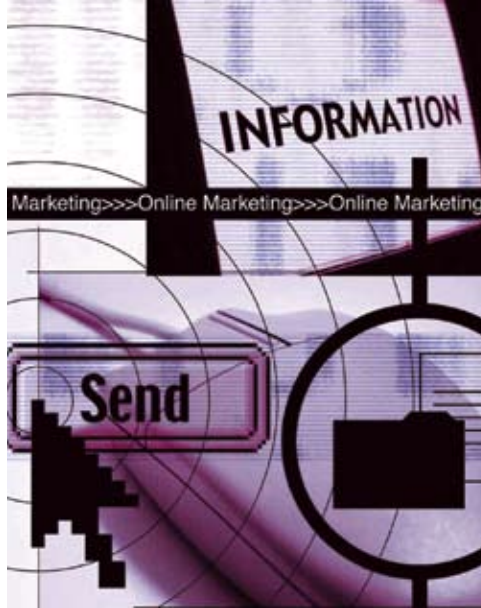
An adjunct or alternative to blogging is a fast-growing form of social media called micro-blogging. A micro-blog is a text-based post similar to status updates on Facebook. To see how micro-blogging works, sign up at Twitter.com (it's free). From there, you can begin writing updates no longer than 140 characters using the Web, instant messaging or a mobile device. Follow other people on Twitter to see how they do it, and encourage people to follow you.

What's the point of micro-blogging? Fitness pros are using Twitter as a communication platform. You can motivate and educate your followers about health and fitness; learn from others; build a larger social network and foster relationships with business contacts, clients and prospects. Micro-blogging is yet another avenue for communicating about health and fitness to a receptive audience.

Benefits and Obstacles

If your updates (called "tweets" in Twitter-jargon) are entertaining and useful, clients and prospects are likely to keep following what you have to say. This puts you and your services at the top of clients' minds and increases the chance of word-of-mouth referrals.


On the other hand, if your target audience



doesn't belong to Twitter, you may have a tough time convincing clients and prospects to take an interest. Still, consider testing out Twitter to share your ideas and opinions, read what others have to say and gain valuable business contacts in your community and around the world. And keep an eye on this burgeoning social medium. According to a HubSpot.com report, Twitter has about four to five million users, with 5,000 to 10,000 new accounts opening every day (at the time this article was written).³ If your clients aren't on Twitter already, they might be in the near future.

Look to Your Clients

To ensure your success with social media, provide useful and/or entertaining content that people want to share with others. And remember to promote the very Web tools you use to promote your business by encouraging people to participate in your social media pursuits. Once you have established an online following, keep in touch.

Finally, if you don't already use any of the sites mentioned in this article, consider testing the waters with just one or two new approaches. Look to your clients to determine which social media sites are most appropriate for your marketing efforts. What sites do they regularly log on to? Which applications would be most useful to them? Establish this first and then start benefiting from a fun, rewarding way to market on the Web. 

References

1. Retrieved from <http://www.facebook.com/press/info.php?statistics> on January 2, 2009.
2. Retrieved from http://www.linkedin.com/static?key=company_info on January 2, 2009.
3. Retrieved from <http://blog.hubspot.com/blog/tabid/6307/Default.aspx?Tag=twitter> on January 2, 2009.

Join ACE's Social Media Pursuits

The American Council on Exercise uses social media to educate the public on health and fitness, expand ACE's outreach in the cyber-community, build credibility for ACE-certified Professionals and provide a platform for fitness enthusiasts and fitness pros to interact with each other.

Social media has allowed ACE to "create awareness and drive consumer demand for ACE-certified professionals much more efficiently than could be done via traditional marketing devices," according to Rachelle Deal, ACE's vice president of marketing.

Below are a few examples of how ACE uses social media for marketing and education.

DISCUSSION BOARDS: Found at <http://acefitness.infopop.net>, the discussion boards are designed to connect and facilitate communication between fitness enthusiasts and fitness pros.

FACEBOOK: ACE's Facebook page builds brand awareness by providing free health and fitness info. The page also fosters a like-minded community; fitness pros that become "fans" of the ACE page can post their own photos and videos as well as contribute to the discussion boards there.

YOUTUBE: Similar to the Facebook page, ACE has used online videos and its own YouTube channel to build brand awareness, expand ACE's outreach to a greater audience of Internet users and share safe and effective exercise information with the public.



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EXERCISE

BY
SABRENA
MERRILL,
M.S.

IT IS BECOMING INCREASINGLY COMMON FOR WOMEN TO ENTER PREGNANCY WITH REGULAR AEROBIC AND STRENGTH-CONDITIONING ACTIVITIES AS A PART OF THEIR DAILY ROUTINES. MANY WOMEN WHO ARE NOT PHYSICALLY ACTIVE VIEW pregnancy as a time to modify their lifestyles to include more health-conscious activities, including exercise. Given the current epidemic of obesity and its associated comorbidities, as well as the apparent health risks of not exercising during pregnancy, fitness professionals who are competent to work with this population can provide safe and effective exercise programming to promote a healthy pregnancy and postnatal lifestyle.

Exercise During Pregnancy

Increasing evidence confirms that regular prenatal exercise is an important component of a healthy pregnancy, and expectant mothers can maintain or even improve cardiovascular and muscular fitness. Additionally, regular exercise is associated with a lower incidence of excessive maternal weight gain, gestational diabetes mellitus, pregnancy-induced hypertension, varicose veins, deep vein thrombosis, dyspnea and low-back pain (Davies et al., 2003; Weissgerber et al., 2006). Furthermore, it has been shown that women who continue regular, weightbearing exercise throughout the entire duration of pregnancy tend to have easier, shorter and less complicated deliveries (Clapp, 2002).



ACE Advanced Health & Fitness Specialist

ACE'S NEWEST CERTIFICATION—the ACE Advanced Health & Fitness Specialist—launched last year along with an accompanying manual featuring 23 chapters written by some of the most respected members of the exercise science and healthcare communities. The

ACE Advanced Health & Fitness Specialist Manual offers specific information and strategies necessary to provide safe and effective programming for clients recovering from, or dealing with, cardiovascular, pulmonary, metabolic or musculoskeletal issues.

We will continue to introduce you to the concepts and topics covered in the *ACE Advanced Health & Fitness Specialist Manual* through a series of articles written by several of our contributing authors. For more information about the ACE Advanced Health & Fitness Specialist Certification Exam, visit www.acefitness.org or contact an ACE Professional Services Representative at 800-825-3636, Ext. 781.

Maternal Exercise and the Fetal Response

In uncomplicated pregnancies, fetal injuries are highly unlikely, as most of the potential fetal risks are hypothetical. However, there are several areas of theoretical concern surrounding maternal exercise and its effects on the fetus. First, the selective redistribution of blood flow away from the fetus during regular or prolonged exercise in pregnancy may interfere with the transplacental transport of oxygen, carbon dioxide and nutrients. To address this concern, many experts recommend aquatic exercise as an excellent choice of aerobic training during pregnancy. During immersion, women experience a smaller decrease in plasma volume as compared to exercising on land. In addition, as a result of the hydrostatic pressure in aquatic exercise, maintenance of blood flow around the central organs may provide better maintenance of uterine and placental blood flow (Watson et al., 1991).

A second concern is that during exercise, transient hypoxia could result in fetal tachycardia and an increase in fetal blood pressure. These fetal responses are protective mechanisms that occur during obstetric events and allow the fetus to facilitate the transfer of oxygen and decrease the carbon dioxide tension across the placenta. However, there are no reports to link such adverse events with maternal exercise. A majority of studies examining fetal responses to exercise use fetal heart rate as an indicator of fetal stress (Collings, Curet, & Mullins, 1983; Clapp, 1985; Artal, 1990; Carpenter et al., 1988; Wolfe et al., 1988). Most of these studies show a minimal or moderate increase in fetal heart rate of 10 to 30 bpm over baseline during or after maternal exercise. Fetal heart rate decelerations and bradycardia, with a frequency of 8.9 percent, have also been reported to occur during maternal exercise. The causes of the alterations in fetal heart rate during maternal exercise are still unclear, and no associated lasting effects on the fetus have been reported.

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A third concern is intrauterine growth restriction due to strenuous physical activity. Studies on the effect of exercise during pregnancy and resultant birth weights are inconclusive. Epidemiological studies have shown a link between strenuous physical activity, poor diet and low birth weight. It has also been reported that mothers who perform strenuous physical work in their occupations, such as repetitive lifting, have a tendency to deliver earlier and have small-for-gestational-age infants (Naeye and Peters, 1982; Launer et al., 1990; McDonald et al., 1988). However, other studies have provided conflicting data suggesting that other variables, such as inefficient nutrition, have to be present for strenuous activities to affect fetal growth (Saurel-Cubizolles & Kaminski, 1987; Ahlborg Bodin, & Hogstedt, 1990). Overall, it appears that birth weight is not affected by exercise in women who have adequate energy intake.

Contraindications and Risk Factors

Research from the past several decades has produced valid and reliable evidence that supports participation in a regular exercise program during pregnancy because of the important maternal-fetal benefits it provides. In fact, the available studies show that adverse pregnancy or neonatal outcomes are not increased for exercising women (Clapp, 1989; Hall & Kaufmann, 1987; Hatch et al., 1993; Klebanoff et al., 1990; Kulpa, White, & Visscher, 1987). The American College of Obstetricians and Gynecologists (ACOG), the American College of Sports Medicine (ACSM), the Canadian Society for Exercise Physiology (CSEP), and the Society of Obstetricians and Gynaecologists of Canada (SOGC) all offer guidelines and recommendations for exercise during pregnancy and the postpartum period that indicate that, in uncomplicated pregnancies, women with or without a previously sedentary lifestyle should be encouraged to participate in aerobic and strength-training exercises as part of a healthy lifestyle (ACSM, 2006; ACOG, 2002; SOGC & CSEP, 2003). However, it is recommended that women with complicated pregnancies be discouraged from participating in exercise activities for fear of impacting the underlying disorder or maternal or fetal outcomes.

In general, participation in a wide range of recreational activities appears safe during and after pregnancy. Overly vigorous activity in the third trimester, activities that have a high potential for contact, and activities with a high risk of falling should be avoided. Additionally, women should refrain from activities with a risk of abdominal trauma, exertion at altitude greater than 6,000 feet (1829 m), and scuba diving (ACOG, 2002).

Programming Guidelines and Considerations for Prenatal Exercise

Exercise programming guidelines for prenatal activity include the same elements as guidelines for non-pregnant women. Aerobic exercise consisting of any activity that uses large muscle groups in a continuous rhythmic man-



ner (e.g., walking, hiking, jogging/running, aerobic dance, swimming, cycling, rowing, dancing, rope skipping) may be appropriate. Some activities, such as scuba diving and prolonged exertion in the supine position, should be avoided due to the potential for fetal hypoxia. Activities that increase the risk of falls, such as skiing, or those that may result in excessive joint stress, such as jogging and tennis, should be engaged in only after evaluation and consultation with a physician.

Musculoskeletal conditioning appears to be safe and effective during pregnancy when low weights and multiple repetitions through a dynamic range of motion are performed. While research is lacking, it would be prudent to limit repetitive isometric or heavy-resistance weightlifting, as well as any exercises that result in a large pressor response (i.e., a disproportionate rise in heart rate during resistance training resulting from autonomic nervous system reflex activity). Additionally, maintenance of normal joint range of motion through individualized stretching exercises is acceptable. However, pregnant exercisers should be aware of increased ligamentous laxity and strive to limit excessive stretching or ballistic stretching movements during pregnancy.

As previously mentioned, several national health and medical organizations have published recommendations and guidelines on exercise and pregnancy (ACOG 2002; ACSM, 2006; SOGC & CSEP, 2003). Not surprisingly, the content in the guidelines from the different organizations is similar. Specifically, the ACOG Committee Opinion on exercise during pregnancy published in 2002 recommends that, barring medical or obstetric contraindications, pregnant women engage in 30 or more minutes of

CEC SPOTLIGHT

PRENATAL AND POSTPARTUM EXERCISE DESIGN

Provider: DSWFitness Inc.

CECs: 0.60 Cost: \$99

This comprehensive course covers the latest research, demonstrates appropriate abdominal and pelvic floor exercise and suggests guidelines for strength training, water exercise, step training and competitive sports during pregnancy. Authored by: Catherine Cram, M.S., and Gwen Hyatt, M.S.

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Continued on page 8

moderate daily exercise, on “most” days of the week (ACOG, 2002). This recommendation is essentially the same as that made for the general population by the CDC and ACSM (ACSM, 2006). ACOG and ACSM jointly support recommendations stating that the mode, frequency, duration and overload principles for cardiorespiratory, resistance and flexibility exercise are the same for pregnant women as for non-pregnant women. According to ACSM, pregnancy-specific issues to consider when designing prenatal exercise programs focus on attaining additional calories to maintain homeostasis, avoiding motionless standing, preventing maternal hyperthermia and hypoglycemia, and avoiding high-risk exercises (Table 1). Furthermore, the sole use of heart-rate monitoring to assess exercise intensity is not recommended for pregnant exercisers due to the natural physiological influences of the cardiovascular system during pregnancy. The “category” RPE scale (6–20) or the “category-ratio” Borg scale (0–10) may be used. Ratings of “fairly light” to “somewhat hard” are the recommended intensity ranges for prenatal exercise (Pivernak et al., 1991; Clapp, Lopez and Harcar-Sevcik, 1999).

Nutritional Considerations

After the thirteenth week of pregnancy, approximately 300 additional calories per day are required to meet the metabolic needs of pregnancy. Weightbearing exercise, such as walking, increases the energy requirement even further. Furthermore, as the pregnancy progresses, the caloric needs of the mother progressively increase in correspondence with the increase in body weight. An added concern related to nutrition during pregnancy

is adequate carbohydrate intake. Pregnant women use carbohydrates at a greater rate both at rest and during exercise than do non-pregnant women (Clapp et al., 1988; Soultanakis, Artal and Wiswell, 1996). Since maternal blood glucose is the fetus’ primary energy source, there is concern that low maternal blood glucose could compromise fetal energy supply. However, intra-uterine growth retardation or other short- or long-term effects on newborns of exercising mothers have not been reported (ACOG, 2002; Clapp, Lopez and Harcar-Sevcik, 1999). As a precaution to help avoid hypoglycemia, pregnant women should be reminded to consume a pre-exercise snack and eat frequent small meals throughout the day, especially later in pregnancy. Pregnant exercisers should be made aware of the signs of hypoglycemia, such as weakness, dizziness, fatigue and nausea.

The American Dietetic Association’s (ADA) position on nutrition during pregnancy is that the key components of a healthy lifestyle during pregnancy should include appropriate weight gain (Table 2); consumption of a variety of foods in accordance with the MyPyramid Food Guidance System; appropriate and timely vitamin and mineral supplementation; avoidance of tobacco, alcohol and other harmful substances; and safe food-handling practices (ADA, 2002). The ADA recommends that pregnant women eat 2,500 to 2,700 calories per day, and that those calories should come from a variety of healthy foods. Additionally, women considering becoming pregnant need to ensure that they are consuming adequate amounts of folic acid, iron, calcium, vitamin D and water to sustain health before, during and after pregnancy. Pregnant clients should be encouraged to consult with their physicians in the area of nutrition during pregnancy. For a more detailed analysis of nutrition concerns in pregnancy, refer to the American Dietetic Association’s position statement: “Nutrition and Lifestyle for a Healthy Pregnancy Outcome” (ADA, 2002).



Exercise Following Pregnancy

Regular exercise is as beneficial in the postpartum period as it is at other times in a woman’s life. The possible benefits include the following:

- Preventing obesity (or overweight) through promotion of body fat/body weight loss
- Promoting aerobic fitness and strength, leading to an improved ability to perform activities of mothering
- Optimizing bone health by increasing bone mineral density and/or preventing lactation-associated bone loss
- Improving mood or self-esteem

Furthermore, a mother’s participation in regular exercise after childbirth may encourage regular physical activity in her children.

Table 1

SPECIAL CONSIDERATIONS FOR PRENATAL EXERCISE PROGRAMMING

- Pregnancy requires an additional 300 calories per day to maintain homeostasis. Therefore, women should ingest additional calories to meet the needs of exercise and pregnancy.
- Motionless standing results in venous blood pooling, so it should be avoided.
- Heat dissipation is important throughout pregnancy. Appropriate clothing, environmental considerations and adequate hydration should be priorities during the exercise program to prevent the possibility of hyperthermia and the corresponding risk to the fetus. Pregnant women should drink ample water to prevent dehydration and avoid brisk exercise in hot, humid weather or when suffering with a fever.
- Maternal hypoglycemia may be associated with strenuous exercise during the last trimester of pregnancy. The reduction in blood glucose may result from increased glucose uptake by the fetus and mother, decreased maternal liver glycogen stores, or reduced maternal liver glycogenolysis. Pregnant women should attenuate the opportunity for hypoglycemia with increased carbohydrate intake (e.g., 30 to 50 g/day) via food and/or a sports drink prior to exercise.
- Pregnant women should avoid exercise that involves the risk of abdominal trauma, falls and excessive joint stress. Sport activities such as softball, basketball, and racquet sports are not recommended because of the increased risk of abdominal injury. When exercising, pregnant women should be aware of the signs and symptoms for discontinuing exercise and seeking medical advice.

Source: American College of Sports Medicine (2006). *ACSM’s Guidelines for Exercise Testing and Prescription* (7th ed.). Philadelphia: Lippincott, Williams & Wilkins.

Table 2


APPROPRIATE WEIGHT GAIN DURING PREGNANCY

WEIGHT CLASSIFICATION	WEIGHT GAIN GOAL*
Underweight	About 28 to 40 pounds (13 to 18 kg)
Normal weight	About 25 to 35 pounds (11 to 16 kg)
Overweight	About 15 to 25 pounds (7 to 11 kg)
Obese	At least 15 pounds (7 kg)

* Women should talk to their healthcare providers about how much weight they should gain during pregnancy. The general weight-gain recommendations listed here refer to weight before pregnancy and are for women expecting only one baby.

Source: U.S. Department of Health and Human Services, National Institutes of Health, *Fit for Two: Tips for Pregnancy*. <http://win.niddk.nih.gov/publications/two.htm>

A major consideration for exercising after childbirth is the method of delivery. Women who have undergone C-section have had major abdominal surgery that results in pain and tenderness in the abdomen, as well as considerable fatigue. The current thinking on rehabilitation after C-section is that walking as soon as possible after the surgery helps to minimize muscle wasting, increase circulation and speed the healing process. Additionally, deep breathing, abdominal compression exercises and Kegels can be resumed early in the rehabilitation process. Many women are ready to introduce intermittent walking or other gentle forms of exercise by two weeks postpartum, with the degree of discomfort, fatigue and motivation guiding activity levels. Vigorous exercise is contraindicated after a C-section until the recovery and rehabilitation process is complete. Re-entry into a structured fitness program should be postponed until a physician's clearance has been obtained after the six-week postpartum check-up.

Clearly, a woman's health and fitness before, during and after pregnancy has a significant impact on the well being of both the mother and baby. An ACE-certified Advanced Health and Fitness Specialist with the knowledge and skills to service this population can fill an important niche that bridges the gap between prenatal and postnatal fitness. 

References

Ahlborg, G., Bodin, L. and Hogstedt, C. (1990). Heavy lifting during pregnancy: A hazard to the fetus? A prospective study. *International Journal of Epidemiology*, 19, 90-97.

American College of Obstetricians and Gynecologists (2002a). Exercise during pregnancy and the postpartum period, ACOG Committee Opinion No. 276. *Obstetrics and Gynecology*, 99, 171-173.

American College of Sports Medicine (2006). *ACSM's Guidelines for Exercise Testing and Prescription* (7th ed.). Philadelphia: Lippincott Williams & Wilkins.

American Dietetic Association (2002). Position of the American Dietetic Association: Nutrition and lifestyle for a healthy pregnancy outcome. *Journal of the American Dietetic Association*, 102, 10, 1479-1490.

Artal, R. (1990). Exercise and diabetes mellitus: A brief review. *Sports Medicine*, 9, 261-265.

Carpenter, M.W. et al. (1988). Fetal heart rate response to maternal exertion. *Journal of the American Medical Association*, 259, 3006-3009.

Clapp, J.F. (2002). *Exercising Through Your Pregnancy*. Champaign, Ill.: Human Kinetics.

Clapp, J.F. (1989). The effects of maternal exercise on early pregnancy outcome. *American Journal of Obstetrics and Gynecology*, 161, 1453-1457.

Clapp, J.F. et al. (1988). Maternal physiologic adaptations to early human pregnancy. *American Journal of Obstetrics and Gynecology*, 159, 1456-1460.

Clapp, J.F. (1985). Fetal heart rate responses to running in mid-pregnancy and late pregnancy. *American Journal of Obstetrics and Gynecology*, 153, 251-252.

Clapp, J.F., Lopez, B. and Harcar-Sevcik, R. (1999). Neonatal behavioral profile of the offspring of women who continued to exercise regularly throughout pregnancy. *American Journal of Obstetrics and Gynecology*, 180, 91-94.

Collings, C.M.S., Curet, L.B. and Mullin, J.P. (1983). Maternal and fetal responses to a maternal aerobic exercise program. *American Journal of Obstetrics and Gynecology*, 145, 702-707.

Davies, G.A. et al. (2003). Joint SOGC/CSEP clinical practice guideline: Exercise in pregnancy and the postpartum period. *Canadian Journal of Applied Physiology*, 28, 330-341.

Hall, D.C. & Kaufmann, D.A. (1987). Effects of aerobic and strength conditioning on pregnancy outcomes. *American Journal of Obstetrics and Gynecology*, 157, 1199-1203.

Hatch, M.C. et al. (1993). Maternal exercise during pregnancy, physical fitness, and fetal growth. *American Journal of Epidemiology*, 137, 1105-1114.

Klebanoff, M.A. et al. (1990). The effect of physical activity during pregnancy on preterm delivery and birth weight. *American Journal of Obstetrics and Gynecology*, 163, 1450-1456.

Kulpa, P.J., White, B.M. and Visscher R. (1987). Aerobic exercise in pregnancy. *American Journal of Obstetrics and Gynecology*, 156, 1395-1403.

Launer, L.H. et al. (1990). The effect of maternal work on fetal growth and duration of pregnancy: A prospective study. *British Journal of Obstetrics and Gynaecology*, 97, 62-70.

McDonald, A.D. et al. (1988). Prematurity and work in pregnancy. *British Journal of Industrial Medicine*, 45, 56-62.

Naeye, R.L. & Peters, E. (1982). Working during pregnancy, effects on the fetus. *Pediatrics*, 69, 724-727.

Pivamik, J.M. et al. (1991). Physiological and perceptual responses to cycle and treadmill exercise during pregnancy. *Medicine & Science in Sports & Exercise*, 23, 4, 470-475.

Saurel-Cubizolles, M.J. and Kaminski, M. (1987). Pregnant women's working conditions and their changes during pregnancy: A national study in France. *British Journal of Industrial Medicine*, 44, 236-243.

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Beyond Survival: Making Your Business Thrive in a Declining Economy

BY CARRIE MYERS

WHEN KATHERINE AND KIMBERLY CORP, SISTERS AND CO-OWNERS OF PILATES ON FIFTH IN NEW YORK CITY, OPENED THEIR STUDIO IN AUGUST OF 2000, LIFE WAS GOOD AND BUSINESS WAS BOOMING. JUST A YEAR LATER, THEY FOUND THEMSELVES EXPANDING TO A LARGER STUDIO TO ACCOMMODATE THE GROWING NUMBER OF CLIENTS. A MONTH AFTER THAT—9/11 HAPPENED.

“We and a group of our clients watched the World Trade Centers fall from the roof of our building on Fifth Avenue and 42nd Street,” the sisters recall. “Our building was shut down for two weeks after that day and most of our clients quit out of fear for their safety—and finances.”

Like many things in life, the economy is cyclical. Economic downturns are inevitable. “There are always going to be those who survive and thrive during any economic climate,” says Cliff Latham, M.S., owner of Fitness Together Training Studio in College Station, Texas. “Many individuals thrived during the Great Depression of the 1930s. Opportunities arise in any dip in an economy.”

Reinvent Your Company

When the economy takes a dip, companies often take on a downsizing mindset and begin to cut—services, employees, expenses—anything that will save money. But when the Corp sisters found themselves in the middle of the September 11 crisis, they put their creativity to the test and found it paid off.

CARRIE MYERS is the fitness coordinator at the Mt. Washington Resort in Bretton Woods, N.H., and has been a freelance writer for 10 years.

“Slowly people did start to come back, but we found that only a handful of old clients returned. We mainly had to attract new ones.”

Prior to September 11, Pilates on Fifth offered only private sessions, duets and equipment-centered classes. “We added mat classes, which helped us appeal to a broader market, as we could offer a wider range of services at different price points to enable more people to attend.”

As a fitness professional, you may worry that during a financial dip, clients and members will sever their club memberships and training packages in an attempt to save money. But a recent Cigna survey shows that health is high on people’s list of importance—good news for the fitness industry.

- About one-third of Americans say that the economy has changed the way they take care of themselves.
- Of those, 55 percent report taking better care of their health by exercising, eating healthier, or getting regular check-ups and screenings.
- Ninety-one percent say that exercising regularly is crucial to safeguarding one’s health.
- When asked how today’s economy might affect certain activities over the next 12 months, about two-thirds said they would be more likely to take better care of their health, eat healthier and exercise.

Do You Have a USP?

How will you position yourself to be a market leader in a sea of other health clubs and personal trainers? Develop your unique selling position or USP. Clients need a good reason to do business with you, not your competition. Your USP is what will set you apart from your competition and keep members and clients coming back. It could be your superior customer service, your creative group classes, or your squeaky clean environment. Whatever it is, you want to get people in there to experience it so that they keep coming back for more.



These are encouraging statistics, but is this really the time to try to grow your business? Shouldn't you be cutting back?

It depends. Cut back on unnecessary bells and whistles, says Mark Daly, national media director of Anytime Fitness, Inc., streamline your services, and make fitness convenient and affordable. During tough economic times, members aren't necessarily looking to give up their memberships, but they may shop around for a more economical one.

When the economy takes a downward turn, people tend to go back to basics. Smaller, simpler clubs seem to thrive during these times—even if they're new businesses. "We just opened our Snap Fitness gym in May 2008 and it's thriving—so much so, we're looking at opening a second location," says Lori Lockwood, who co-owns the Berlin, Vt.,-based gym with her husband.

The Lockwoods are finding that many of their members are coming from a larger, more expensive club nearby. "They like the fact that they can work out when they want to, since we're open 24/7, and get a good workout without paying for all the extras they're not interested in—or at least not interested in paying for while money is tight."



Market, Market, Market

Go back to the basics in your offerings and amenities, but beware of cutting back significantly on marketing and promotions. "Don't stop marketing during difficult economic times," says Daly. "People will always seek value. They may not pamper themselves with massages as frequently, but they will take care of themselves in basic ways."

One key, says Daly, is to align yourself with other professionals, particularly those in the healthcare field. "Anytime Fitness has teamed with several large HMOs in a proactive way to reduce healthcare costs. [These companies] pay their members \$20 per month if they exercise at an Anytime Fitness club 12 or more times a month."

Since an individual membership at Anytime Fitness averages just \$35 per month, getting \$20 of it back can be a big deal for members. And Daly says the results have been phenomenal. "It's an incredibly effective incentive to encourage people to exercise and the HMOs have experienced significant decreases in health-claim costs amongst participants."

Like anything, not all marketing attempts will be successful. Since you are watching your pennies, base your marketing strategy on what's worked in the past—and beware of new strategies that haven't been tested.


"We engaged in some advertising and promotions in a coupon book that in hindsight were just awful and generated no leads at all," say the Corp sisters. "We learned after the fact that those individuals who purchase the coupon book seem to have no interest in committing to any one spot. They're happy running from place to place using their free coupons!"

Invest in Your Best Assets

While now may not be the time to invest in all-new cardio equipment, you can invest in other ways that are sure to draw new members—and keep the ones you currently have. Member retention is one of the best ways to recession-proof your business, because it costs two-and-a-half times more to recruit a new member than it does to retain an existing one.

One way to prevent members from sneaking out the back door is to refocus your sales pitch on your high level of customer service.

Members don't want to feel like they're constantly being sold to. And when money's tight, they expect more for their dollar. "Friendly staff and a clean gym are two very important [features] our members look for," says Lockwood. "We've heard many comments from members about how they feel comfortable here—like they're part of a family...and that we're friendlier and more welcoming than the gym down the street."

The message you want to promote during this time is how one's health can not only improve quality of life, but also decrease personal cost. "Good health is the answer to a wide variety of problems in difficult economic times," expresses Daly. "Good health can ease a family's healthcare costs. Exercise relieves stress. Exercise makes us stronger. Exercise is medicine. These are messages we've been stressing with our customers." 

Marketing On A Budget

Marketing is an important key in your efforts to stay afloat during this time, and one of the biggest mistakes business owners make is to cut back on their marketing and advertising efforts. But marketing can drain your resources if you're not smart about it. There are many inexpensive ways to market your services, say our experts. For example:

- **Contact past clients.** A phone call may be all they need to return to your gym. Or send them a personalized you-are-missed postcard with a coupon for a percentage off membership or a training session.
- **Use e-mail marketing.** This cuts out the paper trail and cost of postage. It gets the point across, but can be less personal if you make it a mass e-mailing.
- **Spruce up your Web site.** If you know people find your business on the Internet, keep your Web site up-to-date with current membership prices and offerings. There's nothing more frustrating than finding old, outdated information.
- **Start a newsletter or blog.** When members receive a newsletter or read or participate in a blog, they feel a part of something bigger than themselves. They also feel as though they're receiving an "extra" beyond their membership, which adds value to their package.

Part One

Training the Lower Extremities: FOCUS ON THE HIP JOINT

BY
SCOTT
CHEATHAM,
D.P.T.

UNDERSTANDING HOW THE LOWER EXTREMITY FUNCTIONS IS ESSENTIAL WHEN DESIGNING SAFE EXERCISE PROGRAMS.

The lower extremity can be considered a kinetic chain with three important links: the hip, knee and foot. Each link has a specific function and if one of those links becomes “weak” the whole chain can be compromised. The lower kinetic chain is considered a working unit with a mobile-stable-mobile design. For example, the hip joint is a “ball-and-socket” joint that is designed for weightbearing mobility. The knee is a “synovial joint” that acts as the stable connection between the foot and hip. Its articular design and ligament structures allow limited movement when compared to the hip joint. Lastly, the mobile foot is comprised of many joints that work together to allow multiplanar motions used for shock absorption and gait. The lower kinetic chain design allows for efficient multiplanar motion. However, when injury occurs to any of its links, poor movement patterns develop resulting in compensation that can lead to further injury.

In this three-part series, we will discuss common pathologies and restorative strategies for each link in the lower kinetic chain. Here we focus on the hip joint and the problems fitness professionals are most likely to encounter. In both sedentary and active individuals, the majority of hip problems occur in the soft tissue and joint structures. Three common pathologies that occur at the hip joint are trochanteric bursitis, snapping hip syndrome and hip osteoarthritis.

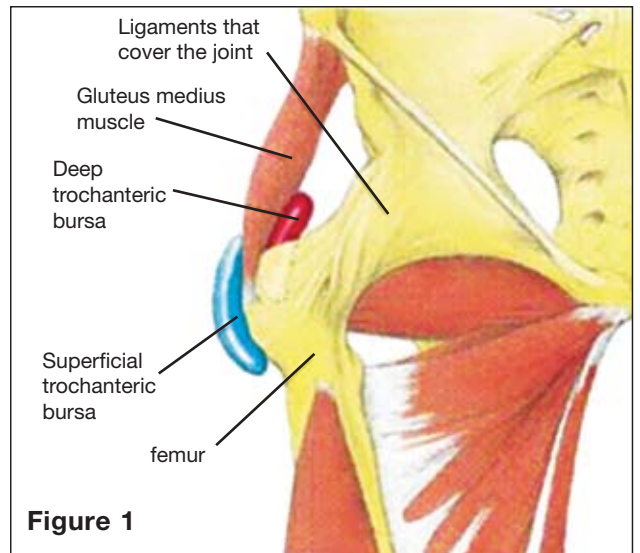
Trochanteric Bursitis

Trochanteric bursitis is characterized by painful inflammation of the trochanteric bursa between the greater trochanter of the femur and the gluteus medius/iliotibial band complex

(Figure 1) (Bierma-Zeinstra, 1999). This condition is common in both active and sedentary individuals.

Among active individuals, trochanteric bursitis is most prevalent in female runners, cross-country skiers and ballet dancers (Lievense, 2005; Anderson, 2005). The current thought is that repetitive trauma may occur due to excessive friction from the iliotibial band. This problem has been linked to prolonged running, an increase or change in activity, or leg-length discrepancy (Foye, 2006).

The sedentary client may develop pain from weakness or tightness in the hip and gluteal muscles due to inactivity. If the client begins a new, demanding activity, the muscles may not be able to handle such a load, which may eventually lead to injury (Lievense, 2005; Foye, 2006).



Common Complaints

Trochanteric pain and/or paresthesias (e.g., tingling, prickling and numbness) often radiate from the greater trochanter to the posterior lateral hip, down the iliotibial tract, to the lateral knee (Little, 1979). Clients may complain of pain when lying on the affected side, during prolonged walking/running and while doing certain hip movements (e.g., internal and external rotation).

Early Intervention

The client may develop a limp due to pain and weakness. This may result in a compensation pattern that causes decreased muscle length (e.g., quads, hams), myofascial

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tightness (e.g., iliotibial band complex) and weak-inhibited muscles. Early conservative treatment often includes avoiding aggravating activity, physical therapy, modalities (e.g., ice, heat), assistive devices (e.g., cane), oral anti-inflammatory medication and cortisone injections (Foye, 2006). When the client is ready to return to physical activity a written clearance by his or her physician may be necessary.

Restorative Exercise Program

When designing the program, client education should be the first goal. Education should include proper training techniques, choosing proper footwear and early injury recognition. The client should be symptom-free during activity and should use modalities (e.g., ice) after exercise to prevent any latent discomfort or inflammation. In addition, the following principles are recommended:

- **Flexibility.** Muscle tightness and myofascial restrictions should be addressed to restore proper length and symmetry to the hip and thigh region. Place particular emphasis on the iliotibial band complex and the surrounding muscles (e.g. gluteals, tensor fascia lata). The flexibility program should include static stretching, assisted PNF stretching and myofascial release using the foam roll (Figure 2).
- **Strengthening.** Focus on restoring proper neuromuscular control throughout the hip region and abdominal core, and focus on strengthening the gluteals, hip abductors and adductors, and external rotators. Figure 3 features some examples of targeted exercises for the hip region.
- **Functional Integration.** The functional program should focus on challenging the abdominal core and hip complex. Closed kinetic chain (CKC) exercise can be introduced to integrate more functional activity, which can be progressed in all planes of motion. Deficits in general balance may be evident due to disuse of the lower kinetic chain. Combine basic progression of balance activities with CKC activities to challenge the client. The lower kinetic chain can be challenged using the following exercises:
 - Single-leg front squat with ball against the wall
 - Single-leg side squat with ball against the wall

Snapping Hip Syndrome

Snapping hip syndrome (SHS) is often described as an audible “clicking or snapping” that occurs around the hip. It affects

females more than males and often occurs in dance, running sports, soccer and golf (Garry, 2005; Idjadi, 2003). SHS may be due to an external or internal cause and is often linked to overuse. External snapping hip syndrome (ESHS) may be caused by the iliotibial band or gluteus maximus snapping over the greater trochanter of the hip. Internal snapping hip syndrome (ISHS) may include snapping of the iliofemoral ligament, the long head of biceps femoris or, most commonly, the iliopsoas tendon over the iliopectineal eminence. Less frequent causes include acetabular labral tears or intra-articular loose bodies (Garry, 2005; Idjadi, 2003).

Common Complaints

Clients often complain of a non-painful or painful audible “clicking or snapping” with specific hip movements such as internal and external rotation (usually associated with ESHS) or extension of a flexed, abducted and

externally rotated hip (usually associated with ISHS). Most clients avoid medical attention until it becomes painful and affects their function (Garry; 2005; Idjadi, 2003).

Early Intervention

As with the other pathologies discussed, early intervention often includes physical therapy and modalities (e.g., ice, heat), and avoiding aggravating activity. When the client is ready to return to activity, a written clearance by their physician may be necessary.

Restorative Exercise Program

When designing the program, it is important to take into account if the client has internal or external problems. Education should include proper training techniques (e.g., rest, periodization) and early injury recognition. The client should be symptom-free during activity, and their program should address the following principles:

- **Flexibility.** Muscle tightness and myofascial restrictions should be addressed to restore proper length and symmetry to the hip and thigh region. For ESHS, give particular attention to the iliotibial band complex and the surrounding muscles (e.g. gluteals, tensor fascia lata). For ISHS, focus on the iliopsoas and hamstrings. In both cases, the flexibility program should include static stretching, assisted PNF stretching and myofascial release using the foam roll (see Figure 2).

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Figure 2



Self-myofascial release of the ITB complex with foam roller

Figure 3



Side-lying hip abduction/external rotation



Supine bridge on ball



Side-lying hip abduction against wall



Side-lying hip adduction

- **Strengthening.** The goal of strengthening should be to restore proper neuromuscular control throughout the hip region and abdominal core. For ESHS, focus on strengthening the gluteals, hip abductors and adductors, and external rotators. For ISHS, focus on strengthening the hip flexors and gluteals.
- **Functional Integration.** The functional program should concentrate on challenging the lower kinetic chain and abdominal core. Progress closed kinetic chain exercise in all planes of motion with an emphasis on neuromuscular control and balance. Progress basic movement patterns into activity/sports specific movements with an eventual return to full activity.

Hip Osteoarthritis

Osteoarthritis (OA) or degenerative joint disease is the most common form of arthritis. An estimated 43 million Americans are affected by the disease and 70 percent to 90 percent of those older than 75 years of age have at least one joint involved (Brotzman 2003; Lawrence, 1998). Osteoarthritis develops from the degeneration of joint cartilage and supporting structures, and changes in the underlying bone structure. This leads to stiffness, pain, mobility problems and limited physical activity (Arthritis Foundation and Centers for Disease Control and Prevention, 1999). This degeneration is caused by a physiologic imbalance between the stress applied to the joint and the ability of the joint to endure the stress. Simply put, osteoarthritis develops when breakdown (i.e., catabolism) exceeds regrowth (i.e., cartilage synthesis).

Common Complaints

An individual with hip arthritis may complain of a “deep aching” pain in the anterior hip with weightbearing activity and “stiffness” after inactivity (less than 30 minutes). He or she may have activity limitations due to restricted, painful motion or a feeling of instability, and the hip joint may be tender to touch or swollen, and the individual may feel a grinding or crackling sensation known as crepitation (Brotzman, 2003).

Early Intervention

Early intervention may include education, physical therapy (e.g., ROM, strengthening), weight loss, supportive devices (e.g., cane or bracing), oral anti-inflammatory medication, cortisone injections and modalities (e.g., heat, ice) (Brotzman, 2003).

Restorative Exercise Program

Management of hip OA includes progressing what has been done in early intervention. The program should consist of light to moderate activity and limit prolonged weightbearing activities; shock loading (e.g., running); repetitive deep squatting or lunging; and plyometric activity. A well-designed program should also address the following principles:


- **Flexibility.** Due to the stiffness of the hip joint and surrounding tissues, clients may have global restrictions versus one specific movement, such as internal or external rotation of the hip. Flexibility exercises should be performed at a level that does not illicit pain and is within a comfortable ROM. Stretching should focus on the surrounding hip muscles including the: gluteals, hamstrings, hip adductors and abductors, and hip external rotators.



- **Strengthening.** The goal is to restore proper strength throughout the hip region and abdominal core. Open kinetic chain exercises such as sidelying hip abduction, sidelying hip adduction, clams, and prone hip extension can help to isolate specific muscles (see Figure 3). Closed kinetic chain exercises should be progressed with caution. As mentioned above, light- to moderate-loading exercise is best for these clients. Midrange activity such as partial squats or lunges may be tolerable.
- **Functional Integration.** The combination of adequate flexibility, strength, balance and aerobic conditioning are all vital for the success of the client. Functional activity should integrate all these principles, while taking into account the precautions mentioned above. Aquatic exercise is an effective way to integrate basic functional activity while de-weighting the joint. The warmth and buoyancy of the water creates a great medium for exercise for these clients. Cardiovascular exercise should

include low-loading activity such as using an exercise cycle or elliptical trainer.

Conclusion

This discussion briefly covered common hip pathologies, and further study of these topics is necessary to have a more in-depth understanding. Our next discussion will focus on common knee pathologies and how a weakness in this link can affect the whole kinetic chain. 

References

- Anderson, M.K., Hall, S.J. and Martin, M. (2005). *Foundations of Athletic Training: Prevention, Assessment, and Management*, 3rd ed. Baltimore, Md.: Lippincott Williams & Wilkins.
- Arthritis Foundation and Centers for Disease Control and Prevention (1999). *National Arthritis Action Plan: A Public Health Strategy*. www.cdc.gov/nccdphp/pdf/naap.pdf.
- Bierma-Zeinstra, S., et al. (1999). Validity of American College of Rheumatology criteria for diagnosing hip osteoarthritis in primary care research. *Journal of Rheumatology*, 26, 1129–1133.
- Brotzman, B. and Wilk, K. (2003). *Clinical Orthopedic Rehabilitation*. 2nd ed. St Louis, Mo.: Mosby.
- Foye, P.M. and Stitik, T.P. (2006). Trochanteric bursitis. *E-Medicine Online Journal (WebMD)*, December 21, 2006, 1–14. www.emedicine.com.
- Garry, J.P., et al. (2005). Snapping hip syndrome. *E-medicine Online Journal (WebMD)*, www.emedicine.com.
- Idjadi, J. and Meislin, R. (2004). Symptomatic snapping hip. *Physician and Sportsmedicine*, 32, 1, 1–8.
- Lawrence, R.C., et al (1998). Estimates of the prevalence of arthritis and selected musculoskeletal disorders in the United States. *Arthritis and Rheumatology*, 41, 778–799.
- Lievens, A., Bierma-Zeinstra S. and Schouten, B. (2005). Prognosis of trochanteric pain in primary care. *British Journal of General Practice*, 55, 512, 199–204.
- Little, H. (1979). Trochanteric bursitis: A common cause of pelvic girdle pain. *Canadian Medical Association Journal*, 120, 456–458.

GREAT BALLS OF FITNESS

BY
CHRIS
FREYTAG



LOOK AROUND A HEALTH CLUB OR GYM AND YOU WILL SEE THAT BALLS—MEDICINE BALLS, STABILITY BALLS, BOSU, SPONGE BALLS—ARE EVERYWHERE. THEY LEND AN ELEMENT OF PLAYFULNESS AND HAVE PROVEN TO BE VERY EFFECTIVE. IF YOU ARE STUCK IN A RUT OF GRABBING THE DUMBBELLS FOR EVERY GROUP FITNESS CLASS YOU TEACH, SHAKE IT UP THIS YEAR AND PLAY BALL INSTEAD.

Stability Balls

Stability balls have enjoyed long-standing success in the fields of rehabilitation and physical therapy. However, due to its effectiveness in developing balance and core strength, athletic trainers, coaches, personal trainers and physical education teachers began to integrate the stability ball into their programs. Today, you will be hard pressed to find a gym, instructor or trainer who doesn't use this ball on a regular basis. Stability balls are extremely versatile and can take the most basic exercise and make it easier or more difficult.

Take the push-up, for example. For a beginner, senior or a larger person, a push-up performed while lying across a ball can be easier than a floor push-up. The more body weight you have on top of the ball the easier the push-up will be to perform. However, when the ball is positioned beneath the legs or the feet, the challenge becomes significantly greater even for the advanced exerciser.

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SIZE:

When choosing a ball to use, instruct participants to select the size most appropriate for their height:

- 45cm = under 5'
- 55cm ball = 5' to 5' 7"
- 65cm = 5' 8" to 6' 3"
- 75cm = over 6' 3"

The balls will lose size over time as the air escapes so be sure to keep the balls inflated to their proper levels.

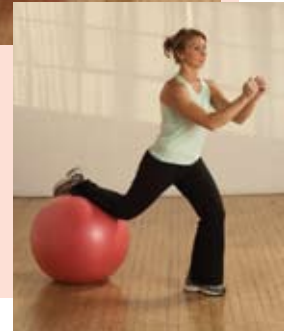
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CHEST FLYE WITH BALANCE: This exercise turns the ball into a weight bench. Grab a pair of dumbbells and position the head and shoulders on the ball. The rest of the body will be in a table-top position, with your core working to hold a bench-like position. Perform the chest flye while maintaining a straight line throughout the rest of the body. Using the ball instead of a bench works the core stabilizers and turns an otherwise basic exercise into a full-body challenge. To increase the intensity, use one heavy dumbbell and alternate the dumbbell while performing the flye. Because one hand is empty as it opens, the obliques and glutes are challenged to prevent the body from tipping over.



LUNGE ON THE BALL: Increase the challenge of a basic lunge by using the ball to recruit the core muscles. Stand in front of the ball and rest one shin on top of the ball. Slowly lower the body by bending the front knee and pressing the ball back and then return to the starting position. This exercise provides a great balance challenge, but beginners can use a railing or wall for stability, if necessary. (Bonus: Hold the lunge as the leg extends back for an effective hip-flexor stretch.)



Medicine Balls

Medicine balls may be newer to your club, but they are one of the oldest forms of strength and conditioning training. In ancient Greece, the physician Hippocrates had his patients throw animal-skin balls stuffed with sand back and forth for injury prevention and rehabilitation. Medicine balls offer a great alternative to dumbbells. First, they prepare the body for realistic motions. Because you are not fixed to a single plane of movement, you can add throwing, swinging and rotational movements whenever possible. This is a great way to strengthen the supporting muscles and tendons around key joints, which can be helpful in preventing typical injuries to the shoulder, elbow, knee and ankle.



Medicine balls can also be used to perform explosive movements and increase power for all types of sports activities, including basketball and tennis. Medicine balls, which can be tossed or bounced, and can even float in the pool, can weigh up to 20 pounds. In a group fitness setting 2- to 8-pound balls are recommended. Unlike a dumbbell, a 2-pound increase is significant, so cue your beginners to start light and increase the weight of the ball gradually over time.



DYNAMIC PARTNER PUSH-UP: This is a fun group fitness exercise because it encourages participants to interact without invading each other's personal space. Have partners position their mats end to end with about 4 to 5 feet in between. Each partner kneels at the back of his or her

mat. One partner holds a medicine ball above the head and begins to fall forward toward his or her partner, slamming the ball to the floor while falling into a kneeling push-up. The other partner catches the ball and repeats. Be sure to cue participants to wait to throw the ball until they are certain their partner is ready.

FORWARD LUNGE WITH MEDICINE BALL ARC: Begin by holding the ball overhead while performing alternating forward lunges. Once participants feel balanced, instruct them to step forward with the right leg and lower the medicine ball with the left hand to the left side. Push back to the starting position and raise the ball overhead. Repeat with the other leg and continue alternating.



Sponge Balls

Sponge balls were originally designed for mind/body classes and have become an excellent tool for adding dimension to many traditional Pilates or yoga exercises. When used correctly, the sponge ball can enhance core muscle activation or help with technique for postural alignment.

SPONGE BALL BRIDGE: This exercise adds the dynamic of balance and increases the recruitment of core stabilizers. Starting in a supine position, bend the knees and place both feet in the center of the sponge ball. Keep the arms relaxed along the sides of the body and avoid using them as a crutch. Prepare for the exercise by tightening the transverse abdominus and inhaling. Exhale and lift the spine up in one straight line until only the shoulders and head are in contact with the floor. Inhale and hold the position, squeezing the abdominals, glutes and legs. Exhale and gently lower the body back toward the floor and hover about 2 inches above the ground. Remember to keep the hips steady and use your core muscles to keep from wobbling off the ball.

SPONGE BALL BICYCLE: Starting in a supine position, place the sponge ball under the lower back around the sacrum area.



Engage the transverse abdominus and bring the knees to a table-top position. With fingertips on either side of the head, reach the right leg away while twisting the torso and bringing the right shoulder toward your left knee. Alternate left and right very slowly, focusing on keeping the hips steady and aligned. Have participants imagine a full teacup balanced on their belly button that they don't want to spill, and remind them to avoid pulling on the head, and twist from the core of the body.



Most sponge balls are about 8 inches in diameter and should be soft and squishy when being used.

EQUIPMENT TIPS

If your studio is packed, too many rolling items on the floor can be dangerous. Depending on the type of class I'm teaching, I typically have participants grab two or three accessories at the beginning of class and have them pile it to the side of their step or mat or place around the rim of the room. (Note: If the medicine balls won't sit still, place in a step riser to keep them still when not being used.) This way, it's no problem to switch from a stability-ball lunge to a medicine ball squat. . . just be sure to cue what's coming next and allow time to switch pieces of equipment. As always, a little pre-class planning is helpful. As an example, in my total-body strength class, we alternate lower- and upper-body exercises to keep the blood from pooling and to keep the class flowing without 30 seconds of rest between exercises. I'll plan a lower-body stability-ball exercise followed by an upper-body stability-ball exercise using dumbbells. Then I'll cue a new piece of equipment and go back to the lower body. In other words, you don't want to create a circus by changing equipment every 15 reps, but rather get creative and do two or three things in a row with one piece of equipment and then move to the next thing. This allows for enough variety to continually challenge your mind and muscles, but doesn't create mass chaos.

BOSU

Invented in the late '90s by David Weck, the BOSU Balance Trainer, or BOSU ball, is essentially a stability ball cut in half and placed onto a rigid platform. BOSU stands for Both Sides Up because you can perform activity on both the dome and the platform. When the dome side faces up, the BOSU provides an unstable surface while the device itself remains stable. This combination of stable/unstable enables individuals of all fitness levels to experience benefits. When the BOSU is flipped, the device becomes highly unstable and is particularly effective for balance-challenging activities.



KNEELING SPINAL BALANCE: This exercise will challenge even the most seasoned athlete, and yet is appropriate for beginners as well. With the dome side up, kneel on the BOSU and position the hands on the floor in front. Lift the right leg and hold for a few moments. Increase the intensity by lifting the opposite arm. Cue participants to focus on contracting the core muscles while trying to maintain balance. Repeat on the other side.



SQUAT-LUNGE-SQUAT: With the dome side down, cue participants to stand on top of the platform and perform eight squats with the feet close together. Next, step the right foot off the back of the platform into a lunge and perform eight stationary lunges. Step back up on the platform for another eight squats and then repeat the stationary lunge with the left foot. Reduce the number of repetitions to four and repeat the entire series. Beginners may need help balancing atop the platform and can even skip the lunge portion of the exercise if necessary.



Continued on page 18



Soft Mini Weighted Balls

Soft mini weighted balls are often used to recruit more muscles while performing Pilates exercises, and they also are useful for adding a strength challenge to many yoga poses. The 4-inch balls, which range in weight from 1 to 8 pounds, fit nicely into the palms of your hands, but feel like a heavy bean-bag.

WARRIOR WITH THE BALLS: Holding a ball in each hand, assume a lunge position with the front leg at a right angle and the back foot turned slightly in; the ankles should be in one line. Turn the torso toward the front leg and reach both arms up into warrior I pose. Hold for a few breaths and continue to warrior II by reaching arms forward and back and even with the shoulders. Hold the balls, palms up, and cue participants to keep their shoulder blades down and back. Continue to move through reverse warrior and triangle while holding the balls. If the shoulders and arms become fatigued, place the balls on the ground.



FOREARM SIDEPLANK WITH SHOULDER RAISE:

Begin on the floor on one side, legs straight and stacked on top of one another, and the forearm on the floor with the elbow directly beneath the shoulder. Hold a ball in the top hand and extend the arm to the front while raising the torso into side plank. Slowly lift the ball toward the ceiling while maintaining the side-plank position. Lower the ball and repeat. To reduce the intensity, bend the lower knee and place it on the ground for increased stability.



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BY
CEDRIC X.
BRYANT,
PH.D.

Q: *Given the fact that beta blockers render age-related training heart rates invalid, are there any reliable alternatives for monitoring the exercise-intensity level of a person taking a beta blocker?*


A: Beta blockers are a class of drugs that are designed to block the beta receptors in the heart. Their primary role is to impede the normal activity of the sympathetic nervous system to slow down heart function. They are used to treat a number of medical conditions, including coronary heart disease, some cardiac arrhythmias and hypertension. Taking beta blockers slows an individual's resting heart rate and can inhibit the increase in heart rate that typically occurs with exercise. Consequently, standard age-adjusted target heart rate doesn't work for determining and monitoring an individual's exercise-intensity level. No matter how hard individuals exercise while taking beta blockers, their heart-rate responses will be blunted, and they may never reach their "true" training heart-rate zones.

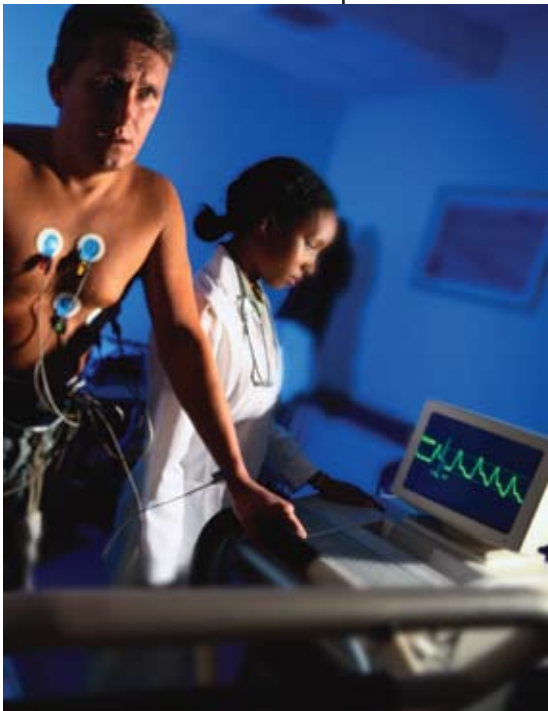
While no precise alternative method exists for predicting the impact of beta blockers on an individual's exercise heart-rate response, performing a monitored exercise-stress test can help determine the true exercise

capacity of an individual on beta blockers and provide useful information on which to base an adjusted training heart-rate range. Another alternative (though not as accurate as using exercise-testing data) is to lower the training heart rate by the same amount that the beta blocker has reduced the resting heart rate. In other words, if the resting heart rate has been lowered 25 beats per minute as a result of the beta blocker, reduce the training heart rate by 25 beats per minute. It should be noted, however, that this approach is not always reliable, since beta blockers often have a greater effect on exercise heart rate than

on resting heart rate. As such, obtaining heart-rate data from an exercise-stress test is clearly the most reliable way to establish an accurate training heart rate while on beta blockers.

If undergoing an exercise-stress test is neither feasible nor practical, the individual should consider using some method of perceived exertion (e.g., the Borg RPE scale or the "talk test") that relies on an individual's judgment of how hard he or she is exercising. Perceived exertion correlates very well with applicable cardiorespiratory and metabolic factors such as heart rate, breathing rate, oxygen uptake and overall fatigue.


One final option is to consult a physician concerning possible alternative drug choices for managing the individual's medical condition that do not affect resting and exercise heart rate like beta blockers do. For example, because angiotensin-converting enzyme (ACE) inhibitors are least likely to impair exercise performance and cardiac responses, they are often prescribed as an anti-hypertensive medication for physically active individuals. 

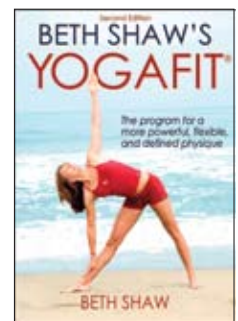


Beth Shaw's YogaFit

Second Edition,
by Beth Shaw
(2009; 232 pages,
Human Kinetics
Publishers, \$17.95)

Beth Shaw's YogaFit
features more than

70 YogaFit poses along with detailed photographs and information on how to correctly execute each pose. Modifications and potential benefits also are covered. Divided into three parts, the first section covers basics such as breathing and mindset, the second describes the poses and the third puts it all together with specific routines and nutrition recommendations. With all new content, this second edition of *Beth Shaw's YogaFit* is a great training tool for those who want to use yoga to enhance their current workouts or train for specific sports and activities such as tennis or running. 



The ACE ConEd Center

WITH A TIGHTENING ECONOMY, IT MAKES SENSE TO EXPLORE HOW YOU CAN DIFFERENTIATE YOURSELF FROM THE COMPETITION. QUITE OFTEN, FITNESS PROFESSIONALS ARE SO BUSY WORKING WITH CLIENTS TO HELP THEM IMPROVE THEIR LIVES THAT THEY FORGET ABOUT THEIR OWN PROFESSIONAL DEVELOPMENT.

Regardless of whether you are a group fitness instructor who is new to the field, or a seasoned personal trainer, you must invest in your future. Making the time for continuing education will give you the fresh insight, training and specialized knowledge to attract new clients and increase your appeal to employers. It is the competitive edge you will need to increase your job stability and work with today's savvy consumer.

The ACE ConEd Center offers more than 3,000 continuing education opportunities available in a variety of formats, from online courses to interactive workshops. Search by topic, CEC value, provider and/or live event date ranges to locate courses that are tailored to your needs, career interests and learning style.

Visit www.acefitness.org/continuingeducation to find education that will challenge your intellect and expand your skill set on topics such as:

- Business & Professional Development
- Nutrition
- Strength Training
- Exercise Science
- Older Adult Fitness
- Weight Management
- Group Exercise
- Special Populations / Post Rehab
- Youth Fitness
- Mind & Body
- Sports Performance

Foundational Education

As a new fitness professional, you may wonder where to begin. What courses provide the greatest level of foundational knowledge for a successful career? What types of skills do you need to attract employers and begin building your client base? Practical training, interpersonal skills, communication and professional development are great areas of focus for the new fitness pro to explore within the ACE ConEd Center.

Intermediate Education


If you already have a strong foundational knowledge, you are likely seeking to take the next step in your career. Becoming specialized will fulfill your personal and professional needs, enhance the services you offer to clients and ultimately create the fuel for a long-term career. From athletic condition-

The screenshot shows the ACE ConEd Center website interface. At the top, there's the ACE logo and navigation links like 'Certifications', 'Continuing Education Courses', 'ACE Store', 'Health + Fitness Info', and 'About Us'. Below that, a search bar is visible. The main content area is titled 'Continuing Education Center' and features a 'Course Finder' section with dropdown menus for 'Topics', 'CEC Value', and 'Course Format', along with a 'SEARCH' button and a 'Browse All' link. Below the search bar, there's a grid of course categories, each with a small icon and a brief description. The categories include: Business & Professional Development, Special Populations & Post-Rehab, Exercise Science, Sports Performance, Group Exercise, Strength Training, Mind & Body, Weight Management, Nutrition, Youth Fitness, Older Adult, and Magazine Quizzes.

ing and mind-body training, to post-rehab and older adult fitness, the ACE ConEd Center provides you with numerous avenues for specialization that are currently in high demand within the fitness industry.

Advanced Education

Seasoned fitness professionals, who often serve as mentors to fellow professionals and leaders within their organizations, are looking for innovative approaches and fresh techniques. You may be considering a second certification or seeking advancement to a management level with new responsibilities. With long-term experience and a large client base, it's easy to put education on the back-burner; however, research has shown that continuing your education is essential to maintaining your marketability and increasing your earning potential. The ACE Functional Training & Assessment Workshop and Transitioning from Trainer to Manager, are just two popular courses from the ACE ConEd Center that can assist you in career advancement.

Wondering what continuing education has to offer your career? Browse the ACE ConEd Center today at www.acefitness.org/continuingeducation to begin the best investment you may ever make – an investment in YOU. 

CHRONIC MUSCULOSKELETAL CHALLENGES &

EXERCISE (0.5 CEC) – One out of every four adults has experienced back pain in the last three months, and 80 percent of Americans will suffer from at least one episode of back pain in their lives. Half of women over age 50 will experience an osteoporotic fracture, and one in five Americans (46 million) have some form of arthritis. This means you will inevitably see clients with one or more of these challenges in your personal training practice. Learn to design and adapt an exercise program for individuals with arthritis, osteoporosis and low back pain in this online course. Become knowledgeable in exercise selection, modification and progressions specific to these musculoskeletal ailments, as well as specific risk factors, symptoms and health consequences. In addition, learn to recognize when to refer your client back to a healthcare provider.

POST-ORTHOPEDIC REHABILITATION FOR PERSONAL TRAINERS (0.6 CEC)

– More clients are coming to fitness facilities after rehabilitation, looking to initiate or resume an exercise program. Due to changes in insurance reimbursement, many individuals receive limited physical therapy and arrive at the gym with limitations in strength and motion related to an affected area. As a personal trainer, how do you safely transition your client back to a total-body program? What exercises

should you suggest and avoid for clients with certain injuries or ailments? When should you refer your client back to his or her healthcare provider? Increase your knowledge and confidence when working with clients who have been discharged from the treatment of musculoskeletal injuries through this online course.



POSTURE, MOBILITY, GAIT AND BALANCE: ASSESSMENT & TRAINING TOOLS FOR THE PERSONAL TRAINER (0.5 CEC)

– Learn how to effectively assess posture and conduct movement screens to aid in the development of an individualized exercise program. This online course will help you understand the role of balance and the core

in movement, outlining a progression model from static balance to dynamic balance and gait. You'll learn the philosophy of restorative exercise for postural compensations and how to coach your client through movement patterns to improve posture and movement efficiency. Additionally, you'll develop a complete understanding of the muscles and function of the core and be able to design a progressive core strengthening program to improve balance and function.

Visit the ACE ConEd Center

at www.acefitness.org/continuingeducation to access these and nearly 3,000 other courses, or contact an ACE Education Services Representative at 800-825-3636, Ext. 781. 

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Dates Announced!

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2009**



**November
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**Hilton San Diego
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2009 ACE Fitness Symposium to be Held in San Diego

Mark your calendar! The 2009 ACE Fitness Symposium will be held in sunny San Diego at the Hilton San Diego Resort & Spa, November 4–7. Keep an eye out for early registration, which will open in April. You can also access the latest event details as they become available by signing up to receive e-mail updates via www.acefitness.org/symposium.

Personal Trainer Exam Review Live Workshop

Cost: \$219 CECs: 1.6

The ACE Personal Trainer Exam Review course is a two-day (16 hour) comprehensive program offering ACE Personal Trainer exam candidates the opportunity to interact with a degreed ACE exam review tutor and other students. Ideal for anyone preparing for the ACE Personal Trainer exam and those who learn best in interactive settings, you can expect to review:

- The Personal Trainer exam content outline
- Applied sciences, test-taking strategies, client assessment, professional roles and responsibilities, program design and program implementation

The course runs from 8:00 am to 5:30 pm on Saturday and Sunday.



Personal Trainer Exam Review Live Workshop

March 7-8, 2009

Charlotte, NC
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Dallas, TX
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Functional Training Workshop

Cost: \$175 CECs: 0.8

Date & Locations:

March 7, 2008
Minneapolis, MN &
New York, NY



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

AHA Heartsaver First Aid with CPR & AED Training

Cost: \$99 CECs: 0.6

A first aid emergency can occur anywhere, including the workplace and within your community. The American Heart Association's Heartsaver First Aid with CPR and AED course teaches lifesaving skills in an emergency until EMS arrives. This convenient course satisfies training requirements for CPR, AED and first aid in a single one-day course. The completion card is valid for two years.

*The American Heart Association strongly promotes knowledge and proficiency in BLS, ACLS and PALS and has developed instructional materials for this purpose. Use of these materials in an educational course does not represent course sponsorship by the American Heart Association, and any fees charged for such a course do not represent income to the Association.



Heartsaver First Aid CPR/AED Training

April 18, 2009

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Portland, OR
San Diego, CA
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AHA/AED Anytime Home Study Kit with Live Skills Check

Cost: \$99 CECs: 0.4

Heartsaver AED Anytime™ is a computer-based course that provides individuals with a flexible, research-proven alternative to the traditional, classroom-style Heartsaver Live Workshop. With the interactive format, you'll learn both CPR and AED, then simply complete a skills check in person to get your certificate.

AHA/AED Anytime

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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 for instant access to CECs.

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

- Which of the following is NOT one of the four social media categories that are particularly popular right now?
 - social networking
 - video sharing
 - blogging
 - macro-blogging
- According to a recent Cigna survey, more than _____ of Americans say that exercising regularly is crucial to safeguarding one's health.
 - 10 percent
 - 30 percent
 - 60 percent
 - 90 percent
- Which of the following is NOT one of the components of a restorative exercise program for hip problems?
 - Flexibility
 - Strengthening
 - Plyometrics
 - Functional Integration
- Which of the following is NOT a recommended strategy for marketing your business on a budget?
 - Contact past clients.
 - Update your Web site.
 - Send out mass e-mails to potential clients.
 - Start a newsletter or blog.
- Research suggests that pregnant women who exercise regularly are more likely to _____.
 - Have easier, shorter and less complicated deliveries.
 - Return to their pre-pregnancy weight within six months.
 - Give birth to lighter-weight babies.
 - Gain more weight during pregnancy due to increased muscle mass.
- All pregnant women should be prohibited from participating in _____.
 - Highly vigorous activity
 - Weight training
 - Skiing or rollerblading
 - Scuba diving
- Which of the following is NOT a special consideration for prenatal exercise programming?
 - Maternal hypoglycemia
 - Reduced joint range of motion
 - Heat dissipation
 - Venous blood pooling
- The three most common pathologies that occur at the hip joint are _____.
 - Trochanteric bursitis, snapping hip syndrome, hip osteoarthritis
 - Hip osteoarthritis, hip replacement, trochanteric bursitis
 - Snapping hip syndrome, hip osteoarthritis, avascular necrosis
 - Hip fracture, hip osteoarthritis, avascular necrosis
- For clients taking beta blockers, determining target heart-rate range can be difficult because beta blockers _____.
 - Reduce exercise capacity
 - Increase a person's perception of how hard they are exercising
 - Exaggerate the heart-rate response to exercise
 - Lower both resting and training heart rates
- Which of the following factors has NOT been linked to the development of trochanteric bursitis?
 - Prolonged running
 - Increase or change in activity
 - Frequent Pilates training
 - Leg-length discrepancy

Evaluation of credit offering:

- Was material New Review for you?
- Was material presented clearly? Yes No
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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).

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An additional \$25 fee will be assessed on any returned checks.

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Pre- and Postnatal Exercise

Continued from page 9

Society of Obstetricians and Gynaecologists of Canada (SOGC) & Canadian Society for Exercise Physiology (CSEP) (2003). Joint SOGC/CSEP clinical practice guideline: Exercise in pregnancy and the postpartum period. *Journal of Obstetrics and Gynaecology Canada*, 25, 6, 516-522.

Soultanakis, H.N., Artal, R. and Wiswell, R.A. (1996). Prolonged exercise in pregnancy: Glucose homeostasis, ventilatory and cardiovascular responses. *Seminars in Perinatology*, 20, 315-327.

Watson, W.J. et al. (1991). Fetal responses to maximal swimming and cycling exercise during pregnancy. *Obstetrics and Gynecology*, 77, 3, 1454-1459.

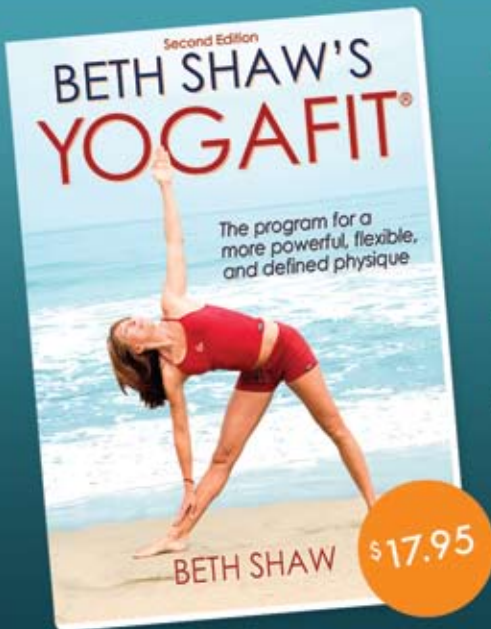
Weissgerber et al. (2006). Exercise in the prevention and treatment of maternal-fetal disease: A review of the literature. *Applied Physiology, Nutrition and Metabolism*, 31, 661-674.

Wolfe, L.A. et al. (1988). Fetal heart rate during maternal static exercise [abstract]. *Canadian Journal of Sport Science*, 13, 95P-96P.



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