

Quiz Policies

Eligibility

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

Deadlines

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

Cancellation/Refund

All NCSF continued education course studies are non-refundable.

General Quiz Rules

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

Disqualification

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

Reporting Policy

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

Re-testing Procedure

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

Special Needs

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

Quiz Rules

What Do I Mail Back to the NCSF?

Students are required to submit the quiz answer form.

What do I Need to Score on the Quiz?

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

Where Do I Mail My Quiz Answer Form?

You will mail your completed answer form to:

NCSF

Attn: Dept. of Continuing Education

5915 Ponce de Leon Blvd., Suite 60

Coral Gables, FL 33146

How Many CEUs Will I Gain?

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

How Much does each quiz cost?

Each quiz costs the student \$15.00.

What Will I Receive When The Course Is Completed?

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

How Many Times Can I Take The Quizzes For CEUs?

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

Exercising During Your Pregnancy

There has been much debate about whether exercising during a pregnancy is a good idea for the mother and fetus. Some have suggested that the possible risks outweigh the benefits. Before 1980 little was known about the effects of physical activity on the unborn baby and mother so most doctors simply sided with caution and recommended that pregnant females abstain from physical exertion. Early studies began in 1976 where research trials examined the effects of strenuous activities on pregnant sheep. The conclusions were very surprising. The early animal experiments demonstrated that the fetus tolerated the thermal and circulatory stresses of exercise well in later stages of pregnancy (Clapp 1980). Several more recent studies support the participation of pregnant females in a structured training regimen. However, like any training regimen aimed at a special population it is important to get all the facts before making any recommendations.

During pregnancy a woman's entire circulatory system changes dramatically to accommodate the needs of the body, as well as the increasing needs of her developing fetus. These are the same changes that cause the unpleasant symptoms associated with pregnancy such as nausea, fatigue, constipation, and bloating. Although these symptoms cause discomfort they can reassure a pregnant female that she likely has a healthy pregnancy. These cardiovascular adaptations begin as soon as the fertilized egg implants itself into the endometrium (womb). The cells that will

eventually make up the placenta release hormonal signals that initiate smooth muscle relaxation and reduce responsiveness in most of the muscle cells in a woman's blood vessels (Dukekot et al 1993, Hart 1986). The result is that both the elasticity and volume of the entire circulatory system increases virtually overnight (Clapp 1998).

This creates a circulatory volume depletion problem. This problem is quickly handled by an increase in blood plasma brought about by hormones released from the heart and adrenal glands. These changes cause an increase in blood, chamber, and stroke volume over time, which means an increase in cardiac output of about 40% (Capeless and Clapp 1989)! The uncomfortable symptoms reflect the vascular underfill and last until the blood volume expands completely. Symptoms usually resolve by about the fourth month (end of first trimester).

The final circulatory adaptation to pregnancy is a reduction in the stress hormones epinephrine and norepinephrine. The result is a low-resistance, high volume, high flow-rate allowing the mother's body to handle additional stress. Even with the increased blood flow, the pressure in the vessels remains low due to the high degree of relaxation and dilation of the vessel walls (Nisell 1985). Although these changes are very similar to those experienced by highly trained endurance athletes, all of these changes occur without any training at all.

Additional adaptations to pregnancy

- Increased ability to dissipate heat
- Decreased heart rate response as the length of pregnancy increases
- Increased delivery of oxygen
- Increased delivery of nutrients to tissue

With all the physiological changes that occur within pregnant females, their bodies become predisposed to better handle the application of physical stress. Regular exercise can provide

many maternal/fetal benefits. Now, it should be understood that the word exercise means different things to different people. Exercise as it is described hereafter includes

cardiorespiratory training and is based on the assumption that the female has previously engaged in at least regular aerobic exercise for 20-30 minutes 3x/wk. This is not to suggest that other activities cannot be engaged in, but are beyond the scope of this brief article.

Continued regular exercise during pregnancy offers a variety of benefits, which can lead to a healthier mother and fetus. Women who exercise during their pregnancy can experience a reduced weight (7 lbs) and fat gain (3% less) and retain less fat after pregnancy (Clapp & Little 1995). Likewise, in studied females, the length of active labor and the complications associated with labor were reduced. Clapp (1998) suggests that females that continue exercising through their pregnancy are more likely to feel better, recover more rapidly, and deliver closer to term. Additionally, the women studied had no identifiable maternal ill effects from either exercise during the pregnancy or with early resumption (2 weeks) of exercise after pregnancy (Clapp 1998). These findings indicate that exercise may help regulate a normal pregnancy and provide positive outcomes for females that engage in safe exercise activities.

The mothers aren't the only ones that may benefit from exercise either. Scientists examined the fetal response during activity in hundreds of physically active females. They found that heart rates increased with increased intensity, duration and was relative to the mode of exercise used (Clap & Caeless 1993, Clap & Tomaselli 1996). They examined fetal bowel function and respiration to determine the stress experienced by the unborn child (Hatoum 1997). Their findings were that the fetus's handled the stress of exercise very well in women with previous exercise conditioning. Researchers also found that placental sizes in

exercising- pregnant females were larger, which suggests an increase in nutrient and oxygen delivery and greater waste removal (Jackson 1995, Clapp & Rizk 1992). Additionally, those babies born to the exercising mothers were leaner, more responsive, and adapted to their surrounding better than those born to the non-exercising control groups. Interestingly, females that stopped exercise during mid-pregnancy had the fattest babies. It is hypothesized that the increased placenta size in response to the early exercise caused an overfeeding effect, which was compensated for by the exercising to term group because of the higher caloric expenditure in response to the exercise.

With all this information it is easy to assume that every woman should exercise throughout her pregnancy. This is not always the case. Contraindications to exercise in early pregnancy include prior absent or infrequent menstrual periods, injury, acute illness, vaginal bleeding in early pregnancy, intractable nausea and vomiting, and sudden onset of new pain, especially in the abdomen or pelvis. Absolute contraindications to exercise in later pregnancy include light vaginal bleeding, rupture of the membrane that surrounds the baby, pregnancy induced hypertension, poor fetal growth, placental disease, symptoms of labor, multiple birth pregnancy, previous multiple miscarriages, history of premature birth, and any maternal disease. Relative contraindications include history of poor fetal growth, history of rapid labor, extreme overweight or underweight (mother), sedentary lifestyle, palpitations or arrhythmias and anemia. When any irregular symptoms are experienced, exercise should be discontinued and the problem should be immediately reported to the primary care physician.

Recommendations for Exercise

- **Use regular, sustained, weight-bearing exercise**
- **Use moderate intensity and duration**
- **Use Borg rating scale for perceived exertion - expect differences in heart rate response throughout the pregnancy**

- **Decrease exercise volume if symptoms of overtraining develop in the mother or the baby**
- **Avoid jerky, bouncing and wide ROM movements as well as exercises that cause compression forces, straining or change in direction**
- **Avoid exercise in the prone position after the fourth month**
- **Warm-up and cooldown should be performed before and after exercise**
- **Avoid maximal stretching**
- **Stop exercise at the onset of fatigue and report unusual symptoms**
- **Fluid consumption should be scheduled**
- **Avoid environments with excessive environmental stress**
- **Be cautious of low back pain and joint laxity later in the pregnancy**
- **Always chart the progress and review it for physiological changes**

The approach to exercise prescription for healthy women during the reproductive process should reflect the same principles used when not pregnant. Education and an integrated holistic approach to fitness will best serve the exercising mother. The focus should be on better health with a decreased emphasis on reaching new goals or attaining a competitive status. The right type of exercise, including program factors, is

individually specific. Cardiovascular exercise at moderate intensity and duration should be the staple of the program. Close monitoring of the female for fatigue, injury, intensity and duration are important aspects of a supervised program and should be charted and reviewed for possible signs of a problem. Additionally, every healthy pregnancy should be under the watchful eye of a primary care provider who should provide needed feedback as symptoms arise.

QUIZ

1. Which system experiences the greatest change in response to early pregnancy?
 - A. Muscular system
 - B. Skeletal system
 - C. Cardiovascular system
 - D. Digestive system
2. How is circulatory volume depletion handled by the body?
 - A. Increase in blood plasma
 - B. Increase in red blood cell production
 - C. Decrease in the blood vessel elasticity
 - D. Decreased heart rate
3. Which of the following are normal physiological adaptations during pregnancy?
 - A. Increased ability to dissipate heat
 - B. Decreased heart rate response as the length of pregnancy increases
 - C. Increased delivery of oxygen
 - D. Increased delivery of nutrients to tissue
 - E. All of the above

4. How long can a female exercise during pregnancy without fetal complications?
- A. First trimester
 - B. 4 months
 - C. 6 months
 - D. To term
5. What effect does exercise during pregnancy have on the length of active labor and the complications associated it.
- A. Increased length of active labor, Increased complications
 - B. Reduced length of active labor, Reduced complications
 - C. Reduced length of active labor, Increased complications
 - D. Increased length of active labor, Reduced complications
6. What is the earliest recommended duration following a normal delivery before resuming exercise?
- A. 2 weeks
 - B. 4 weeks
 - C. 6 weeks
 - D. 8 weeks
7. What effect does exercise have on fetal (physiological) response?
- A. Heart rates increased with increased intensity
 - B. Fetal bowel function and respiration are normal
 - C. Decreased oxygen availability
 - D. A and B only
8. Which of the following is generally accepted as to why children born to women that stop exercise in mid-pregnancy have the highest body fat percentage of all groups (no exercise, exercise, and exercise to 2nd term).
- A. Women over consume calories because they do not change their eating habits when they stop exercising
 - B. Placenta size increases above normal during early stages of development with exercise and overfeeds the fetus in later stages of the pregnancy
 - C. The fetus develops increased adipose tissue due to changes in womb temperatures
 - D. All the above
9. Which of the following is a Contraindication to exercise in early pregnancy?
- A. Injury
 - B. Acute illness
 - C. Vaginal bleeding
 - D. Nausea or vomiting
 - E. All of the Above

10. Which of the following is not a correct recommendation for exercise during pregnancy?

- A. Use regular, sustained, weight-bearing exercise
- B. Use moderate intensity and duration
- C. Use Borg rating scale for perceived exertion - expect differences in heart rate
- D. Avoid resistance training and stretching

Quiz Answer Form

FIRST NAME _____ LAST NAME _____ M.I. _____

TITLE _____

ADDRESS _____ APT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____ POSTAL CODE _____

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

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

Quiz Name	Member Price	Total
	\$15	



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Check/Money Order

Account No. _____

Exp. Date _____

Security Code _____

Signature _____

Date _____

Quiz Answers

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

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

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

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

Questions? 800-772-NCSF