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Exercise and Pregnancy

The information below will help you determine if exercise represents an increased fetal risk. With every pregnancy, all women have a 3 to 5 percent chance to have a baby with a birth defect.

Is exercise safe for all pregnant women?

Most women are able to maintain an exercise program throughout pregnancy, although some activities may need to be modified.

You may not be able to exercise while pregnant if you: have previously given birth to low birth weight babies, have experienced preterm labor, noticed vaginal bleeding, felt contractions, or have other pregnancy related complications.

If you have a history of medical problems such as: severe anemia, heart problems, poorly controlled diabetes, high blood pressure, or thyroid disease, you should check with your doctor before starting or continuing an exercise program.

Does exercise harm the developing baby in any way?

Currently, there is no evidence that exercise has harmful effects on the baby. It has not been shown to increase risk of miscarriage, birth defects, or premature labor. Studies show no relationship between exercise and fetal distress, type of delivery, or fetal heart rate changes.

However there is also no proof that exercise improves your pregnancy outcome or the health of the baby. Studies have shown that moderate to high intensity exercise in the later stages of pregnancy can lead to smaller, leaner babies that are still within the "normal range".

Will exercise be more difficult during pregnancy?

Your body will go through many changes throughout pregnancy that may affect its response and tolerance to exercise.

Your body works harder to give enough oxygen to the baby as it develops, thus you have less oxygen available for exercise. This may leave you feeling breathless and less energetic.

As the baby grows and your womb gets larger, your sense of balance shifts so that you may need to adjust your posture. Joints around your pelvis loosen to make room for the birth of the baby therefore there's a greater chance of straining or spraining muscles.

Also, your blood volume and heart rate increase to allow nutrients and oxygen to be transported to the baby. This change in blood flow may make you feel lightheaded.

What are the benefits of exercising during pregnancy?

Exercise can play an important role in health and well being during pregnancy. It has been shown to allow faster weight loss after pregnancy, and improve mood and sleep patterns. Some studies have shown faster labors and less need for induction of labor using drugs or epidurals.

Exercise can also ease many of the common discomforts of pregnancy such as constipation, backache, fatigue, leg swelling, and varicose veins.

What are some guidelines for exercising safely during pregnancy?

The following guidelines apply if your pregnancy is low risk and you have checked with your doctor to make sure you can continue an exercise program.

- Regular exercise, at least 3 times a week, is preferable to more random activity
- During the second and third trimesters, avoid exercise that involves laying flat on your back because this allows less blood flow to your womb
- Avoid exercising to the point of exhaustion or breathlessness. This is a sign that your baby and your body are getting less oxygen
- Be aware that loss of balance could be harmful
- Avoid exercises that may cause trauma to the abdomen
- Especially in the first trimester, drink plenty of fluids before and during exercise to avoid overheating
- Include relaxation and stretching both before and after you exercise
- Eat a healthy diet that includes plenty of fruits, vegetables, and complex carbohydrates. Exercise may require you to eat more calories

What types of exercise are best during pregnancy?

Most pregnant women can continue their pre-pregnancy exercise routine, although you may need to modify some activities. Listen to your body, and stop when you feel too tired or if you experience dizziness, headaches, muscle weakness, nausea, chest pain, or contractions. Don't get discouraged: Even mild to moderate exercise can help your fitness level and your mood.

In general, you can safely participate in a wide range of recreational activities. Non weight bearing exercises such as cycling, swimming, or water aerobics are easiest on your body throughout your entire pregnancy. Walking, jogging, and low impact aerobics are also permitted earlier in pregnancy, yet may not be ideal in later stages.

Contact sports such as ice hockey, soccer, and basketball could result in trauma to both you and your baby. Also, activities such as gymnastics, horseback riding, and downhill skiing, have an increased risk of falling as a result of balance changes.

Because of decreased oxygen, scuba diving and exercising at altitudes above 6,000 feet may not be recommended.

When can I begin to exercise after giving birth?

Your body may still experience changes as a result of your pregnancy for at least 6 weeks after your baby is born. Listen to your body and start slowly. You can gradually start exercising again as soon as you feel able to. Women who have had a cesarean delivery may need to delay their return to exercise. Physical activity after giving birth has been associated with less depression as long as the exercise is stress relieving and not stress provoking.

Does exercise affect breast feeding?

Exercise has not been found to affect breast feeding. In general, you will still produce the same amount of milk whether you exercise or not. However, it is extremely important to drink a lot of water when breast feeding, especially if you are exercising.

If I am training at an elite level, will pregnancy hinder my performance?

Pregnancy used to signal the end of a woman's sporting career but more and more, female athletes are returning to compete at elite levels following the birth of a baby.

As an elite athlete, you will have to make psychological adjustments along with physical ones to modify your training program enabling safe participation in each stage of pregnancy. Accepting that pregnancy and birth will interrupt sporting aspirations will reduce feelings of frustration and resentment. Try to view pregnancy as positive, be flexible and prepared to change training programs and expectations.

While there may be risk involved in physical activity for some pregnant women, most doctors believe that the benefits of being active far outweigh the risks, even for those who wish to continue participation at an elite level. Your pre-pregnancy

levels of fitness, as well your particular sport must be taken into account when planning the intensity, duration, and frequency of exercise during pregnancy. Both you and your baby will respond to exercise on an individual basis. Provided that you regularly consult with medical advisors, and comply with medical advice regarding your training program, it is unlikely that playing a sport will cause problems. It is however, advised that you not exercise at greater than 75% of your maximum heart rate.

Most studies report over half of elite athletes use supplementation to enhance performance. Athletes' use of supplements is greater than the general population, women use supplements more than men, and use varies by sport. Few studies have been done to demonstrate cause and effect of various supplements and exercise in pregnant women. Be sure to consult a sports nutritionist as well as your physician if you are taking any sort of supplementation.

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References

ACOG Committee Opinion No. 267. (2002). Exercise During Pregnancy and the Postpartum Period. *Obstetrics and Gynecology* 99(1): 171-173.

Clapp III J, Kim H, Burciu B, Schmidt S, Petry K, and Lopez B. (2002). Continuing regular exercise during pregnancy: Effect of exercise volume on fetoplacental growth. *American Journal of Obstetrics and Gynecology* 186(1): 142-147.

Clapp III J, Lopez B, Hancar-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(1): 91-94.

Kennelly M, Geary M, McCaffery N, McLoughlin P, Staines A, McKenna P. (2002). Exercise-related changes in umbilical and uterine artery waveforms as assessed by Doppler ultrasound scans. *American Journal of Obstetrics and Gynecology* 187(1): 661-666.

Kennelly M, McCaffrey N, McLoughlin P, Lyons S, McKenna P. (2002). Fetal heart rate response to strenuous maternal exercise: not a predictor of fetal distress. *American Journal of Obstetrics and Gynecology* 187(3): 811-816.

Lederman S, Paxton A, Heymsfield S, Thornton J, Pierson R. (1999). Maternal body fat and water during pregnancy: Do they raise infant birth weight? *American Journal of Obstetrics and Gynecology* 180(1): 235-240.

Greydanus D.E., Patel D.R. (2002). The Female Athlete: Before and Beyond Puberty. *Pediatric Clinics of North America* 49(3): 553-580.

Sobal J, Marquart L.F. (1994). Vitamin/Mineral Supplement Use Among Athletes: a review of literature. *International Journal of Sport Nutrition*, 4(4):320-334.