

by Shelby Scott, M.D., FACSM

Exercise During Pregnancy

With overweight and obesity on the rise in America, it is of utmost importance that all people maintain or increase their current level of physical activity. This also is true for pregnant women. For obvious reasons, there are no controlled studies looking at physical activity during pregnancy. For many years, even physician groups advised against moderate exercise. The American College of Obstetrics and Gynecology (ACOG) issued a technical bulletin in 1985 stating that the maximum heart rate during pregnancy should not exceed 140 beats per minute and women should not partake in strenuous exercise for more than 15 minutes. In 1994, ACOG released a new bulletin removing specific limitations and prohibitions regarding exercise during pregnancy. ACOG said, “there are no data in humans to indicate that pregnant women should limit exercise intensity and lower target heart rate because of adverse effects.” They still recommended that women avoid exhaustion during exercise.

In 2002, ACOG published “Exercise During Pregnancy and the Postpartum Period: ACOG Committee Opinion 267.” In this paper, the ACOG Committee recognizes that “in the absence of contraindications, pregnant women should be encouraged to engage in regular, moderate intensity physical activity to continue to derive health benefits during their pregnancy as they did prior to their pregnancy” (1). This was the first formal recommendation by an American physician group to include exercise during pregnancy. It encourages women with uncomplicated pregnancy to follow the current American College

of Sports Medicine (ACSM) and U.S. Centers for Disease Control and Prevention (CDC) guidelines for physical activity in adults: at least 30 minutes of moderate physical

activity on most, if not all, days of the week.

With more than 30 years of active pregnant women from which to make a more educated opinion



Table 1. Absolute Contraindications to Exercise During Pregnancy (Adapted from ACOG Committee Opinion 267, 2002)

Hemodynamically significant heart disease
Restrictive lung disease
Incompetent cervix or cervical cerclage
Multiple gestation with risk for preterm labor
Persistent second or third trimester bleeding
Placenta previa after 26 weeks of gestation
Premature labor during the current pregnancy
Rupture of membranes
Pregnancy-induced hypertension

about exercise and pregnancy, physician groups are finally admitting what pregnant women have always known—pregnancy is not a disease, and with a few exceptions, most

Table 2. Relative Contraindications to Exercise During Pregnancy (Adapted From ACOG Committee Opinion 267, 2002)

History of sedentary lifestyle
Intrauterine growth retardation
Poorly controlled hypertension
Poorly controlled seizure disorder
Poorly controlled insulin-dependant diabetes
Severe anemia
Chronic bronchitis
Maternal cardiac arrhythmia
Poorly controlled thyroid disease
Extremely overweight (morbid obesity)
Extremely underweight (BMI \times 12)
Orthopedic limitations
Heavy smoker

women do not need to change what they are doing because they are pregnant. Without evidence to support the claims, physicians used to think that exercise during pregnancy would result in high core body temperature that might damage the embryo or developing fetus. Current medical science shows that pregnant women actually moderate their core body temperature better than nonpregnant women. Another myth about exercise during pregnancy is that it leads to premature birth because of the catecholamine, or adrenaline, response. While there is a transient elevation of fetal heart rate following exercise of the mother, it quickly returns to baseline heart rate. One more belief is that exercise reduces the rate of oxygen and nutrient delivery to the developing fetus because of the shunting of blood away from internal organs during exercise. The normal physiologic adaptation to pregnancy is increased cardiac output and blood volume. Additionally, the placenta develops in a way to ensure constant nutrient delivery during a healthy pregnancy. There is no retrospective evidence to suggest that exercise leads to fetal distress, premature delivery, or low birth weight (2).

Despite the safety of exercise during pregnancy, it is important to know the contraindications. Women at risk for preterm labor, women with bleeding after the first four months of pregnancy, or women with unstable heart or lung disease must not exercise during pregnancy (see Table 1). Women who should exercise with extreme caution are outlined in Table 2. As with any clients, pregnant women must listen to their bodies and the advice of their clinician. If any pregnant woman asks for your advice or recommendations for exercise during pregnancy, first make

Table 3. Exercise Recommendations During Pregnancy

Avoid
scuba diving
high altitude activities
activities with risk of fall
activities with risk of abdominal trauma
FITT principle (frequency, intensity, time, and type)
For sedentary women
Frequency = minimum of 3 \times per week
Intensity = moderately hard perceived exertion (PE)
Time = 30 minutes
Type = low impact
For regular exercisers
Frequency = 3 to 5 \times per week
Intensity = moderately hard to hard PE
Time = 30 to 60 minutes
Type = low impact and any prior safe activities
For elite athletes
Frequency = 4 to 6 \times per week
Intensity = 70% to 80% maximum heart rate or hard PE
Time = 60 to 90 minutes
Type = competitive activities as tolerated during pregnancy
Adapted from Paisley <i>et al.</i> (4)

sure she is seeing her health-care professional regularly, and has been told it is safe for her to exercise during this pregnancy. Remember, most women can exercise very safely during pregnancy. Exercise should be terminated immediately if a woman develops any of the following problems: vaginal bleeding, difficulty breathing before or during exercise, dizziness, headache, chest pain, muscle weakness, calf pain or swelling, uterine contractions, decreased fetal movement, or leakage

of clear fluid from the vagina. These can be the signs of development of dangerous medical conditions during pregnancy or pregnancy-related complications. A woman in any gym or activity program who develops any of these findings must be referred immediately to her physician's office or the local hospital for evaluation.

It is well documented that exercise positively affects pregnancy, labor, and possibly pregnancy outcomes. More than 90% of women who exercise during pregnancy will continue to exercise afterwards. This is very important given the ever-increasing girth of our nation. During pregnancy, women who exercise experience fewer musculoskeletal problems than their nonexercising counterparts. This includes less back and pelvic pain, which are very common during pregnancy. Exercise increases maternal cardiovascular fitness, body image, and well-being. It can prevent gestational, or pregnancy-related, diabetes and it can assist in the treatment of women with diabetes. Some reports show that moderate exercise during pregnancy can reduce delivery time and complications. Fetuses of exercising mothers tolerate the stresses of labor well and are more alert and less irritable in the immediate postpartum period (3).

As with any client, when developing an exercise regimen, you need to consider the woman's prepregnancy or current fitness level. It is important to discuss her goals for an exercise regimen. Clearly, unless she was

exercising at an elite level before the pregnancy, it is not a time to step up fitness or performance. Most women want to exercise to maintain fitness, help with weight management, or combat fatigue and stress. As a fitness professional, the goal is to assist the woman in maintaining her fitness level while minimizing the risks to the fetus. As the woman's body changes, so must the exercise regimen. The FITT prescription is generally safe during pregnancy (see Table 3). Walking, stretching, most yoga, and other low-impact activities are safe for women who have never exercised before. Have them gradually build up their regimen to ensure there is no negative impact from the increased activity. Generally, the only activity that is advised against during pregnancy is scuba diving. Within reason and depending on maternal fitness and altitude adaptation, women can even exercise at altitudes up to 2500 m. Maximal weight lifting elevates blood pressure and should be avoided during pregnancy, although moderate intensity lifting can be performed safely. Any high-risk or contact/collision sports can result in abdominal trauma and subsequent fetal injury. All women must use common sense when considering these activities. No health professional could ever recommend an activity that might result in fetal death.

In summary, exercise can be safe and enjoyable during pregnancy. It can increase maternal well-being and self-esteem. There is an ever-increasing

body of literature in support of exercise during pregnancy. For most women, the benefits far outweigh any theoretic risks, and the risks are small when proper guidelines and precautions are followed. Always make sure a pregnant woman is seeing her health-care provider regularly. As a woman's body changes throughout the pregnancy, she needs to be willing to adjust her exercise regimen to ensure continued safety while exercising.



Shelby Scott, M.D., FACSM, is part-time faculty at Natividad Medical Center in Salinas, CA, and associate clinical

faculty at UCSF School of Medicine. She practices Family Practice and Sports Medicine in the Santa Cruz area of California.

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