

## **Exercise Guidelines for Pregnancy**

(Adapted from Alton, Exercise guidelines for pregnancy and the ACOG Technical Bulletin 267)

### **Physiologic Changes that occur during pregnancy include:**

- Progesterone, relaxin, estrogen and cortisol soften and stretch the connective tissue resulting in laxity and instability of ligaments and joints, and increasing the risk of musculoskeletal injury
- As the uterus and breasts enlarge, the center of gravity shifts, resulting in balance problems and increasing the risk of falling and of straining the hips and back
- Blood volume expansion and increased resting cardiac output decrease the cardiac reserve during exercise. Increased resting oxygen consumption reduces availability of oxygen during aerobic exercise
- The effects of progesterone on respiratory function combined with the u-ward displacement of the diaphragm by the enlarging uterus lower the threshold for hyperventilation
- Dehydration and hypoglycemia occur more readily
- There have been no reports that hyperthermia associated with exercise is teratogenic

### **Exercise Recommendations:**

- Regular, aerobic exercise of mild-to-moderate intensity for 30 minutes daily is preferable to intermittent activity or a sudden increase in exercise level
- Intensity should be light enough to allow conversation during exercise (there are no heart rate limitations)
- Exercise should be preceded by an extended warm-up and followed by a cool-down period and stretching.
- Ample fluid intake is important before, during and after exercise
- Carbohydrates (milk, fruit, juice, grains) should be consumed before and after exercise to prevent hypoglycemia.
- Caloric intake should be adequate to support exercise and promote optimal weight gain.

### **Exercise precautions:**

Avoid vigorous exercise during hot, humid weather or while febrile, avoid use of a sauna, exercising while fatigued or to the point of exhaustion, exercises that strain the lower back, stress ligaments, injure knees, or promote separation of the symphysis pubis, avoid holding the breath or straining, avoid exercising while on the back in the third trimester

### **Warning signs to terminate exercise (ACOG Technical Bulletin 267):**

Vaginal bleeding, dizziness, headache, chest pain, muscle weakness, calf pain or swelling (r/o blood clot), preterm labor, decreased fetal movement, amniotic fluid leakage

### **Exercises considered safe during pregnancy (adapted from Cont OB/Gyn 1995:5:62-90):**

Bicycling (stationary balance is difficult to maintain), bowling, dancing, golf, jogging, light weight-training, low-impact aerobics, rowing, running, swimming, tennis, walking, water aerobics

### **Exercises not considered safe during pregnancy (adapted from Cont OB/Gyn 1995:5:62-90):**

Contact sports, marathon running, diving, downhill skiing, gymnastics, heavy weight-training, high-impact aerobics, horseback riding, ice skating, mountain climbing, racquetball, rollerblading, roller-skating, scuba diving, sky diving, surfing, water skiing

**Contraindications to exercise during pregnancy** (adapted from ACOG Technical Bulletin No. 267):

Pregnancy-induced hypertension, severe anemia, cardiac disease, cervical incompetence or cerclage, extreme underweight, hemoglobinopathies, three or more prior miscarriages, intrauterine growth retardation, severe infection, multiple gestation at risk for preterm labor, placenta previa, polyhydramnios, preterm labor, renal disease, preterm rupture of membranes, uncontrolled seizure disorder, uncontrolled diabetes, persistent second or third trimester bleeding, poorly controlled hypertension, poorly controlled hyperthyroidis.

## Exercises for Pregnancy and Childbirth

(Adapted from the Women's Health Talk; Ross Pediatrics)

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### Knee Press

The knee press strengthens and stretches your inner thighs and stretches your lower back. It also improves your circulation.

#### How To Do The Knee Press

Sit on the floor and pull your feet together with the soles touching. Bring your feet as near to your body as you can with comfort. Keep your back straight. Press your knees slowly and gently to the floor. Hold your knees in this position and count to three.

#### When To Practice

Practice the knee press several times a day. This can be done sitting on the floor with good back support while you are watching TV. Slowly work up to doing this exercise for 2 to 3 repetitions, 2 to 3 times a day.



## Abdominal Strengthening Exercises

Abdominal exercises will strengthen and stretch your abdominal (stomach) muscles and improve your circulation. Exercises done while lying on your back should only be done as long as you are comfortable. When lying on your back causes dizziness or nausea, stop doing the exercise or place a pillow under your hip to tilt your uterus off the vena cava.

### How To Do Abdominal Strengthening Exercises

#### Leg Raises

Lie on your back with your feet flat on the floor. Press the small of your back into the floor. Bring one knee as close as you can to your chest. Raise your leg in the air. Bend your knee and return your foot to the floor. Do the same exercise with your other leg.

#### Knee Reach

Breathe out as you come up and breathe in as you return to a starting position with this exercise.

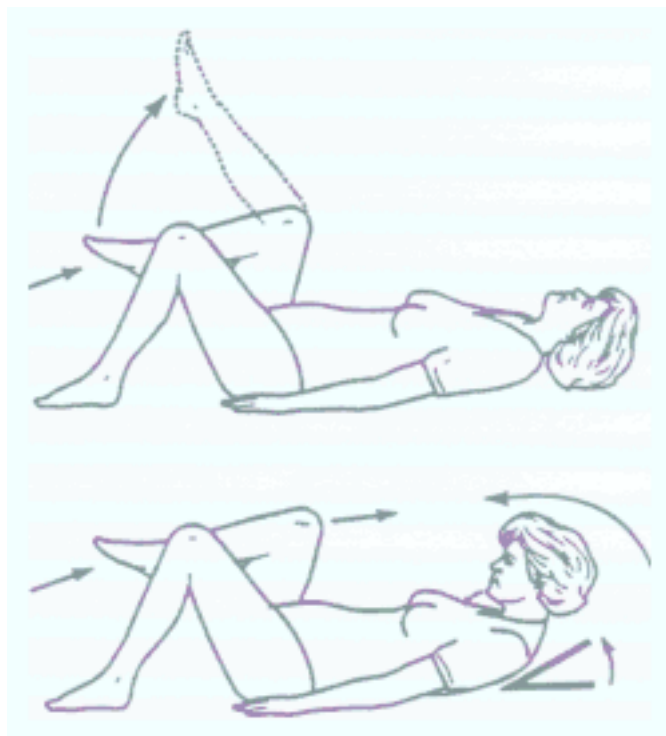
Lie on your back with your feet flat on the floor.

Lift your head and shoulders as you move one knee toward your nose. Bring your knee as close as you can to your nose. Keep your neck in a relaxed position, as if you have an orange tucked under your chin. Do not jut your neck forward.

Do the same exercise with your other leg.

#### When To Practice

Repeat both exercises 5 to 10 times each day.



## The Pelvic Rock

Pelvic rock exercises will strengthen your abdominal muscles and help relieve backaches.

### How To Do The Pelvic Rock

There are three ways to do this exercise. You will use a new position for each exercise. Each time you do this exercise, tighten your abdominal muscles. Tuck your buttocks under so the small of your back is pushed back as far as possible. If this causes any back discomfort, discontinue the exercise.

#### Position 1

Lie on your back with your feet flat on the floor.

Tighten your lower abdominal muscles and your buttocks so the small of your back is pressed onto the floor. Repeat this exercise slowly and evenly. Breathe out as you press down and in as you relax.

#### Position 2

This exercise can safely be done throughout pregnancy.

Stand with your back against a wall. Tighten your abdominal muscles and tuck in your buttocks so the small of your back is flat against the wall. Put your hands on your hips to feel your hips rock back toward the wall. Breathe out as you press against the wall and in as you relax.

#### Position 3

Get on your hands and knees and keep your arms straight.

Tighten your abdominal muscles and tuck your buttocks under. Your back will hunch up a little. Then relax your muscles. Do this exercise slowly and evenly. Breathe out as you tuck and in as you relax.

#### When To Practice

Do each of these positions for 2 to 3 repetitions. 2 times a day during your

