

Physical Therapy Department

Perinatal Exercises



KAISER PERMANENTE

KAISER PERMANENTE MEDICAL CENTER

PERINATAL EXERCISES

PURPOSE:

To describe and discuss bodily changes due to pregnancy. To provide instruction in body mechanics and exercises which will maintain and / or increase muscle tone in preparation for delivery and postpartum.

OBJECTIVES:

At the completion of the class, the participant will be able to:

1. Demonstrate proper posture.
2. Demonstrate proper body mechanics
 - a. for lifting a bag of groceries,
 - b. for prolonged standing, and
 - c. for rising from lying down.
3. Demonstrate one exercise for each of the three muscle groups most effected by pregnancy.

CHANGES IN THE BODY

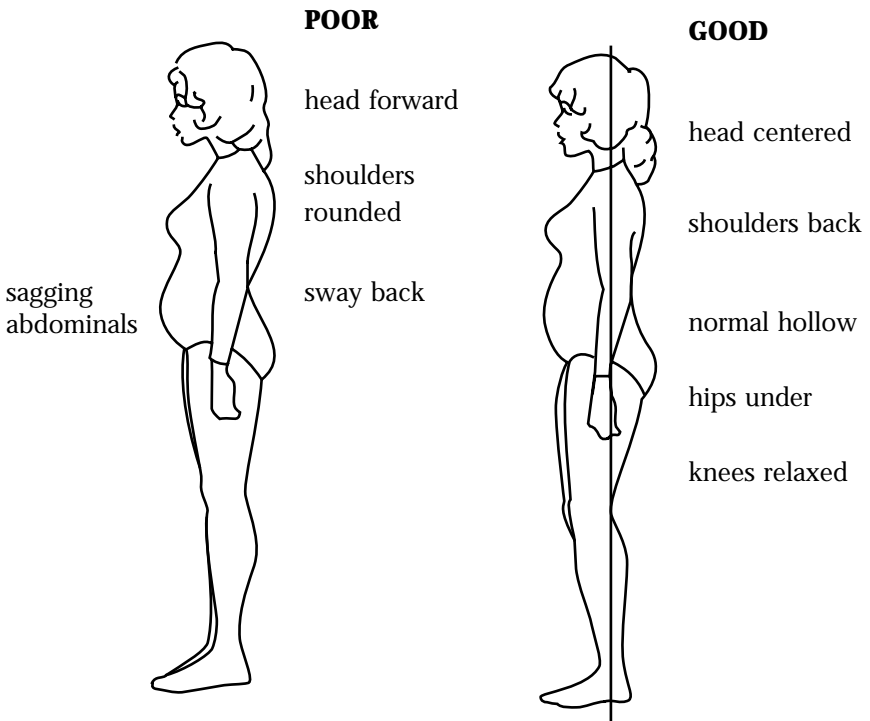
HORMONAL

The cartilage of the pelvis softens to allow the pelvis to widen in preparation for delivery of the baby. Cartilage in other parts of the body also softens leaving the joints more vulnerable to injury.

Many women describe increased fatigue and heightened emotional states during and after pregnancy.

POSTURAL

As the fetus grows, your center of gravity is displaced forward. In order to maintain your balance, your upper body must arch backward, thus increasing the normal hollow in your back giving you a “sway back”. This increase in your normal lumbar lordosis can be a cause of low back pain.



INTERNAL

The growing fetus exerts pressure on structures within the abdomen. Pressure on the bladder will result in increased urinary frequency and decreased control. Kegel's exercises are designed to strengthen the perineum, muscles of control surrounding the bladder opening, the vagina and the rectum. Pressure on the leg veins from the growing fetus may decrease drainage of blood/lymph resulting in swelling, varicose veins or leg and foot cramping. The legs and feet are also stressed due to carrying the additional weight of pregnancy. These changes may be minimized by wearing comfortable, flat shoes and support hose. Elevating feet and legs and avoiding crossing your legs at the knee is recommended.

PELVIC FLOOR - PERINEUM

The increasing weight of the baby and the uterus stretches and weakens the muscles of the perineum. These muscles must be prepared to stretch for delivery and to return to normal length postpartum. Kegel's exercises promote the strengthening and elasticity of these muscles.

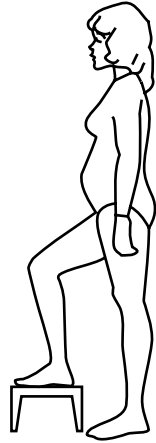
BODY MECHANICS

It is important to use the body properly and efficiently to avoid strain and injury to the lower back. Therefore, the following rules of good body mechanics must be observed at all times - even after the baby is born.

BODY MECHANICS (cont'd)

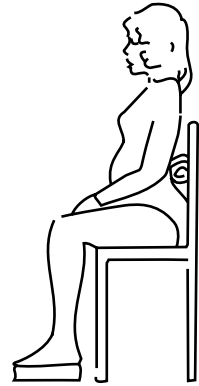
FOR PROLONGED STANDING

Place one foot on a small stool to flatten low back. If you are standing in a line and have no stool, place one leg slightly forward and bend knees slightly.



SITTING

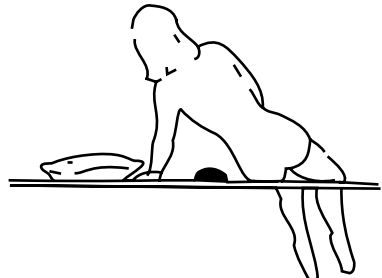
Sit in a chair which will give the whole back support. You may use a towel roll or pillow to support low back while sitting erect. Legs should not be straight out in front. If more comfortable, place an object on the floor about two inches thick, on which to rest the feet.



When driving, keep seat back close to the pedals and use a wedge behind the back for support.

RISING FROM HORIZONTAL

Roll onto your side, draw knees up toward your chest, push yourself up with arms. This employs the arm muscles and saves the back.



LIFTING AND CARRYING

STOP to THINK.

Check load size, shape and weight. Check lighting, route to be used. Get help, mechanical or another person if needed.

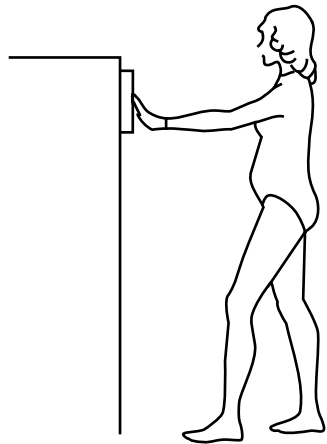


To lift:

1. Stand facing the object with your feet apart.
2. Bend hips and knees to squat, keeping body straight and maintaining a hollow in your low back.
3. Bring the object close to your body.
4. Lift object by standing up; keep body straight and maintain a hollow in the low back.
5. Avoid twisting, turning and bending.

PUSHING AND PULLING

Walk when pushing or pulling objects, using strong leg muscles.



BODY MECHANICS (cont'd)

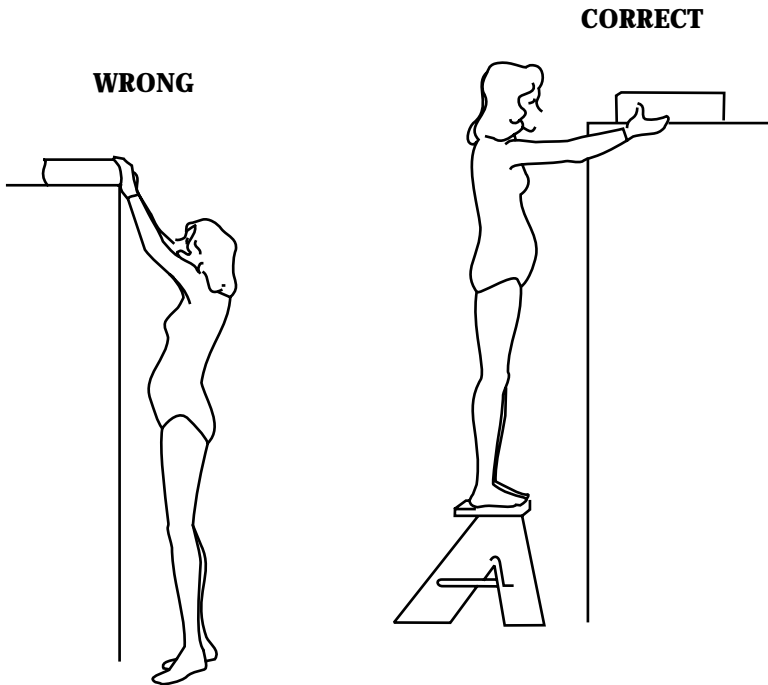
REACHING

Avoid reaching overhead to pick up heavy objects.

Use a stool or ladder so that the object to be reached is about shoulder level.

Assess weight and size of object.

Get help if object is too awkward or heavy to be handled alone.



EXERCISES

PRE-EXERCISE POINTERS

1. Always let breath flow freely. Let abdomen and ribcage expand and compress naturally as you inhale and exhale.
2. Warm up with gentle stretching before exercise program - increase blood flow to muscles and loosen them up.
3. When you finish, take time to relax fully; lie in comfortable position on floor for 10 minutes with eyes closed; let breathing slow down.
4. As strength improves, add one repetition of each exercise until you're up to 10; also, try holding positions from 3 to 5 counts.
5. Do each exercise slowly and thoroughly. Allow rest between each exercise.
6. Avoid extreme motions like deep lunges or twisting movements.
7. Avoid lying flat on your back for prolonged periods; it may become uncomfortable and the position allows less blood flow to the uterus. Lying on your side increases blood flow.
8. Think of opportunities for exercises during day; Kegel's while standing in line at grocery store, squatting while peeling potatoes, talking on the phone, watching television, etc.
9. If there is a prenatal exercise class in your area, join it. It is fun to get into shape with other pregnant women.

EXERCISES (cont'd)

Exercises for strengthening abdominal and back muscles, relieving low back pain and improving posture.

1. PELVIC TILT - SUPINE

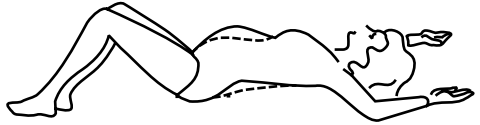
Do daily and after delivery.

Position:

Backlying, knees bent.

Exercise:

Press small of back against floor by tightening abdominal muscles and buttocks muscles.



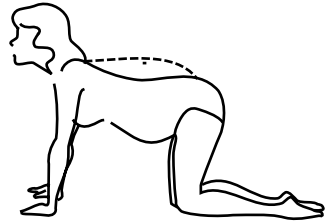
2. PELVIC TILT - ALL FOURS

Position:

On hands and knees.

Exercise:

Tighten stomach muscles and arch back toward the ceiling. Hold. Tighten buttocks, pelvic floor and back muscles and arch back to produce hollow. Hold.



3. PELVIC TILT - STANDING

Position:

Stand with back to wall, feet about three inches from base of wall.

Exercise:

Tighten stomach and buttocks and press low back against the wall so that your back is touching the wall. Your knees must be relaxed or slightly bent to do this.



4. SIT-UPS - Modified

Purpose:

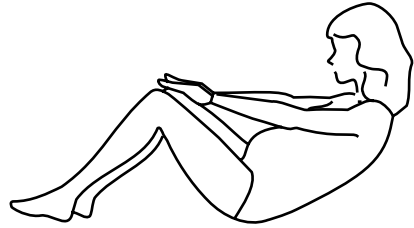
Strengthen abdominal muscles. Good muscle tone is important for maintaining good posture, for effective pushing, and for early return of figure postpartum.

Position:

Backlying, knees bent, low back flat (pelvic tilt).

Exercise:

Lift head and shoulders off floor, reaching hands toward knees (lift trunk to about 45° angle). Slowly return to starting position; do not drop back.



5. OBLIQUE (DIAGONAL) SIT-UPS - Modified

Purpose:

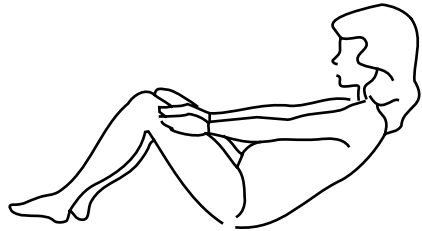
Strengthen oblique abdominal muscles.

Position:

Backlying, knees bent, low back flat.

Exercise:

As above, but reach up and across to the outside of the opposite knee.



NOTE:

For exercises #4 and #5, position of hands and arms can be changed as you get stronger, and muscles can do stronger exercises.

Starting positions of arms and hands:

1. Fold arms across chest.
2. Clasp arms behind neck with elbows out to the sides.

EXERCISES (cont'd)

The strength and elasticity built into the pelvic floor muscles by correct and consistent exercise will aid in the delivery of the baby and the postpartum recovery of the area. It will also help prevent urinary stress incontinence - an involuntary passage of urine brought on by exertion, sudden movement, coughing, sneezing and lifting.

6. VAGINAL SETTING (KEGEL EXERCISE)

Position:

Tailor-sitting, standing or lying.

Exercise: Tighten pelvic floor muscles, drawing in and up. Hold for three to five seconds and slowly relax.

You may perform exercise gently, as tolerated, on the delivery table after birth. Practice 5 times every 2 hours and every time you urinate. Kegel exercises are recommended for the rest of your life.

7. GLUTEAL / PELVIC FLOOR SETTING

Position:

Backlying, legs straight, ankles crossed, arms at sides.

Exercise:

Pinch buttocks, squeeze pelvic floor muscles, squeeze thighs together, raise head off floor.



8. ADDUCTOR LENGTHENING

Position:

Sit on floor with legs straight and slightly apart.

Roll knees outward.

Exercise:

Slowly lean body forward towards the floor with arms stretched out in front of you. Your knees may bend slightly. Do not jerk or bounce. Hold forward for 3 to 5 seconds.

SPECIFIC ACTIVITIES

Jogging:

Wear good shoes; supportive bra. Keep pelvic floor muscles strong with Kegel exercises. Jog at a slower pace, shorter distances, less frequently. Remember: increased weight and laxity of ligaments means more strain on lower body (lower spine, hip joints, knees, ankles and feet). Do not overexert yourself.

Bicycling and Swimming:

Excellent activities with reasonable limitations. Don't push yourself!

Tennis, Racquetball, Basketball, other "sudden stop and start" Activities: More awkward as bulk increases; listen to your body and slow down when necessary.

Skiing, Skating, Horseback Riding:

Danger of falling! Advise against. Consult your obstetrician or nurse practitioner as needed.

Walking:

Most highly recommended for the pregnant woman; ideal alternative to more strenuous exercise. Walk uphill, downhill, and at different speeds.

Consult your obstetrician or nurse practitioner early in your pregnancy. In general, you can continue your pre-pregnant routine of exercising. Stop when something hurts, or when you become fatigued. Know your limits, and avoid exercising to the point of exhaustion. It is generally advised that you not begin any new sport or activity during pregnancy. You may want to taper off your sports participation during the last few months, but you may still continue to exercise gently. Avoid exercising in very hot or humid weather, or at high altitudes if you're not used to it.

SUGGESTED FURTHER READING

Childbirth Without Pain,

Dr. Pierre Vellay, E.P. Dutton & Co., New York, 1960.

Thank You Dr. Lamaze,

Marjorie Karmel, J.B. Lippincott Co., Philadelphia, 1959.

Six Practical Lessons for an Easier Childbirth,

Elizabeth Bing, R.P.T., Grosset & Dunlap, New York, 1967.

Moving Through Pregnancy,

Elizabeth Bing, R.P.T.

Essential Exercises for the Childbearing Year,

Elizabeth Noble, R.P.T., Houghton-Mifflin Co., Boston, 1976.

(highly recommended)

Preparation for Childbirth, A Lamaze Guide,

Donna and Rodger Ewy, Pruett Publishing Co., Boulder, Colorado, 1970.

(used in Kaiser Lamaze class).

Husband-Coached Childbirth,

R. Bradley, M.D., Harper & Row, New York, 1974.

