

Physiotherapy
during
pregnancy and post partum

By:

Professor Dr. Fariba Ghaderi , PhD PT

@dr.fariba_ghaderi

Obstetrics concerns itself with pregnancy, labor, delivery & the care of the mother after child birth.

Physiotherapy in pre and postpartum includes care and rehabilitation of mother in terms of posture, musculoskeletal condition, cardiorespiratory condition and pelvic floor muscles.

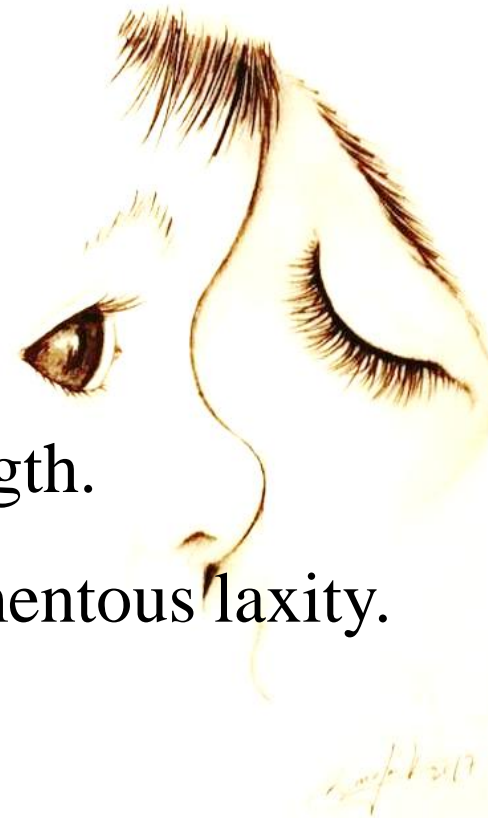
Physiological changes during pregnancy:

From the moment of conception pregnancy profoundly alters the women physiology. There is change in all body system to fulfill the requirement of the body.

- ▶ **Pregnancy wt. gain - 9.70 to 14.55 kg.**
- ▶ **Changes in reproductive system.**
- ▶ **Urinary system -kidney increases by 1cm.**
- ▶ **Changes in pulmonary system.**
- ▶ **Cardiovascular system.**

Musculoskeletal systems physiological changes during pregnancy:

- ✓ Stretching of abdominal muscles
- ✓ Decrease in ligamentous tensile strength.
- ✓ Hyper mobility of joints due to ligamentous laxity.
- ✓ Pelvic floor drops as much as 2.5 cm.



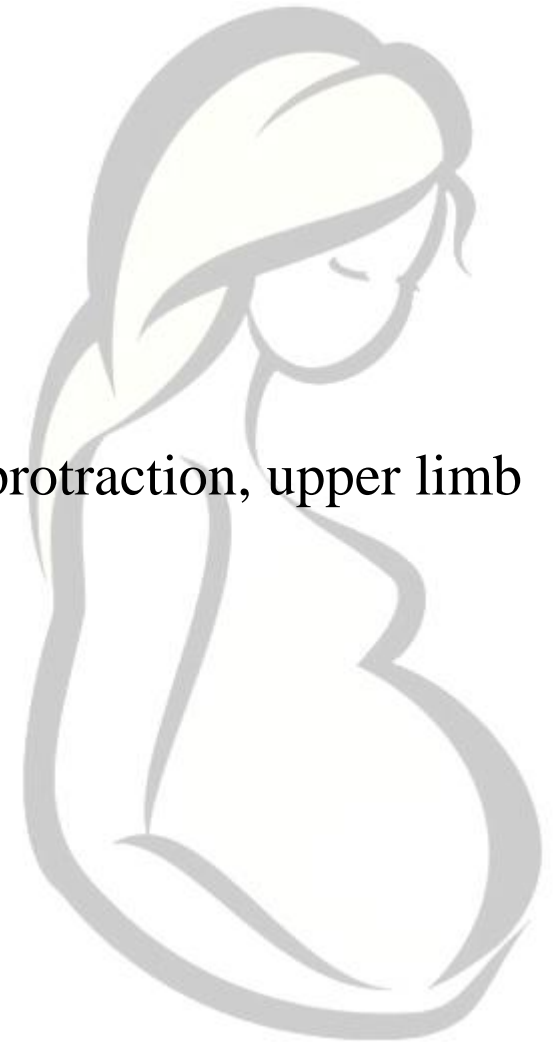
▶ Mechanical changes due to pregnancy:

❖ COG shifts upwards & forwards.

❖ Posture

- ✓ shoulder girdle becomes rounded, scapular protraction, upper limb internal rotation.
- ✓ increase in cervical lordosis.
- ✓ knee hyperextension.
- ✓ increase in lumbar lordosis.

❖ Balance : walks with wider BOS.



Exercises in pregnancy

1. Prenatal exercises
2. Preparation for labor
3. Postnatal exercises

Prenatal Exercise:

Potential impairments of pregnancy:

Development of faulty posture

- ▶ Upper & lower extremities stress
- ▶ Altered circulation, varicose vein ,edema
- ▶ Pelvic floor stress
- ▶ Abdominal muscle stretch & diastasis recti
- ▶ Inadequate relaxation skills necessary for labor & delivery
- ▶ Development of musculoskeletal pathologies

Goals:

1. Improve posture & correct body mechanics
2. Upper & lower extremities strengthening
3. Prepare for circulatory compromise
4. Improve awareness & control of pelvic floor musculature
5. Maintain abdominal muscle function & correct diastesis recti
6. Provide information about Prenatal & postnatal & associated problem
7. Improve relaxation skill

Notes:

1. **Physical examination** is must prior to engaging in an exercise program.
2. Each person should be individually evaluated for preexisting musculoskeletal problems, posture & fitness level
3. Exercise regularly, at least **twice a week**, include warm-up & cool down session
4. **Avoid** ballistic movements & rapid change in directions.
5. **Avoid** an anaerobic pace.

7. **Strenuous activities** should be avoided.
8. Avoid prolong period of standing specially in third trimester.
9. Adequate **caloric intake**, increase to 300 kcal./Day for exercise during pregnancy(500 kcal./Day)
10. Low resistance & high repetitions exercise is recommended, avoid valsalva maneuvers.
11. Stop exercise if any unusual symptoms occur.

Contraindications to exercise:

ABSOLUTE CONTRAINDICATIONS

1. Pregnancy Induced HTN BP >140/90 mmhg.
2. Diagnosed heart disease IHD, RHD, CHF.
3. Premature rupture of membrane.
4. Placental abruption.
5. History of preterm delivery.
6. Recurrent miscarriage.

7. Persistent vaginal bleeding.
8. Fetal distress.
9. IUGR (*Intra Uterine Growth Restriction*)
10. Incomplete cervix
11. Thrombophlebitis & pulmonary embolism.
12. Preeclampsia
13. Polyhydramnios / Oligohydramnios
14. Acute infection

RELATIVE CONTRAINDICATIONS

1. Diabetes
2. Anemia's or other blood disorders
3. Thyroid disorder
4. Dilated cervix
5. Extreme obesity / underweight
6. Breech presentation during third trimester
7. Multiple gestation
8. Exs. induced asthma
9. Peripheral vascular disease
10. Pain of any kind.

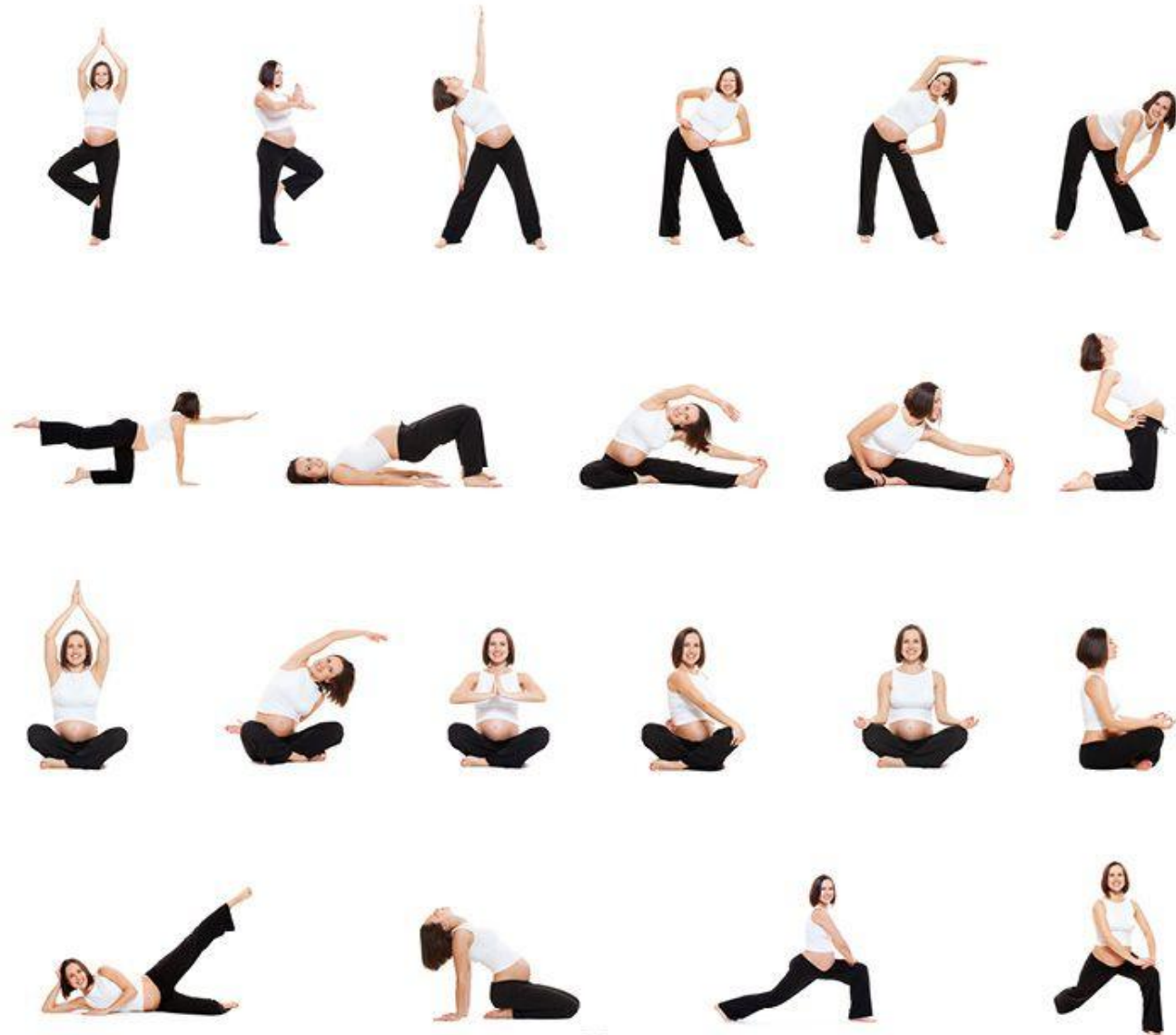
Suggested sequence of exercise:

- ▶ General rhythmic activities to warm-up.
- ▶ Gentle selective stretching
- ▶ Aerobic activities for CVS conditioning
- ▶ UL & LL strengthening exs.
- ▶ Abdominal exs.
- ▶ Pelvic floor exs.
- ▶ Relaxation /cool down activities
- ▶ Educational information [if any] & postpartum exs. education.

Selected exercise techniques:

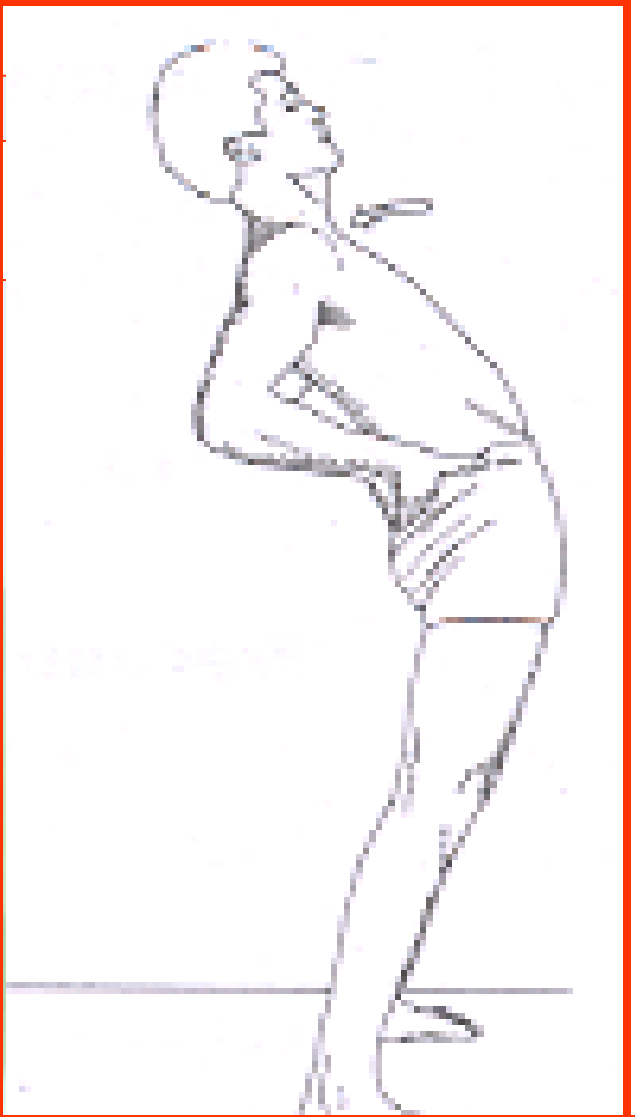
- ▶ Postural exercise
- ▶ Abdominal exercise
- ▶ Stabilization exercise
- ▶ Pelvic motion training & strengthening
- ▶ Modified UL & LL strengthening
- ▶ Perineum & adductor flexibility
- ▶ Relaxation & breathing exercise

Exercises for Pregnant Women

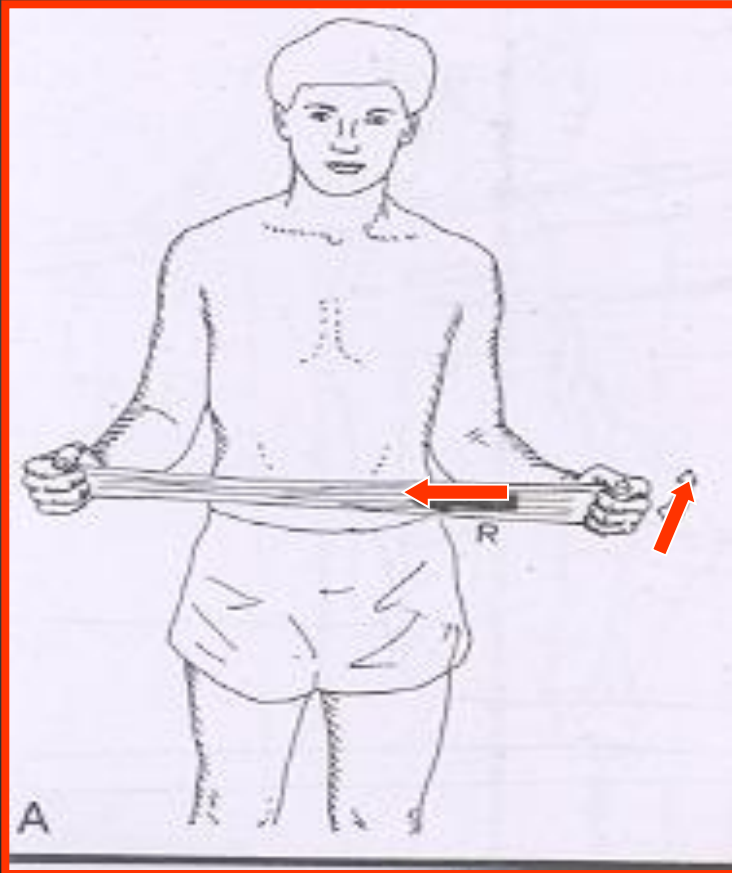


► Low back extensors stretching

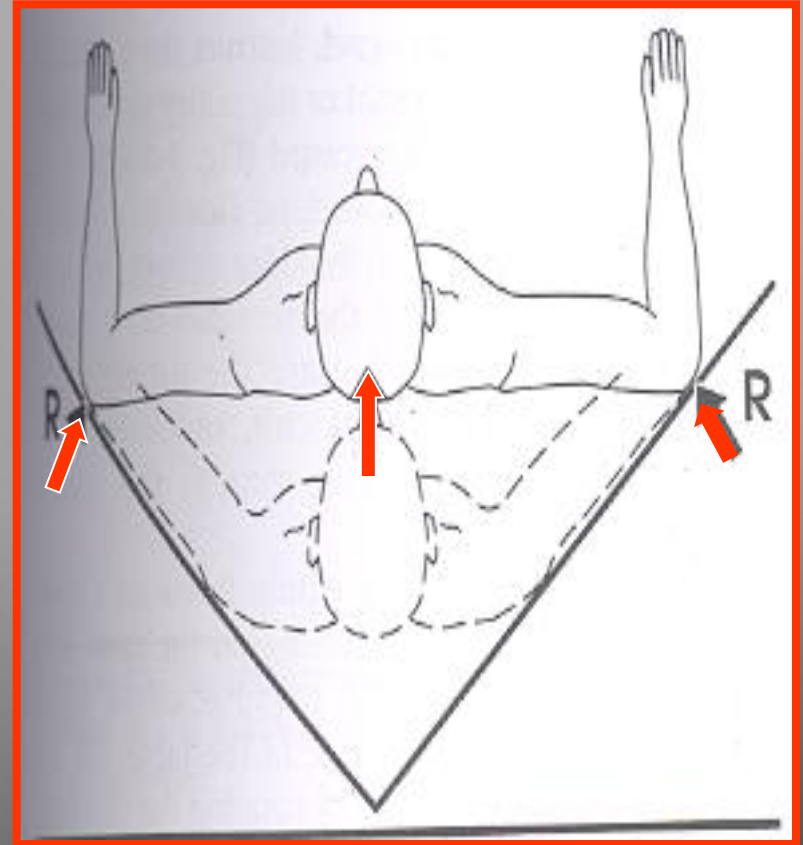
Manual Back Stretch



Self Back Stretching



Strengthening of
External Rotators

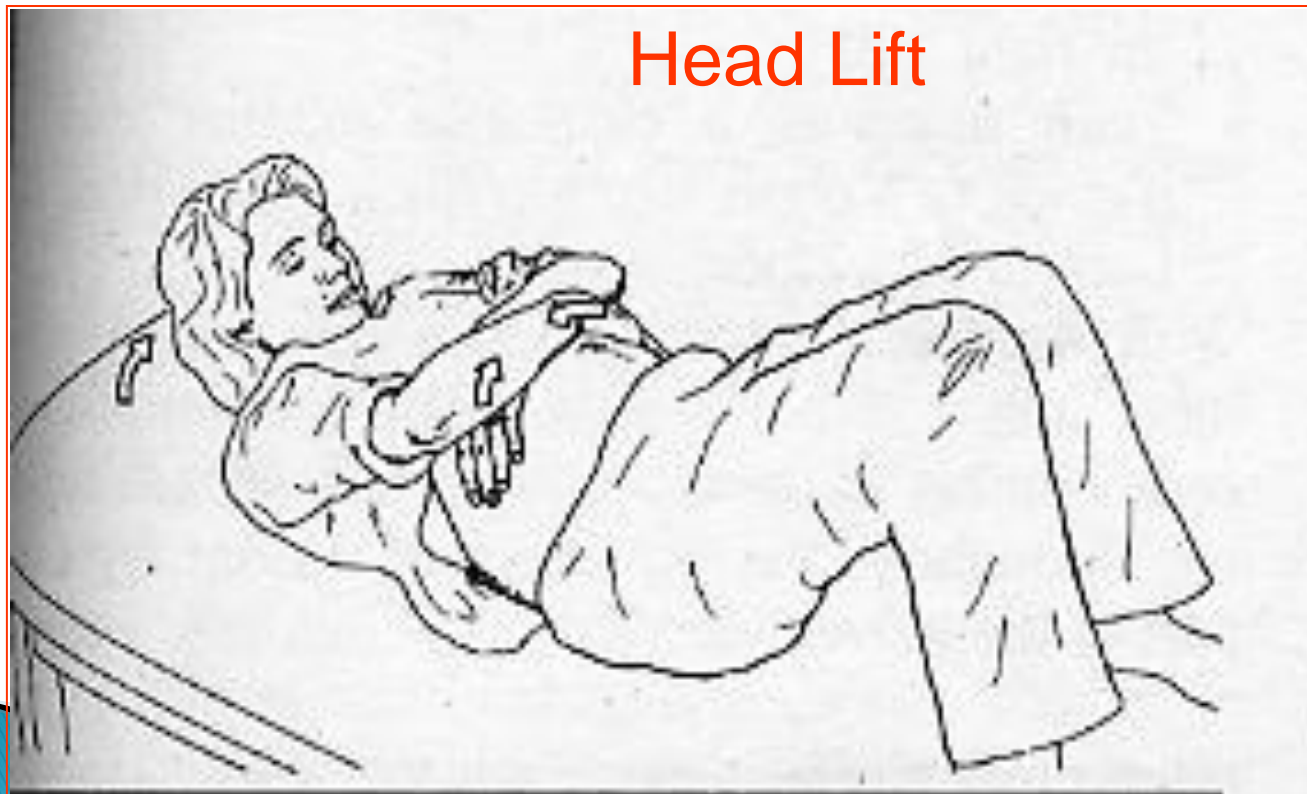


Corner Press Out

ABDOMINAL EXERCISES

1. Corrective exercise for diastasis recti

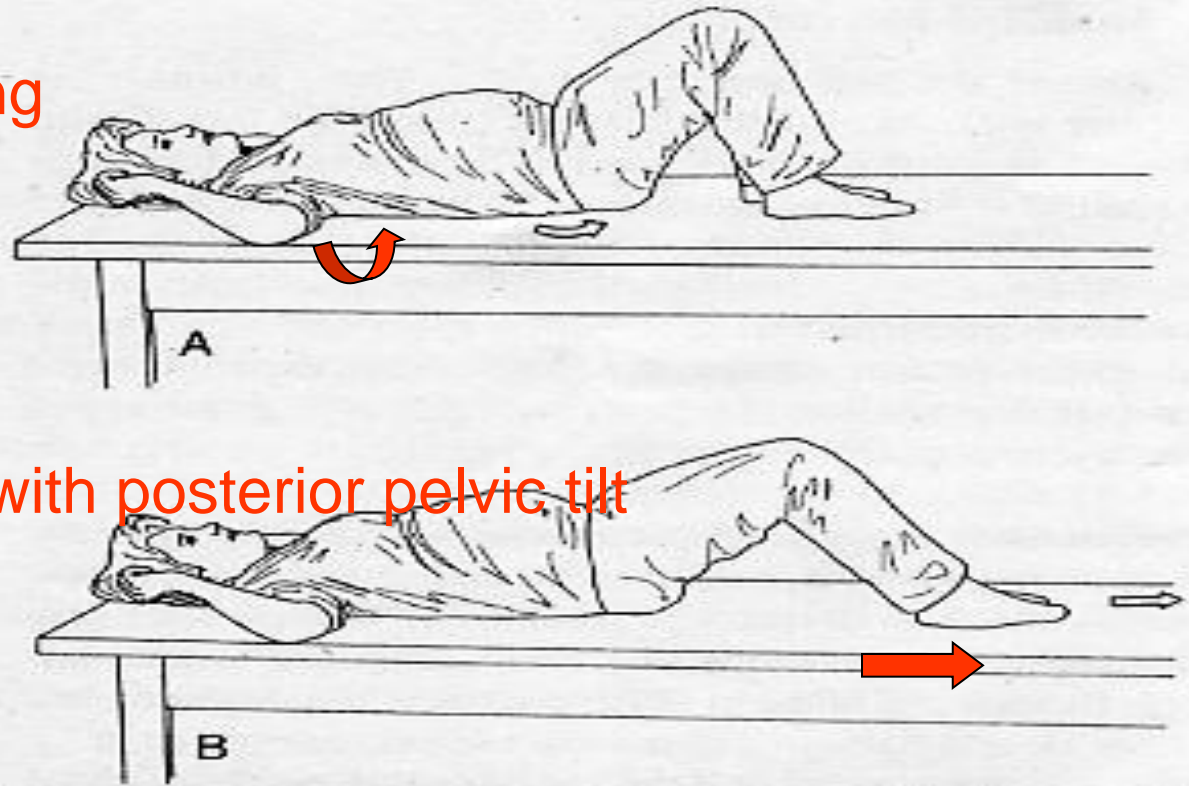
- ▶ Head lift
- ▶ Head lift with pelvic tilt



2. Trunk curls

3. Leg sliding

Leg Sliding

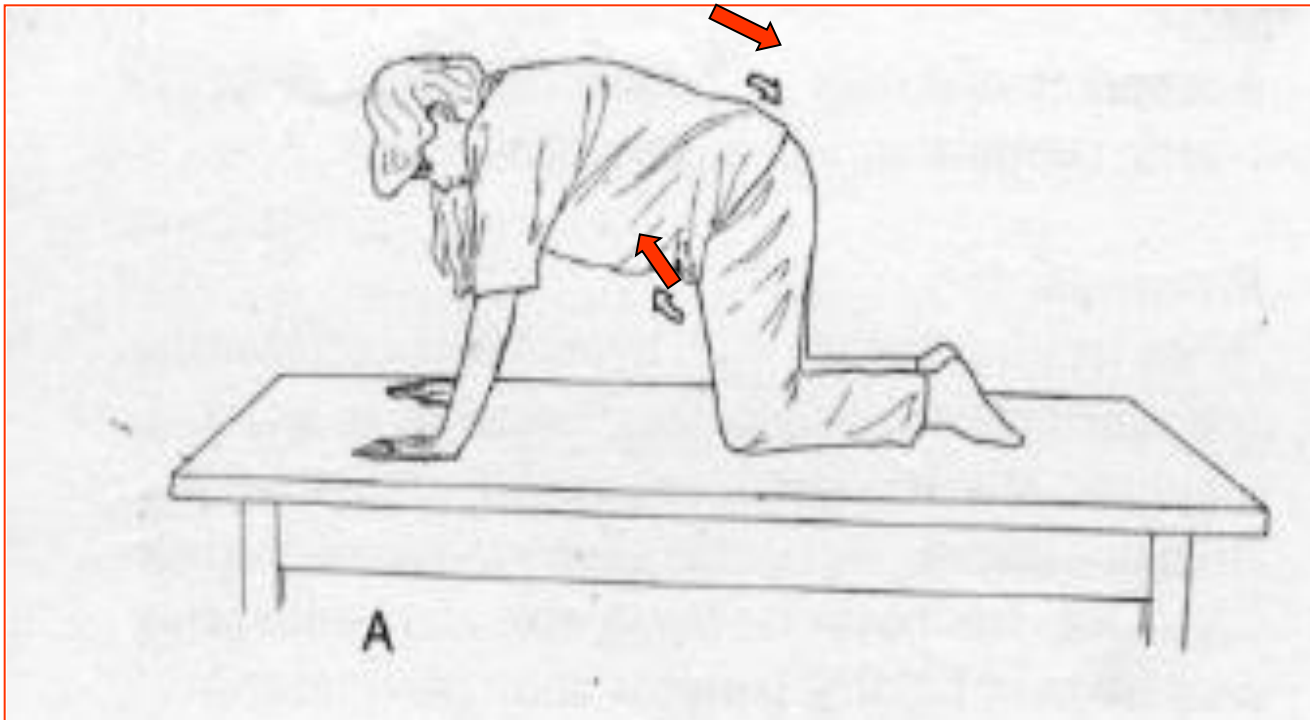


Hook lying with posterior pelvic tilt

Figure 17-9 Leg-sliding. (A) Hook-lying with posterior pelvic tilt. (B) Leg-sliding with posterior pelvic tilt. from the

Maintain pelvic tilt as the feet slide along the floor away from the body

4 . Quadruped pelvic tilt exercise



Stabilization Exercises:

- ▶ These exercises are progression for developing dynamic control of the pelvis & lower lumbar .
- ▶ These may be performed throughout the pregnancy & postpartum period.
- ▶ Caution – the women to maintain a relaxed breathing pattern & exhale during the exertion phase of each exercise.
- ▶ Alternate hip & knee extension with one leg stationary on a mat.

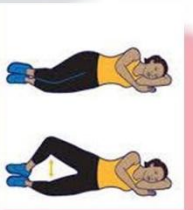


PFME
Progressive
Graded
Supervised

هفته پنجم:



هفته چهارم:



هفته سوم:



هفته دوم:



هفته اول:



هفته هفتم:



هفته نهم:



هفته هشتم:



هفته هفتم:



هفته ششم:



RELAXATION & BREATHING EXERCISES

1. To obtain rest during pregnancy
2. To help the mother regain normal health afterwards by preventing unnecessary fatigue
3. Most common method of relaxation is **MITCHELLS METHOD.**

4. Patient position in kneeling forward on to one's arm on a cushion placed on a seat of a chair.
5. In this position wt. of the fetus lies on the anterior abdominal wall & pelvic floor relaxes.
6. In this position pt. take deep diaphragmatic breathing.
7. Other methods of relaxation are
 - a. mental imagery.
 - b. muscle setting – “**Jacobson's Method**”

Exercises that are not safe during pregnancy:

- ▶ Bilateral SLR.
- ▶ “Fire hydrant” exercise: this should be avoided by any

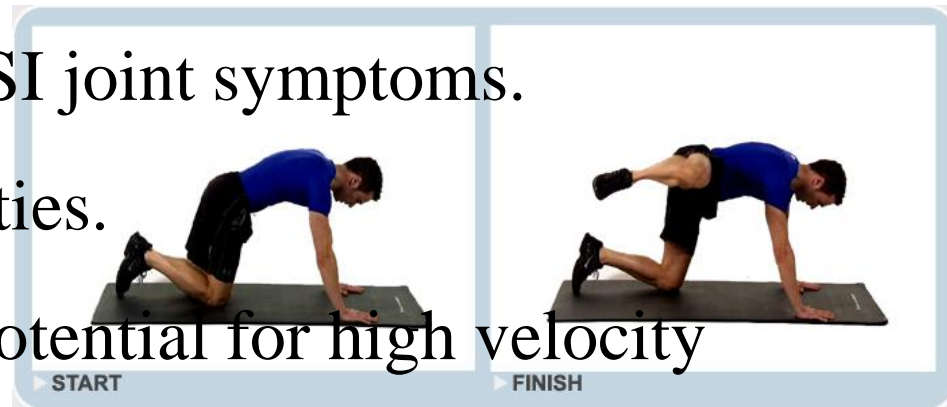
women who has pre existing SI joint symptoms.

- ▶ Unilateral wt. bearing activities.

- ▶ Several activities that have potential for high velocity

impact may cause abdominal trauma should be avoided.

- ▶ Horse Riding & Driving., Heavy Wt. Lifting., Ice Skating, Etc



POST NATAL EXERCISES

1. Exercises can be started as soon as after delivery as the women feels able to do exercises.
2. All prenatal exercises can be performed safely in postpartum period.
3. Before starting exercises proper assessment of position & consistency of the fundus of the uterus should be done.
4. Assessment of perineum & lochia.
5. Monitoring of lower limb edema, varicosities.
6. Care & advise on breast feeding & baby care.

POSTNATAL EXERCISES

1. Initial postnatal exercises.
2. Early postnatal exercises Include proper positioning.

INITIAL POSTNATAL EXERCISES

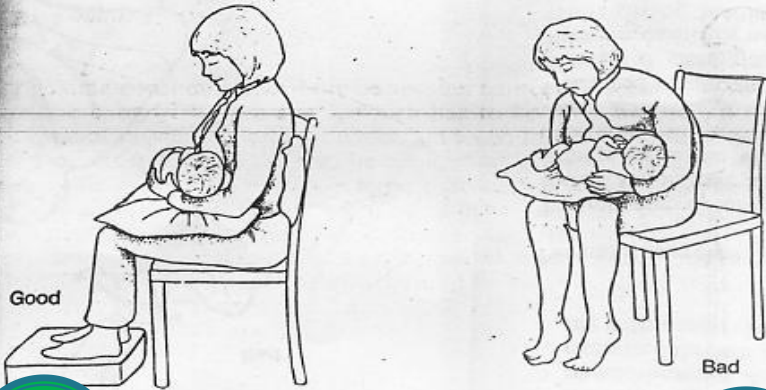
✓ Breathing exercise

✓ Leg exercise

✓ Abdominal exercise

Early postnatal educations for ADL

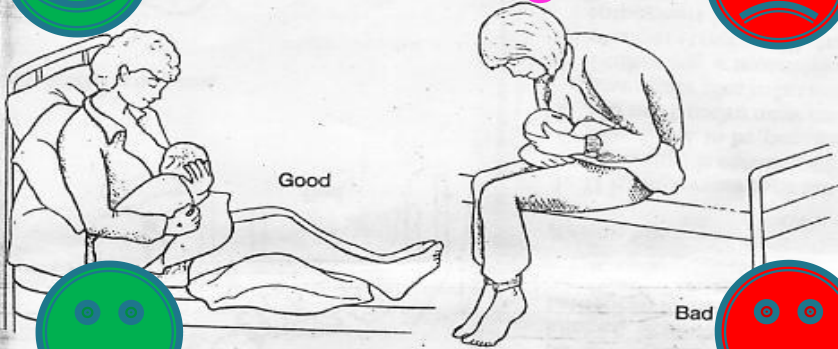
THE POSTNATAL PERIOD 241



Good

Bad

sitting



Good

Bad

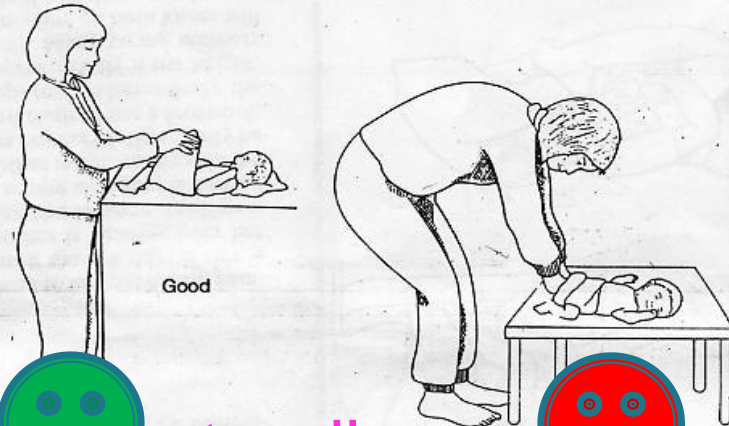
feeding



lying

Figure 7.5-6-7 Because women will spend a great deal of time feeding their babies, they must know how to be really comfortable.

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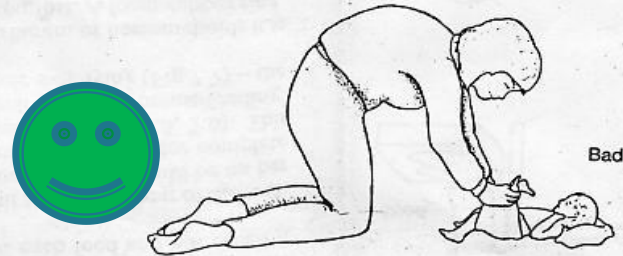


Good



standing

Figure 7.8 Nappy-changing positions.



Bad



others



Good

Figure 7.8-9 Changing a nappy at floor level.

CESAREAN CHILD BIRTH

Impairments /Problem

1. Risk of pneumonia
2. Postsurgical pain.
3. Risk of adhesion.
4. Formation at incisional site.
5. Risk of vascular complication.
6. Faulty posture.
7. Pelvic floor dysfunction.
8. Abdominal weakness

1. Improve pulmonary function & decrease the risk of pneumonia
2. Decrease incisional pain associated with coughing
3. Prevent postsurgical adhesion formation
4. Prevent postsurgical vascular complication
5. Correct posture & protected activities of daily living
6. Prevent pelvic floor dysfunction
7. Develop abdominal strength

1. Exercise :

- ▶ **All prenatal ex. Should be done.**
- ▶ **The women should be instructed to begin preventive ex. As soon as possible during recovery period.**
- ▶ **Ankle pumping activities & early ambulation to prevent venous stasis.**
- ▶ **Pelvic floor muscle exercise & Pelvic tilting ex.**
- ▶ **Abdominal ex. Should be progressed more slowly.**
- ▶ **Deep diaphragmatic breathing**
- ▶ **Women should wait at least 6 to 8 wk before resuming vigorous ex.**

2. Coughing & huffing

- ▶ huffing is a forceful outward breath using the diaphragm rather than abdominal to push air out of lungs.
- ▶ The abdominals are pulled up & in rather than pushed out causing decreased abdominal pressure & less strain on the incision.
- ▶ Support the incision with pillows or hands during coughing or huffing. & say “HA” forcefully while pulling in abdominal muscle.

3. Exs. to relieve intestinal gas pains

- ▶ Abd. Massage or kneading while lying on the left side.
- ▶ Pelvic tilting exercise

4. Scar mobilisation

Complications and *PT management* :

1. Diastasis recti:

Modified abdominal muscle ex. with crossed hand over the abdomen.

2. Lower back pain & pelvic pain:

In acute condition bed rest , gentle heat & massage, pelvic tilting in crook lying, TENS if indicated

3. SIJ dysfunction:

Modified ex. for SIJ pain

4. Nerve compression syndrome : Carpal tunnel syndrome , Brachial plexus pain, Meralgia paraesthetica, Posterior tibial nerve compression

Splinting, ice packs, elevation of the limb, TENS

5. Circulatory problems: varicose vein of legs, vulvar varicose vein, leg cramps, thrombosis & thromboembolism

Prolonged standing avoided, ankle exs. , Calf stretching, deep kneading massage, stocking & breathing exs.

6. Stress incontinence

Pelvic floor exs (PFMT)

7. Postural backache

Postural correction

8. Coccydynia

Ice packs ,heat, US, TENS, manual therapy, mobilization, use of rubber ring to relieve pressure in sitting.



Any question?