Recommendations for Using Postural Restoration® with Prenatal and Postpartum Treatment

by Jennifer Poulin, PT, PRC

Pregnancy is an exciting time in a women's life. The ability to conceive and develop another human is truly a miracle. Most women will go through their pregnancies without issue, but there are some common physiologic and biomechanical considerations during the 3 stages of pregnancy and post-partum recovery. The purpose of this paper is to outline considerations to prepare for a vaginal delivery and recovery period. This paper is intended to provide guidance utilizing PRI® principles and concepts and is not to replace the advice of a licensed professional. As with all exercise, please get clearance from your medical provider before attempting any PRI techniques. This paper is also intended to help the professional with recommendations with manual and non-manual PRI® techniques throughout the pregnancy and during the initial post-partum recovery period

Considerations during pregnancy

Hormonal effects

- Relaxin hormone leads to ligamentous laxity increasing a potential risk of joint instability in the hips, pubic symphysis, ilio-sacral joints and lumbar spine
- Elevations in progesterone and estrogen affect smooth muscle tone and vascular function

Postural adaptations can include:

- Pelvic obliquity (Left AIC pattern), bilateral anterior tipped pelvis (B PEC) and hypermobility in anterior tipped pelvis (B Patho PEC)
- Increased lumbar lordosis forward shift in center of gravity leading to balance challenges and altered gait mechanics.
- Diastasis Recti

Cardiovascular changes

- 30-50% increase in blood volume and cardia output
- Decreased venous return leading to edema and orthostatic hypertension

Respiratory changes

- Diaphragm becomes more linear (loss of B ZOA) and elevated causing decreased lung capacity and rib cage compensatory movements
- Reduction in posterior and apical expansion

Contraindications and precautions for Exercise during Pregnancy

While most PRI techniques are gentle and safe during pregnancy, if you or your patient has any of the following conditions, please seek guidance from physician or midwife.

- Significant heart disease
- Restrictive lung disease
- Incompetent cervix

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- Multiple gestation at risk for preterm labor
- Persistent bleeding or placenta previa after 26 weeks
- Preterm labor, preeclampsia or ruptured membranes

PRI recommendations during pregnancy

1st Trimester (1-13 weeks gestation)

This can be a very challenging trimester as most women are not feeling so good. Efforts should be commiserate on how your patient is tolerating the physiologic and hormonal changes during this trimester. It is a great opportunity to focus on awareness of their patterns, respiration and initial diaphragm, pelvic floor and abdominal integration efforts. Supine is a great position to begin, but progressions can be made towards 2nd trimester goals as indicated.

PRI Goals

Achieve pelvic and thorax neutrality.
Focus efforts on establishing good pelvic position as noted by negative (–) ADT B.
Establish frontal plane control of pelvis as noted by negative (–) PADT and negative (–) PART bilaterally.
Promote engagement of IOs and TAs and establish ZOA of respiratory and pelvic diaphragms.

Technique Considerations

PRI Manual Techniques as indicated by objective testing *(Postural Respiration course)*
PRI Non-Manual Technique recommendations:

- 90-90 Hip Lift in Passive FA IR with Balloon (*Supine Integration #7)*
- Supine Hooklying Hamstrings with IOs and TAs *(Supine Integration #25)*
- Supine Hooklying Synchronized Resisted Glute Max *(Supine Integration #27)*
- Supine Hooklying T8 Extension *(Supine Integration #28)*

2nd Trimester (14-27 weeks gestation)

Typically, women begin to feel better in the 2nd trimester. Most of the early symptoms of fatigue and nausea have subsided for most women. This is a great time to progress further neuromuscular frontal plane pelvic control as postural changes become more significant.

PRI Goals

Maintain neutrality and work on increasing neuromuscular control by achieving HABLT 5/5 bilaterally and HADLT 3 or 4/5 bilaterally.

Technique Considerations

Continue PRI manual techniques as indicated
Progressions in sidelying and single leg stance positions for frontal plane stability
Typically begin to avoid supine positions due to cardiovascular contraindications for fetal blood supply and hypotension for mother.

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PRI Non-Manual Technique recommendations:

- Right Sidelying Hemi 90-90 with Left FA IR *(Sidelying Integration #13)*
- Left Sidelying IO/TA and Left Adductor with Right Glute Max *(Sidelying Integration #29)*
- Standing Left AF IR with Resisted Left Arm Pull Down and Right FA Abduction *(Standing Integration #13)*
- Standing Wall Supported Resisted Alternating Respiratory Reach *(Standing Integration #35)*
- Standing Supported Right Glute Max with Left Hip Approximation and Left FA IR *(Standing Integration #44)*

3rd Trimester (28-40 weeks gestation)

In this trimester, as pregnancy advances, some women will need to decrease the level of integration and may require more outside support with techniques. Use of hands on chairs or tables as well as wall support with left AF IR and right anterior outlet inhibition techniques are recommended as PADT and PART testing indicates.

2/3 of babies will be in a cephalic position with their backs in the mothers left inlet

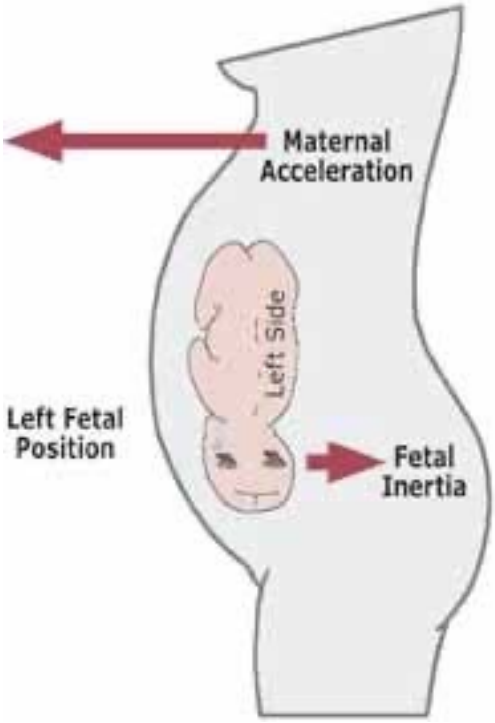

Fig. 17. Origin of Vestibular Lateralization.
In the Public Domain. Adapted from Psychological Review, 98(3): 299-334, by *F. Previc*: "A General Theory Concerning the Prenatal Origins of Cerebral Lateralization in Humans"

PRI Goals

Maintain pelvic neutrality and frontal plane control of inlets and outlets
Negative (–) B PADT; negative (–) B PART
HABLT 5/5

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Technique Considerations
Continue PRI manual techniques as indicated
PRI Non-Manual Technique recommendations:

- All Four position and standing positions are recommended as a position of comfort in this trimester and to optimize IOs/TAs with respiration to maximize pelvic diaphragm position and support.
- Balloon techniques, but if unable substitute with straws or kazoos to continue with IO/TA activation with left AF IR activities
- All Four Left Posterior Mediastinum Expansion in Left AF IR *(All Four Integration #2)*
- All Four Left Posterior Mediastinum in Left Trunk Rotation *(All Four Integration #3)*
- All Four Modified Belly Lift *(All Four Integration #4)*
- All Four Right AIC Pelvic Floor Respiratory Crawl *(All Four Integration #14)*
- Wall and Chair Supported IO/TA *(Standing Integration #19)*
- Standing Wall Supported Reach with Left AF IR *(Standing Integration #22)*
- Squatting Bar Reach *(Standing Integration #28)*
- *Maintain left posterior outlet inhibition*
    - Right Sidelying Respiratory Left Adductor Pull Back (*Sidelying Left Obturator and Iliococcygeus #2)*
    - Standing Supported Left Posterior Outlet Inhibition *(Standing Left Posterior Outlet Inhibition #2)*

<u>Considerations during postpartum</u>
There are many variables during this recovery time period. Most physicians will not clear a woman until 6 weeks after birth for a vaginal delivery or 8-10 weeks after a c-section

Considerations for an uncomplicated vaginal delivery without significant trauma
Women can begin working on gentle supine breathing exercises in the 90-90 or hooklying positions working towards achieving pelvic neutrality and abdominal engagement. It is recommended they follow Pelvic Restoration algorithms for Left AIC and B PEC progressions according to frontal plane pelvic testing and HABLT as outlined in Pelvis Restoration.

It is generally safe to begin PRI activities 2-3 week after vaginal delivery. Once PADT and PART testing are negative bilaterally and HABLT testing is 5/5 bilaterally (goal 6-8 weeks after vaginal delivery), women can begin a safe return to prior level of exercise.

As a note, if the vaginal delivery was particularly stressful or significant tearing and/or stitching occurred, it is recommended a pelvic floor therapist with experience in evaluating scar tissue and internal assessment is involved during the initial recovery.

Considerations for c-section recovery
Once cleared by their physician, PRI techniques may be initiated along with gentle scar desensitization and mobilization.

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Please consult your physician or physical therapist for direction on scar mobilization protocols.

PRI testing should guide treatment efforts. Negative (–) PADT, negative (–) PART and HABLT of 1/5 are recommended as initial testing criteria for progression of non-manual techniques.

Technique Considerations

PRI Non-Manual Technique recommendations:

- 90-90 Hip Lift *(Supine Left Hamstring #1 or Supine Integration #6 without the balloon)*
- Supine Hooklying Hamstring with IO/TA *(Supine Integration #25)*
- Supine Hooklying Synchronized Resisted Glute Max *(Supine Integration #27)*
- Supine Hooklying T8 Extension *(Supine Integration #28)*
- Modified All Four Belly Lift *(All Four Integration #4)*
- Standing Wall Supported Reach *(Standing Integration #20)*

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