**Physical Therapy for the Pregnant Population**

Often, during pregnancy, women experience discomfort, low back pain, pelvic girdle pain, and even urinary incontinence. Physicians who treat them often tell them that this is normal and will go away after birth. But studies show this isn’t the case. Research shows that for 80% of women, if pain or urinary incontinence hasn’t resolved itself 3 months postpartum, it’s not going to. Women with high pain intensity during pregnancy had a greater risk for back pain in the postpartum period (1) and 65% of women with combined PGP and LBP reported recurrent PGP and LBP 14 months after birth (2). Symptoms during pregnancy, birth and the postpartum period can affect a woman throughout her lifespan and although incidences of LBP and PGP in pregnancy are high, relatively few patients report symptoms to physicians and even if they do they are often not referred for care. In pregnancy, women are more predisposed to these conditions because of ligamentous laxity that results from hormonal changes, and because a woman’s center of gravity and body mass are changing. If a woman has any muscle weakness or joint instability coming into the pregnancy there is more difficulty meeting the increased demands of her body’s changes.

Because of the hormonal changes during pregnancy there is a significant effect on the ligaments of the pelvis which diverts the strain of weight bearing to the ligaments with frequent SI joint strain and separation of the pubic symphysis. The coccyx is exposed to sudden increases in intrapelvic pressure and there is a higher incidence of coccydynia. Likewise, there is softening of the connective tissue in the linea alba and this, along with increasing weight and elongation of the rectus abdominus, causes increased inter-recti distance or Diastasis Rectus Abdominus (DRA). This is present in 66% of women in the third trimester and can result in impaired transfer and instability with vertical loading tasks (3)

Postural changes in pregnancy often lead to excessive lumbar lordosis, which causes stress to lumbar structures, particularly if combined with weakness of transverse abdominus and pelvic floor muscles. A widened base of support, often from increased external rotation of the lower extremities, can potentially increase stress to the piriformis and hip external rotators leading to imbalance of the muscles and compensatory muscle contraction.

So, as a Physical Therapist, what can you do to help these patients? First of all don’t be afraid! Even if you haven’t been trained in treating this special population there is a lot you can do. As experts on the musculoskeletal system and its functions, PTs are essential to provide pain relief and to optimize function during the perinatal period. Research shows that expert-supervised, core-focused, progressive, and functional therapeutic exercise with a regular home exercise component reduces pain and improves function in women with pregnancy-related PGP (4).

As in any patient you will do a musculoskeletal assessment. You may have to modify positions but you should be able to do MMT, ROM (including lumbar and hip), postural assessment, palpation of landmarks, and most special tests for SI joint, lumbar mobility, etc. The main positions of concern are prone lying ( as abdominal compression is to be avoided in mid to late pregnancy) and there should be limited time in supine position after 24 weeks because of aortocaval compression (10 minutes or to patient comfort). Also, try to avoid positions that strain the pelvic floor or abdominals, positions that encourage vigorous stretching of the hip adductors, extreme asymmetrical lower extremity positions and extreme end-range of motion positions of the hips.

Treatment can consist of manual therapy which focuses on the structure and function of the woman. This can include functional retraining, muscle energy techniques, myofascial release, joint mobilization, trigger-point release, and strain-counterstrain (positional release). These techniques are used to reduce muscle guarding, improve joint function, optimize musculoskeletal alignment and increase scar mobility. Research shows that PT with a multimodal approach to low back and pelvic pain in mid-pregnancy benefits women more than standard obstetric care (5). These techniques are all safe for the pregnant woman but you may have to be creative in positioning following the principles of the treatment.

Treatment should also include neuromuscular reeducation – reeducating muscles of the back, the core muscles (specifically Transverse Abdominus and pelvic stabilizers) and the pelvic floor. For the sake of this article I will focus on the TrA but it is important to remember that an active contraction of the TrA muscle is associated with co-activation of the pelvic floor muscles so there will be benefit to the pelvic floor from doing TrA exercises. Several authors agree that strengthening these muscles are essential to maintaining SI joint stability and can help to prevent DRA during pregnancy and postpartum. Principles to remember when teaching your patient these exercises are to maintain normal breathing; cue to breathe in, then contract muscles while exhaling; perform slow, controlled, minimal contraction to avoid recruitment of global muscles; maintain neutral spine (NOT a pelvic tilt); position patient to allow global muscles to be fully at rest; cue to encourage reestablishment of brain-body connection. As the patient progresses with core stabilization the goal would be to train them to use them during functional movements.

The other component of our treatment would be to educate the patient in good body mechanics to avoid further stresses and strains on the back and pelvis. The importance of using the core muscles to stabilize the pelvis during transitional movements such as getting up and down from the bed, in and out of the car, lifting objects etc. is emphasized. General body mechanics principles are to be applied such as supported sitting, bending with knees bent, etc. Specifically for pregnancy, the woman should avoid leg crossing at the knees or ankles, standing with all the body weight on one leg, carrying an infant on one hip, carrying large bags on one side, bending with twisting, large range lunges or splits, and hopping on one leg.

Modalities are mostly contraindicated for pregnant women but ice or heat can be considered. If using moist heat use extra toweling to prevent hyperthermia. Cold packs can also be used for good relief of acutely painful conditions. As most pregnant patients are not taking medications for pain relief these thermal modalities may be useful tools to help reduce the pain.

To sum up, as trained physical therapists, we are in a unique position to help reduce pain and restore function in a pregnant patient. We have a special set of skills to treat these patients that their primary care or obstetric care providers may not be aware of. If a pregnant woman is referred to you this information should help you feel more comfortable in treating this special population.

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