Musculoskeletal Issues in Pregnancy

Adele Meron, MD
Pain Medicine Fellow
Physical Medicine and Rehabilitation
University of Colorado School of Medicine
• Nearly 100% of women experience musculoskeletal discomfort during pregnancy
• 32% report low back pain to their providers
• 25% of prenatal providers prescribe specific treatment for low back pain
• 25% of pregnant women experience temporarily disabling symptoms
Hormonal Changes in Pregnancy

Relaxin

Progesterone

Estrogen
Physiologic Changes in Pregnancy

- Anterior Pelvic Tilt
- Increased lumbar lordosis
- Pubic symphysis widening
- Ligamentous laxity
- Edema
- Peripheral nerve compression
- Weight gain -> increased joint load
- Vascular compression
Gravid Uterus

Anterior center of gravity → Anterior pelvic tilt → Increased lumbar lordosis → Lumbar strain

Compensatory muscle adaptations → SI joint shear → Ligamentous laxity

Relaxin

Pelvic Instability

Abdominal muscle stretch → Muscle incoordination → Loss of pelvic compression

Pubic Symphysis Diastasis
# Lumbopelvic Pain

<table>
<thead>
<tr>
<th></th>
<th>Low Back Pain</th>
<th>Pelvic Girdle Pain</th>
<th>Combination LBP and PGP</th>
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<tbody>
<tr>
<td><strong>12-18 week prevalence</strong></td>
<td>11%</td>
<td>33%</td>
<td>18%</td>
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<tr>
<td><strong>35 week prevalence</strong></td>
<td>71%</td>
<td>65%</td>
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Risk Factors: advanced maternal age, **Hx of peripartum LBP**, multiparity, high BMI, hx of hypermobility

Not associated: maternal weight gain, fetal size
Sources of Lumbopelvic Pain in Pregnancy

- Pelvic ligamentous strain
- Sacroiliac joint pain
- Discogenic pain
- Nerve root compression
- Vascular compression
- Hip pathology
Pubic Symphysis Pain and Diastasis

Incidence: 20-30%

Presentation: stinging pain at PS with radiation into thighs. Worse with walking, stair climbing.

Risk Factors:

- fetal macrosomia
- hx of pelvic trauma
- multiparity
Hip Pain in Pregnancy

**Transient Osteoporosis**
- Presents in third trimester
- Weight bearing hip pain
- Diagnosed with MRI
- Treat early with protected weight bearing to prevent fracture

**Avascular Necrosis**
- Presents in third trimester
- Weight bearing hip pain
- Diagnosed with MRI
- Treat early with protected weight bearing to prevent progression
Other MSK conditions to watch out for

- Labral tear
  - Meniscus injury
  - Recurrent ankle sprains
    - ACL tear
  - Lower extremity stress fractures
<table>
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<tr>
<th>Characteristics of Low Back Pain and Pelvic Girdle Pain in Pregnancy&lt;sup&gt;5&lt;/sup&gt;</th>
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<tr>
<td><strong>Low Back Pain</strong></td>
</tr>
<tr>
<td>First presentation may be prior to pregnancy</td>
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<tr>
<td>Pain localized to lumbar region</td>
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<tr>
<td>Range of motion of lumbar region is decreased</td>
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<tr>
<td>Tenderness to palpation over lumbar paraspinous muscles</td>
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<tr>
<td>Often no issue with walking or standing</td>
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<tr>
<td>Pain is constant</td>
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<td>Provocation test for pelvic pain is negative</td>
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# Physical Exam

<table>
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<tr>
<th>Provocative Tests for Diagnosing Pelvic Girdle Pain&lt;sup&gt;8&lt;/sup&gt;</th>
<th>Maneuver</th>
<th>Indication of Positive Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Posterior pelvic pain provocation test</strong></td>
<td>Patient lies supine with hip flexed to 90°. Pressure is applied to the flexed knee along the femoral longitudinal axis while the pelvis is stabilized with a hand placed on the opposite anterior superior iliac spine.</td>
<td>The test is positive if deep pain is produced in the gluteal region.</td>
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<tr>
<td><strong>FABER test, also known as Patrick test</strong></td>
<td>Patient lies supine with the hip flexed, abducted, and externally rotated so that the heel comes to rest on the opposite knee. With the patient relaxed, the weight of the leg causes the knee to drop toward the floor.</td>
<td>The test is positive if pain occurs in the ipsilateral sacroiliac joint or the pubic symphysis.</td>
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<td><strong>Long dorsal sacroiliac ligament test</strong></td>
<td>Patient lies on side, with both the hip and knee in slight flexion. Directly under the caudal part of the posterior superior iliac spine, the long dorsal sacroiliac ligaments, bilaterally, are palpated.</td>
<td>The intensity of tenderness is related to the severity of the condition.</td>
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<td><strong>Active straight leg raise test</strong></td>
<td>Patient lies supine with the legs straight and the feet 20 cm apart. The patient raises one leg at a time, 20 cm above the examination table, while maintaining a straight knee.</td>
<td>The degree of difficulty in performing this test is an indicator of the severity of the condition.</td>
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<tr>
<td><strong>Pain provocation of the pubic symphysis by the modified Trendelenburg test</strong></td>
<td>Patient stands on one leg with the hip and knee of the contralateral leg flexed to 90°.</td>
<td>The test is positive if symphyseal pain is experienced during this maneuver.</td>
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FABER = flexion, abduction, external rotation
General Treatment Principles
US Guided SI Joint Injection
Peripheral Neuropathies of Pregnancy
Carpal Tunnel Injection
Discussion

• How do we optimize delivery of MSK care to our pregnant patient?


Questions?