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• Physical Therapy Consultant for SI-Bone/iFuse Implant System

• To understand the symptoms and causes of Sacroiliac Joint Dysfunction (SIJD)

• To understand why the pelvic floor muscles are important in SIJD

• To increase knowledge of PT evaluation for SIJD

• To increase knowledge of importance of exercise progression with surgical and non-surgical SIJD treatment.

Disclaimer

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Objectives

• To understand the symptoms and causes of Sacroiliac Joint Dysfunction (SIJD)

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**LBP vs SIJD**

SIJD:
- Pain more often on **one side**, with unilateral stance activities and sitting
- Pain in sleeping **with rolling**, not preventing falling asleep
- Intraabdominal pressure: if manually stabilize iliums, then symptoms should diminish with coughing
- Rarely pain above L5, usually: PSIS, buttocks, post thigh, genitals, Fortin’s Sign
- History of pelvic floor dysfunction: urinary incontinence, constipation, straining with BMs, pressure/pain post BMs.
- Pain or pressure in abdomen, rectum, scrotum, or vagina during or after intercourse

References: 2,3,7-12

**Causes of SIJ Dysfunction**

- Trauma:
  - MVA or crush injury
  - Fall onto buttocks
  - Step off curb
  - Overzealous kick/golf swing
  - Repetitive activities
  - Lift/twist maneuver
- Pathological:
  - OA/RA
  - Osteoporosis
  - Previous SI/lumbar sx
  - Gait abnormalities

- Biomechanical:
  - Leg Length Discrepancy (LLD)
  - Scoliosis
  - Muscles/Fascia
  - Ligaments
  - Pelvic Floor/Obturator Internus Dysfunction

- Pregnancy
  - Child Birth
  - Relaxin
  - Weight gain/BOS shift

References: 1,2,5,7-13

**Muscles Contributing to SIJ Function**

- **Trunk:**
  - Transversus Abdominis (TA)
  - Internal Oblique
  - Multifidus
  - Gluteals (max, med)
  - Quadratus Lumborum
  - Latissimus Dorsi
  - External Oblique
  - Rectus

- **Lower Extremity:**
  - Adductors
  - Abductors
  - Hamstrings
  - Iliopsoas
  - Quad

- **Pelvic Floor**
  - Obturator Internus
  - Piriformis
  - Coccygeus
  - Levator Ani

References: 14-17
Pelvic Floor

* Levator Ani and Coccygeus
  - Levator Ani: Pubococcygeus, ilioococygeus, puborectalis, (pubovaginalis)
  - General roles: support, continence, intercourse, childbirth in females
  - Main role in SIJ: Constant activity closes the pelvic outlet, supports pelvic organs, and prevents strain on ligaments and fascia in pelvis.

* Obturator Internus:
  - ER and ABD femur
  - Referred symptoms: abdominal pressure; buttocks, genital, post thigh, hip pain

* Piriformis:
  - ER and ABD femur
  - Referred pain: buttocks, PSIS, post thigh, post calf

References: 5, 10-12, 16, 18

Special Tests

* Over 30 Special Tests for SIJD
* 5 SIJ Tests for Instability with most sensitivity and specificity:
  - Distraction
  - Thigh Thrust
  - FABERs
  - Compression
  - Gaenslen’s Maneuver

References: 8, 9, 15, 20-23, 27, 28
General PT Treatment

- Patient education
  - Posture, pain control, surgical protocols, biomechanics, ergonomics
- Exercises
  - Stabilization, stretching, self mobilization
- Aquatics
  - Strength and endurance with reduced weight bearing (WBing)
- Manual therapy
  - STM, dry needling, manual stretch, mobilization
- Modalities
  - Electrical stimulation, ultrasound, ice, heat
- Supports
  - SI belts, heel lifts, orthotics

Exercises

- Start with stretching and stability first, then mobilizing.
- Core stability or “Bracing” is the most important
- Tightness is found in the adductors, iliopsoas, rectus femoris, and hamstrings
- Weakness is seen in the gluteals, lower abdominals, pelvic floor muscles and hamstrings
- Clear thoracic area- often have muscle imbalances

References: 9,14,17,29,30
Manual Therapy

• To reduce pain and correct biomechanical alterations
• STM and manual stretch to involved muscles that are tight or in spasm
  o Internal to pelvic floor muscles, including obturator internus
• Should increase ROM and stability prior to mobilizing the iliums or sacrums- helps to maintain the correction.
• Dry needling
  o solid filament needles are placed into the trigger point

References: 10,11,14,33,37

Supports

• SI belts
  o To provide external stabilization, compression, and proprioception feedback
  o Worn below ASIS, across sacrum
  o Donned in supine, not standing

References: 9,14,38

Surgical Fusion

• If stay in hospital, recommend PT in hospital for education and initial exercises: isometrics, ROM, UE exercises
• Ideal to start outpatient within 3 weeks of surgery
  o Improved outcomes: reinforced education/instructions, greater chance of full return to PLOF, pain control, reduced scar tissue/restrictions, earlier/greater ROM/strength gains, and reduced substitutions/bad habits.
• With ALL Surgery, therapists need to know approach, hardware used, and WBing restrictions.

References: 5,32,34
40 y.o. female with L hip > back pain.
• Fx L metatarsal 7 years ago to be replaced with compression
• Continued to run, hike, and workout
• Had 2 children and carried on hip
• Several rounds of PT (~2 years) for labral tear
• MD wants to do MRI and possible sx.

Weak: Glut med, glut max, rectus, TA, PFM
(+ ) Thigh Thrust, (+) Distraction, (+) Compression
• Pain ↑ with intercourse and menstrual cycle
• Increased tone and pain with B adductor, piriformis, and obturator internus L>R,
• May want to do MRI and possible sx.

SIJ, Hip, or Lumbar?

Treatment
• Body mechanic education
  • Baby Sling
• Core strengthening
• PFM strengthening
• Manual therapy
  • Obturator internus
  • Hip/back musculature
  • Thoracic musculature
• Stretching
• Surgery may be in the future

Questions?
References


