

# POSTERIOR PELVIS ENTHESES

## C. ENTHESIS

Hamstring Group (ST, SM, BF) on the *Ischial Tuberosity*

Hip External Rotators on the *Greater Trochanter*

Gluteus Minimus and Medius on the *Greater Trochanter*

Gluteus Maximus and *Lateral Intermuscular Septum*

### Treatment Protocol:

- 15 Hertz
- 2.6-3.6 Bars
- DI 15 Gold Energy Deep Impact TIP with 3,000 pulses spread over the enthesis.

**HAMSTRING GROUP-** The 3 muscle of originate from the Ischial Tuberosity (IT) in a layered orientation. The Semitendinosus originates superficial to the deeper Semimembranosus (medial IT) and Biceps Femoris (lateral IT). Tendinopathy and tearing can occur secondary to acute or overuse injury from increased strain and tension on the IT origin. After treating the overlying nerves (A) and muscles (B), treat the enthesis (C) to stimulate repair and regeneration at the IT or distal to it.

**Position:** To bring the Hamstring origin into an optimal position for treatment, have the patient side lying with their Knees to the chest. This will expose the IT and bring the soft tissue around the buttock out of the treatment field.

1. **Hamstring Group-** This is a deep treatment through the Gluteus Maximus muscle. Compress the TIP deep under the Gluteus Maximus aiming towards the Ischial Tuberosity (IT). Maintain an angle perpendicular to the IT surface and muscle origins. Slight angle changes and sliding medially or lateral to keep the TIP over the area of most tenderness can increase accuracy of treatment to the area of most pathology.

### PIRIFORMIS AND OTHER HIP EXTERNAL ROTATORS-

**Position:** Side lying with the Hip flexed in slight adduction and hanging off the table to expose the insertion of the muscles, especially the Piriformis attaching under the posterior superior tip of the Greater Trochanter (GTr). The other muscles attach farther down the GTr on its posterior side. These muscles can breakdown secondary to increased tension and strain.

2. **Piriformis-** Compress the TIP through the Gluteus muscle and aim towards the Piriformis using a treatment angle that parallels the tendon attachment under the superior posterior tip of the GTr. Slightly change treatment position and angles to maximize outcome over the area of most tenderness and pathology.
3. **Other Hip External Rotators (Sup. Gemelli, Ob. Internus, Inf. Gemelli, QF)-** Compress the TIP through the Gluteus muscle and aim towards the specific muscle insertion of interest. Note the Pudendal Nerve runs near the insertion of the Ob. Internus and the SN and PFCN also course near these attachments as they run distally towards the lateral edge of the IT.

**GLUTEUS MINIMIS AND MEDIUS ON GTR-** These muscles insert on the lateral (G. Medius) and anterior (G. Minimus) facets of the GTr. They abduct and externally rotate the Hip and are common site of tendinopathy and pain over the lateral Hip.

**Position:** Lying on the side with the effected up and leg neutral or slightly adducted (leg crossed over the under leg) to bring the GTr out for treatment.

4. **Gluteus Minimus and Medius-** Compress the TIP over the lateral GTr at the site of pathology and maximal tenderness. Due to the broad insertions, multiple areas separated by 1.5 cm may be needed to treat the entire tendon insertion.

**GLUTEUS MAXIMUS AND THE LIS-** The Gluteus Maximus originates from the medial ICr, PSIS, Sacrum and Coccyx and inserts on the IT Band and, via the Lateral Intermuscular Septum (LIS), to the Gluteal Tuberosity of the Femur. The LIS is a fascial layer that separates the Posterior Compartment (BF) from the Anterior Compartment (VL) of the thigh. With evaluation (using ultrasound-spring technique over the LIS which reveals laxity and loss of integrity or ESWT SCAN to find sites of tenderness) this area is often a site of pain, breakdown, and tearing. Treatment is needed to restore the fascial integrity of this busy area of fascial cross over, muscle attachment, and force transfer.

**Position:** Same as above.

5. **Gluteus Maximus and the LIS-** After diagnostic SCANNING, compress TIP over area of pain and pathology and treat insertion with 500-1,000 pulses every 1.5 cm over insertion area and tenderness over the LIS (more detail in Hip Fascia section).

