# Muscle Energy Techniques

By
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# Muscle Energy

- Used to correct-
  - pubic dysfunction
  - Ilio-sacral dysfunction
  - Sacro-iliac dysfunction
  - Lx spine dysfunction

# Definitions

- ***Agonist muscle-*** a muscle that causes movement to occur. It creates the normal range of movement in a joint by contracting

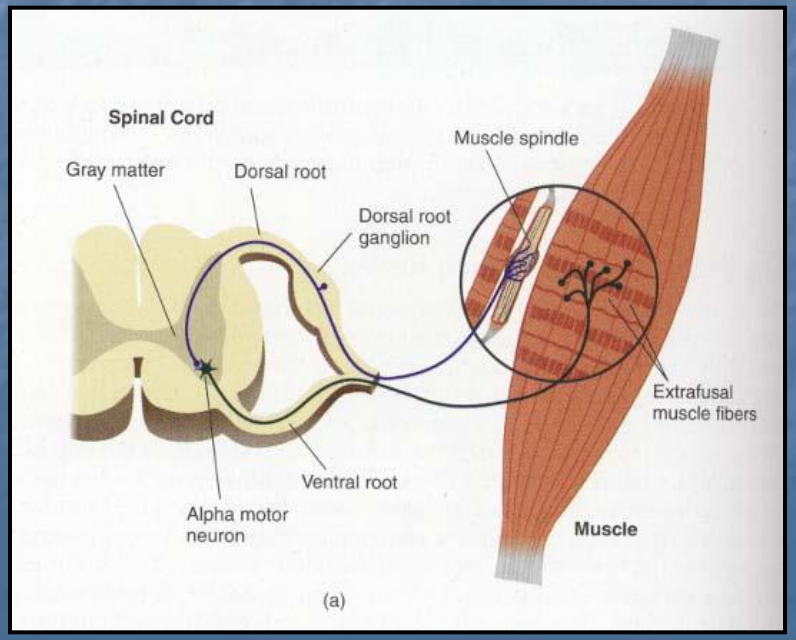
- ***Antagonist muscle-*** a muscle that acts in opposition to the movement generated by the agonist and is responsible for returning a limb to its initial position.

- Ie for knee extension range-
  - Quad is agonist
  - Hams antagonist

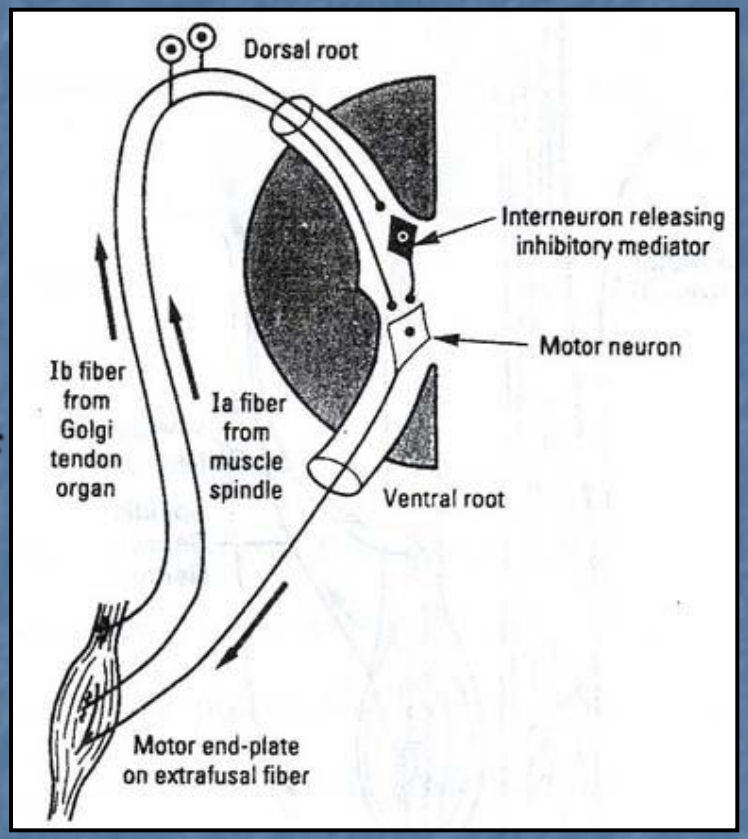
# Rationale

# Components of neuromuscular system

- Muscle spindle
  - Found within muscle fibres
  - sensitive to passive or active stretch. Can control dynamic length of muscle through stretch reflex
  - excitatory



- Golgi tendon
  - Found in tendons of muscle
  - Detects tension within muscle
  - Stimulation causes inhibition of muscle via flexor reflex loop
  - Inverse stretch reflex



# Inhibitions

- Reciprocal Inhibition
  - Stimulation of the agonist leads to relaxation of the antagonist
  - Use of stretch reflex
  - 20-40% MVC
  - Contracting quads at end H/S length to improve h/s length

- Autogenic Inhibition
  - Stimulation of the antagonist leads inhibition of the antagonist
  - Stimulation of Golgi tendon
  - MVC contraction
  - Contracting h/s at end range h/s length to improve h/s length

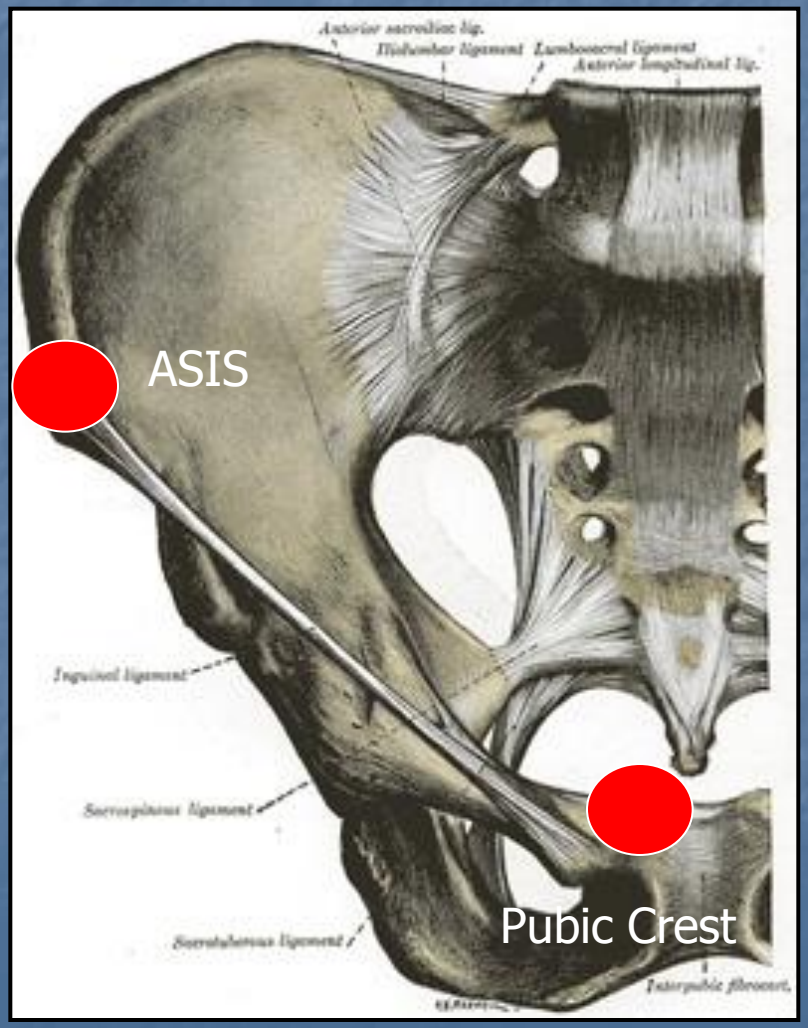
# How does MET works?

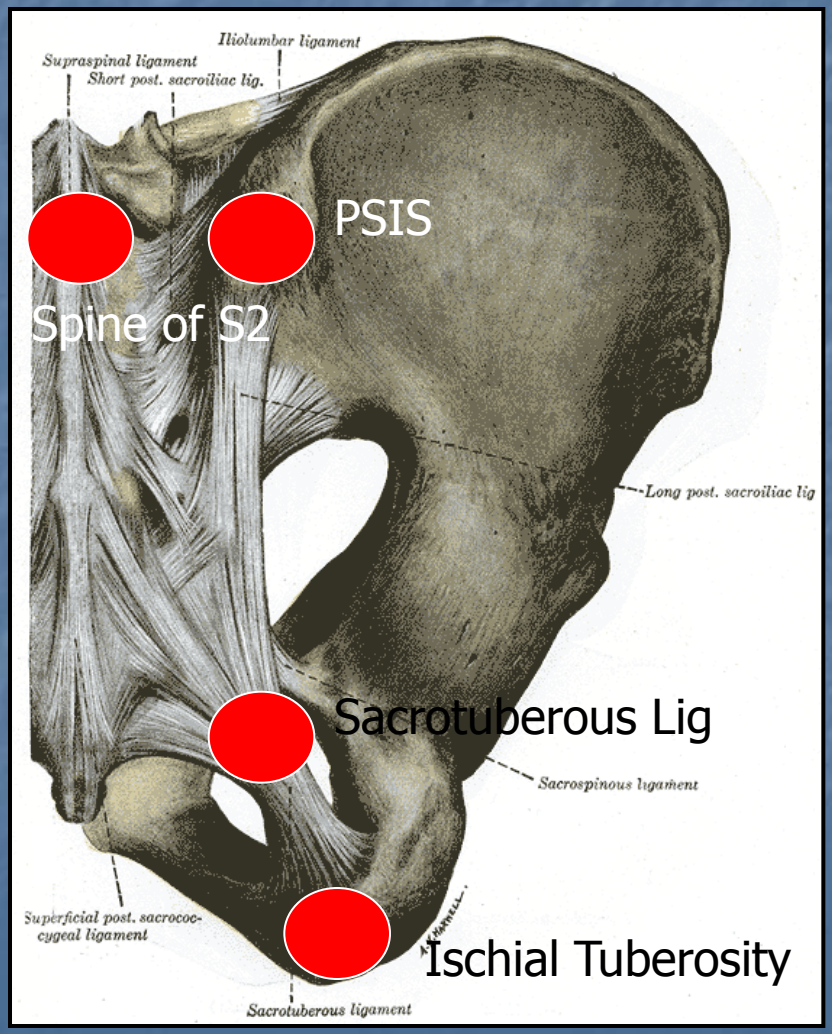
- Using muscle contractions to stimulate the inhibitions to relax/lengthen muscle
- Using muscle contractions to pull on muscle attachments to re-align bones/joints

# Assessment

- Integrate MEAx into normal assessment of Lx spine and pelvis
- Systematic approach to looking at pelvis
- Understand subjective asterix points relevant to SIJ

# Crucial Anatomical Landmarks



# Functional assessment tests

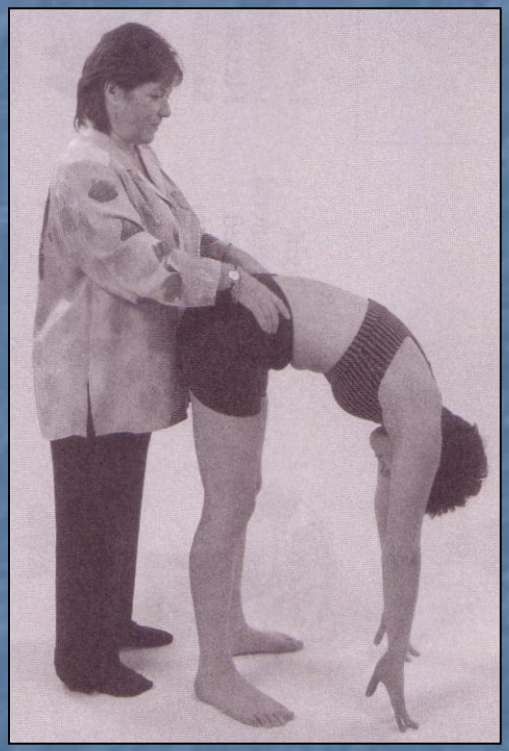
- Gillet (Stork) test
- Forward flexion test
- Squish test
- Seated flexion test

# Gillet (Stork) Test

- Palpate
  - PSIS and Spine of S2
- Patient Movement
  - Hip flexion to horizontal
- Normal
  - PSIS moves down relative to S2
- Abnormal
  - PSIS moves up as sticks on sacrum

# Forward flexion test

- Palpate
  - PSIS Left and right
- Patient Movement
  - Forward flexion
- Normal
  - Both PSIS move equally
- Abnormal
  - One PSIS moves up as sticks on sacrum



# Squish test

- Palpate
  - Ilium
- Therapist Movement
  - Move hand down in in J shape along glide of SIJ joint
- Normal
  - Ilium glides smoothly into movement, unrestricted.
- Abnormal
  - Feel for boggy vs bony end feel

- Functional tests don't tell you ***what*** is wrong.
- They identify which is the problematic side

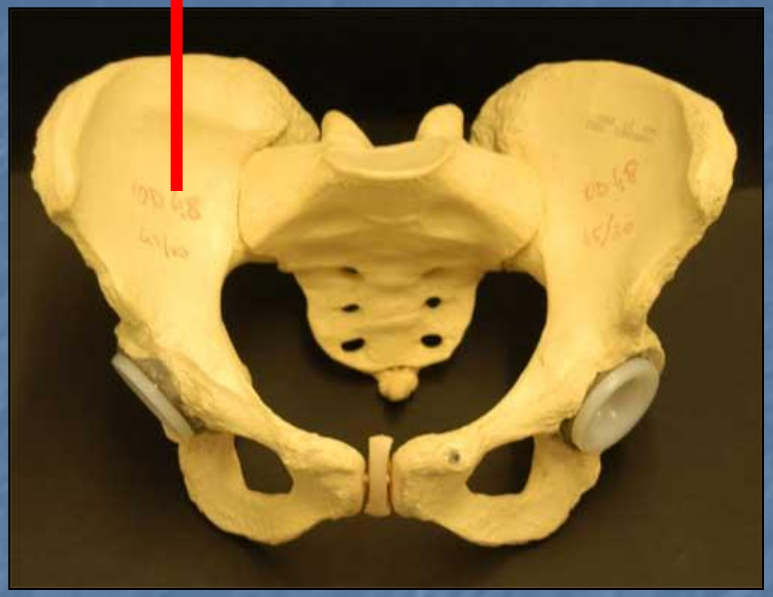
# Need to decide….

- The type of pelvic dysfunction is based on palpation of landmarks..

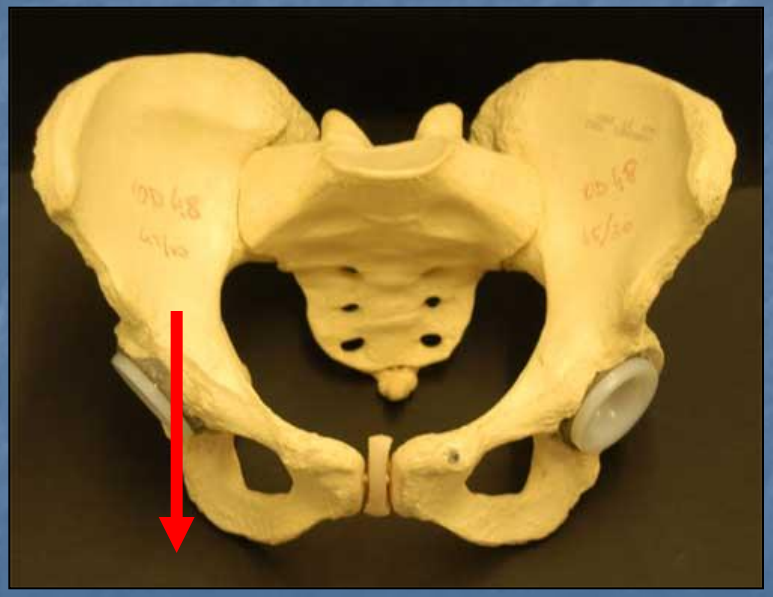
# Palpation

- ASIS
  - up or down
  - Outflare or inflare
- Pubic crest
  - Up or down
- PSIS
  - Up or down
- Ischial tuberosity
  - Up or down
- Sacrotuberous Ligament
  - Tight or loose

UPSLIP



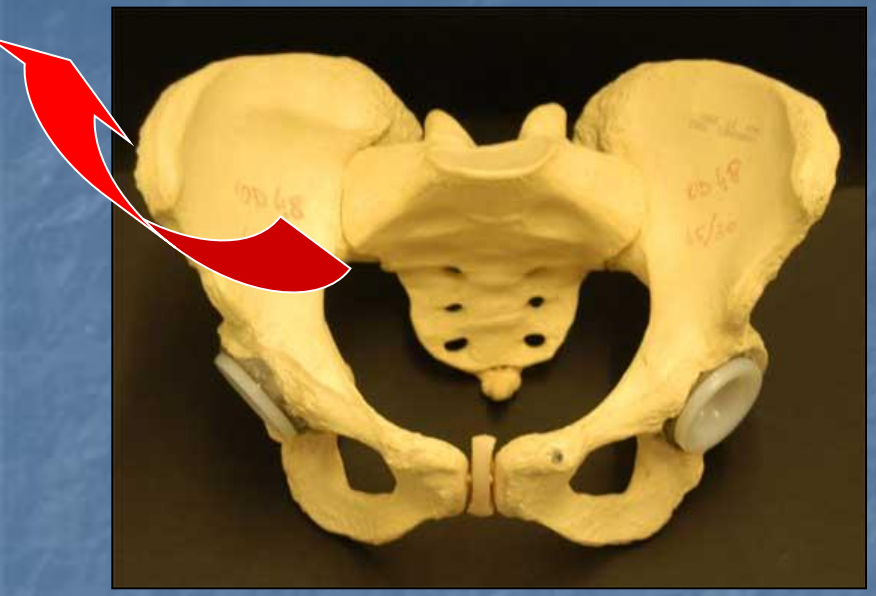
DOWNSLIP



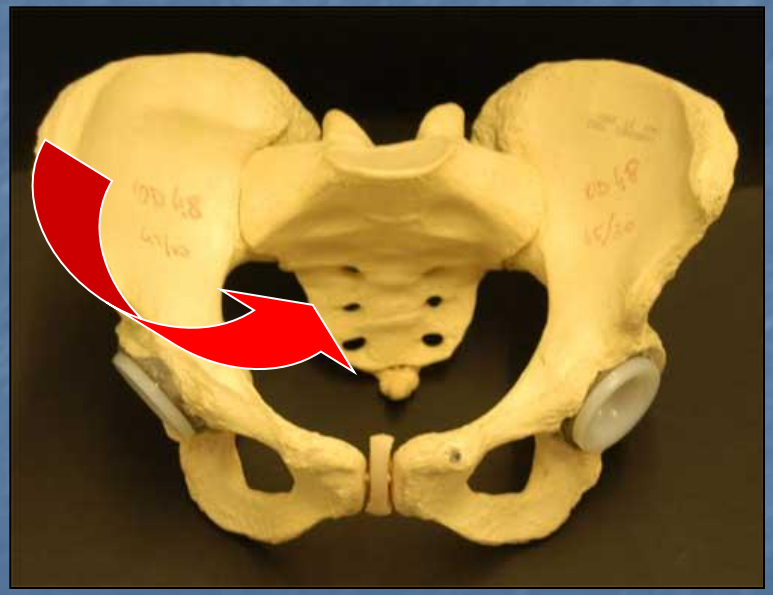
ANTERIOR ROTATED

POSTERIOR ROTATED

OUTFLARE



INFLARE



# Interpretation of Findings

| | ASIS | PSIS | Pubic Crest | Ischial Tuberosity | Sacrotub. lig | ASIS to umbilicus |
|---|---|---|---|---|---|---|
| upslip | Up | Up | Up | Up | Loose | ------- |
| downslip | Down | Down | Down | Down | Tight | ------- |
| Anterior rot | Down | Up | Down? | down? | Loose | ------- |
| Posterior rot | Up | Down | Up? | Up? | Tight | ------- |
| Outflare | ------- | ------ | --------- | -------- | -------- | increased |
| Inflare | ------- | ------ | --------- | -------- | -------- | decreased |
| Elevated /decend pubes | ------- | ------ | Up/down | --------- | -------- | -------- |