

A New Approach to the Physical Therapy Management of Chronic Pelvic Pain

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Traditional Physical Therapy for Pelvic Floor Dysfunction

- Indicated for pelvic floor dysfunction
 - Ex. urinary and fecal incontinence, urinary frequency and/or urgency
- Pelvic floor strengthening
 - Kegel exercises, biofeedback
- Stretching
- Correction of biomechanical/structural deformities

Physical Therapy and Chronic Pelvic Pain

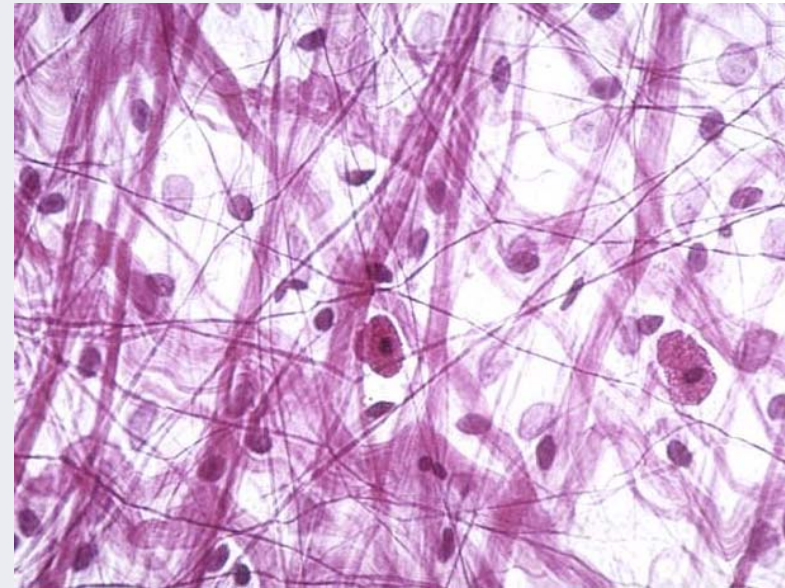
- Last 15-20 yrs physical therapy began addressing pelvic pain conditions
- Commonly treated diagnoses
 - Interstitial cystitis or painful bladder syndrome, vulvodynia, vulvar vestibulitis, chronic non-bacterial prostatitis, coccygodynia, pudendal neuralgia, persistent post-operative pain following pudendal nerve decompression

'New Approach' Physical Therapy Treatment for Pelvic Pain

- **Connective Tissue Manipulation (CTM)**
- Myofascial trigger point release
- Neural mobilization
- **Lengthening of the shortened pelvic floor muscles**
- Correction structural/biomechanical deformities

Connective Tissue

- Continuous web of tissue that surrounds muscles, membranes, fibers and all systems including the nervous and musculoskeletal system
- Gives our body shape and support



Connective Tissue and Pelvic Pain

- Virtually all patients with pelvic pain present with connective tissue restrictions
 - abdomen, thighs, gluteals, and along bony pelvis
- Termed Subcutaneous Panniculosis
 - Def: increased texture thickness with acute tenderness upon pinch-rolling in the subcutaneous tissue

Subcutaneous Panniculosis

- Tissue has tenderness, hyperalgesia, trophic changes, and thickening of skin with underlying muscle atrophy
- Causes localized pain and inflammation of distant organs as described by the cutaneous-visceral reflex



Why do these restrictions occur?

- As a result of
 - Visceral referred pain
 - An inflamed peripheral nerve
 - Myofascial trigger points
 - Joint restrictions
- Last 20 yrs of basic science research has proven the interaction between muscle, skin, internal organs and the central and peripheral nervous systems

Supporting Research...

- 1893: Sir Henry Head
 - cutaneous representation of visceral pain known as 'Head's Zones'
- 1917: Visceral-Somatic Reflex described by James MacKenzie
 - Changes in muscle tone of groups which had the same segmental root supply as the diseased organ
- 1955: Cutaneous-Visceral Reflex described by Max Kibler
 - Treated functional disturbances of internal organs by application of heat and massage to Head's Zones
- 1987: Visceral-Cutaneous Reflex demonstrated by McMahon and Abel
 - Showed bladder inflammation causes skin hypersensitivity in the tail, perineum, and caudal abdomen of rats
- 1997: Visceral-Cutaneous reflex further demonstrated by Ursula Wesselman
 - Proved 3 mechanisms of referred visceral pain

Connective Tissue Manipulation (CTM)

- Developed by Elizabeth Dicke, MD in 1929
 - Suffered from endarteritis obliterans
 - Noticed stroking motion on her back caused cutting sensation and severe hypersensitivity in areas with thickened tissue
 - Avoided LE amputation with self tissue manipulation

Common Sites of Connective Tissue Restrictions



Goals of CTM

- Improved circulation
- Restore tissue integrity
- Decrease ischemia
- Reduce chemical irritants
- Eliminate adverse reactions in viscera
- Decrease adverse neural tension of peripheral nerve branches

Unresolved CT Restrictions

- Cause further muscle hypertonus
- Perpetuate trophic changes
- Contribute to visceral irritability
- Restrict and compress neural pathways

How to perform CTM

- Utilized in each treatment until tissue mobility has normalized
- Use all 10 fingers
- Minimal lubrication
- Slide tips of thumbs parallel to skin while pulling tissue towards thumbs with tips of other 8 fingers



Clinical Response

- Gradual increase in connective tissue mobility
- Decreased tissue hypersensitivity
- Decreased trophic changes/improved tissue integrity
- Decrease in pelvic pain
- Decrease in urinary/bowel/sexual dysfunction
- Increase in function
 - Increased sitting tolerance, increased exercise tolerance

Patient Response

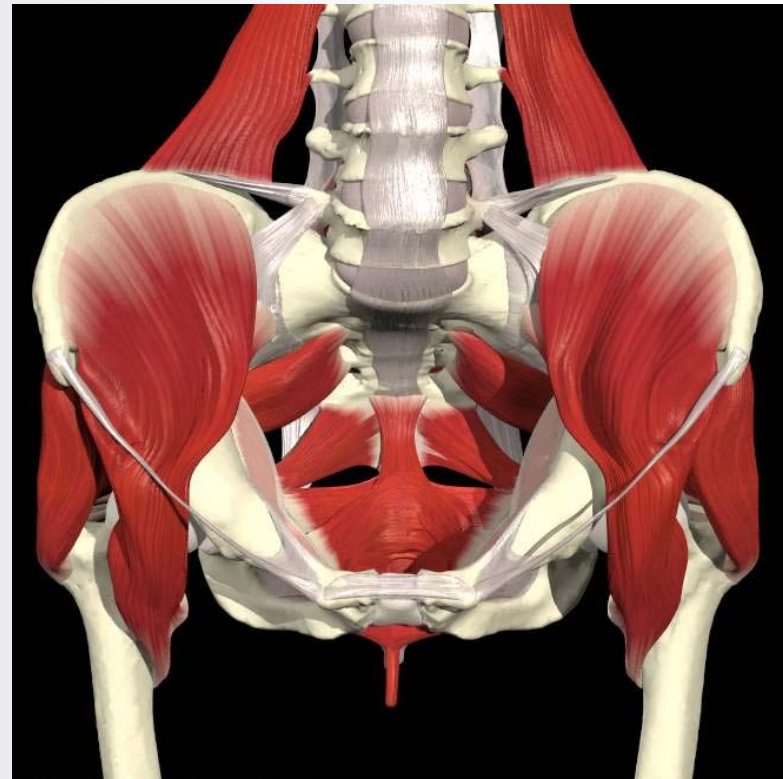
- Initially very painful
- Initially bruising and redness typically occurs
- Less pain and bruising as tissue mobility improves

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Pelvic Floor Muscle Lengthening vs Strengthening

- 2003 Kotarinos and Fitzgerald showed that the inability to contract the pelvic floor in patients with pelvic pain was due to pelvic floor hypertonicity rather than weakness
- Shifted focus of treatment of pelvic floor muscles from strengthening to lengthening



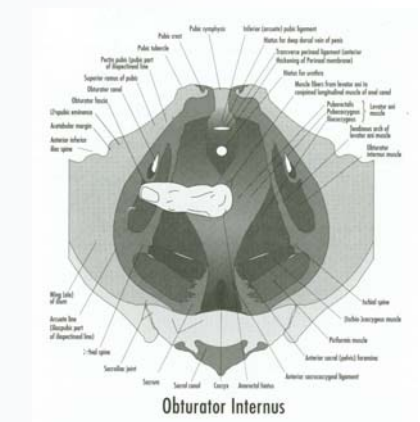
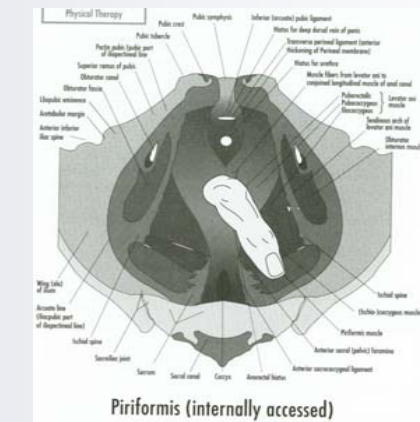
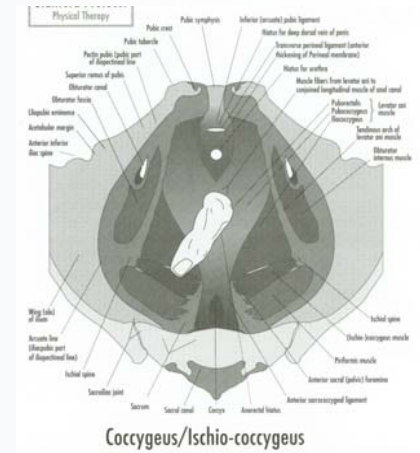
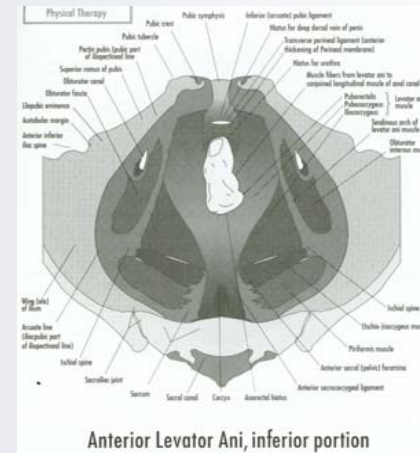
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Physical Therapy Manual Techniques for the PFM

- Contract-relax
 - Contract treating muscle 5 seconds, then passively stretch muscle
- Reciprocal inhibition
 - Contract treating muscle in opposite direction, then passively stretch muscle
- Strumming
 - Stroke muscle parallel to fibers
- Cross-friction
 - Stroke muscle perpendicular to fibers

Pelvic Floor Muscles

- Levator Ani
- External Anal Sphincter
- Coccygeus
- Piriformis
- Obturator Internus
- Bulbospongiosus
- Ischiocavernosus



Home Exercise Program

- PNF D2 “pelvic floor drop”
 - Isometric contraction of hip flexors, hip ext rotators and hip abductors reciprocally inhibits pelvic floor muscles
- Squat

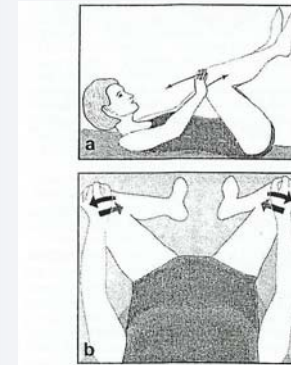


Fig. 6a, b During 'knee pushes' the pelvic floor musculature is reflexly inhibited by isometric contraction of the hip flexors, abductors and external rotators. a lateral view; b view from above



Questions??

Thank You!