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Physical Therapy Treatment of Pudendal Neuralgia

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Objectives

1. Understand how anatomy and physiology of pudendal nerve effect a physical therapy treatment plan
2. Become familiar with the components of a physical therapy evaluation and treatment plan for patients with pudendal neuralgia
3. Recognize physical therapy as a vital component of a multidisciplinary treatment team for patients with pudendal neuralgia
4. Understand when to refer and how to find a pelvic floor physical therapist



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Physiology

- Mixed nerve: somatic and autonomic
- Pudendal Nerve: only peripheral nerve to have both
- Due to its autonomic fibers, pt's can experience sympathetic upregulation symptoms with pudendal neuralgia
 - i.e. increase heart rate, decrease mobility of large intestine, widen bronchial passages, constrict blood vessels, pupil dilation, piloerection, perspiration, raise BP

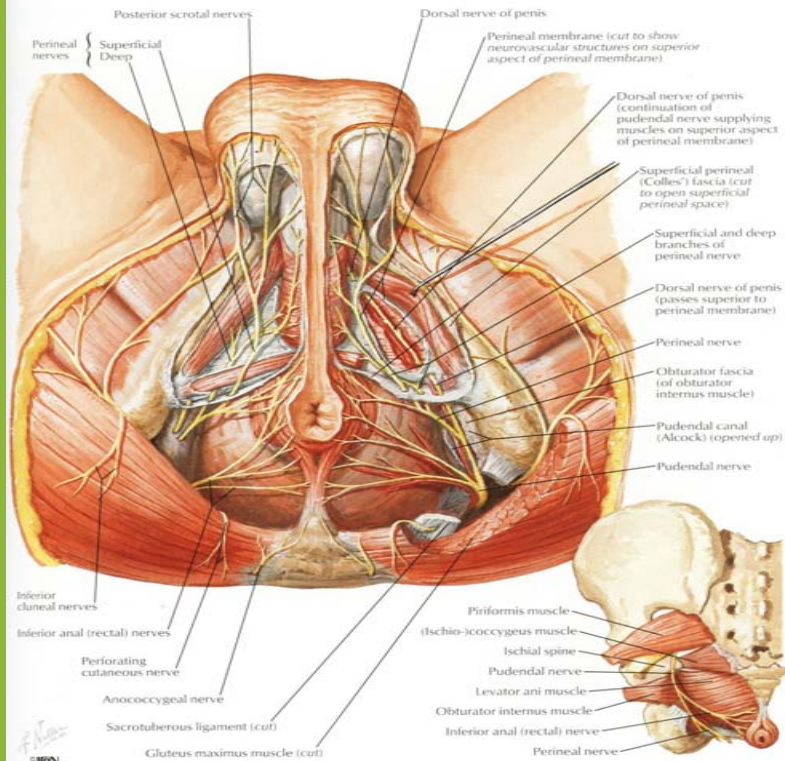


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Anatomy

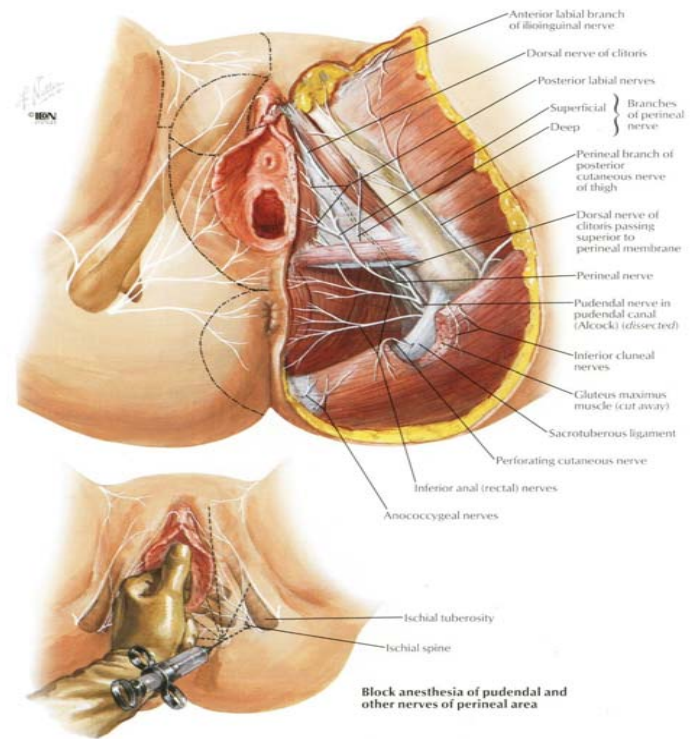
Nerves of Perineum: Male

SEE ALSO PLATE 387



Nerves of Perineum and External Genitalia: Female

SEE ALSO PLATE 386





Innervation

- Inferior rectal branch
 - anal canal, caudal third of rectum, skin around anus
 - Muscles: posterior portion of external anal sphincter
- Perineal branch
 - Inferior third of vagina and urethra, skin of scrotum/labia
 - Muscles: transverse perineum, bulbospongiosus, ischiocavernosus, urethral sphincter, anterior portion of EAS
- Dorsal Nerve of clitoris/penis
 - Skin of penis/clitoris
 - Muscles: ischiocavernosus?, bulbospongiosus?



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Physical Therapy Evaluation

- **Subjective**

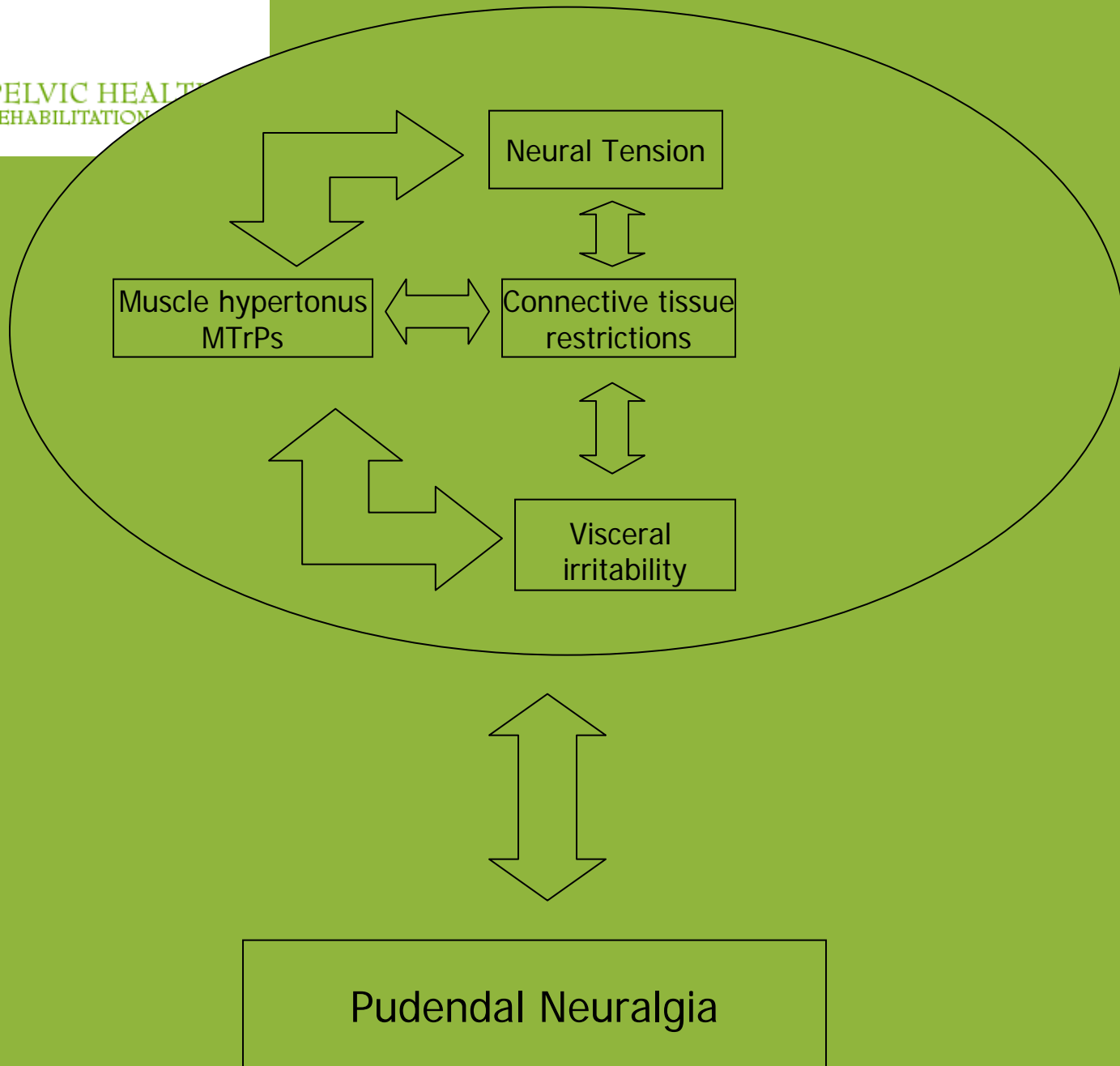
- specific questions related to:
 - **Tension:** Constipation, strenuous squatting exercise, childbirth
 - **Compression:** Cycling, horseback riding, prolonged sitting
 - **Surgical insult:** Pelvic reconstruction procedures, hysterectomy
 - **Visceral-somatic interaction:** Chronic bladder infections, yeast infections, chronic bacterial prostatitis

- **Objective**

- Connective Tissue
- Pelvic Floor
- Myofascial trigger points in pelvic floor and pelvic girdle
- Adverse neural tension
- Structure and biomechanics



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Connective Tissue

- Virtually all patients with chronic 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



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Pelvic Floor Evaluation

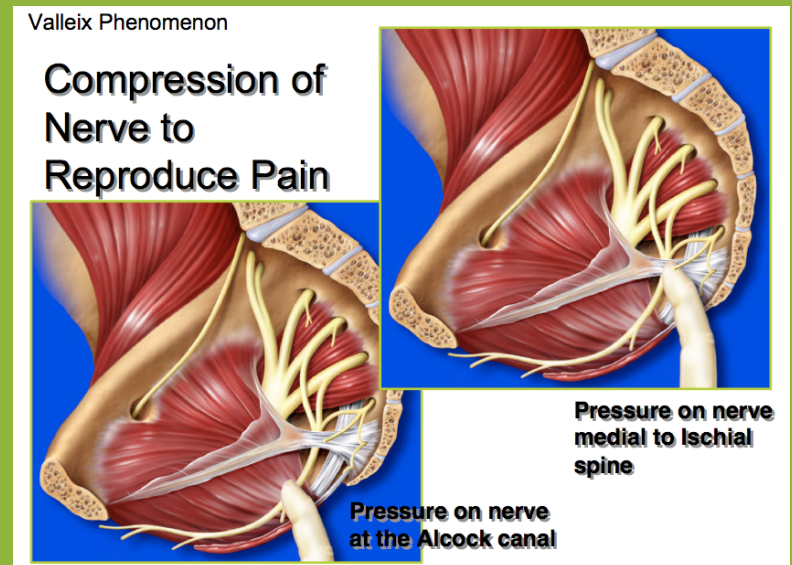
- Muscle tone/MTrPs
 - Levator ani muscle group, urogenital diaphragm, coccygeus, obturator internus, piriformis
- Motor control
 - Contract, relax
- Nerve tenderness or positive Tinel's Sign



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Pudendal Nerve Palpation: Tinel's Sign

- Alcock's Canal
- Ischial Spine
- Dorsal clitoral/penile branch
- Perineal branch
- Inferior rectal branch

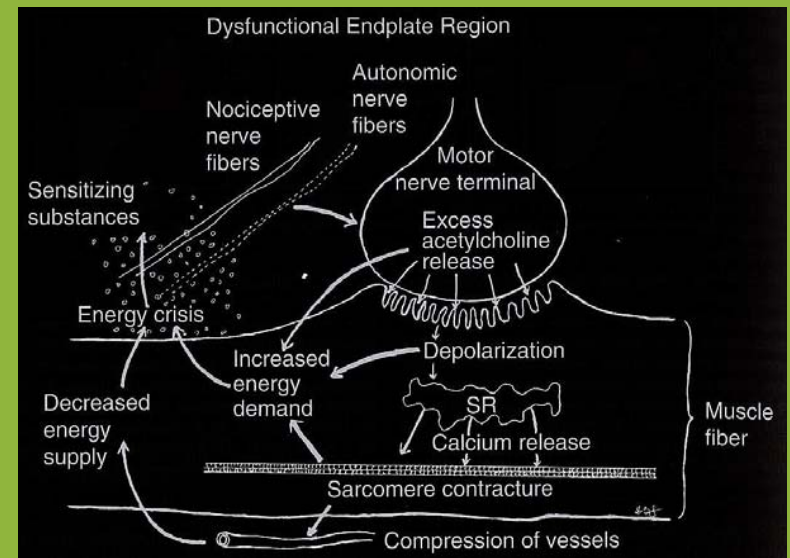
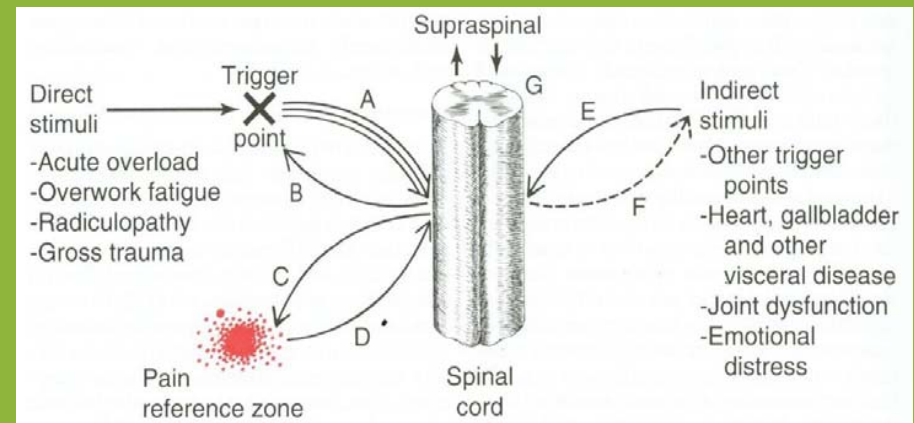




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Myofascial Trigger Points

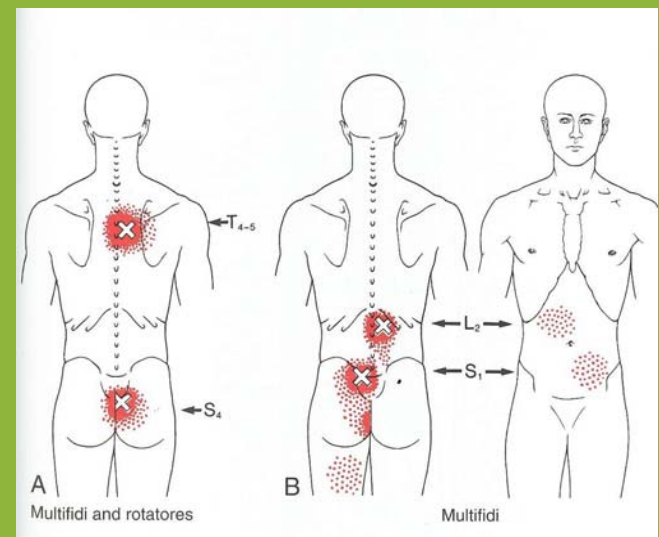
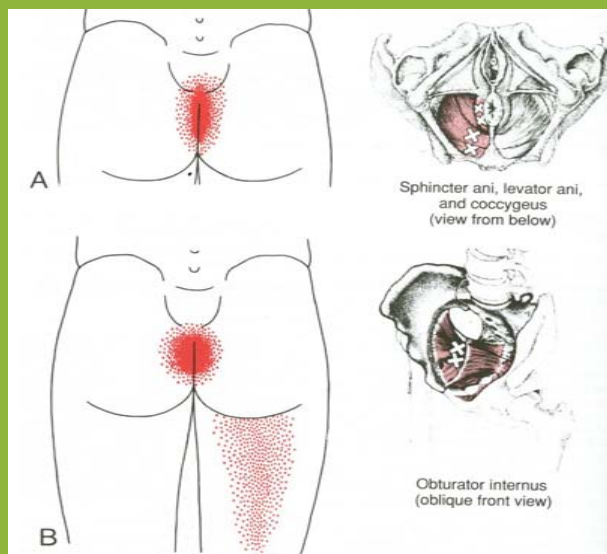
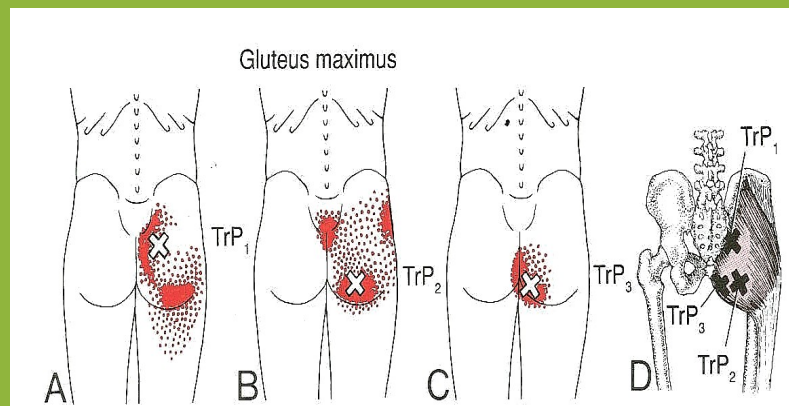
- Characteristic referred pain
- Local tenderness
- Autonomic phenomena
- Motor dysfunction/muscle weakness
- Proprioceptive disturbances





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Common Myofascial Trigger Points





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Common MTrPs and Referral Patterns

- Bulbospongiosus and ischiocavernosus refer to perineum and adjacent urogenital structures
- EAS refer to posterior pelvic floor
- Levator ani and coccygeus refer to sacrococcygeal region
- Levator ani may refer to vagina
- Obturator internus refers to anococcygeal region and vagina

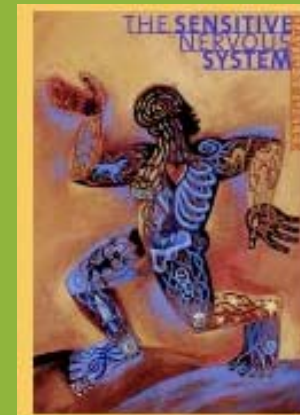
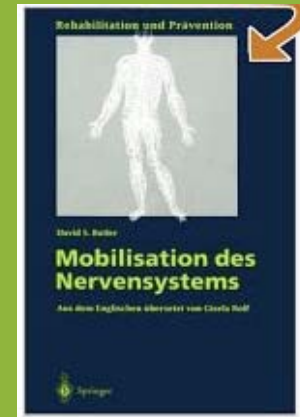


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Adverse Neural Tension

“Abnormal physiological and mechanical response produced from nervous system structures when their normal range of movement and stretch capabilities are tested.”

-David Butler





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Causes of Adverse Neural Tension

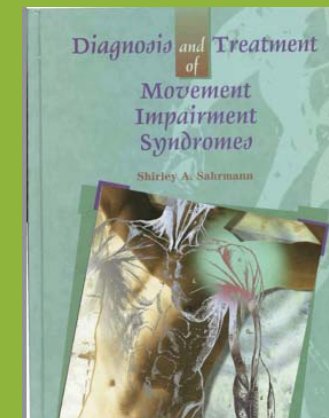
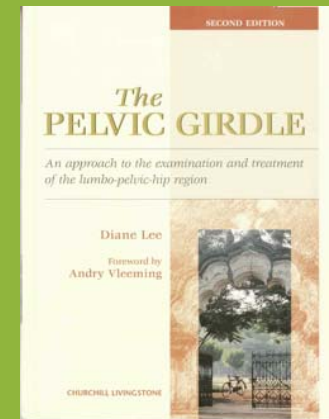
- Compromised blood supply
 - Nervous system consumes 20% of available oxygen and consists of 2% body mass
 - Feeder vessels to peripheral nerves cut during surgery
 - Connective tissue restrictions, muscle hypertonicity
- Compromised neurobiomechanics
 - Structure and soft tissue changes causing stretch, compression, and fixation along mechanical interfaces



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Structure and Biomechanics

- Evaluate
 - Sacro-iliac joints
 - Spine
 - Hips
 - Posture
 - Leg Length





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Physical Therapy Treatment

- Connective Tissue Manipulation (CTM)
- Neural Mobilizations
- Pelvic Floor
- Myofascial Trigger Point Release
- Structural/Biomechanical Correction



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Goals of CTM

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



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MTrP Release

- Manual Technique
 - Identify MTrP, compress, contract muscle very gently 10-15x or until you feel release of MTrP
 - Identify MTrP, compress for 60-90 sec





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Pelvic Floor Treatment

- Lengthen PFMs if shortened/hypertonic
 - Contract-relax
 - Reciprocal inhibition
 - Compression
 - Strain/Counterstrain
 - Using ROM
- Eliminate MTrPs manually or with dry needles/injections
- Normalize motor control
 - Concentric, eccentric contraction and volitional relaxation
 - Manual proprioceptive training
 - Biofeedback
 - Pelvic floor drops



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Adverse Neural Tension

- Test nerve by lengthening it until symptoms are produced
- Treatment consists of glides which involve lengthening the nerve in one location while shortening it in another, usually across a joint



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Pudendal Nerve Mobilization





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Structure and Biomechanics

- Mobilize/correct SIJD, stabilize SI joint
- Mobilize, correct spine dysfunctions, stabilize
- Identify LLD and make adjustments as necessary
- Correct muscle imbalances
 - Avoid strengthening muscles with TPs until TPs are eliminated
- Identify and correct postural abnormalities



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Home Exercise Program

- PNF D2, “drops”
- Ice massage
- Aerobic exercise
- Partner training
 - CTM, internal MFR
- Paradoxical Relaxation
 - Headache in the Pelvis, by David Wise, PhD
- Home pudendal nerve glides

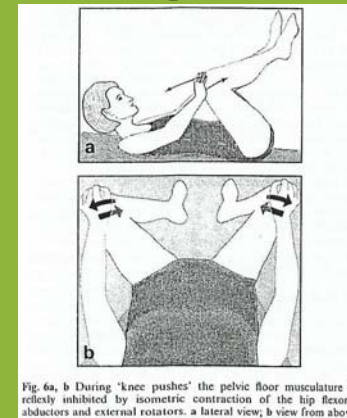


Fig. 6a, b During 'knee pushes' the pelvic floor musculature is reflexly inhibited by isometric contraction of the hip flexors, abductors and external rotators. a lateral view; b view from above





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Frequency/Duration

- 1-2x/week, at least 1 hour each
- At least 12 sessions, then re-assess
- Chronic sufferers
 - 6-9 months typical, but not always 1x/wk
- Very involved and long-time sufferer
 - 9-12 months
- Will likely need maintenance treatment throughout life
- Expect ups and downs!



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Utilization of Physical Therapy

- Refer to a physical therapist ASAP when musculoskeletal impairments are identified/suspected
- www.pelvicpain.org
- www.spuninfo.org
- www.pelvicpainrehab.com
- www.apta.com
 - Section on Women's Health



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Upcoming Courses

De-Mystifying Pudendal Neuralgia: A Physical Therapist's Approach

Atlanta, GA: February 7-8, 2009

Chicago, IL: April 4-5, 2009

Houston, TX: January 30-21, 2010

www.pelvicpainrehab.com



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Questions?

Thank You!