The Physical Therapist’s Approach to the Female Pelvic Floor Musculature Examination and Treatment.

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The Core and the Pelvic floor muscles (PFM)
- Lee et al. define the core as a “canister”
  - The diaphragm
  - The pelvic floor muscles
  - The obliques and abdominal muscles
  - The erector spinae

Functions of the PFM
- Support
- Sphincter
- Sexual
- Stabilize
- Sump pump (Mitchell 1999)

Evaluation of the PFM
- Contract
- Relax
- Descend or drop
- Tone
- Strength
- Control

Contraction and relaxation assessment
ICS 2005, 2010
- Voluntary contractions
  - Absent
  - Weak
  - Normal
  - Strong
- Voluntary relaxation
  - Absent
  - Partial
  - Complete

Herman & Wallace Pelvic Rehabilitation Institute
www.hermanwallace.com
Various phases of PFM

- Normal
- Underactive
- Overactive
- Nonfunctioning

Anatomy of the female pelvic floor - bony landmarks

Female urogenital and musculoskeletal structures - the first layer

- Urogenital triangle
  - bulbocavernosus, ischiocavernosus and superficial transverse perineal
- Anal triangle
  - external anal sphincter (anal sphincter and levator ani muscles)
  - levator ani=pubococcygeus and iliococcygeus
- Perineal body

More bony landmarks and sphincters

Female urogenital and musculoskeletal structures - first layer

Layers of the Pelvic floor

- First layer
  - urogenital and anal triangles
- Second layer
  - Deep urogenital diaphragm
- Third layer
  - Pelvic diaphragm
Some commonly treated dysfunction of the female pelvic floor musculature

- Vulvodynia, vestibulitis or vestibulodynia
- Dyspareunia
- Interstitial cystitis
- Pre and post pregnancy issues
- Incontinence—urinary and fecal
- Pelvic organ prolapse
  - Cystocele, urethrocele
  - Rectocele
- Enterocele

Vulvodynia, vestibulitis or vestibulodynia

- ISSVD defines vulvodynia as “vulvar discomfort, most often described as burning pain in the absence of relevant findings or specific, clinically identifiable, neurologic disorder.”

Two classifications (nva.org)

- Generalized vulvodynia
  - provoked, unprovoked and mixed
- Localized vulvodynia

Symptoms of vulvodynia

- Stinging
- Irritation
- Allodynia
- Hyperalgesia
- High tone in the pelvic floor
- Pain
- Rawness
- Burning
- Painful intercourse
- Painful penetration

Vulvodynia is not:

- Chronic yeast infection
- Bacterial infection
- Sub-clinical HPV
- Psychosomatic disorder

Findings

- May or may not have any visible findings
- Possible redness around the vestibule
- Possible hyperalgesia or alldynia around the vestibule
- Will have a positive q-tip test.
Two types of vulvodynia

- Primary - at first attempt of penetration, with intercourse, vaginal exam or insertion of a tampon
- Secondary - after a certain period of pain free penetration

Physical therapy evaluation parameters

- History
- Physical exam - musculoskeletal exam including spine
- Strength, ROM, trigger points
- Spasms, abnormal sensations
- INTERNAL and EXTERNAL pelvic floor examination

Resources for vulvodynia

- Vulval pain society [www.vul-pain.dircon.co.uk](http://www.vul-pain.dircon.co.uk)
- National vulvodynia association [www.nva.org](http://www.nva.org)
- Pelvic pain society [www.pelvicpain.org](http://www.pelvicpain.org)
- International pelvic pain society IPPS

Treatments for vulvodynia

- Self care
- Manual orthopedic tech
- Pelvic floor specific treatment
- Biofeedback - SEMG
- Modalities - TENS, vibration or US
Dyspareunia

- Pain localized to the vagina with penetration or thrusting
- Marinoff Scale
  - 0 no problems
  - 1 discomfort that does not affect completion
  - 2 pain interrupts or prevents completion
  - 3 pain prevents any attempts at intercourse

Clinical findings

- Vulvar tissue may be pale
- Posterior fourchette may be tight
- Penetration into the vagina may be painful or impossible
- Pain with pelvic exam
- Guarding is quite common
- SEMG baseline above 2 mv

Symptoms

- May be lifelong or acquired
- Constant or situational
- Superficial or deep

Treatment goals with Dyspareunia

- Increased muscle relaxation
- Scar tissue mobility
- Pain free gyn exam, insertion of tampon and sexual activity
- Improved Marinoff scale

Treatment options for Dyspareunia

- Biofeedback for relaxation
- Lubrication
- Pelvic floor manual techniques
- Stretching of scar tissue internally and externally
  - Use of dilators
  - Ultrasound for scar mobility
Interstitial cystitis - painful bladder syndrome

Symptoms of IC
- Urinary urgency with increased pain, pressure, burning or spasm
- Increased frequency >8/day
- Wakes up at night to urinate
- Dyspareunia
- Urine cultures are negative

Types of IC
- Non ulcer
  - Cystoscopy shows hemorrhages
  - Best response to medication (Elmiron and or Elavil)\(^1\)
- Hunners ulcers
  - Better response to TENS unit

Vicious pain cycle of IC
- Chronic symptoms “up-regulated”
- Myofascial guarding
- Trigger points
- Increased pain sensitivity

Treatments of IC
- Meds as appropriate
- Diet modification
- Stress management
- Physical therapy
- Hydrodistention
- Intra-vesicle distillations
- Neurostimulation
PT Evaluation for IC

- PFM assessment
- Musculoskeletal assessment
- Bladder diary
- Outcome measures

PT treatment of IC/PBS

- SEMG
- Relax the over active muscles/down training of the pelvic floor muscles
- Breathing techniques with imagery
- Manual therapy
- Therapeutic exercise
- Electro therapy
- Patient education
  - Double voiding
  - Delay the urge

Diet modification for IC

- 51-62% report diet affects symptoms
- Coffee, caffeine, carbonation, artificial sweeteners, chocolate, alcohol, citrus fruits and tomato

Web resources for IC

- www.painful-bladder.org
- Webcasts.prous.com
- www.uroweb.org

Pelvic Organ Prolapse

- Decent of one or more
  - the anterior vaginal wall
  - the posterior vaginal wall
  - the apex of the vagina (cervix/uterus)
  - the vault after a hysterectomy

Cele’s

- Cystocele-bladder
- Urethrocele-urethra
- Cystourethrocele-combination of above
- Apical or uterine prolapse-uterus descends
- Enteroccele-intestines
- Rectocele-rectum
Grading of Prolapse – ICS system

- Stage 0 no prolapse
- Stage 1 – 1cm above hymen
- Stage 2 – less than 1 cm above or below the hymen
- Stage 3 – greater than 1 cm below they hymen, ¾ the length of vagina
- Stage 4 – complete eversion of vagina

Symptoms of celes

- Feeling of pressure or heaviness in the vagina
- Pain/Sensation of sitting on something
- Low back pain which decreases with lying down
- Blood stained or smelly discharge
- Symptoms progress as the day

Treatments of celes

- Hip elevated exercises
- Pelvic bracing to include the entire canister-SEMG-e-stim
- Double void
- Splint
- Avoid intrabdominal pressure
- Behavioral and postural modifications
- Pessary management

Urinary incontinence

- ICS defines it “any involuntary loss of urine”
- "urinary incontinence is a symptom or a sign not a disease"

Normal voiding vs. dysfunctional voiding

- Normal
  - 5-7x per day
  - 3-4 hours at a time
  - No nighttime voids
  - No “JIC”
- Dysfunctional
  - JIC “just incase voiding”
  - Semi squatting
  - PFM ex on the toiler
  - Straining
  - Post partum voiding
Types of UI

- Urge incontinence
  - Bladder contraction
- Stress incontinence
  - Physical exertion
- Mixed incontinence
- Overflow

Treatments for UI

- Avoid dietary irritants
  - straining
  - constipation
  - night time voiding
  - pads
- Increase pelvic floor strength-the KNACK method
- Go every 3-4 hrs
- 5-7x in 24 hrs
- No Just in case “JIC”
- 8 Mississippi
- Drink enough water
- Sit on the toilet
- Go before and after intercourse
- Posture re-education
- Manual techniques for pelvis and spinal dysfunctions
- Exercise and strengthening regimen
- Perineal stretching prior to delivery

Pre and postpartum pain

- Low back pain and Sciatica
- Interscapular pain
- Groin or pubic pain
- Spasms in the erector spinae muscles
- Problems associated with bed rest

Musculoskeletal issues

- Altered posture
- Muscle imbalance
- Changes in spinal mobility
- Fluctuating hormones
  - Excessive joint mobility
  - Weakness in the core

Physical therapy treatment for pregnancy

- Posture re-education
- Manual techniques for pelvis and spinal dysfunctions
- Exercise and strengthening regimen
- Perineal stretching prior to delivery

Additional diagnoses

- Endometriosis
- Bowel dysfunctions and constipation
- Abdominal wall impairments
- Post surgical scarring
- Internal and external tissue restrictions
- Vaginismus
- Coccydynia
Pelvic Floor Pain treatment
PT approach

- Therapeutic exercise
- Relaxation exercises
- Postural and functional training
- Bladder training
- BFB
- Electrotherapy
- Manual therapy
- Patient education-use of self stretching tech.