به نام خدا
Musculoskeletal dysfunctions in CPP
Definition CPP: CHRONIC PELVIC PAIN

• Pain in the lower abdomen, pelvis or perineum

Occurrence of persistent or recurrent episodic pelvic pain associated with symptoms suggestive of:

- lower urinary tract
- sexual
- bowel
- gynecological dysfunction

- The pain may be described as aching or burning in the area of the perineum or abdomen
Acute pelvic pain

- It is most common
- After surgery, trauma or inflammation
- Pain tends to be immediate, severe and short

Chronic pelvic pain

- It is more difficult to understand
- Greater than 6 months
- Localized to the anatomical pelvis
- Cause functional disability, patients quality of life - rest and sleep
Symptoms of chronic pelvic pain

- In addition to pain in lower abdomen and pelvis, include:
  - Pain in the hip or buttock
  - In tailbone
  - Joints of pelvis
  - Sexual intercourse
  - Tender points in abdomen
  - Reduced ROM
  - Urinary frequency & urgency incontinence
  - Constipation
  - Painful bowel movement
Functions of the pelvic floor

• Supportive
• Sphincteric
• Sexual
• Stabilization
Innervations

• 1st muscle layer, compressor urethra-deep transverse perineal: pudemdal
• Internal and external anal sphincter: perineal branch of
• Levator ani
• Obturator internus
Other structures

- Viscera
- Ligaments
- fascia
- Tendons in and around the pelvis
- Lymph and blood supply
- Relevant muscles:
  - Abdomen, gluteal, psoas, adductors,
• Whole pelvis
• Supportive system
• Pelvic floor muscles
• Ligaments
• Fascia
• Boat in the dock theory
• Pelvic floor muscles function normally:
  • Normal tension
  • Constant tone of PFM: relieve tension
Conditions that contribute to CPP

- Gynecological adhesions
- Endometriosis
- Ovulatory pain
- Pelvic congestion syndrome
- POP
- Chronic UTIs
- Chronic bladder infection
- IBS
- Colitis
- constipation

- Degenerative joints
- Disease poor posture
- Low back pain
- Hernies
- Fibromyalgia
- Depression
- Bipolar disorders
- Sexual trauma
- Myofascial pain(Trigger points)
Etiology of pelvic floor dysfunctions

- Pelvic floor dysfunctions are due to:
  - Underactivity of PFM (Weakness) - supportive
  - Over activity of PFM
  - Impaired motor control - dyssynergia - pelvic floor incoordination
  - Fascia and connective tissue disuse
Symptoms hypertonous dysfunction (PAIN)

- Visceral- somatic disorder
- Trauma
- Dermatologic
- Psychogenic
- pain in lumbar, prevaginal, perirectal, lower abdomen, coccygeal, posterior thigh
- Vulvar burning
- Dyspareunia
- constipation
Causes

hypertonus dysfunction(PAIN)

• Joint dysfunction of lumbar, SI, coccyx, symphysis pubis
• Pelvic fractures
• Habitual postural dysfunctions
• Childbirth trauma
• Surgical trauma
• Pelvic disease
• Hemorrhoid/ fissures
• Bladder disorders
Hypertonus dysfunction (PAIN): associated myofascial structures

• Piriformis-pudendal nerve
• Refers pain to SIJ, laterally to buttocks/ posterior hip- thigh
• Obturator internus: levator ani
• Refers pain in to vagina, posterior thigh- feeling of fullness of rectum
Supportive dysfunctions

• Loss of strength/integrity of connective tissue and muscles
• Symptoms: bowel/bladder incontinence
• POP-Low back pain,
• Suprapubic pressure
• UTI’s
Supportive dysfunctions (causes)

- Obesity
- Chronic cough, asthma, smoke
- Lifting
- Chronic constipation (straining)
- Hysterectomy
- Pelvic fractures/malignancies
Incoordination dysfunctions

• Faulty tissue contractility
• Difficulty isolating PFM
• Symptoms
  • Incontinence/constipation
  • Pop
  • Tissue restrictions

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Incoordination dysfunctions (causes)

• Chronic straining with defecation
• Muscle strength imbalances
• Poor toileting habits
• Myofascial adhesions (scar)
• CNS
• Surgical trauma
Disuse dysfunctions

• Etiology: lack of awareness of pelvic floor function
• Symptoms: PFM weakness- lack of coordination
• Causes:
  • Modesty
  • Lack of training
  • Muscle imbalance
Etiology

- Disorders of symphysis pubis
- Hip disorders
- Pelvic obliquity
- Sacroiliac joint disorders
- Coccydynia
- Abdominal wall/ anterior pelvic pain
- Piriformis/buttock pain
- Lumbar spine disorders
- Pudendal neuralgia
- Dyspareunia
- Vaginismus
- Vulvodynia
- Levator ani syndrome
- Interstitial cystitis
- Endometriosis
• Dyspareunia:
  • Painful urinary
  • Sitting
• Vaginismus:
  • Sudden contraction
  • Dyssynergi
• Vulvodynia:
  • Local pain
Levator ani syndrome

- Deep spasm
- Stiffness
- Pain, pressure, ache in vagina or rectum
- Thigh, coccyx, sacrum, lower abdomen
- Repeated straining
Anismus

- Incomplete defecation
- Pain in rectum
- Anus restricting and opening
- Trauma
- Falling
- **Coccygodynia:**
  - Falling, arthritic changes, PF spasm
  - Birthing, constipation
Low back pain

- Herniated disc
- Spasm, weakness, osteoporosis
- Urinary retention, constipation, incontinency
- Traumatic
- PF dysfunction
- Nerve examination
Interstitial cystitis

• Bladder, abdominal and pelvic floor pain
• Urinary frequency- urgency
• Increased muscle tightness
• Pain
• function, incoordination. Spasm
• Trigger point
Endometriosis

• Adhesions
• Flexibility, smooth movement
• painful
Physical therapy process

• Assessment
• Diagnosis
• Planning
• Intervention
• evaluation
Assessment

- Musculoskeletal
- Mechanical
  - Local
  - Global
- Visceral
- Neural
  - Reflex
  - Entrapment
- Vascular
- Systemic disorders
Assessment

- Impairment
- Functional limitation
- Disabilities
- History taking
- Screening
- Specific tests
- visual observation
- Palpation
- Muscle activity
Assessment

• Visually inspect the perineum at rest
• Observe PFM contraction, relaxation and bearing down
• Check sensation/neurological integrity
• Palpate the external tissues, sites of possible pain referral and the perineum. quality, sensation, temperature and tenderness.
• sensitivity to light touch in women with urogenital pain
• Palpate the internal vagina/rectum  
  ▪ Presence of pain. Identify and record site, nature and whether it is localized or diffuse.
  ▪ Pelvic floor muscle tone: compliance and springy
  ▪ Muscle contractile activity
  ▪ Digital palpation: PFM contractility, symmetry and coordination
• obturator internus, psoas, gluteal, abdominal and piriformis muscle abnormality and pain
• Surface electromyography
• Hip alignment
Dysfunction may be:

- primarily from the PFM (superfascial & deep)
- secondary to visceral changes (lower urinary tract, reproductive tract or anorectum)
- referred from other pelvic somatic (cutaneous and muscular) structures
The role of posture and pelvic alignment:

- Rib cage
- Thoracic mobility
- Lumbar lordosis
- Pelvic floor flexibility
- Sacral mobility
- Coccyx movement
- Fascia restriction
- Movement with pelvic floor contraction

A. 

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Assessment of vaginal wall

- Inspection
- Skin, skar, prolapse
- Muscular function
- Degree of descent
- Contract- relax
- Pf muscle tone
- Pf muscle strength
- Lengthening
- Relaxation
- Bulbocavernosus reflex
- Anal wink reflex
- Timing
Relationship between Diaphragm and pelvic floor muscle function

- Inspiration
- Exhalation
- Discoordination
(a) Parietal pleura, visceral pleura, and pleural cavity.
visceral

• Visceral assessment
• Mobility
• Motility
Diagnosis

• Pathophysiology
Planning

• Improvement of daily living
• Pre contraction
• Sport
• Build up muscle volume
• Stiffness
• Automatic PFM action
• Reduce leakage: social activities (QOL)
• Improve timing
• Alter length- stiffness (anatomy)
Common treatment approaches for PFM physiotherapy

• Facilitation
• Mobilization
• Strengthening/relaxation
• Normalization of tone
• Pain modification
• Exercise
• Postural training/functional
• Diaphragmatic breathing
• Proprioception
Physical therapy treatments:

- **MANUAL THERAPY:** reducing muscle tension
  - Trigger point release
  - Myofascial release
  - Visceral manipulation

- **Exercise:** reinforce normal muscle contraction and relaxation
  - Pelvic floor muscle exercises
  - Relaxation exercises + de-sensitization.
  - Stabilizing or strengthening exercises: normal function of muscle
  - Sensory awareness
  - Change body attitude
  - Movement synergy
  - Dysfunctional respiration patterns.
  - Cognitive behavioral stress management
General treatment options (cont)

- PFM over-activity
- MFR
- Dry needling
- Inhibitory exercises
- PRI
- Breathing exercises
- Dyssynergia and PFM motor control impairment:
  - Education- motor control training
- Fascia and connective tissue disorders
- Visceral manipulation
- Electrotherapy
Biofeedback

• Sensory biofeedback
• Pressure biofeedback
• Improved muscle contraction
• Decreased resting tension, instability and pain
Electrotherapy

• E-stim
  • Neurostimulation
  • Neuromodulation
  • Pain
  • Reeducation
  • Facilitation

• Ultrasound
Treatment (cont)

- Visceral manipulation
Conclusion:

- Pain relief during sexual activity
- Reduction of abdominal pain and spasm
- Trigger points released
- Myofascial released
- Improvement of frequency incontinency
- Times of constipation reduced
- Pain relief during defecation
- Relaxation of Pelvic floor muscles
- Improvement of coordination and motor control