THE UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER

Making Gains with Chronic Pelvic Pain

Ramona Phinehas, MD FACOG

Associate Professor

UTHSC OBGYN Residency Program Director

Disclosures

None

Learning Objectives

- Define Chronic Pelvic Pain (CPP)
- Discuss the differential diagnosis
- Discuss evaluation and treatment
- Understand how to optimize outcomes in patients with CPP

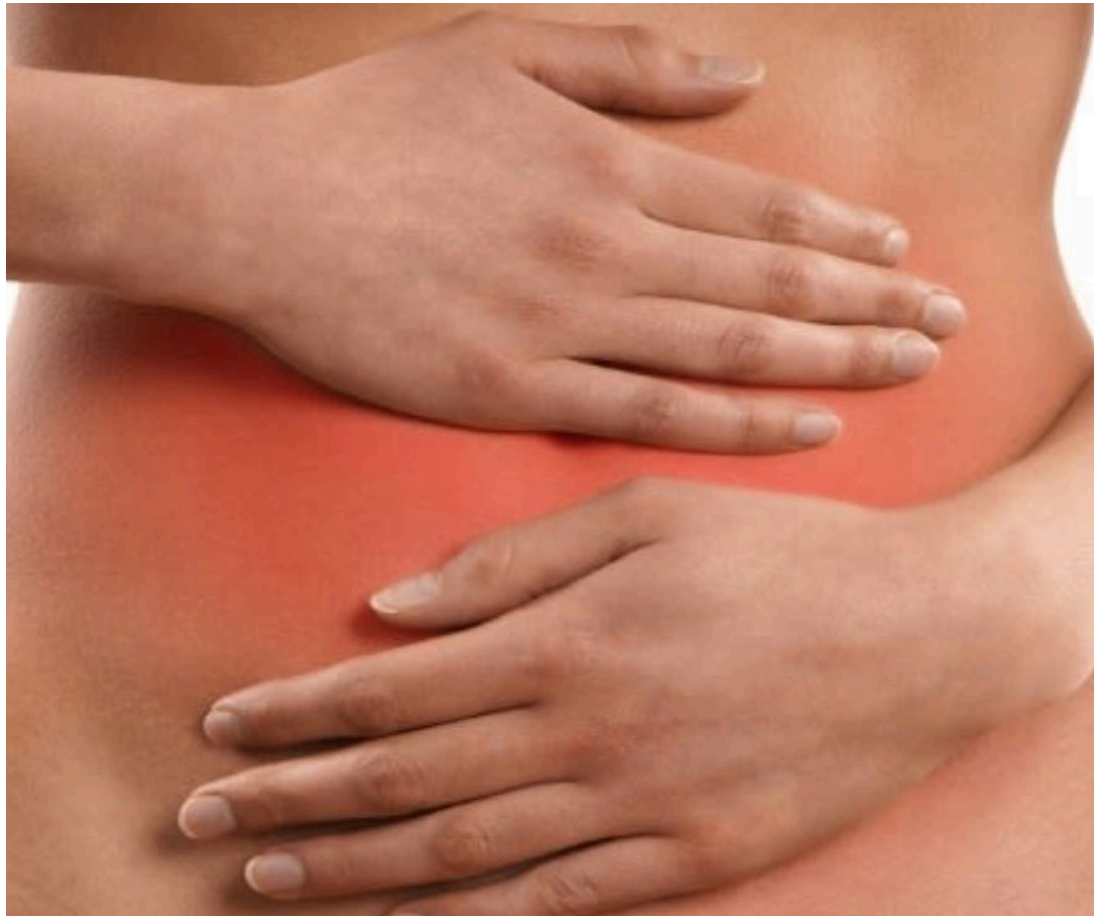
A Headache in the Pelvis

Chronic Pelvic Pain

- Affects the quality of life
- Journey is long and frustrating
- Economic impact US $3 Billion annually
- Formidable diagnostic challenge
- Thorough history and physical examination

Definition

- Pelvic pain of 6 months or more duration significantly affects daily functioning and quality of life.
- Non-cyclic pain
- Persistent
- Pelvis, anterior abdominal wall, lower back, buttocks



Chronic Pelvic Pain – Part 1:
Prevalence, Evaluation, Etiology, and Comorbidies

Lee A. Learman, MD, PhD

CPP is believed to affect 4% - 40% of women who seek primary care

Making this symptom as common as asthma and back pain, more common than migraine

CPP is responsible for 10% of all referrals to gynecologists

12% of all hysterectomies

More than 40% of all laparoscopies.

Pain Terms

Allodynia- pain resulting from a nonnoxious stimulus

Hyperalgesia- painful sensation of abnormal severity after noxious stimulation

Neuropathic pain- pain persisting after healing of disease or trauma-induced tissue damage

Neuroplasticity- the malleability of central pain perception mechanisms in response to chronic pain states

Nociceptor- a nerve receptor for pain

Common Conditions

Visceral	Neuromusculoskeletal	Psychosocial
Gynecologic Adenomyosis Adnexal mass PID Endometriosis Leiomyoma Ovarian remnant syndrome Pelvic adhesions Vulvodynia Gastrointestinal Celiac disease Diverticular colitis Inflammatory bowel disease Irritable bowel syndrome Urologic Chronic or complicated urinary tract infection Interstitial cystitis Painful bladder syndrome Urethral diverticulum	Fibromyalgia Myofascial syndromes Coccydynia Musculus levator ani syndrome Abdominal wall syndromes Muscular injury Trigger point Neurologic Neuralgia Neuropathic pain	Abuse Physical, emotional, sexual Depressive disorders Major depressive disorder Substance-induced or medication-induced depressive disorder Anxiety disorders Generalized anxiety disorder Panic disorder Substance-induced or medication-induced anxiety disorder Substance use disorder Substance abuse Substance dependence

Evil Quintuplet

- Endometriosis
- Interstitial cystitis
- Irritable bowel syndrome
- Pelvic floor dysfunction
- Pudendal nerve entrapment

Evaluation

Evaluation

History

Physical Examination

HISTORY

SOCRATES		
S	Site	Where is the pain? Chest, abdomen, head, pelvis, etc. Is there a pattern of involvement?
O	Onset	When did it start? How did it start? What started it? Was it a sudden onset or more gradual? Has there been any change over time?
C	Character	What does pain feel like now? Type of pain - burning, shooting, stabbing, crushing, dull Pattern of pain - colicky, constant
R	Radiation	Where does it move to? Into back, arm, down a leg, etc
A	Association	Are any other signs or symptoms associated with pain? E.g. is there any neurological deficit (e.g. numbness where the pain is felt?) Does it cause nausea, light-headedness, inability to lie flat, etc
T	Timing	Time course – does the pain follow any pattern or worse at any time of the day? Is the pain associated with activities, e.g. movement, urination, eating, passing stool, coughing, is It constant / intermittent, how long does it last when it's there?
E	Exacerbating/relieving factors	What makes it better or worse? does anything change the pain?
S	Severity	How bad is it now? - Pain intensity: none, mild, moderate or severe; rank on a scale of 1-10 scale - Any interference with sleep or usual activities - Pain relief: none, slight, moderate, good or complete

UPOINT

System for clinically phenotyping of chronic pelvic pain

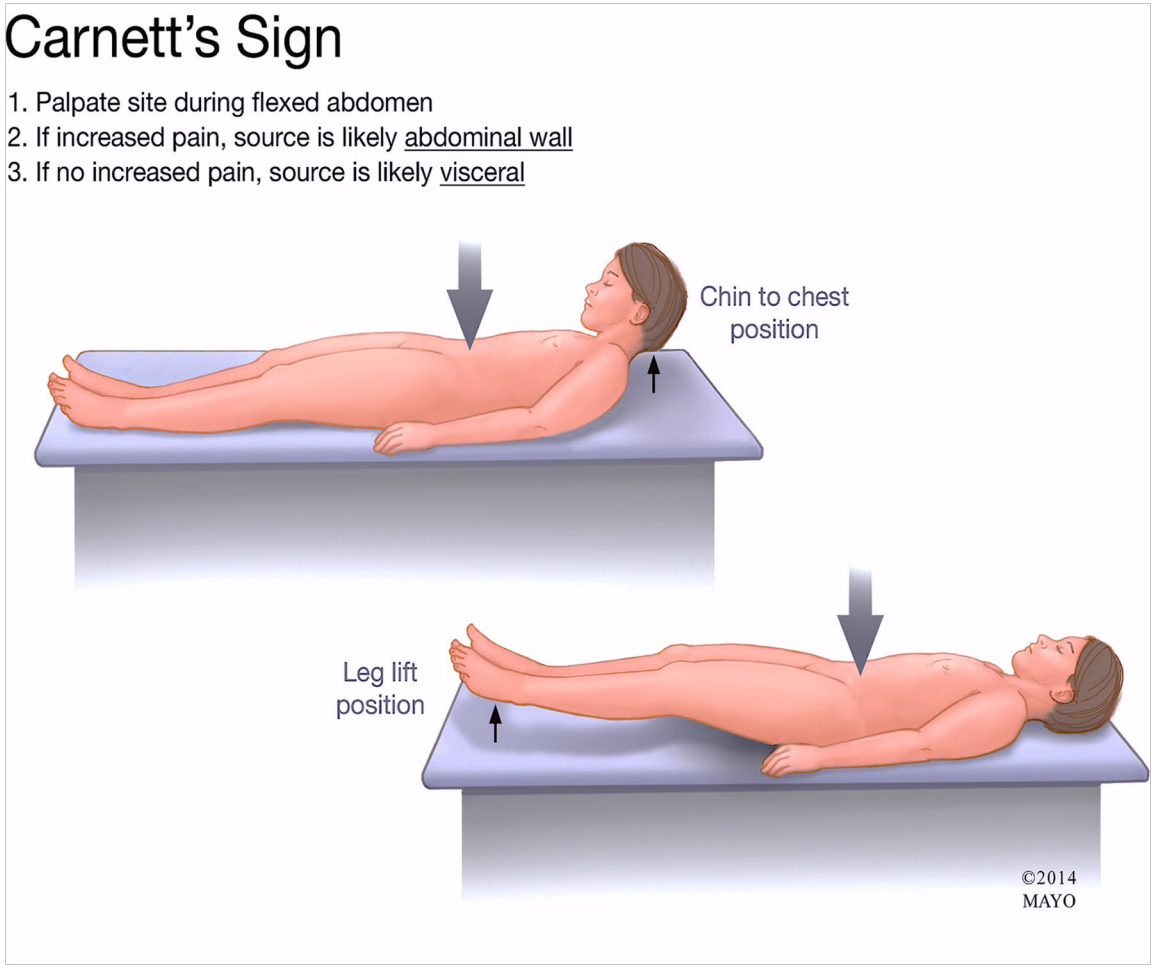
UPOINT	
Urinary	A post-void residual measured by ultrasound
Psychosocial	Ask about clinical depression and catastrophizing (helplessness, hopelessness)
Organ specific	Pain improvement with bladder emptying and tenderness, dysmenorrhea, and dyspareunia
Infection	Culture for Mycoplasma and Ureaplasma, urine culture
Neurologic/systemic	Ask about pain outside the pelvic and diagnosis of other pain syndromes
Muscle tenderness	Palpate the abdominal and pelvic skeletal muscles (via rectum or vagina) and check for spasm and trigger points

Physical Exam

- Back and Spine
  - Gait
  - Posture changes
  - Rotation of movements- FABER test
  - Palpation- tenderness of spine, paraspinal muscles, sacroiliac joints

Physical Exam

- Abdomen
  - Not evaluating “Acute Abdomen”
  - Visualize prior incisions- Nerve entrapment
  - Patient localizes pain
  - Palpation- Carnett’s sign
  - Palpable Mass
  - Hernias



Physical Exam

- Pelvic

Vulva Perineum	Vaginal introitus	Vagina
Cotton-tipped swab - ”walk” around the posterior vestibule looking for allodynia	Single finger test Vaginismus	Bleeding
Gentle retraction of the labia		Ulcers or other lesions
		Discharge
		Pap and cultures if indicated

Physical Exam

- Pelvic

Bimanual

- Cervix – cervical motion tenderness
- Uterus – mobility, enlargement, tenderness
- Adnexa - tenderness
- Bladder
- Pelvic side walls
- Uterosacral ligaments
- Anterior rectal wall
- Levator ani muscles

Rectovaginal

- Examination of the parametrial tissues, evidence of nodularity.

Tips during physical exam

- Communicate with the patient throughout the exam
- Try to begin from non-painful areas
- Begin the exam with a single finger
- Add abdominal hand last
- Stop immediately if the patient requests.

Labs

- Urinalysis, urine culture
- STD screen- Gonorrhea, Chlamydia, Trichomonas,
- Cultures- Mycoplasma, Ureaplasma
- Ultrasound
- CT scan
- Laparoscopy- Gold standard

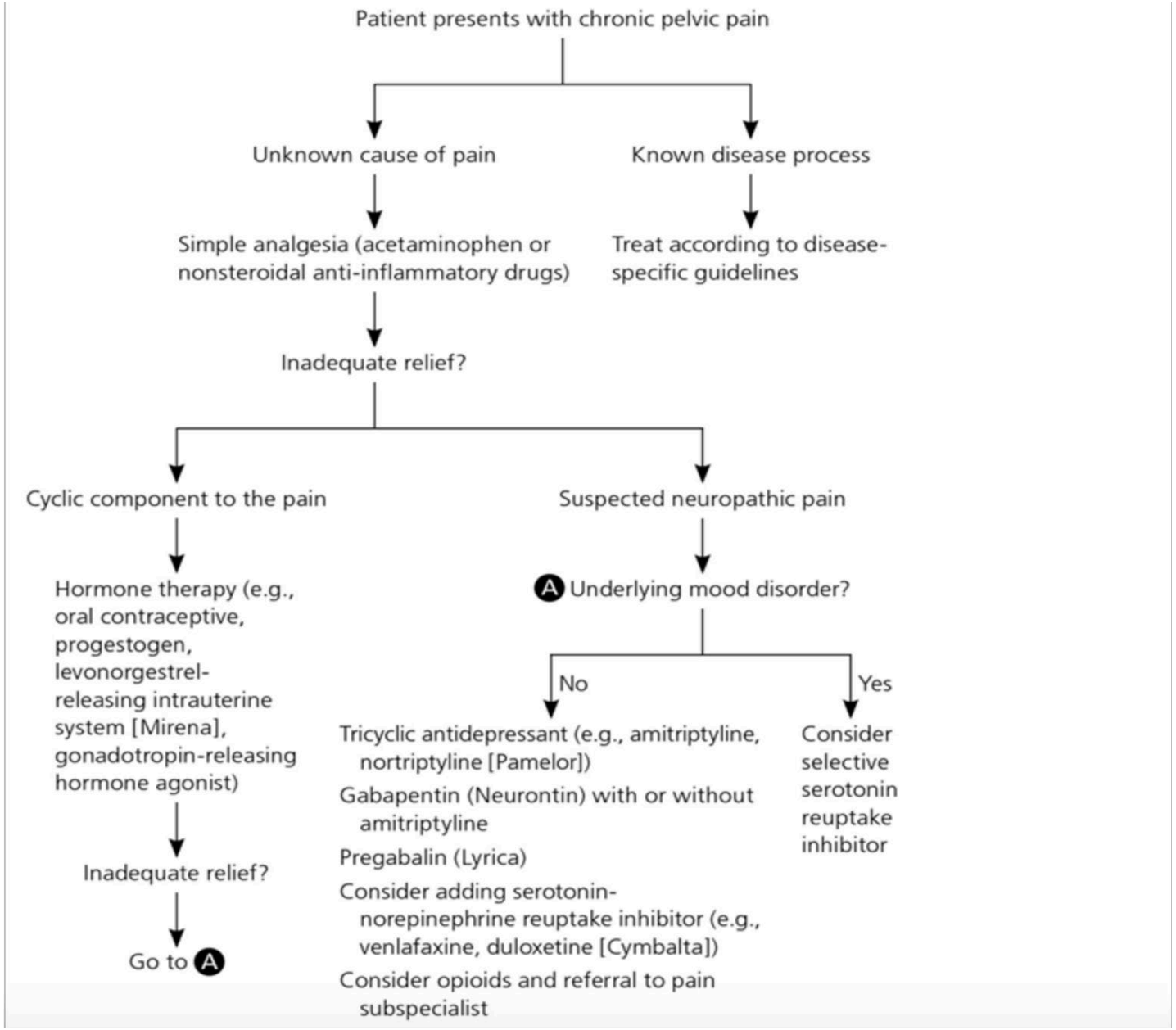
Management

DO's

- Reassurance and supportive treatment
- Multidisciplinary approach
- Judicious use of pharmacotherapy
- Treatment of PID

DONT's

- Miss multifactorial causes for pain
- Easy use of narcotics
- Misdiagnosis for Psychological causes
- Hysterectomy is not the ultimate treatment


Patient presents with chronic pelvic pain
Unknown cause of pain
Known disease process
Simple analgesia (acetaminophen or nonsteroidal anti-inflammatory drugs)
Treat according to disease-specific guidelines
Inadequate relief?
Cyclic component to the pain
Suspected neuropathic pain
Hormone therapy (e.g., oral contraceptive, progestogen, levonorgestrel-releasing intrauterine system [Mirena], gonadotropin-releasing hormone agonist)
A Underlying mood disorder?
No
Yes
Inadequate relief?
Tricyclic antidepressant (e.g., amitriptyline, nortriptyline [Pamelor])
Gabapentin (Neurontin) with or without amitriptyline
Pregabalin (Lyrica)
Consider adding serotonin-norepinephrine reuptake inhibitor (e.g., venlafaxine, duloxetine [Cymbalta])
Consider opioids and referral to pain subspecialist
Consider selective serotonin reuptake inhibitor
Go to A

Medications used to treat Nonspecific Chronic Pelvic Pain

AGENT	PAIN TYPE	COMMENT
Acetaminophen	Somatic	Arthritic pain
Gabapentin(Neurontin), Pregabalin(Lyrica)	Neuropathic	General neuropathic pain
Gabapentin + Amitriptyline	Neuropathic	Combination more effective than amitriptyline alone
NSAID	Inflammatory	Dysmenorrhea
Opiods	Chronic nonmalignant	Controversial long-term use
OCPs, progestogens, GnRH agonists	Cyclic	Good evidence- endometriosis
SSRI	Pain with underlying depression	Good evidence for Depression
TCAs, Serotonin norepinephrine reuptake inhibitors	Neuropathic	Limited on CPP

Surgery

- Diagnostic laparoscopy is the gold standard
- Ablation or excision of endometriosis
- Ovarian cystectomy
- Appendectomy
- Lysis of adhesions
- Cystourethroscopy with hydrodistension – diagnostic and therapeutic
- Nerve Block
- Sacral nerve block/ neuromodulation

Other therapies

- Pelvic floor Therapy
- Yoga
- Acupuncture
- Behavioral therapy- Cognitive Psychotherapy + Physiotherapy
- Follow-ups with USG and reassurance

Endometriosis

Endometriosis

- Premenstrual lower abdominal pain
- Dysmenorrhea, dyspareunia, hematuria
- Tender retroverted uterus, uterosacral nodules, pelvic mass

Oral contraceptives and DMPA

- Suppress ovulation and menstruation
- Cyclical or continuous
- Improves symptoms in up to 60-80%

GnRH agonists

- Lupron Depot (x 6-12 months), Goserelin (Zoladex) (6 months)
- Improves symptoms in up to 70-80%
- Side effects: hot flashes, vaginal dryness, insomnia, bone loss
- “Add back” estrogen +/- progesterone

3rd Generation Aromatase Inhibitors

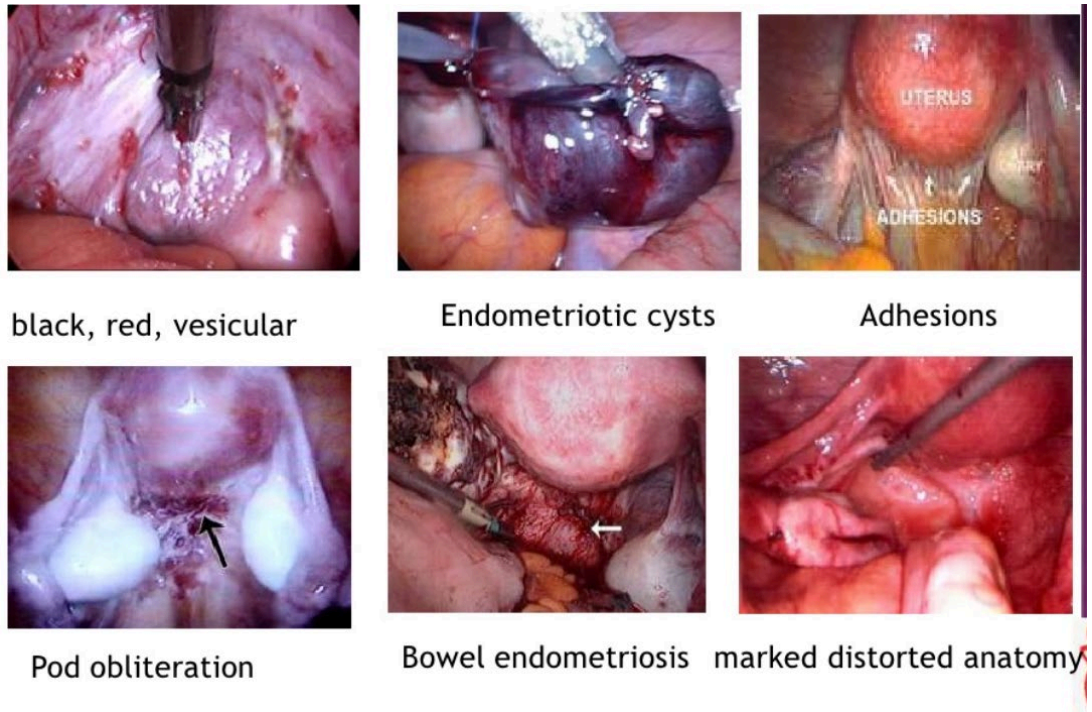
- Letrozole (Femara)
- Inhibits peripheral tissue conversion of androgens to estrogen, and thereby also decreases PGE2 production which is a potent inducer of aromatase activity
- Side effects: hot flashes, vaginal dryness, insomnia, bone loss
- Limited studies

GnRH antagonists

- Elagolix (Orilissa) (x6-24 months depending on dosage regimen) – oral agent
- 50-75% improvement in symptoms of non-menstrual pelvic pain and dysmenorrhea
- Fewer hypoestrogenic side effects and effects on BMD (?) – may still benefit from add-back therapy?
- Not superior to Lupron or Aromatase Inhibitors

Surgical

- Laparoscopic ablation/fulguration or excision
- Lysis of Adhesions
- LUNA and Presacral Neurectomy
- Hysterectomy +/- BSO



Interstitial Cystitis/Painful Bladder Syndrome

Interstitial Cystitis

- Chronic inflammatory condition of the bladder
- Loss of mucosal surface protection of the bladder (GAG) and thereby increased bladder permeability
- Genetic and Behavioral (chronic overdistension)
- Urinary urgency and frequency
- Suprapubic pressure and/or pain
- Pain is worse with bladder filling and sometimes improved with urinating
- Dietary associations - known bladder irritants
- Present in 38-85% of patients presenting with chronic pelvic pain

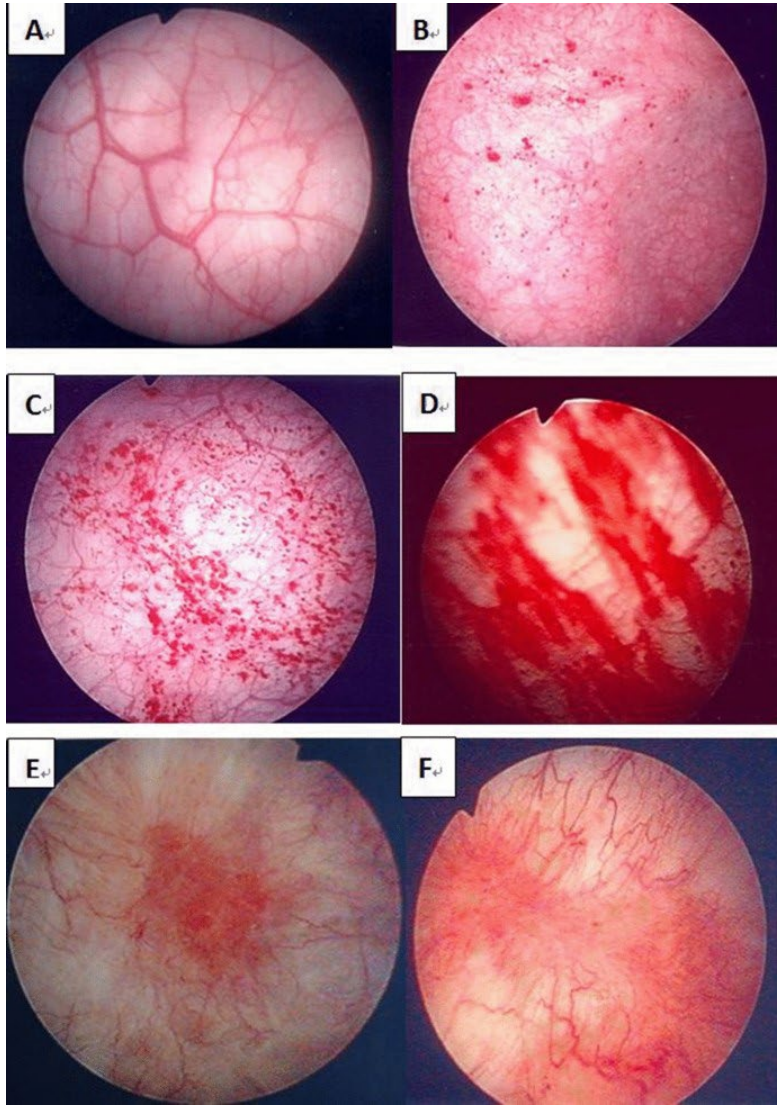
Interstitial Cystitis

Diagnosis

- Cystoscopy with bladder distension
- Potassium challenge test

Treatment

- Dietary modifications - avoidance of coffee, tea, soda, alcohol, citrus juices, and cranberry juice, foods and beverages containing artificial sweeteners, hot peppers, and spicy foods
- Timed voiding
- Antihistamines
- Bladder instillation therapy
- Intradetrusor Onabotulinumtoxix A Injection
- Elmiron (Pentosan Polysulfate Sodium) - FDA



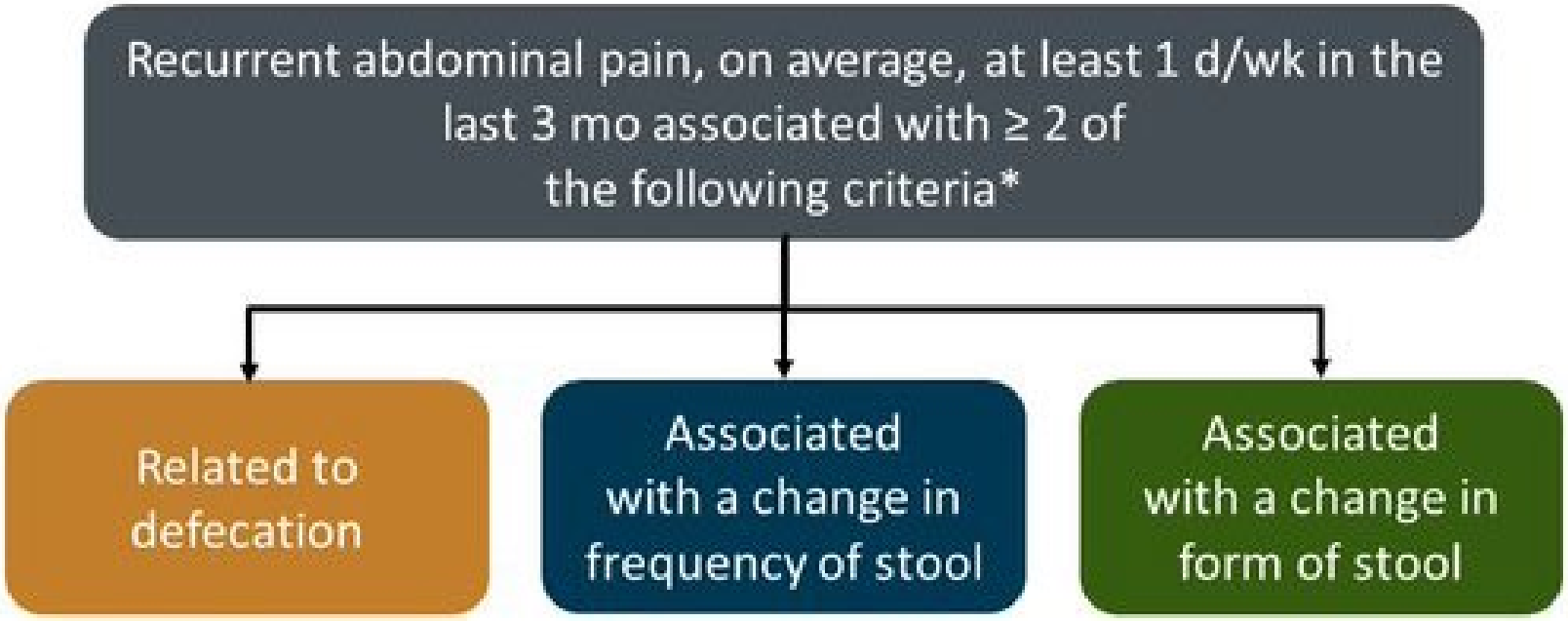
	Pentosan polysulfate	Antihistamines	Antidepressants	Neuroleptics	Supplementary oral therapy	Intravesical therapy
Mechanism of action	Re-establish endothelial lining [71]	Mast cell stabiliser	Modify pain, improves insomnia, anticholinergic effect	Decrease neurogenic inflammation	Decrease bladder discomfort	Decrease bladder discomfort, control bladder spasm
Example	-	Hydroxyzine [72] (sedating) Cetirizine [73] (non-sedating)	Tricyclics – amitriptyline, trazodone, doxepin, nortriptyline SSRI – paroxetine, fluoxetine, citalopram, venlafaxine, sertraline	Gabapentin, phenytoin, carbamazepine, valproate	Urinary analgesics, antiseptics, alkalizers, e.g. Phenazopyridine, Uromax, Urised	FDA approved: -Dimethyl sulfoxide (DMSO); [74] -Oxybutynin (5-10 mg crushed and suspended in 10cc of water); -Pentosan polysulfate/ heparin (daily) [75] Non-FDA approved: -Hyaluronidase [76] -Bacillus Calmette-Guérin (BCG) [77]
Dose	100-300 mg	25-75 mg	25-100 mg	100-800 mg	-	50cc
Route	Oral	Oral	Oral	Oral		catheterisation
Frequency	3 times/day	Once at night	Once at night	3 times/day		Once/week for > 6 weeks
Side effects	Headache, alopecia, GI upset	Visual disturbance, low blood pressure, GI upset	Sympathomimetic effect	Sedation, liver impairment		Bladder irritation
Others	Full effect may not be seen for 6-9 months. Compliance is necessary as benefit of therapy is dependent on length of time under treatment.	In spring and fall, when many IC patients suffer from seasonal allergies, an additional 10-25 mg every 6 hours may be required.	Imipramine should be avoided as this agent exacerbates dysfunctional voiding.			For patients who fail to respond to oral therapy

Irritable Bowel Syndrome

Irritable Bowel Syndrome

- Chronic relapsing and remitting abdomin-pelvic pain, bloating, and bowel dysfunction with diarrhea and/or constipation
- Affects 12% of the U.S. population
- 2:1 prevalence in women: men
- Peak age of 30-40’s
- Rare in women over 50
- Associated with anxiety and heightened stress
- IBS is identified in 50-75% of women with CPP

Updated ROME IV diagnostic criteria



IBS treatment

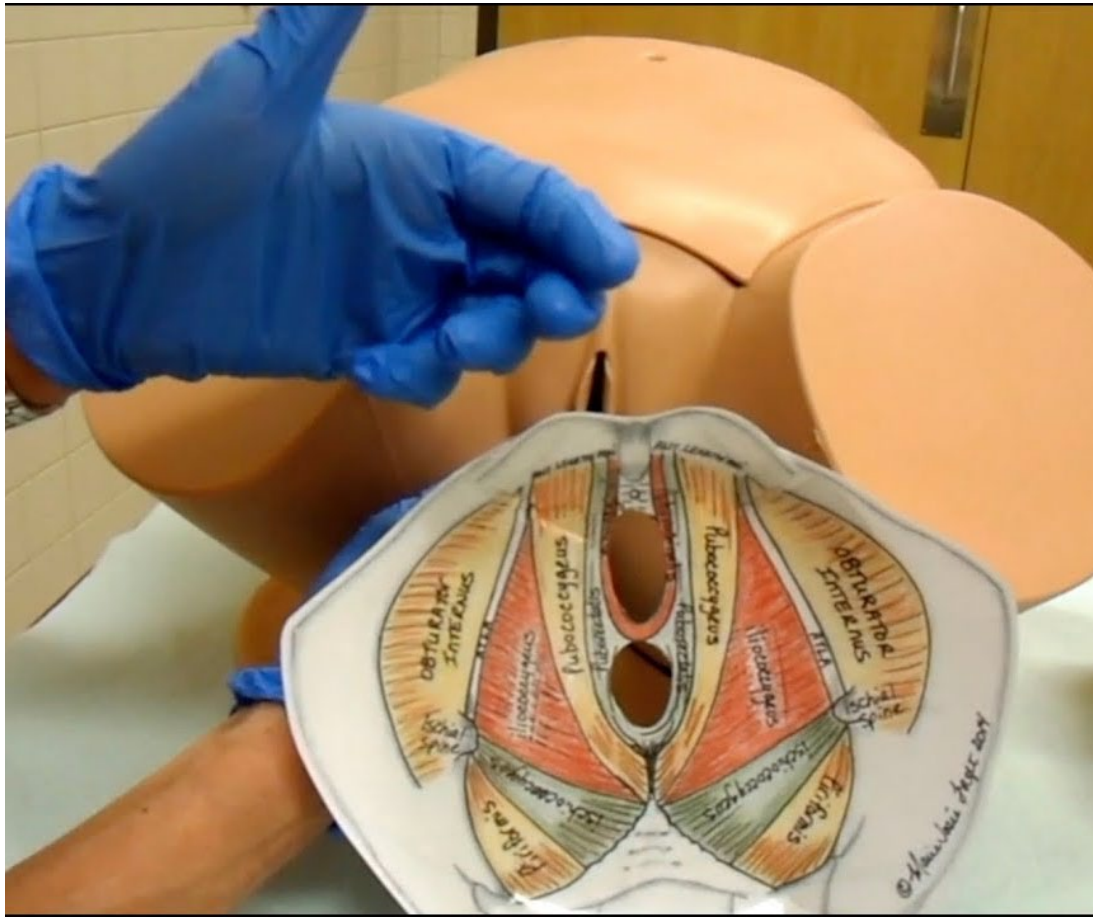
- Diet modifications – increase fiber, water
- OTC anti-diarrheal agents
- Linzess (Linaclotide) and Amitiza (Lubiprostone) – increase fluid content in stool
- Antispasmotics – Bentyl
- SSRIs
- TCAs
- Pain focused – Gabapentin (Neurontin) and Pregabalin (Lyrica)
- Cognitive-Behavioral Therapy, Stress Reduction Modalities, Biofeedback

Pelvic Floor Dysfunction

Pelvic Floor Dysfunction

- Well-known musculoskeletal cause for CPP- 85%
- Well localized, aching, and deep in nature, focal point tenderness
- Caused by obesity, pregnancy, childbirth, and menopause
- Myofascial pain elicited by pelvic floor palpation
- Presents as urinary/fecal incontinence and pelvic organ prolapse
- FABER test +
- Treatment- Pelvic floor therapy, pessary, biofeedback, prolapse corrective surgery

Myofascial trigger points

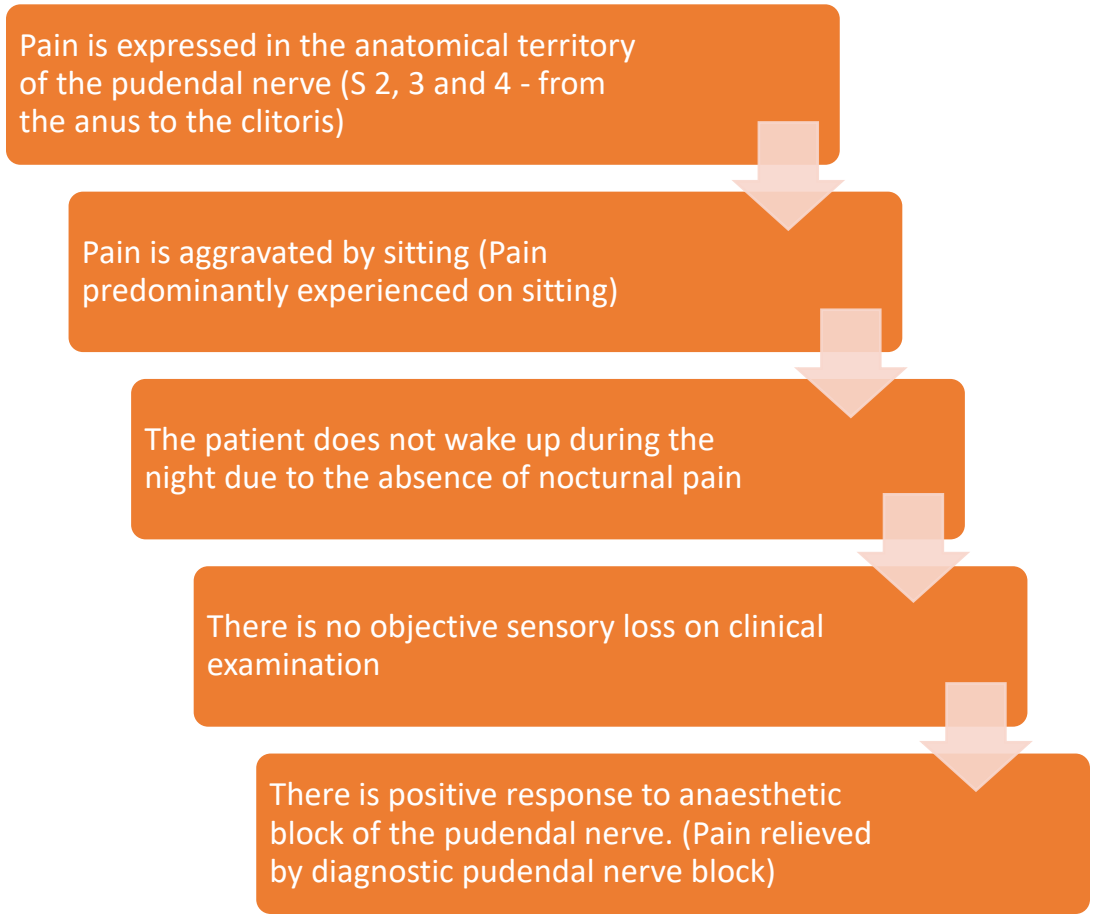


- Pelvic floor therapy
- Trigger point massage
- Botox injectons

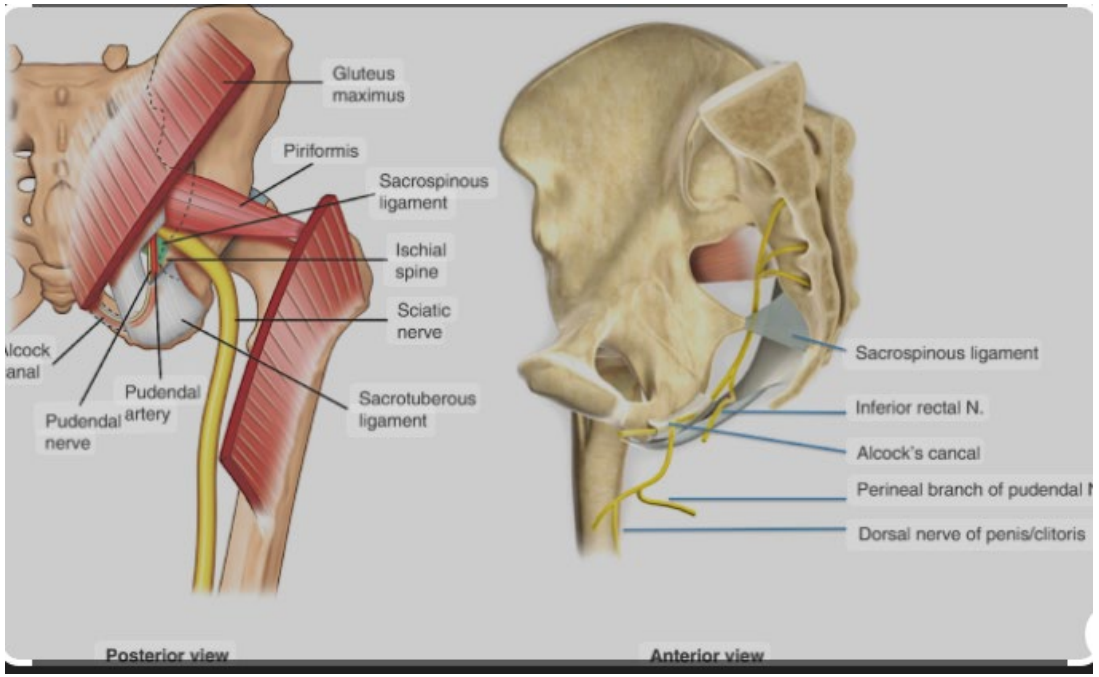
Pudendal Nerve Entrapment

Pudendal Nerve Entrapment

- Nantes' essential diagnostic criteria for pudendal nerve entrapment (all must be present



Pudendal nerve compression based on anatomy



- Type I - Entrapment below the piriformis muscle as the pudendal nerve exits the greater sciatic notch
- Type II - Entrapment between sacrospinous and sacrotuberous ligaments is the most common site of pudendal nerve entrapment
- Type III - Entrapment in the Alcock canal
- Type IV - Entrapment of terminal branches

Pudendal Nerve Entrapment- Treatment

- Conservative: Avoid painful activity Eg: cycling
- Physical Therapy: Helps with muscle stretching and releasing muscle spasms from Levator ani syndrome
- Cognitive behavioral therapy
- Pharmacology therapy: Analgesics, muscle relaxants , neuropathic pain
- Pudendal Nerve Block
- surgical decompression
- CT-guided pulsed dose radiofrequency ablation of the pudendal nerve
- Sacral neuromodulation

Pudendal Nerve Entrapment - Treatment

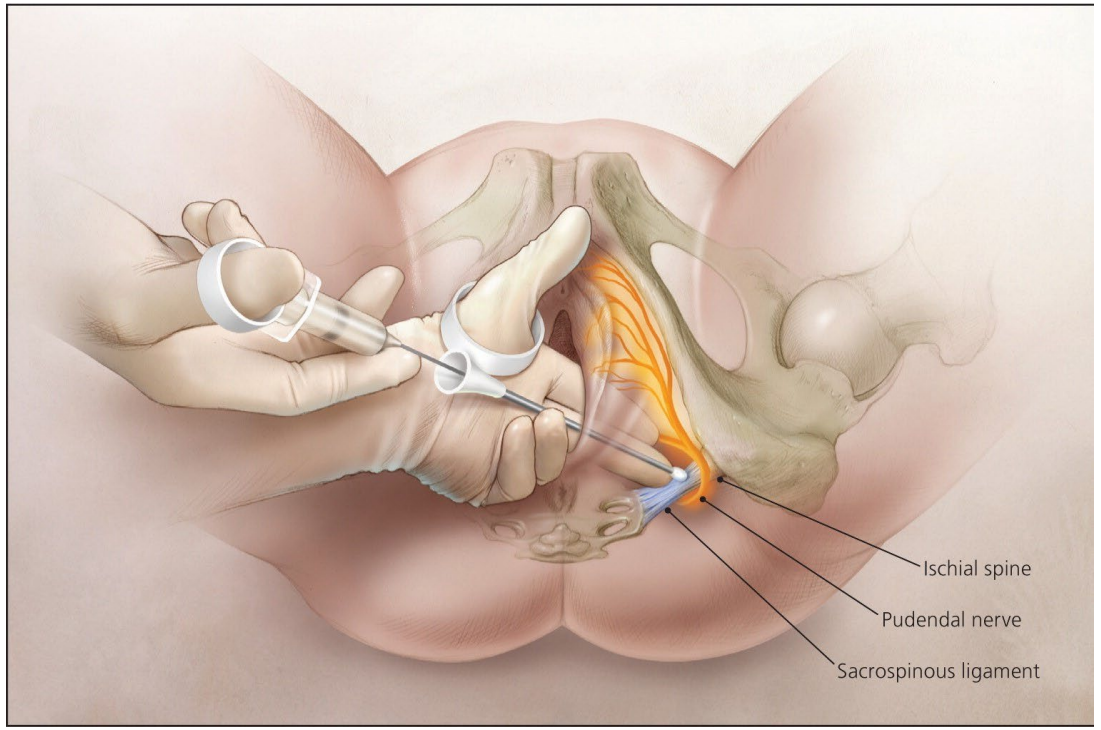
Pharmacology therapy: Analgesics, muscle relaxants , neuropathic pain

- Amitriptyline, starting at 10 mg HS and gradually increasing to 50 mg.
- Duloxetine (a selective serotonin-norepinephrine reuptake inhibitor) starting at 30 mg daily for seven days, then increasing to 60 mg daily. No benefit is seen from further dosage increases
- Gabapentin (with or without pregabalin), starting at 300 mg TID and gradually increasing up to a maximum of 900 mg TID
- Pregabalin (with or without gabapentin), starting at 75 mg BID and gradually increasing up to 300 mg BID

Pudendal Nerve Entrapment- Treatment

Pudenda Nerve Block

- Block can be unguided or guided USG, CT and flouroscopy
- Local anesthetic or steroid injected.
- Mixture includes 1% lidocaine, 0.25% bupivacaine, and a corticosteroid such as triamcinolone



References

- Steege, John F, MD et al: Chronic Pelvic Pain. Obstetrics & Gynecology 124(3): p 616-629, September 2014. Clinical expert series.
- Alexander M. Dydyk; Nishant Gupta: Chronic Pelvic Pain. Treasure Island (FL): StatPearls Publishing; 2025 Jan.
- RCOG: The Initial Management of Chronic Pelvic Pain. Green-top Guideline No. 41
- K Vincent et al: An update on the management of chronic pelvic pain in women. Anaesthesia 2021, 76 (Suppl. 4), 96–10
- Ibrahim I Bolaji* and Ka yan Shirley: An odyssey through chronic pelvic pain in women. Frontiers in Women's Health 2018
- Lee A. Learman, MD, PhD. Chronic Pelvic Pain—Part 2: Prevalence, Evaluation, Etiology, and Comorbidities. Advanced studies in medicine. June 2005
- Lee A. Learman, MD, PhD. Chronic Pelvic Pain—Part 1: An Integrated Management Approach. Advanced studies in medicine. June 2005
- ACOG: Practice Bulletin 2018

Questions?