Nelson: *Chronic Pelvic Pain and Dysmenorrhea*

**Chronic Pelvic Pain and Dysmenorrhea**

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**Conflict of Interest Disclosure**
Anita L. Nelson, MD
Barr, Bayer, Organon, Wyeth

- **Research Grants**
  Barr (Duramed), Bayer Healthcare, Wyeth

- **Speakers Bureau**
  Barr, Bayer, Organon, Wyeth

- **Consultant, Advisory Board**
  Barr, Bayer, Organon, Wyeth

**Learning Objectives**
At the conclusion of this presentation, the participant will be able to:
- List the causes of primary dysmenorrhea
- Describe the differential diagnosis of chronic pelvic pain
- List important elements in the history and physical examination that would suggest diagnosis
- Develop treatment plans for women with pain from endometriosis, interstitial cystitis and irritable bowel syndrome

**Chronic Pelvic Pain Definitional Issues**
- **Time frame**
  - 3 months? 6 months? 12 months?
- **Location**
  - Lower abdomen? Vulva? Buttocks?
- **Character**
  - Constant? Cyclic?
- **Intensity**

**ACOG Definition of Chronic Pelvic Pain (CPP)**
- Noncyclic pain of ≥ 6 months
- Localizes to
  - Anatomic pelvis
  - Anterior abdominal wall at or below umbilicus
  - Lumbosacral back
  - Buttocks
- Intensity: sufficient to cause functional disability for to lead to medical care

**ACOG. Practice Bulletin, No. 51. 2004 Mar**
Dysmenorrhea: Definitions

- **Primary dysmenorrhea**: pain associated with menses with no evidence of pelvic disease
- **Secondary dysmenorrhea**: pain associated with menses due to organic disease
  - Endometriosis
  - Outflow tract obstruction
  - Pelvic infection

Dysmenorrhea: Etiology

- Myometrial contractions
- Prostaglandins
  - PGF$_{2\alpha}$
- Psychological factors
  - Influence of peers and mother

Dysmenorrhea: Prevalence

- Overall, 45-70% of postpubertal women
- 15% have severe incapacitating pain 1-3 days per cycle
- Increases with age and onset of ovulatory cycles

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>12 years old</td>
<td>39%</td>
<td>&lt;15 years old 52.1%</td>
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<tr>
<td>17 years old</td>
<td>72%</td>
<td>15-19 years old 63.8%</td>
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</table>

Dysmenorrhea is the single greatest cause of lost days of school or work in women under age 25

Dysmenorrhea: Symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
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<th>Budoff</th>
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<tbody>
<tr>
<td>Nausea and/or vomiting</td>
<td>89%</td>
<td>77%</td>
</tr>
<tr>
<td>Fatigue/weakness</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Change in bowel movement</td>
<td>60%</td>
<td>71%</td>
</tr>
<tr>
<td>Backache</td>
<td>60%</td>
<td>91%</td>
</tr>
<tr>
<td>Dizziness</td>
<td>60%</td>
<td>66%</td>
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<tr>
<td>Headache</td>
<td>47%</td>
<td>83%</td>
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</table>

Prostaglandin Synthetase Inhibitors

- NSAIDs and COX-2 Inhibitors
  - Improve cramping pain
  - Reduce backaches, headaches and GI symptoms
  - May reduce blood loss if started early
Chronic Pelvic Pain and Dysmenorrhea

### OCs and Severity of Primary Dysmenorrhea

<table>
<thead>
<tr>
<th>Grade of Dysmenorrhea</th>
<th>None (0)</th>
<th>Mild (1)</th>
<th>Moderate (2)</th>
<th>Severe (3)</th>
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</thead>
<tbody>
<tr>
<td>% Women</td>
<td>OC User</td>
<td>Non-OC User</td>
<td>OC User</td>
<td>Non-OC User</td>
</tr>
<tr>
<td>None (0)</td>
<td>40</td>
<td>35</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Mild (1)</td>
<td>30</td>
<td>20</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Moderate (2)</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Severe (3)</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>10</td>
</tr>
</tbody>
</table>


### Other Hormonal Interventions
- DMPA
- LNG-IUS
- Other continuous combined hormonal methods
  - E.g., contraceptive vaginal ring

### Other Studied Therapies
- Nitroglycerin reduces dysmenorrhea
  - Low tolerability for headaches
- Magnesium: variable doses and regimens
- Nifedipine (calcium channel blocker)
  - Relaxes contraction, vasodilation promoted, decreased prostaglandin release
  - Adverse effects: flush, tachycardia, palpation, headaches
- Vitamin E and Vitamin B
  - Biologic plausibility, but more studies needed
- TENS, acupuncture, acupressure
- Low-level heat wrap therapy
- Magnet therapy

### Chronic Pelvic Pain: The Pain is Real
- Dichotomy between "real pain" (caused by tissue abnormality) and "supratentorial pain" is false
- Pain is always both physical and mental
- Pain is an experience
  - Psychological factors always affect how stimulus reaches and is processed by the brain
- Pain can produce changes in muscle tone, hormone concentration and organ function

### Gate Control Theory of Pain
- Pain signal from peripheral nerves enters spinal cord
  - If gate closed, impulse stopped
- Gate status influenced by other peripheral nerves and brain
- Mood modifies pain sensation
  - Neurotransmitter abnormalities common to both pain and depression

### Pain ≠ Pathologic Findings
- Lack of physical findings does not diminish the significance of patient’s complaint of pain
- Normal exam does not preclude possibility of finding pelvic pathology
- 70-90% of women with abnormal pelvic exam have abnormalities at laparoscopy
- >50% of women with abnormal laparoscopic finding have normal pre-op pelvic exam
Chronic Pelvic Pain Etiology Overview
- Visceral sources
  - Reproductive
  - Genitourinary
  - Gastrointestinal
- Psychosocial or neurologic disorder
  - Central
  - Peripheral
- Somatic sources
  - Pelvis bones
  - Ligaments
  - Muscle
  - Fascia

Prevalence of CPP
- 15-20% of women aged 18-50 years have CPP ≥ year duration
- Over 9 million women
- 2-10% of all outpatient GYN visits are for CPP
- 20% of US laparoscopies are done for CPP
- 10-12% of US hysterectomies are performed for CPP

Actions Taken for CPP
- Only 20% of women with CPP see GYN for evaluation and treatment
  - 10% see any other clinician
- 2/3 take some type of medication
  - 56% ≥ 1 nonprescription drug
  - 25% use prescription medication
  - 12% use OCS
- 61% of those who seek care are given no diagnosis. Of those diagnosed
  - 25% endometriosis
  - 49% PID or yeast
  - 26% other

GYN Causes of CPP
- Level A
  - Endometriosis
  - GYN malignancies
  - Ovarian retention syndrome
  - PID/pelvic TB
  - Pelvic congestive syndrome (?)
- Level B
  - Adhesions
  - Benign cystic mesothelioma
  - Fibroids (?)
  - Postoperative peritoneal cysts

Urologic Causes of CPP
- Level A
  - Bladder malignancy
  - Interstitial cystitis
  - Radiation cystitis
  - Urethral syndrome
- Level B
  - Uninhibited bladder contractions
  - Urethral diverticulation

Gastrointestinal Causes of CPP
- Level A
  - Carcinoma of the colon
  - Constipation
  - Inflammatory bowel disease
  - Irritable bowel syndrome
### Musculoskeletal Causes of CPP
- Hernias
- Asymmetric leg length
- Lumbar vertebral disorders (disc disease)
- Arthritis in joints of hip or pelvis
- Pelvic floor myalgia
- Scoliosis or posture-related pain
  - Exaggerated lumbar lordosis
  - Trigger points
  - Neuralgia of iliohypogastric, ilioinguinal and/or genitofemoral nerves

### Other Causes of CPP
- Level A
  - Abdominal cutaneous nerve entrapment in surgical scar
  - Depression
  - Somatization disorder
- Level B
  - Celiac disease
  - Neurologic dysfunction
  - Porphyria
  - Shingles
  - Sleep disturbances

### One From Column A and One From ...
- Many women have disorders in more than one system
- Women with multisystem disorders are more likely to have
  - Greater pain (43% vs 71%)
  - More constant pain
  - Greater related problems
    - Dysmenorrhea (81% vs 59%)
    - Dyspareunia (41% vs 14%)

### Factors That Do Not Affect CPP
- Age *
- Race
- Ethnicity
- Education
- Economic status
- Employment status

* Reproductive age women are more vulnerable than older women. Underlying causes of CPP vary with age.

### Risk Factors for CPP
- Physical or sexual abuse
- Pelvic inflammatory disease
- Endometriosis
- Interstitial cystitis
- IBS
- Pregnancy and children
- Musculoskeletal conditions
- Mood or energy level disorders

### Physical or Sexual Abuse
- 40-50% of women with CPP have history of abuse
- Adult survivors of abuse have lower pain thresholds
- Chronic or traumatic stimulation heightens sensitivity
  - Kindles a depression or pain-processing disorder
  - Results in persistent pain
- Genetically susceptible women manifest disease in response to a triggering event
- Important to ensure that women are not currently at risk for abuse
### Pelvic Inflammatory Disease
- 18-35% of all women with acute PID develop CPP
- Not related to degree of pelvic organ damage
- Not related to type of therapy given
  - Inpatient vs outpatient

### Endometriosis
- May be direct cause of pelvic pain
- Also puts a woman at risk for pain after successful eradication
  - Women with history of endometriosis have
    - More episodes and greater pain intensity with kidney stones
    - More intense vulvovaginal pain
  - Viscero-visceral pain interactions

### Obstetrical History
- Nulliparity is consistent with endometriosis, chronic PID, pelvic adhesions
- Pregnancy and childbirth can cause trauma to musculoskeletal system. Risk factors
  - Lumbar lordosis
  - Macrosomia
  - Vacuum or forceps delivery
  - GYN foot holders during delivery

### Prior Surgery
- Direct effects: retained instruments, spillage of stones or endometriotic materials, infectious complications
- Indirect effects
  - Scaring: intraperitoneal adhesions, cervical stenosis
  - Other: 3-9% of pain free women develop pelvic pain after hysterectomy
  - C-sections may also be associated with subsequent pelvic pain

### Important Points
- Chronic pelvic pain is a symptom, not a diagnosis
- Must consider a comprehensive differential diagnosis
- Target therapy to most likely diagnosis
  - Appreciate that patient may have multiple diagnoses

### History
- Chief complaint - complete description of pain
  - Location, severity, quality and timing of pain
- Chronological history of pain symptoms
  - Medical evaluations and attempted interventions
- Issues or fears she associates with symptoms
- Menstrual history and impact on pain
- Surgical history
Psychological History
- Depression, anxiety, mood disorders
- Personality, intelligence and life stressors
- Wakefulness, eating problems
- Personal losses
- Impulse control issues
- Substance abuse
- Prior abuse survivor
- Early family events – divorce or death
- Current support system
- How pain impacts sexual and other aspects of relationship with partner

Psychological Tests
- Minnesota Multiphasic Personality Inventory (MMPI)
  - 567 items
  - Psychotherapy and personality
- Beck Depression Inventory
  - 21 items
  - Rates depression

Pain Measurement
- Subjective ratings: 1-10 scale; visual analog scale
- McGill Pain Questionnaire – Pain: Index
- Multidimensional Pain Inventory
- International Pelvic Pain Society – Pelvic Pain Assessment Tool
- Have patient grade pain at each point in exam
  - Both superficial and deep palpation scores
  - On speculum exam, probe areas in vaginal vault with Q-tip

Physical Examination
- Patients with CPP often have pain outside pelvis
  - Complete physical exam needed
- Observe gait, posture and sitting position
- HEENT: examine extraocular muscles and fundus if headache
- Thyroid: if lethargy or anxiety

Physical Examination
- Breast exam
  - Localize breast tenderness
  - Costochondritis
- Costovertebral angle tenderness (CVAT)
- Spinal tenderness
- Upper and lower back muscle tenderness along the vertebral column

Abdominal Examination
- Liver: enlargement or tenderness (substance abuse?)
- Stomach and spleen (NSAIDs cause ulcers)
- Rule out masses
- Tenderness of abdominal wall vs peritoneal structures
  - Have patient contract abdominal muscles
  - Reexamine—Carnett’s sign
  - If abdominal wall problem, tenderness increases
  - If intraperitoneal problem, tenderness decreases
Meralgia Paresthetica
- Dysthesia in distribution of lateral femoral cutaneous nerve
  - Emerges from abdominal wall medial to anterior superior iliac spine
  - Pain may be localized or extend along lateral thigh to knee
- Causes: surgery and obesity

Muscles in CPP
- Psoas and pyriformis
  - Psoas test: extension of thigh at hip causes pain
  - Pyriformis test: internal rotation of hip against patient resistance causes pain

Pelvic Examination
- Check for tender areas of vestibulitis
- Reverse Kegel exercises prior to vaginal exam if vaginismus
- Palpate urethra separately
- Compress bladder
- Single finger exam of vagina
  - Patient to squeeze and relax pelvic floor
  - Pelvic floor dysfunction

Pelvic Examination
- Check (one-handed) for cervical motion tenderness and lateral uterine mobility
- Elevate uterus: AP uterine mobility
- Compress uterus: general vs localized tenderness
- Examine adnexa
- Rectal exam: septum, U-S ligaments, bony structures, vault

Laboratory Testing
- Directed by differential diagnosis
  - CBC and sed rate for infectious process
  - Urine dipstick ± urine culture and sensitivity for GU complaints
  - Cervical infection testing for possible pelvic infection
  - Stool occult blood testing

Diagnostic Nerve Blocks
- Local injections in trigger points
  - Use rapid onset agent with short duration of action to test
    - Lidocaine or mepivacaine
  - Use long-acting agents to treat
    - Bupivacaine
Empiric Therapies
- NSAIDS: dysmenorrhea or musculoskeletal pain
- Hormonal contraceptives: extended cycle or continuous
- Antibiotics: doxycycline
- GnRH agonists
  - Note that response to GnRH does not confirm diagnosis of endometriosis. IBS and fibromyalgia improve with GnRH
- Fiber diet ± dicyclomine if IBS suspected
- Amitriptyline: if fibromyalgia suspected
- Antidepressants: if depression diagnosed

Other Testing Modalities
- Transvaginal ultrasound
  - Characterize pelvic masses: uterine, adnexal, GI or GU
  - Evaluate possibility of old hydrosalpinx, small endometrioma
- CT and MRI
  - More expensive
  - Use for clear indications
- Laparoscopy under local anesthesia to localize pain

"To a man with a hammer, everything looks like a nail."
- Mark Twain

Menstrually Related Symptoms of Endometriosis
- Cyclic (exacerbation of) pelvic pain
- Dysmenorrhea
  - Usually beginning 48-72 hours before menses
  - Premenstrual and/or postmenstrual spotting
  - Prolonged and slightly heavier flow\(^1\)

Other Symptoms of Endometriosis
- Gastrointestinal
  - Cyclic abdominal pain
  - Constipation
  - Diarrhea
  - Dyschezia
  - Hematochezia
- Urinary
  - Frequency
  - Dysuria
  - Hematuria
- Other
  - Deep thrust dyspareunia

Causes of Pain with Endometriosis
- Direct and indirect effects of cyclic sloughing of endometriotic implants
  - Inflammatory reaction
  - Action of inflammatory cytokines in peritoneal cavity
  - Irritation or direct infiltration of nerves in pelvic floor
  - More likely with deep infiltrating endometriosis
  - Central sensitization of nociceptive system
  - Somatic sensory pain threshold and tolerance nadir with menses

Principles of Treatment for Endometriosis Pain

- Endometriosis is a chronic, recurrent disorder
- Endometriosis has the potential to worsen over time
- Long-term treatment should have
  - Safety
  - Few side effects
  - Low cost
  - Easy administration

Role of Laparoscopy: Controversial

- Laparoscopy is neither sensitive nor specific in diagnosis of CPP in women with no physical or ultrasonic evidence of pathology
- Early endometriosis:
  - Lesions small, subperitoneal (Type III lesion)
  - Patient obesity and technical issues complicate
- Success rate of laparoscopic therapy short lived
  - 40% of pelvic pain recurs after surgical excision
  - Deep lesions hard to eradicate and pose risk of bowel perforation and urethral damage

Medical Approaches to Treatment of Endometriosis

- Pseudopregnancy: decidualization and atrophy of implants
  - Progestin
  - Combined hormonal agents
- Pseudomenopause: suppression of endogenous estrogen synthesis
  - Androgens
  - GnRH analogs
  - Aromatase inhibitors
- Each also blocks progression of disease

GnRH Agonists vs Cyclic OCs

- 57 patients with moderate to severe pelvic pain with laparoscopically diagnosed endometriosis
  - 6 month treatment: goserelin vs low-dose OCs
  - 6 month follow-up
  - At end of treatment, both agents significantly reduced dyspareunia (GnRH better) and non-menstrual pain
  - OCs reduced dysmenorrhea, GnRH eliminated it
  - At end of follow-up, all aspects of pelvic pain returned to baseline except dyspareunia in GnRH group


DMPA vs OCs + Low-dose Danazol for Long-Term Treatment of Pelvic Pain

- 80 patients with moderate to severe pelvic pain: 1 year trial
  - DMPA every 3 months versus
  - Cyclic EE 20 mcg + desogestrel 0.15 mg with danazol 50 mg daily for 21 days
  - Percent women satisfied: 72.5% vs 57.5%
  - Dysmenorrhea reduced more with DMPA
  - Non-menstrual pain and dyspareunia reduced equally


DMPA-SC 104 vs Leuprolide Treatment of Endometriosis Pain

- 18 month multicenter study of 300 women with laparoscopically diagnosed endometriosis
  - 6 month treatment, 12 month follow up
  - Outcomes: dysmenorrhea, dyspareunia, pelvic pain, pelvic tenderness, nodularity, bone mineral density

DMPA-SC 104 vs Leuprolide Treatment of Endometriosis Pain

- At 6 months: no statistically significant differences in outcomes
- Both groups had 60–90% of patients with improvement in all categories
- At 18 months: 4 out of 5 clinical outcomes were the same
- More sustained improvement in dyspareunia with leuprolide
- BMD losses at total hip and lumbar spine less with DMPA


Add-back Therapy for Treatment of Recurrent Endometriosis Pain

- 144 women: GnRH vs GnRH + E2 patch + norethindrone 5 mg vs EE 30 mcg + gestodene
- 12 months treatment, 6 months follow up

<table>
<thead>
<tr>
<th>Pelvic Pain</th>
<th>Add-back</th>
<th>GnRH</th>
<th>OC</th>
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<tbody>
<tr>
<td>Pre treatment</td>
<td>6.9±1.4</td>
<td>6.7±1.2</td>
<td>6.3±1.6</td>
</tr>
<tr>
<td>6 months</td>
<td>1.5±0.4</td>
<td>1.3±0.5</td>
<td>1.9±0.8</td>
</tr>
<tr>
<td>12 months</td>
<td>0.3±0.1</td>
<td>0.2±0.1</td>
<td>0.8±0.5</td>
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<tr>
<td>18 months</td>
<td>3.7±1.0</td>
<td>3.2±2.6</td>
<td>5.9±2.5</td>
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Aromatase Inhibitor for Treatment of Endometriosis

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<thead>
<tr>
<th>Pain Score</th>
<th>Relative to Treatment</th>
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<tbody>
<tr>
<td></td>
<td>Pre</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>6.2 (2.1)</td>
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- Hot flashes in 9 of 10 women
- Headaches, mood swings in 7 of 10 women
- No change in BMD at hip and spine


Irritable Bowel Syndrome (IBS)

- Common functional bowel disorder of unclear etiology
- Chronic, relapsing abdominopelvic pain and bowel dysfunction (i.e., constipation or diarrhea alone or alternating) and feelings of abdominal bloating and distension
- Functional bowel
  - Abnormal GI motility
  - Augmented sensation of visceral stimuli as pain

Irritable Bowel Syndrome Prevalence

- 10-15% of population have symptoms of IBS
  - Only 1/3 seeks medical attention
- IBS symptoms found in 50-80% of women with CPP
- In US each year
  - 35 million office visits
  - 2 million prescriptions
  - 3 times increase in absenteeism
Irritable Bowel Syndrome

- More common in women (2:1) and younger people (17% vs 11%)
- 30-90% of IBS have early satiety and upper abdominal discomfort
- Often have related symptoms: sexual dysfunction, fibromyalgia, dyspareunia, poor sleep, lower back pain, headache and chronic fatigue
- Variants: C-IBS, D-IBS, alternating IBS

Other Useful Symptoms of IBS

- Abnormal stool frequency
  - > 3 per day or < 3 per week
- Abnormal stool form > 25% of episodes
  - Lumpy, hard, loose, watery
- Abnormal stool passage > 25% of episodes
  - Straining, urgency, incomplete evacuation
- Mucus in > 25% of defecations
- Bloating or abdominal distention in > 25% of days
- Rule out celiac sprue; do CBC

Rome II Criteria for IBS

- At least 12 weeks in preceding 12 months of abdominal discomfort or pain with 2 of the following characteristics:
  - Relieved with defecation
  - Onset associated with change in frequency of stool
  - Onset associated with a change in stool form or appearance

IBS Treatment

- Reassure patient about benign nature
- Smoking cessation
- Regular sleep and exercise
- Avoid caffeine and alcohol because they affect GI function
- Encourage patients to elevate feet with defecation (IBS-C)

IBS Treatment

- Fiber and bulking agents: no affect on abdominal pain
  - For IBS-C, soluble fiber (psyllium, ispaghula, calcium polycarbophil) are superior to insoluble
  - Laxatives: no controlled studies; no effect on pain
  - For IBS-C, osmotic laxatives (PEG) may help
  - For IBS-D, loperamide most frequently used

Interstitial Cystitis (IC)

- Chronic inflammatory bladder condition
- Presenting complaints
  - Urinary urgency or frequency
  - Deep thrust dyspareunia
- 70% of women with IC have CPP
- 38-85% of women presenting to GYNs with CPP have IC
IC: Patient Profiles

- 90% of patients with IC are women
- Median age: 40-46
- Symptomatic for up to 7 years
  - See an average of 5 physicians before being diagnosed

IC Etiology Multifactorial

- Abnormal bladder epithelium permeability
- Neurogenic abnormalities
- Autoimmune disorder
- Allergic reaction
- Infectious etiology
- Part of visceral pain syndrome

IC Etiology: Bladder Epithelium

- Epithelium normally protected by mucin layer
  - Composed of glycosaminoglycans (GAGs)
  - Prevents urinary solutes from diffusing through epithelium
- Loss of mucin layer (GAGs)
  - Results in tissue inflammation and irritation
  - Also causes neural up-regulation (sensory nerve depolarization)

IC Workup

- Physical exam: bladder tenderness
- Urinalysis and C&S
- PUF score ≥ 10 (82% predictive)
- Potassium sensitivity test for PUF 5-10
  - Instill 40 cc of 0.4 m KCl
  - Increase in pain or urgency diagnostic

Medical Therapies for IC

- Pentose polysulfate sodium
- Others
  - Hydroxyzine: antihistamine
  - Amitriptyline: anticholinergic
  - Oxybutynin chloride
  - Possible bladder installations: dimethyl sulfoxide, heparin and/or lidocaine
  - Hydrodistention not recommended

Non-Pharmacologic Therapies for IC

- Bladder training
- Dietary changes
- Stress management
- Physical therapy
- Manage patient expectations
### IC Dieting Guidelines: Troublesome Foods
- Cantaloupe, apples, bananas, peaches, plums
- Fava beans, tofu, onions, store-bought tomatoes
- Aged cheese, sour cream, yogurt, chocolate
- Rye and sourdough bread
- Meats with nitrates or nitrates (aged, canned, cured, processed or smoked)
- Peanuts, walnuts
- Alcohol, carbonated drinks, coffee, tea, cranberry juice
- Mayonnaise, ketchup, mustard, MSG, spicy foods
- Food preservatives

### Fibromyalgia
- Prevalence 2-4% overall; 80% are women
- Abnormal pain processing associated with neuroendocrine and autonomic disorders
- Overlap with chronic fatigue syndrome, depression and somatization

### Fibromyalgia Diagnostic Criteria, 1990
- Pain must involve all 4 quadrants of body and axial skeleton and tenderness at 11 of 18 defined “tender points”
  - Diffuse abnormality of pain processing causing all pain signals to be inappropriately amplified
- Signals from periphery may not be from nociceptors, but brain is presented with excessive pain signals

### Somatization Disorder
- Multiple physical complaints “not fully explained by a known general medical condition”
- DSM-IV Criteria
  - ≥ 4 different sites of pain
  - ≥ 2 GI non-pain symptoms (nausea, diarrhea)
  - ≥ neurologic symptom
  - ≥ sexual or reproductive non-pain symptom
- Overlap with fibromyalgia and IBS
  - May represent a common abnormality of sensation processing called different names by different specialists

### Other
- Hypochondriasis: preoccupation with fears of serious disease despite medical reassurance
  - Detailed lists
  - Use office visits to socialize
- Drug-seeking behavior: withdrawal causes abdominal pain
- Factitious disorder: intentional feigning to assume role of a sick person
- Malingering: external incentives present
### Treatments

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>Depression</td>
<td>Cognitive-behavioral therapy, antidepressant medications</td>
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<tr>
<td>Somatization</td>
<td>Psychotherapy</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>Tricyclic antidepressants, gabapentin, cognitive-behavioral therapy, aerobic exercise</td>
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### Treatments

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
</tr>
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<tbody>
<tr>
<td>Urethral syndrome</td>
<td>Antibiotics (doxycycline), urethral dilatation</td>
</tr>
<tr>
<td>Hernia</td>
<td>Surgical dilatation</td>
</tr>
<tr>
<td>Disc disease</td>
<td>Anti-inflammatory agents, Exercise ± surgery</td>
</tr>
<tr>
<td>Arthritis</td>
<td>Anti-inflammatory agents</td>
</tr>
<tr>
<td>Posture related problems</td>
<td>Physical therapy</td>
</tr>
</tbody>
</table>

### Attitudes of Women with CPP: What Women Wanted

- Personal care, which they often did not receive
- To feel understood and to be taken seriously
- Explanation, as much as care
- To be reassured

*Price J, et al. BJOG. 2006;113(4):446-52*

### Recommended Reading


### Recommended Reading

- Lembo AJ. A 54-year-old woman with constipation-predominant irritable bowel syndrome. JAMA. 2006 22;295(8):925-33