IPPS Pre-Conference Session

**Clinical Foundations:**
An Integrated Approach to the Evaluation and Treatment of Chronic Pelvic Pain

Wednesday October 11, 2017
7:30 a.m. – 5:30 p.m.

*Location: Renaissance Washington DC Hotel | Penn Quarter (2nd Floor)*

---

**Male Pelvic Pain**

- *Nel E. Gerig, MD*

- *The Pelvic Solutions Center*

- *Denver, Colorado*
Disclosures

None

Pelvic pain

• Bladder pain syndrome/Interstitial Cystitis or other inflammatory conditions
  • Muscle tension pelvic floor/girdle, trunk/glut/thigh
  • Neuropathy – pudendal, other
### Pelvic pain contributing factors

- Hypermobility/biomechanics
- GU (BPH), GYN, GI issues
- Pelvic girdle pathology
- Lumbar and abdominal pathology
- History of trauma
- Anxiety, depression, catastrophizing

---

**Men with pelvic pain are more similar to women with pelvic pain than they are different.**
<table>
<thead>
<tr>
<th>Pelvic pain in the female gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Menstrual issues</td>
</tr>
<tr>
<td>• Pregnancy/Delivery changes</td>
</tr>
<tr>
<td>• Vulvar dermatoses</td>
</tr>
<tr>
<td>• Endometriosis</td>
</tr>
<tr>
<td>• Vulvodynia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pelvic pain in the male gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Penile pain</td>
</tr>
<tr>
<td>• Scrotal/testicular pain</td>
</tr>
<tr>
<td>• Perineal pain</td>
</tr>
<tr>
<td>• Ejaculatory pain</td>
</tr>
<tr>
<td>• Anodyspareunia</td>
</tr>
<tr>
<td>• “Prostatitis”</td>
</tr>
</tbody>
</table>
### Acute pain conditions

- Urethritis
- Urinary retention
- Cystitis/bacterial prostatitis
- Anal fissure
- Epididymitis/orchitis
- Thrombosed hemorrhoid
- Testicular torsion
- Perirectal abscess
- Fournier’s gangrene

  - Referred pain to testicle (kidneys/ureters)
    - Peyronie’s Ds.

### Chronic pelvic pain

- BPS/IC
- Pudendal/other neuralgia
- Muscle tension/spasm
What is different about men?

Anatomy
Physiology
Innervation
Psyche
Anatomy
Innervation of male genitalia

• Testicle
  T10 – L2

• Penis
  pudendal n. → sensory/motor
  cavernous n. → supply erectile tissue

• Scrotum
  genital br. of GF, ilioinguinal, perineal br. of pudendal,
  perineal br. of PFCN
Testicular embryology

- **Genital branch of genitofemoral nerve** – derived from the femoral plexus and supplies the anterolateral aspect of the scrotum.
- **Anterior scrotal nerves** – derived from the ilioinguinal nerve and supplies the anterior aspect of the scrotum.
- **Posterior scrotal nerves** – derived from the perineal nerve and supplies the posterior aspect of the scrotum.
- **Perineal branches of posterior femoral cutaneous nerve** – derived from the sacral plexus and supplies the inferior aspect of the scrotum.

Innervation -- SCROTUM

- Genital branch of genitofemoral nerve – derived from the femoral plexus and supplies the anterolateral aspect of the scrotum.
- Anterior scrotal nerves – derived from the ilioinguinal nerve and supplies the anterior aspect of the scrotum.
- Posterior scrotal nerves – derived from the perineal nerve and supplies the posterior aspect of the scrotum.
- Perineal branches of posterior femoral cutaneous nerve – derived from the sacral plexus and supplies the inferior aspect of the scrotum.
Physiology
Mechanism of penile erection

- Arteriolar dilation → more blood flow
- Sinusoids expand → compression of venous plexus →
- Trapping of blood in sinusoids by minimizing outflow
- Ischiocavernosus mm contract → RIGIDITY
- Arteriolar constriction → detumescence

Neural mechanisms of erection and ejaculation

1. CNS -- brain, spinal cord
2. Somatic nervous system (sensory, motor)
3. Parasympathetic nervous system
4. Sympathetic nervous system
Spinal and peripheral neural mechanisms of erection/ejaculation

- Sympathetic  T10-L2 → sacral, caudal chain ganglia

- Parasympathetic  S2-4 → pelvic plexus → cavernous n.s

- Somatosensory/motor  Pudendal n. →
  penis, ischiocavernosus, bulbocavernosus

**Emission**
- physiologic process - distal epididymis, vas deferens, seminal vesicles, prostate gland, prostatic urethra, BN

**Expulsion**
- discharge of products of emission from urethra through coordinated actions of bladder neck, urethra, and pelvic striated mm

**Ejaculation**
forcible ejection of seminal fluid from urethral meatus that commonly accompanies sexual climax and orgasm
Emission
BN closure (sympathetic action)
Secretions from prostate, vasa, SVs mix

Expulsion
Relaxation of ext. urethral sphincter (closed BN)
Clonic contractions of:
prostate,
bulbospongiousus,
ischiocavernosus,
levator ani,
transverse perineal muscles
Complex interaction of
- sympathetic NS
- parasympathetic NS
- somatosensory NS
- skeletal muscle contraction

Erection and Ejaculation

Viscerosomatic convergence

Pathology
Chronic pelvic pain in MEN

• BPS/IC
• Pudendal/other neuralgia
• Muscle tension/spasm

Male pelvic pain ≠ prostatitis (but many physicians think so) WHY?

01
Stamey & Meares classification of UTIs in men:
• Four-glass collection

02
VB1 – urethral
VB2 – mid-stream voided urine
EPS – expressed prostatic secretions
VB3 – post-massage urine

03
1968 SIX patients
NIH Classification System -- Prostatitis

• I. Acute bacterial prostatitis
• II. Chronic (recurrent) bacterial prostatitis
• III. Chronic prostatitis/chronic pelvic pain syndrome
  Inflammatory/Noninflammatory
• IV. Asymptomatic (inflammatory) prostatitis

NIH III: CP/CPPS

Chronic prostatitis/chronic pelvic pain syndrome

• Pelvic pain for > 3 of the previous 6 months
• Urinary symptoms
• Painful ejaculation
• ABSENCE of documented UTI
• 75 – 90% of cases of “prostatitis”
NIH III: CP/CPPS

• Prevalence: 10 – 15% male population
• 2 MILLION outpatient visits/year in US
• Etiology: unknown
• MAY be result of infectious/inflammatory initiator which results in neurological injury leading to increased pelvic floor muscle tone

• DX: “If UTI is not present, take cultures when pt. is symptomatic.”

Murphy 2009

NIH III: CP/CPPS

• RX: goal: provide symptom relief
  4 – 6 weeks fluoroquinolone
  NSAIDS, alpha-blockers
  ??? “pelvic floor training” or biofeedback
  (but need RCCT)
Third-line: 5-alpha reductase inhibitors, GAGs, quercetin, sawpalmetto
Refractory cases: surgical intervention (TURP, TUMT)

Murphy, et al Drugs. 2009;69(1): 71-84
CP/CPPS: a newer approach

- Presence of wbc ≠ correlate with symptoms
- The prostate may not even be the SOURCE of symptoms
- Etiology may be related to psychological stress
dysfunction in immune, neuro, endocrine systems

UCPPS  Urological Chronic Pelvic Pain Syndrome

UPOINT – a newer approach

The Snow Flake Hypothesis  (Pontari)
no one etiological mechanism
heterogeneous population with
Different triggers maintenance mechanisms
Different symptom complexes
Different progression trajectories

6-point phenotypic classification system
used to direct therapy
UPOINT – a newer approach

UPOINT -- Urinary

NIH/CPSI urinary score > 4
obstructive symptoms
bothersome: urgency/frequency/nocturia
elevated PVR
RX: alpha blockers, anticholinergics

PROBLEM: focused on prostate, bladder
BETTER: Think IC, PFTM, PN
**UPOINT -- Psychological**

Depression, anxiety, maladaptive coping  
**RX:** counseling/CBT, antidepressants, anxiolytics  
**PROBLEM:** not much  
**BETTER:**  
- Depression, Persistent depressive disorder  
- Generalized anxiety  
- Panic disorder  
- Health-related anxiety – catastrophizing, rumination, and emotional reactivity about symptoms  
- PTSD or h/o trauma -- accidents, abuse (across life-span)

**RX:** include EXERCISE, trauma rx., treat sleep

---

**UPOINT -- Organ specific**

Prostate tenderness, wbc in EPS, hematospermia, prostatic calcifications

**RX:** anticholinergics  
alpha-blockers  
phytotherapy  
prostate massage

**PROBLEM:** focused ONLY on prostate  
**BETTER:** assess ALL contributing factors
**UPOINT -- Infection**

bacteria in prostatic fluid, pt. response to antibiotics  
RX: antimicrobials  

**PROBLEM:** Infection may be an initiator or may contribute to the exacerbation of symptoms  
**BETTER:** Don’t treat the ENTIRE problem as an infection  

**QUESTION:** Why do some respond to abx. in absence of infection?  

---

**UPOINT – Neurologic/Systemic**

clinical evidence of central neuropathy, such as:  
pain beyond pelvis  
IBS, fibromyalgia, chronic fatigue syndrome  

RX: neuromodulators, rx. other conditions  

**PROBLEM:** sensitization occurs w/in wks/mo.s  
WHAT ABOUT THE PUDENDAL NERVE?  

**BETTER:** Understand neurological upregulation  
PN and OTHER neuropathies -- dx. and rx.
Neuralgias which contribute to pelvic pain

1. Pudendal
2. Obturator
3. Ilioinguinal
4. Genito-femoral
5. Cluneal
6. Other
7. Maigne’s Syndrome

UPOINT -- Tenderness

muscle tension/trigger points
abdomen, pelvic floor
RX: PT, exercise

PROBLEM: Good start! BUT, it’s not JUST the abdomen and pelvic floor
BETTER: assess MORE – back/paraspinals, QL, iliopsoas, adductors, hips, pelvic girdle/gluts, perineum
## Male Pelvic Pain -- TIPS

- Penile/urethral pain
- Scrotal pain
- Testicular pain
- Perineal pain
- Pain during or after ejaculation

### Penile pain

- Perineal trigger points (bulbo, trans perineii)
- Other trigger points –
  - levators, obturator internus, inferior recti, pyramidalis
- Neuralgia – pudendal, ilioinguinal
Urethral pain

- Trigger points – perineal, pyramidalis/inf. recti, levators, obturator internus

- Pudendal neuralgia

- Hip pathology

Scrotal pain

Pain felt in the scrotum may be referred from visceral or somatic structures with the same nerve supply:
- Pudendal or ilioinguinal neuralgia (esp. hyperesthesia)
- Muscle tension/trigger points:
  - Pelvic floor
  - Inferior recti
  - Gluteus medius/minimus
  - Obturator internus and externus
  - Quadratus lumborum
Testicular pain

- May be difficult to differentiate testicular from scrotal source of pain
- Maigne’s syndrome (TLJ synd.)
  - soft tissue restrictions
  - genitofemoral, ilioinguinal n.

- Consider pudendal neuralgia
- Distention of renal pelvis/upper ureter

Ejaculatory pain

- Neuralgia (pudendal, other)

- Trigger points – any
  - esp. bulbospongiosus
  - ischiocavernosus
  - levators
  - obturator internus
Pay special attention to:

- Iliacus
- Inferior rectus/pyramidalis
- Bulbospongiosus
- Transverse perineii
- Levators, esp. anterior pubococygeus
- Obturator internus
- The “geography” between T10 – L2 and the scrotum

Pelvic pain in men

- Neuromyofascial
- +/- Inflammatory

- Think
  
  - BPS/IC
  - Pudendal (+ other) neuralgias
  - Muscle tension

- Rx. all contributing factors
Neuromyofascial Pain

Inflammatory issues

Biomechanical issues

Neuropsychological issues

docgerig@gmail.com