Clinical Evaluation of Women’s Pelvic Floor Disorders

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Female Pelvic Floor Disorders
Scope of Care

Epidemiology of Pelvic Floor Disorders
1. It has been repeatedly demonstrated that women with urinary incontinence have a 2-3 fold increase in the occurrence of depression.

- Macaulay, BJU 294, 1997: 540-543
- Wyman, JAGS 38, 1990: 282-288
- Kutner, JAGS 42, 1994: 767-762
- Chiverton, Curr Rev Nephrol Nephrol 1997; 16(5):
Which of your problems bothers you the most?

1. I can forget about going out or dancing or sex or any ordinary life!

The Non-Economic Costs of UI / OAB

Depression among Incontinent Women

- It has been repeatedly demonstrated that women with urinary incontinence have a 2-3 fold increase in the occurrence of depression.

Wyman JAGS 39: 1990: 253-258
Kutner JAGS 42: 1994: 757-762

Evaluation of the Incontinent Woman

“Do you have bladder problems that are troublesome or do you ever leak urine?”

YES

Assess history, symptoms, and test results
Establish a diagnosis
<table>
<thead>
<tr>
<th>Evaluation of the Incontinent Woman</th>
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<tbody>
<tr>
<td><strong>Differential Diagnosis of incontinence</strong></td>
</tr>
<tr>
<td>• Stress Incontinence (USUI)</td>
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<tr>
<td>• Urge Incontinence (OAB)</td>
</tr>
<tr>
<td>• Functional Incontinence</td>
</tr>
<tr>
<td>• Unusual (Vesicovaginal Fistula / Ectopic Ureter/Etc.)</td>
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95% of Incontinent Women
Evaluation of the Incontinent Woman

Patient reports Urinary Frequency and / or Incontinence.

?  

Over Active Bladder (Urge Incontinence)  
Stress Urinary Incontinence (HSI, ISD or both?)

Mechanism of Stress Incontinence

Mechanism of Stress Incontinence
Mechanism of Stress Incontinence

Pelvic Floor Muscles
Urethra
Anterior Vaginal Wall
Endopelvic Fascia

This supports the Urethra and the Bladder.

Mechanism of Stress Incontinence

Urethra
Pelvic Floor Muscles

Anterior Vaginal Wall
Endopelvic Fascia

Mechanism of Stress Incontinence

Urethra
Pelvic Floor Muscles

Anterior Vaginal Wall
Endopelvic Fascia

The urethra is supported by the endopelvic connective tissue of the anterior vaginal wall.
When intra-abdominal pressure increases, the urethra is compressed against the backboard of the anterior vaginal wall.

...and closed.

However, if the anterior vaginal wall fails to provide adequate support to the urethra...
...Then the urethra remains open and urine can pass through. This creates “stress” incontinence. (Hypermobility Stress Incontinence)

Mechanism of Stress Incontinence

In some women, urethral function is so poor that even a well supported urethra cannot retain urine during stress. (Intrinsic Sphincter Deficiency)
In some women, urethral function is so poor that even a well supported urethra cannot retain urine during stress. (Intrinsic Sphincter Deficiency)

This can occur along with poor urethral support as. (HSI with ISD)

Parasympathetic Efferents (via the Pelvic Nerve, S2-S4):
- Urethral relaxation (opening)
- Detrusor muscle contraction

Stretch Receptor Afferents
- Sacral Micturation Center

Parasympathetic Efferents (via the Pelvic Nerve, S2-S4):
- Urethral relaxation (opening)
- Detrusor muscle contraction
Conscious awareness and the ability to suppress the reflex voiding mechanism are developed in childhood.

**Mechanism Of The Over Active Bladder**

- "Wait…Don’t go…" "Wait…Don’t go…"

Bladder

SMC

**Mechanism Of The Over Active Bladder**

- No Suppression
  - Primitive Voiding Reflex
  - Urgency
  - Frequency
  - Urge Incontinence

Bladder

SMC

Normal “Voluntary” Voiding Mechanism

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<th>Parameter</th>
<th>Graph</th>
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<tr>
<td>Uroflow: Rate</td>
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<tr>
<td>Uroflow: Volume</td>
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<tr>
<td>Abdominal Pressure (Pabd)</td>
<td><a href="#">Graph</a></td>
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<tr>
<td>Urethral Pressure (Pura)</td>
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<tr>
<td>Detrusor Pressure (Pdet)</td>
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Detrusor Relaxation

Urethral Relaxation

Detrusor Muscle Contraction
Mechanism Of The Over Active Bladder

Pelvic Floor EMG
Vesical Pressure (Pves)
Urethral Pressure (Pura)
Detrusor Pressure (Pdet)

Voluntary Pelvic Floor Contraction
Urethral Relaxation
Detrusor Muscle Contraction

Evaluation of the Incontinent Woman

Patient reports Urinary Frequency and / or Incontinence.

Over Active Bladder (Urge Incontinence)
Stress Urinary Incontinence (HSI,ISD or both?)

Evaluation of the Incontinent Woman

Basic Work-up
• History
• Voiding Diary
• Examination
• Urinalysis and / or culture
Evaluation of the Incontinent Woman

**History**
- Obstetric history.
- Previous or current treatment.
- Concurrent medical problems and medications.
- Characterize the symptoms:
  - Stress
  - Urge

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Table 3. Crude and adjusted odds ratios and 95% confidence intervals for selected pelvic floor disorders by birth group.

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Evaluation of the Incontinent Woman

Is Vaginal Delivery A Risk Factor for Pelvic Floor Disorders?

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: Estrogen and Urinary Incontinence

**Effects of Estrogen With and Without Progesteron on Urinary Incontinence**

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12
Incidence of New Onset Stress UI at 1 year of Follow-up

RR of New SUI was 1.87–2.15 for women in active arm versus women on Placebo.

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Estrogen and Urinary Incontinence

Incidence of New Onset Urge UI at 1 year of Follow-up

RR of New UUI was 1.15–1.32 (ns) for women in active arm versus women on Placebo.

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Evaluation of the Incontinent Woman

History

- Characterizing the symptoms of stress versus urge is difficult.
- Always ask follow-up questions.
"The bladder is a most unreliable historian"

J. Ouslander

Evaluation of the Incontinent Woman

Basic Work-up
- History
- **Voiding Diary**
- Examination
- Urinalysis and / or culture

38 % of Women with "Mixed Incontinence"

Evaluation of the Incontinent Woman

Voiding Diary
• A 24-48 hour record
• Inexpensive and valuable
• “Real time” urodynamics

Bladder Diaries available at NAFC.ORG

Evaluation of the Incontinent Woman

Voiding Diary
• Frequency
• Urge
• Incontinence episodes
• Volume voided
• Intake and output patterns

Bladder Diaries available at NAFC.ORG
Evaluation of the Incontinent Woman

Voiding Diary

Ask why a patient voids frequently:

- Urge?
- Pain?
- Fear of stress loss?

Bladder Diaries available at NAFC.ORG

Evaluation of the Incontinent Woman

Basic Work-up

- History
- Voiding Diary
  - **Examination**
  - Urinalysis and / or culture

Evaluation of the Incontinent Woman

Physical Examination

- Neurologic
- Pelvic
- Stress test
- Post void residual
Evaluation of the Incontinent Woman

Physical Examination
- Neurologic
  Rule out upper motor neuron or central neurologic disease that may affect the urinary tract.
  Watch out for hyper-reflexia.

Evaluation of the Incontinent Woman

Physical Examination
- Pelvic:
  Atrophy
  Support: Particularly urethral support ("Q-tip" test ??)
  Muscle Strength
Evaluation of the Incontinent Woman

Q-tip test
- Q-tip Angle rotates more than degrees 30 from the horizontal = urethral hypermobility

- Q-tip test should only be used when:
  - Anticipating surgery and UVJ support in question? (e.g. Post-Op with SUI: Support vs. ISD?)
The “Non Q-Tip Test”

Evaluation of the Incontinent Woman

Stress test
Bladder full in the standing position

Immediate, Limited Loss
Simultaneous with "Stress":
Think Stress Incontinence

Delayed / Prolonged Loss:
Think (OAB)
Detrusor Overactivity

Evaluation of the Incontinent Woman

Urinalysis and / or culture

- Rule out Urinary Tract Infection
- Rule out Hematuria

PVR ?
The basic work-up

- Patient presents with full bladder and diary
- Careful history
- Stress test, then patient to BR to void
- Neuro and Pelvic exam
- Catheterize for PVR & Urinalysis (assess urethral support)

Evaluation of the Incontinent Woman

48 year old woman G2P2

- Stress symptoms (no urgency).
- Large infrequent voids on diary.
- Normal neurologic and pelvic exam.
- Normal post void residual urine (30 cc)
- Positive stress test.

Stress Incontinence

- Enhance Urethral Support
- Enhance Urethral Function
Evaluation of the Incontinent Woman

65 year old woman G3P3
- Urge symptoms (No stress).
- Small, frequent voids on diary.
- Normal neurologic and pelvic exam, except atrophy.
- Post void residual urine 40 cc.
- Negative stress test.

Evaluation of the Incontinent Woman

Over Active Bladder
- Behavioral
- Anticholinergics
- Sacral Nerve Stimulators

Evaluation of the Incontinent Woman

When are “urodynamics” called for?
- Neurologic disease
- Unusual or difficult to sort out symptoms
- Considering surgical intervention
- Refractory Urge after Incontinence surgery
Evaluation of the Incontinent Woman

“High power brain, low power microscope. Low power brain, high power microscope”

K. Miyai, MD

Management of Pelvic Organ Prolapse

Symptoms of Prolapse

• e.g. “I am constipated and my primary care doctor says I have a ‘rectocele’….I want it fixed so that I will be more regular”

• “I have to get up to use the bathroom at night and my bladder is dropped….fix it so that I can sleep through the night.”

Management of Pelvic Organ Prolapse

Symptoms of Prolapse

• Bulge
• Pressure and pain in immediate area
• Splinting to stool / void
• Back pain
• Urgency incontinence
• Voiding difficulty
• Headaches
• General malaise
• Chronic constipation predating POP.
Preoperative defect assessment is imperfect; therefore the surgeon should be prepared to correct occult defects when encountered. (This should be reflected in the patient’s consent)

Barber MD. AJOG 181 (1); 1999:87-90

Management of Pelvic Organ Prolapse
Grading of Pelvic Support Defects
- Preoperative defect assessment is imperfect; therefore the surgeon should be prepared to correct occult defects when encountered. (This should be reflected in the patient’s consent)

Patient Counseling and Education
- Correlate symptoms with observed defects and assess whether or not intervention will make a difference
Management of Pelvic Organ Prolapse

Patient’s Needs

• Sexually active
• General medical condition
• Level of physical activity
• Prior surgery
• Radiation

Management of Pelvic Organ Prolapse

Patient Counseling and Education

• Treatment plan must consider the patient’s needs
• Educate the patient on all treatment options

Management of Pelvic Organ Prolapse

Developing a Treatment Plan

Defect Analysis
Symptom Analysis → Treatment Plan → Patient Needs
Outcome Data

Outcome Data

Defect Analysis
Symptom Analysis → Treatment Plan → Patient Needs
Outcome Data