Evaluation and Management of Urinary Incontinence

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DISCLOSURES

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Evaluation and Management of Urinary Incontinence

OBJECTIVES:

1. Review the evaluation of the urinary incontinent patient.
2. Discuss current treatment options for urinary incontinence.
3. Discuss the role of the advanced provider in caring for the patient with bladder dysfunction.
“Incontinence doesn’t kill you—it just takes away your life.”
International Continence Society
Definition of Urinary Incontinence

“*Urinary incontinence* is a storage symptom and is defined as the complaint of any involuntary loss of urine…”

OR

“condition where involuntary loss of urine is a social or hygienic problem and is objectively demonstrable…”
Prevalence

Prevalence of incontinence in general population of females reported in 13 different studies.

- Young adult, 20% to 30%;
- Middle age, 30% to 40%;
- Elderly, 30% to 50%.

Reprinted from Sandvik, 2008
Prevalence

- Affects 25 million Americans
- 33% of women >65 have some degree of UI
- 26% of women >18 experience various degree of SI
- 15% to 30% of noninstitutionalized older adults (19% men; 39% women)
- Prevalence increases with age
- 50% of those in nursing facilities
Prevalence of Bladder dysfunction by age and sex

Reality

Community-based studies in the United States indicate that only 30% to 45% of women with incontinence seek care.


1 in 3 women experience Stress Urinary Incontinence.
Learn more and get the help you need.
Why?

Many patients feel that urinary incontinence is a normal part of aging and are embarrassed to discuss this problem with their health care provider.
Urinary Incontinence

Urinary incontinence is a hidden epidemic that consumes approximately $19.5 billion in health care expenditures annually.
Fecal Incontinence

Approximately 10% women with urinary incontinence have incontinence of flatus or stool
Fact:

Every woman in the universe belongs to one of these three groups:

- She had urinary incontinence in the past
- She has urinary incontinence now
- She will have incontinence soon
Projected female population in future decades (U.S. Census Bureau)
Consults/year

- By 2030, population of women older than 50 will increase by 72%
- Approximately 45% increase in patients that will seek treatment for pelvic disorders, primarily in the outpatient setting

Female pelvic floor disorders in US

UrologyTimes, Oct 2009
Social Burden

• Common, but often goes undiagnosed and untreated
• Growing awareness
• At least 11% of women will require surgery, 30% of these require re-operation
• Aging population and increase in obesity
Social Burden

• Urinary incontinence has a profound negative impact on quality of life, exceeding that of many co morbid diseases
  – (ie, diabetes, stroke)
• Urinary incontinence is associated with
  – poor self-rated health
  – social isolation
  – depressive symptoms
Social Burden

Urinary incontinence is associated with a 30% increase in functional decline, and a 2-fold increased risk of falls, depressive symptoms, and nursing home placement.

Bladder dysfunction Impairs Quality of Life (QoL)

Overactive Bladder Sufferers

SF-36 Questionnaire Domains

Kobelt G et al. BJU Int. 1999;83:583-590.
Impact of Bladder dysfunction on Quality of Life

Physical
- Limitations or cessation of physical activities

Sexual
- Avoidance of sexual contact and intimacy

Occupational
- Absence from work
- Decreased productivity

Domestic
- Requirements for specialized underwear, bedding
- Special precautions with clothing

Psychological
- Guilt/depression
- Loss of self-respect and dignity
- Fear of:
  - being a burden
  - lack of bladder control
  - urine odor
- Apathy/denial

Social
- Reduction in social interaction
- Alteration of travel plans
- Increased risk of institutionalization of frail older persons
Risk Factors for Incontinence

- Age
- Race/ethnicity
- Childbirth
- HRT
- Obesity
- Cognition
- Immobility
- Diabetes
- Hysterectomy
- Menopause
Risk Factors for Incontinence

- **Age**
  - Prevalence increases with age to approximately 50 years, stabilizes until the age of approximately 65 years, and then again increases with age.

- **Race and Ethnicity**
  - Lower prevalence of stress incontinence in African American and Asian groups compared with whites.

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Risk Factors for Incontinence

• Childbirth
  • Increased risk with vaginal delivery, maternal age, and fetal weight;
  • Parity is a significant risk factor for incontinence in younger women, but the association with incontinence appears to be diminished or absent in middle-aged and older women, perhaps because other factors become more prominent.

• The prevalence of UI was 40.3% in women delivered vaginally versus 28.8% in those who delivered via c-section.
## Urinary Incontinence after Vaginal Delivery or Cesarean Section

Table 4. Odds Ratios for Incontinence According to Mode of Delivery.

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Any Incontinence</th>
<th>Moderate or Severe Incontinence</th>
<th>Stress Incontinence</th>
<th>Urge Incontinence</th>
<th>Mixed-Type Incontinence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean sections as compared with no deliveries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univariable analysis</td>
<td>1.7 (1.3–2.1)</td>
<td>1.6 (1.1–2.3)</td>
<td>1.6 (1.1–2.2)</td>
<td>1.5 (0.9–2.8)</td>
<td>1.9 (1.3–2.8)</td>
</tr>
<tr>
<td>Age-adjusted analysis</td>
<td>1.5 (1.2–1.9)</td>
<td>1.4 (1.0–2.1)</td>
<td>1.4 (1.0–2.0)</td>
<td>1.4 (0.8–2.6)</td>
<td>1.7 (1.2–2.5)</td>
</tr>
<tr>
<td>Vaginal deliveries as compared with no deliveries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univariable analysis</td>
<td>2.8 (2.5–3.2)</td>
<td>3.3 (2.7–4.0)</td>
<td>3.7 (3.1–4.4)</td>
<td>1.4 (1.0–1.9)</td>
<td>2.6 (2.1–3.2)</td>
</tr>
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</tr>
<tr>
<td>Multivariable analysis*</td>
<td>1.7 (1.3–2.1)</td>
<td>2.2 (1.5–3.1)</td>
<td>2.4 (1.7–3.2)</td>
<td>0.9 (0.5–1.6)</td>
<td>1.3 (0.9–1.9)</td>
</tr>
</tbody>
</table>
Risk Factors for Incontinence

• Oral Hormone Therapy
  – *Increases the risk* of incontinence and worsens existing incontinence in randomized controlled trials using 0.625mg of conjugated estrogens alone or plus 2.5mg of medroxyprogesterone acetate daily with effect evident by 4 months and sustained for 4 years

• Obesity and Body Mass Index
  – Each 5-unit increase in body mass index increases the risk of daily incontinence by approximately 60%; *improvements in continence are associated with even small reductions in weight*

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Risk Factors for Incontinence

- **Cognitive Impairment**
  - Consistent relationship to presence and increased severity of dementia in acute care and nursing home settings; weaker association in community dwellers

- **Mobility Impairment**
  - Consistent findings using several measures of mobility: history of falls, arthritis, needing assistance to walk, inability to walk, chair/stand time, and walking speed

- **Diabetes**
  - Risk of incontinence increases when diabetes has been present for at least 1 year even with good A1C control
Risk Factors for Incontinence

• Hysterectomy
  – Conflicting evidence; epidemiological studies provide support; clinical series find no difference in the short term

• Menopause
  – Conflicting evidence; natural menopause may have a neutral or protective effect vs surgical menopause, which is a risk factor

• Less Severe/Less Frequent Urinary Incontinence
  – Having urinary incontinence in the past year increased the risk of developing monthly or more frequent leakage over a 3-year period in older women

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Types of Urinary Incontinence

• **Urgency Urinary Incontinence** is the complaint of involuntary leakage accompanied by or immediately preceded by urgency.

• **Stress Urinary Incontinence** is the complaint of involuntary leakage on effort or exertion, or on sneezing or coughing.
Types of Urinary Incontinence

• **Mixed Urinary Incontinence** is the complaint of involuntary leakage associated with urgency and also with effort, exertion, sneezing and coughing.
Types of Urinary Incontinence

- **Nocturnal Enuresis** is any involuntary loss of urine occurring during sleep.

- **Post-micturition dribble, overflow** and **continuous urinary leakage** denotes other symptomatic forms of incontinence.
Spectrum of Voiding Dysfunction

- SUI
- Mixed (UUI+SUI)
- UUI
  - Urgency
  - Frequency
  - Nocturia

Overactive Bladder
Causes of Urinary Incontinence
DIAP(P)ERS

- Delerium
- Infections
- Atrophy
- Pharmaceuticals/Psychological
- Excess urine production
- Restricted mobility
- Stool impaction
Urinary tract infection

• **Mechanism:**
  – Cystitis causes urgency and frequency

• **Treatment Implications:**
  – Asymptomatic bacteriuria is more common in elderly patients and *does not* need treatment
  – Consider treatment of bacteriuria when incontinence is of new onset or worsening
  – In nursing home residents, dysuria, change in character of urine, and altered mental status may be useful clinical indicators of UTI
Constipation

• Mechanism:
  – Bladder irritation from rectal distension

• Treatment:
  – Appropriate management with increased fluid intake, increased dietary fruit and fiber, stool softeners, and laxatives as needed
Diabetes

• Mechanism:
  – Glycosuria causes polyuria; also associated with diabetic neuropathic bladder

• Treatment Implications:
  – Improved control of diabetes can decrease osmotic diuresis and improve incontinence
  – Urinary incontinence may first lead to diagnosis of diabetes if screening urinalysis shows glycosuria
Mobility

• Mechanism:
  – Slowed mobility from any cause can precipitate urgency incontinence;
  – pain with movement from degenerative joint disease or other conditions can cause postponement of voiding with resultant urgency incontinence

• Treatment:
  – Physical therapy and pain management
Sleep Apnea

• Mechanism:
  – Nocturnal diuresis due to production of atrial natriuretic peptide

• Treatment:
  – CPAP
Obesity

• Mechanism:
  – Pressure on the bladder from central obesity as well as stress on the pelvic floor muscles

• Treatment: Weight loss
  – In a randomized controlled trial, an average weight loss of 17 lb (vs 3 lb) over 6 mo reduced incontinence episodes by 47% (vs 28%)

## Drugs

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Caffeine</th>
<th>Diuretics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caffeine</td>
<td>Caffeine is a mild diuretic and a bladder irritant</td>
<td>Eliminating or reducing caffeine can improve incontinence</td>
</tr>
<tr>
<td>Diuretics</td>
<td>Increased diuresis worsens urgency incontinence</td>
<td>Evaluate for necessity of prescribed diuretic</td>
</tr>
<tr>
<td><strong>Angiotensin converting enzyme inhibitors</strong></td>
<td>Cough is a common adverse effect in elderly patients and precipitates stress incontinence</td>
<td>Loop diuretics can be moved to late in the afternoon to allow useful daytime hours without frequency and then diuresis abates before bedtime</td>
</tr>
<tr>
<td><strong>Anticholinergics, sedatives, and hypnotics</strong></td>
<td>May cause incomplete bladder emptying and constipation and thus contribute to frequency, urgency, and urinary incontinence; also may cause cognitive impairment that interferes with ability to sense, process, and respond to the need to void</td>
<td>Consider change to angiotensin II receptor blockers or other agents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discontinue or reduce dose when possible</td>
</tr>
</tbody>
</table>
Unusual Causes of Urinary Incontinence:

- Urethral diverticulum
- Genitourinary fistula
- Congenital abnormalities (ectopic ureter)
Myths:

- Urinary incontinence/prolapse is a natural part of aging
- Nothing can be done about it
- Surgery is the only solution
Detection of Incontinence

• Discussing incontinence can be embarrassing, and most women are not aware of the range of effective treatments available.

• Due to the high prevalence of undiagnosed incontinence, it should be included in the review of systems for all women.
FACT:

A woman may tell her clinician that infrequent incontinence is not bothersome ..... she should be advised that occasional incontinence is a risk factor for more frequent incontinence

Evaluation

• The evaluation of patients with UI takes place in the primary care setting

• The incontinence history can be brief and targeted
  – identify the type,
  – severity,
  – duration,
  – burden of incontinence,
  – any potentially modifiable contributing factors
Patient Evaluation:

- History
- Physical examination
  - Cognitive assessment
- Questionnaire(s)
- Urinalysis
- PVR - if indicated
  - Symptoms of incomplete emptying
  - Longstanding diabetes mellitus
  - History of urinary retention
  - Failure of pharmacologic therapy
  - Prolapse
  - Previous incontinence surgery

Incontinence Modular Questionnaire-Urinary Incontinence (ICIQ-UI) Short Form

• http://www.iciq.net
• Extremely useful for eliciting types of incontinence and estimating severity and burden.
• It demonstrates excellent sensitivity to change
  – can also be used to assess improvement or worsening on subsequent visits
• Concomitant symptoms such as frequency, urgency, and nocturia should also be explored because they can cause considerable burden and respond well to treatment
Patient History:

- Focus on medical, neurologic, genitourinary history
- Review voiding patterns/fluid intake
- Voiding diary
- Review medications (rx and non-rx)
- Explore symptoms (duration, most bothersome, frequency, precipitants)
- Assess mental status and mobility
Physical Examination:

- General examination
  - Edema, neurologic abnormalities, mobility, cognition, dexterity
- Abdominal examination
- Pelvic and rectal exam - women
- Examination of back and lower limbs
- Observe urine loss with cough
Urinalysis:

- Conditions associated with overactive bladder
  - Hematuria
  - Pyuria
  - Bacteriuria
  - Glucosuria
  - Proteinuria
- Urine culture
Postvoid Residual Volume (PVR):

- If clinically indicated accurate PVR can be done by
  - Catheterization
  - Ultrasound
- PVR of <50 ml is considered adequate, repetitive PVR >200 ml is considered inadequate
- Use clinical judgement when interpreting PVR results in the intermediate range (50-199 ml)
Conditions for Further Evaluation
Referral to Specialist

- Uncertain diagnosis/no clear treatment plan
- Unsuccessful therapy/patient requests further therapy
- Surgical intervention considered/previous surgery failed
- Hematuria without infection

Conditions for Further Evaluation Referral to Specialist (cont.)

Existence of other comorbid conditions:
- Recurrent symptomatic urinary tract infection
- Persistent symptoms of difficult bladder emptying
- Symptomatic pelvic prolapse
- Suprapubic or pelvic pain
- Prostate nodule enlargement, asymmetry, suspicion of cancer
- Neurologic condition: multiple sclerosis, spinal cord lesions/injury
- History of previous radical pelvic or anti-incontinence surgery
- Diabetes mellitus

Cystometry

- 2-Way Catheter
- Balloon Catheter
- Extension Set-2
- Pressure Transducers 9022K0122
- Infusion Line 9021O1173
- Water Pump
- $P_{abd}$
- $P_{ves}$
I can't help it.

I can!

Urinary incontinence can be treated!
Establish Goals of Therapy

• Treatment satisfaction may be enhanced by clearly establishing treatment outcome expectations
  – CLARIFY GOALS!!!
Goals of Therapy

• Decrease in specific symptom burden
  – incontinence,
  – urgency,
  – frequency,
  – nocturia,

• Dryness or using less protection (eg, from diapers to pads);

• Enabling of specific social activities;

• Maintaining residence at home or in assisted living by becoming independent in incontinence management;

• Achieving less caregiver burden when applicable
Treatment Goals

1. Review goals of incontinence treatment and patient preferences. Impact on quality of life is an important consideration.

2. Identify risk factors and treat modifiable factors listed in Table 1. (Also begin step 3)

3. Trial of behavioral treatments. Pelvic floor muscle exercises and bladder control strategies (see text).

   - Reinforce during 4 to 6 weeks (1 to 2 visits)

4. Assess adherence and response to behavioral treatments.

   - Adequate response: Reinforce as needed
   - Inadequate response to behavioral treatments
     - Step 5: Stress incontinence symptoms most bothersome
       - Treatment options (consider in sequence): 1. More intensive behavioral therapy, 2. Pessary (see eTable 3), 3. Surgery (see eTable 3)
     - Step 5: Urgency incontinence symptoms most bothersome
       - Treatment options: Medications (consider cost, low starting dosage, proactive adverse effect management, and consider usage as needed [see Table 2]). Continue behavioral treatment with pharmacologic treatment for optimal effectiveness
   - Not adherent to behavioral treatments
     - Determine reasons for nonadherence: Consider screening test for cognitive impairment
       - No cognitive impairment: Offer other treatments (step 9)
       - Positive cognitive impairment: See Special Considerations for Treatment of Older Women With Cognitive Impairment

   - Assess response to treatment
     - Treatment ineffective or intolerable adverse effects
       - Medication ineffective: consider increasing dose of medication, proactive adverse effect management, or a change of medication (Table 2). Intolerable adverse medication effects: decrease dose or change medications (Table 2). Continue or intensify behavioral treatments.
     - Treatment still ineffective
       - Consider other treatment options (see eTable 3): Percutaneous tibial nerve stimulation, Sacral neuromodulation, Cystoscopic injection of Botulinum toxin
   - Treatment effective
     - Continue to monitor effectiveness and manage adverse effects of medications

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Behavioral Modification

• These interventions improve incontinence by teaching skills and changing the patient’s behavior.
Behavioral Modification

- Education Log
- Timed voiding
- Pelvic floor exercises
- Delayed voiding
- Diet
Behavioral Modification

• Behavioral programs usually comprise multiple individualized components that can include
  – self-monitoring (bladder diary),
  – Scheduled voiding,
  – delayed voiding,
  – Pelvic floor muscle training and exercise,
  – stress strategies,
  – urge suppression strategies,
  – Biofeedback
  – caffeine, alcohol, and smoking reduction/cessation
  – fluid management,
  – weight loss
Caffeine

• Caffeine, in addition to being a diuretic, has also been reported to be a bladder irritant for many women.
• It increases detrusor pressure and is associated with detrusor instability.
• Reducing caffeine intake can reduce both stress and urgency incontinence

Physical therapy

• A cornerstone of behavioral treatment is pelvic floor muscle training and exercise, also known as Kegel exercise.
Physical therapy

• It is effective for reducing stress, urgency, and mixed incontinence
• In randomized trials UI episodes were reduced by 54% to 75% compared with 6% to 16% with no treatment

Physical Therapy

• Several methods have been effectively used to help patients identify and correctly exercise the pelvic floor muscles, including
  – self-help books,
  – biofeedback,
  – verbal feedback based on vaginal or anal palpation,
  – electrical stimulation

PT for SUI

• Three goals for treatment of stress incontinence
  – increasing pelvic floor muscle strength
  – teaching patients to use their muscles consciously to occlude the urethra during activities that precipitate leakage such as sneezing
PT for Urgency Incontinence and Overactive Bladder (OAB)

• Conscious pelvic floor muscle contraction, which can also be used to suppress detrusor contractions and reduce urgency, is a key component of behavioral training for urgency incontinence

• Urge suppression techniques involve teaching patients not to rush to the toilet, use their muscles to suppress urgency, and wait for the urge to pass.
PT for UI and OAB

The effectiveness of behavioral training has been established in controlled trials in which mean reductions of incontinence range from 60% to 80%.

Muscarinic Receptor Distribution

- Dizziness
- Somnolence
- Impaired memory and cognition

 Iris/ciliary body —— Blurred vision
 Lacrimal gland —— Dry eyes
 Salivary glands —— Dry mouth
 Heart —— Tachycardia
 Stomach and esophagus —— Dyspepsia
 Colon —— Constipation
 Bladder (detrusor muscle)

Important Sites of Action for Antimuscarinics

CNS

- Iris/ciliary body
- Lacrimal gland
- Salivary glands
- Heart
- Gallbladder
- Stomach
- Colon
- Bladder (detrusor muscle)

CNS

Safety and tolerability

- Reduce involuntary bladder contractions
  - Reduce OAB symptoms including:
    - Micturition Frequency
    - Nocturia
    - Urgency
    - Urinary incontinence

Quality of life
<table>
<thead>
<tr>
<th>Medication, Form</th>
<th>Dose</th>
<th>Adverse Effects</th>
<th>Average Retail Price, $b (No. Prescribed per mo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darifenacin, tablets</td>
<td>7.5-15 mg/d</td>
<td>Dry mouth (19%-35%), constipation (15%-21%), dyspepsia (3%-6%), headache (7%), and dizziness (1%-2%)</td>
<td>7.5 mg, 144&lt;br&gt;15 mg, 150 (30)</td>
</tr>
<tr>
<td>Fesoterodine, tablets</td>
<td>4-8 mg/d</td>
<td>Dry mouth (19%-35%), constipation (4%-8%), dyspepsia (2%), headache (&lt;1%), and dizziness (&lt;1%)</td>
<td>4 mg, 136&lt;br&gt;8 mg, 136 (30)</td>
</tr>
<tr>
<td>Oxybutynin chloride, immediate release, tablets</td>
<td>2.5-5 mg/d taken up to 4 times daily (maximum 20 mg/d)</td>
<td>Dry mouth (71%), constipation (15%), headache (8%), dyspepsia (6%), somnolence (14%), dizziness (17%), and nausea (12%)</td>
<td>Proprietary 5 mg, 63&lt;br&gt;Nonproprietary 5 mg, 14 (30)</td>
</tr>
<tr>
<td>Extended release, tablets</td>
<td>5-10 mg/d (maximum 30 mg/d)</td>
<td>Dry mouth (29%-61%), constipation (7%-13%), headache (6%-10%), dyspepsia (5%-7%), and somnolence (2%-12%)</td>
<td>Proprietary 5 mg, 118; 10 mg, 118; 15 mg, 122&lt;br&gt;Nonproprietary 5 mg, 87; 10 mg, 88; 15 mg, 90 (30)</td>
</tr>
<tr>
<td>Tactidermal form, patch</td>
<td>1 patch changed 2 times per week (delivers 3.89 mg/24 hours)</td>
<td>Application site pruritus (15%), dry mouth (7%), constipation (3%), headache (&lt;2%), and dyspepsia (&lt;2%)</td>
<td>159 (8)</td>
</tr>
<tr>
<td>10% Topical gel, sachets</td>
<td>1 g/d (0.5 g can be used as starting dose)</td>
<td>Application site reactions (5%), dry mouth (7%), constipation (1%), headache (&lt;1%), dizziness (2%), dyspepsia (&lt;1%), and somnolence (&lt;1%)</td>
<td>130 (30)</td>
</tr>
<tr>
<td>Solifenacin, tablets</td>
<td>5-10 mg/d</td>
<td>Dry mouth (11%-28%), constipation (5%-13%), headache (&lt;1%), dyspepsia (1%-4%), and dizziness (2%)</td>
<td>5 mg, 145&lt;br&gt;10 mg, 145 (30)</td>
</tr>
<tr>
<td>Tocolterodine, tablets</td>
<td>1 mg/d taken daily to twice daily</td>
<td>Dry mouth (35%), constipation (7%), headache 7%, dyspepsia (4%), and dizziness (5%)</td>
<td>1 mg, 159.58&lt;br&gt;2 mg, 159.08 (30)</td>
</tr>
<tr>
<td>Extended release</td>
<td>2-4 mg/d</td>
<td>Dry mouth (23%), constipation (6%), headache (6%), dyspepsia (3%), and dizziness (2%)</td>
<td>2 mg, 139.62&lt;br&gt;4 mg, 145.33 (30)</td>
</tr>
<tr>
<td>Trosplium</td>
<td>20 mg taken once to twice daily</td>
<td>Dry mouth (6%), constipation (5%), headache (2%), dyspepsia (&lt;1%), and dizziness (&lt;1%)</td>
<td>20 mg, 86 (30)</td>
</tr>
<tr>
<td>Extended release</td>
<td>60 mg/d</td>
<td>Dry mouth (11%), constipation (9%), headache (&lt;1%), dyspepsia (1%), and dizziness (&lt;1%)</td>
<td>60 mg, 146 (30)</td>
</tr>
</tbody>
</table>
Myrbetrix

- Myrbetrix® (mirabegron) is a beta-3 adrenergic agonist indicated for the treatment of overactive bladder (OAB) with symptoms of urge urinary incontinence, urgency, and urinary frequency.
Estrogen

• Vaginally administered estrogen improves frequency, nocturia, urgency, incontinence, and bladder capacity in postmenopausal women.

• 1/2 g of unconjugated estrogen cream 3 times a week)
  – serum levels were low and endometrial thickness unchanged.

• Intravaginal estrogen ring Q 3-month

Pessaries

- Pessaries are intravaginal support devices used to treat pelvic organ prolapse and stress incontinence in women

- FEMSOFT
Pessaries

In a controlled trial of pessary and behavioral treatment for stress incontinence, both treatments alone and in combination provided patient satisfaction rates of 50% at 12 months.

Percutaneous Tibial Nerve Stimulation (PTNS)

- PTNS, neuromodulation occurs through projections from the posterior tibial nerve to the sacral nerve plexus at the S2-S4 junction, targeting improvement of urinary urgency, frequency, and urgency incontinence.
- PTNS can be performed via a fine needle inserted percutaneously near the ankle.
PTNS

- Treatments last 30 minutes and are performed in a clinic setting once weekly for 12 weeks and then repeated as needed.
- A randomized controlled trial with 1-year follow-up showed significant and lasting improvement with PTNS

Botox

- 100 units for OAB
- 200 units for Neurogenic bladder
Botox

- Injection into the bladder muscle
• Sacral neuromodulation therapy is an FDA approved treatment for refractory urgency incontinence, as well as urinary urgency and frequency.
Interstim

• The outpatient surgery involves implantation of an electronic device that stimulates the S3 sacral nerve.
• Studies report efficacy (defined as 50% improvement) in symptoms and quality of life 12 months post procedure in as many as 90% of participants

Herbison GP, Arnold EP. Cochrane Database Syst Rev. 2009
Treatment of Stress Incontinence

- Kelly Plication
- Burch Retropubic Urethropexy
- Pubovaginal Sling
  - Mesh or Fascial
- Urethral Bulking
  - Transurethral injection
INCONTINENCE OF URINE IN WOMEN.

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There is a peculiar form of incontinence of urine in women which either follows childbirth or comes on about middle age, and is not associated with any visible lesion of the urinary tract. Sometimes the most suggestive picture that can be seen by cystoscope is a gaping internal sphincter orifice which closes sluggishly. In the incontinence which comes on at about 40 years or over, the patient usually first notices the occasional escape of a few drops of urine as she makes some unusual exertion. This grows worse until, at last, a little urine runs out whenever she coughs, laughs, sneezes, lifts anything, or steps up high. The condition may finally become so bad that the underclothes are constantly wet and soiled with the malodorous secretions.

For a long time surgeons have tried to relieve this condition by a variety of operations, some of them more or less bizarre, designed to act upon the external urethral orifice by contracting it, or to resect the vagina at the internal orifice, or to ligate the urethra, or in one way or another to compress it. These operations rarely succeed. I have seen many patients subjected to them, but none relieved.

The key to successful treatment lies at the internal orifice of the urethra and in the sphincter muscle which controls the canal at this point. For the past 10 or 12 years I have been operating constantly upon patients suffering from this minor distressing inconvenience and I have succeeded in relieving every case where there had not been a destruction of the tissues at the urethral orifice, that is, where there had been no vesico-vaginal fistula with through.

The operation which I do is as follows: A Pezzer catheter is introduced into the urethra, the tube ought to be small, not over 3 mm. in diameter. With the patient in the lithotomy position, the posterior wall of the vagina is retracted and the area at the neck of the bladder is brought down with either forceps or four Guy sutures.

The next step is to slit the vaginal wall down to the urethra and the bladder in the median line for about 1½ or 2 inches. The neck of the bladder should fall at about the center of the incision. The position of the neck is easily determined at all times by moving the catheter to and fro and feeling its head which presses close up against the urethra. The utmost care should be taken not to cut into the urethra or the bladder at any step of the operation.

After making this median incision the vagina is further dissected off on both sides with tissue forceps and dissected away for a distance of 2 to 2½ cm. around the neck of the bladder. This dissection may be made with blunt pointed scissors which push their way into the tissues, separate the bladder from the vaginal walls and then cut the connecting fibrous. The dissection should be deepest at the neck of the bladder.

When the detachment of vagina from the bladder is completed, the finger should be able to grasp at least one-half or two-thirds of the neck of the bladder, including the contiguous urethra. Sometimes the bladder wall is so thin that its mucosa shines through.

The next step is to sueture together the torn or relaxed tissues at the neck of the bladder, using 2 or 3 mattress sutures of fine silk or linen passed from side to side. The first suture taking in about ½ cm. of tissue is tied at once, when the succeeding suture may be passed outside this, further contracting and bringing together the tissues at the neck. This is the principal part of the operation, and when done the mushroom catheter ought to be pulled out, the head of the catheter escaping with a little jump as it clears the tightened recon-
Urethral Bulking

A tunnelling technique is used to inject Macroplastique at the mid-urethral position.

The Administration Device ensures a controlled and precise procedure.
Urethral Bulking

Urethral Coaptation

Macroplastique is injected in 2-3 locations to achieve urethral coaptation.

12 Month Objective Improvement

Intent to treat per protocol analysis; patients withdrawn or lost to follow-up considered failures.

Ghoniem, et al, J Urol in 2009
Mid-urethral Sling

• The mid-urethral sling is an outpatient surgical procedure consisting of transvaginal placement of synthetic mesh beneath the mid-urethral area
• Cure rates range from 77% to 96% in cohort studies

Transobturator Tape (TOT)
MiniArc TOT
Transvaginal/Retropubic Sling
Summary

• Although UI is common among women, the majority do not seek treatment, due not only to embarrassment, but also to the perception that incontinence is a normal and untreatable part of aging.
Summary

• Barriers to treatment in the form of attitudes and beliefs may be overcome with more widespread screening for UI

• Public and professional education to increase awareness of all available diagnostic and treatment options
Grandma Dean looked at Bobby. Bobby looked at Grandma Dean. *Someone* wet the bed, but a confession was not in the cards.
“Would you stop leaving incontinence leaflets lying about! I’ve told you, I don’t have a problem!”