



# AUA News

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## AUA

### 2007 ANNUAL MEETING HIGHLIGHTS

Overactive Bladder

#### Symposium

The Urge to Define Urgency: Expert Opinions on Urgency Study Design and Outcomes in OAB

#### Course 109EC

Incontinence in Women: An Objective Look at the Options

#### Course 10EC

Female Urology: Foundations for Urologists

#### Abstract Highlights

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## AUA 2007 ANNUAL MEETING

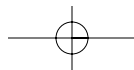
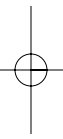
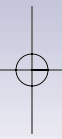


ANAHEIM, CA MAY 19-24, 2007

## ANNUAL MEETING HIGHLIGHTS

# Overactive Bladder

CME Credit



## CME INFORMATION

## Highlights on Overactive Bladder

(from Courses #109EC and #10EC, 2007 AUA Annual Meeting)

**Medium and Method of Participation**

This CME activity consists of a printed overview of the content presented at a live course at the 2007 AUA Annual Meeting and an evaluation. To receive CME credit, participants must read the overview of the course, complete the evaluation and claim credit. Visit <http://www.auanet.org/cme/OAB> to complete the evaluation and claim credit for this activity.

Estimated Time to Complete this Activity: 1.5 hours  
Release Date: October 2007  
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**Learning Objectives**

At the conclusion of this educational activity, you should be able to:

- Define and diagnose stress and urge incontinence
- Describe the significance of pelvic floor disorders as they relate to incontinence
- Manage stress and urge incontinence as well as pelvic floor comorbidities
- Recognize the level of evidence for diagnostic and therapeutic modalities available for incontinence in women

**Course #10EC: Female Urology: Foundations for Urologists****Faculty**

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**Nirit Rosenblum, M.D.**

Nothing to disclose

**Learning Objectives**

At the conclusion of this educational activity, you should be able to:

- Delineate the basic principles of pelvic floor anatomy and how certain anatomic defects contribute to prolapse
- Familiarize one with the varying prolapse surgeries and the certain types of pelvic floor defects they correct
- Teach the basic principles of urodynamic testing in women
- Introduce the latest concepts regarding the pathophysiology and surgical correction of stress urinary incontinence
- Discuss the fundamentals of examining women with prolapse conditions
- Understand the aspects of establishing a female urology practice

**Statement of Need**

Incontinence in women is prevalent, has a great impact on the quality of life

and is managed with behavioral, pharmacologic and/or surgical therapy. Pubovaginal sling procedures are one of the most common surgical procedures performed by urologists. More than 30% of patients with urinary incontinence have associated pelvic organ prolapse, and so it is essential for urologists to become familiar with the clinical evaluation and management of women with prolapse.

**Target Audience**

Urologists, urologists in training and allied health care professionals involved in urology.

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## SYMPOSIUM

# The Urge to Define Urgency: Expert Opinions on Urgency Study Design and Outcomes in OAB

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## Urgency as the “Driver” of Symptoms

According to the International Continence Society (ICS), urgency is the primary driver of associated overactive bladder (OAB) symptoms.<sup>1</sup> Urgency is “a sudden compelling desire to pass urine that is difficult to deter, and is pathological.” This should be differentiated from urge or the desire to void, which is “the sensation experienced during the micturition process, and considered normal because it does not affect an individual’s quality of life (QOL).” The normal micturition cycle “is characterized by the desire to void (urge) which is intermittent and increases with bladder volume and terminates with a void that may (or may not) be associated with a strong sensation.” Patients with OAB also experience a desire to void similar to that of normal individuals. However, during an urgency episode the desire increases abruptly, the volume of urine stored is reduced and the decrease in the ability to defer urination (warning time) impacts QOL.

### Defining OAB Syndrome and Warning Time

The definition of OAB has been subject to several revisions by the ICS. The current definition is a symptom syndrome suggestive of lower urinary tract dysfunction, specifically “urgency with or without urge incontinence, usually with frequency and nocturia.” This presumes that metabolic or pathological conditions have been excluded. The following ICS

definitions are relevant to understanding OAB terminology. Urgency is the complaint of a sudden compelling desire to pass urine that is difficult to defer. Frequency is a complaint voiced by patients who believe they void too often during the day. Normal frequency is considered fewer than 8 times per 24 hours. Nocturia is the complaint of voiding too often during the night, and is considered a clinical problem if frequency is greater than twice a night. Urge urinary incontinence (UI) is the complaint of involuntary leakage accompanied or immediately preceded by urgency. OAB “wet” is OAB with UI, which affects approximately a third of patients. OAB “dry” is OAB without UI, which affects about two-thirds of patients. Warning time is the time from first sensation of urgency to voiding.<sup>2,4</sup>

### The Pathophysiology of “Urgency”

The urothelium, which consists of 3 to 7 layers of cells that line the bladder, has recently been shown to possess substantial sensory properties. The urothelium, interstitial cells, myofibroblasts and suburothelial innervation function as a unit to provide sensory information about the state of bladder fullness. Chemical transmitters such as acetylcholine, adenosine triphosphate and prostaglandins are synthesized in the urothelium. During bladder filling these transmitters are released from the urothelium and activate suburothelial afferent nerves. Up-regula-

tion of this mechanism might contribute to the pathogenesis of urgency and detrusor overactivity.<sup>5,6</sup>

### Applying the Definition and Understanding the New Science

OAB is a descriptive phrase for a condition/syndrome. It allows treatment of the symptoms empirically—when clearly the patients have heterogeneous etiologies and symptoms. The natural history or whether the OAB dry patient and the OAB wet patient with urge or urgency have the same etiology is unknown. Some patients have urgency and are dry, while others may experience “urge” not “urgency.” However, if OAB dry or OAB wet patients respond similarly to anticholinergic therapy, the point may be clinically moot. Clinical research metrics have objectified the symptom of urgency into all or none, or the multiple methods for assessing the degree or bother of urgency.

The afferent sensory arc may be sensitive to anticholinergic blockade by agents delivered to the site of action via the serum or the urine. If so, the treatment paradigm that limits use of anticholinergic agents, due to the concern that the primary mode of action is on the efferent-contraction limb, may need reevaluation. This may impact on the use of specific anticholinergic agents for “urgency” as well as OAB symptoms in men, following analysis of the specific mode of action of these agents and after considering their receptor specificity (efferent/contraction, afferent/stor-

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age) and pharmacology (urine and/or serum activity).

**Clinical Application of Measurement Instruments in Recent OAB Studies**

There are disease specific and symptom specific outcomes instruments that have been used for urgency symptoms (see Appendix).<sup>7,9</sup>

**IUSS analysis (trospium).**<sup>7</sup> In a 12-week, placebo controlled registration study of trospium the validity of the IUSS (Indevus Urgency Severity Scale) questionnaire was tested in patients with OAB associated with urge incontinence. IUSS had a significant positive correlation with clinical and QOL outcomes, and was highly responsive to change in patients with UUI. Trospium demonstrated a profound improvement in urgency severity and in a composite score that included urgency, frequency and urgency incontinence.

**VENUS, SUNRISE and VOLT trials (solifenacin).**<sup>10-13</sup> The VENUS trial was designed to assess changes in urgency and warning time. Subjects were assessed at 4 weeks and 8 weeks, and given the option of remaining on the 5 mg dose or escalating to 10 mg vs placebo (dual point flexible dosing). Solifenacin proved superior to placebo in the primary efficacy end point of mean reduction in urgency episodes per 24 hours (3.91 vs 2.73, p <0.001). VENUS was the first study to demonstrate a significant increase in warning time at the recommended dosage of the medication (739 patients), a median increase of 31.5 seconds from baseline in warning time compared to 12 seconds for placebo (p=0.032).

SUNRISE was a dual flexible dosing 16-week study evaluating the efficacy of solifenacin compared to placebo in the reduction of urgency episodes and severity in patients with

symptoms for at least 3 months. A significant reduction in urgency episodes was demonstrated overall and in patients with the most severe urgency. There were also improvements demonstrated in the patient perception of intensity urgency scale, patient perception of bladder condition (PPBC) scale and visual analog scale (VAS).

VOLT was a 12-week dual point flexible dosing trial. Significant improvement (p <0.001) was assessed with PPBC, VAS and OAB questionnaire. All subscales of health related QOL significantly improved on the OAB questionnaire score, and there was significant reduction in the degree of bother associated with urgency, UUI, frequency and/or nocturia on the VAS.

**Assessing the Results of Clinical Trials**

There are currently more questions and questionnaires than answers when it comes to selecting an out-

comes measure for urgency, and currently there seem to be no right or wrong answers with different scales measuring different degrees of sensation or QOL improvement. Of note, solifenacin also has been shown to improve urgency and quality of life across an array of questionnaires in multiple studies. Some of this effectiveness is postulated to be secondary to the flexible dosing option. The dose can be increased to 10 mg for patients started on a 5 mg dose with only a modest increase in side effects. In the studies presented more than half of the patients treated with solifenacin requested a dose escalation, and few who were given the higher dose asked to go back to the lower dose. The studies with solifenacin were the first to show a positive impact on warning time at the recommended dosage. The additional warning time at the therapeutic dose may be sufficient for many people to end a task without fear of incontinence or discomfort.

**APPENDIX: DISEASE SPECIFIC OUTCOMES INSTRUMENTS FOR URGENCY**

**Urgency Perception Score<sup>7</sup>**

- 1. "I am usually not able to hold urine"
- 2. "I am usually able to hold urine until I reach the toilet if I go immediately"
- 3. "I am usually able to finish what I'm doing before going to the toilet"

**Indevus Urgency Severity Scale<sup>8</sup>**

- 0. None – no urgency
- 1. Mild – awareness of urgency but easily tolerated (can continue your usual activity/tasks)
- 2. Moderate – enough urgency discomfort that it interferes with or shortens usual activity/tasks
- 3. Severe – extreme urgency discomfort that abruptly stops all activity/tasks

**Patient Perception of Intensity of Urgency Scale<sup>9</sup>**

- 0. No urgency: I felt no need to empty my bladder but did so for other reasons
- 1. Mild urgency: I could postpone voiding as long as necessary without fear of wetting myself
- 2. Moderate urgency: I could postpone voiding for a short while without fear of wetting myself
- 3. Severe urgency: I could not postpone voiding but had to rush to the toilet in order not to wet myself
- 4. Urge incontinence: I leaked before arriving at the toilet

## Symposium

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## Summary

Urgency is the sudden compelling need to void that is difficult to defer. This element of OAB often impacts QOL. Studies have been conducted to determine where the sensation of urgency occurs as well as to establish which receptors trigger the symptoms of OAB. Despite this research, many questions about the mechanism of urgency remain unresolved. There is a general lack of consistency in evaluating outcomes in clinical trials on OAB. Many of the trials vary in definition and assessment of urgency and use different measurement instruments, making it difficult to compare results. Future urgency and warning time studies are necessary to determine which outcomes measurement instruments are the most effective for

quantifying symptom improvement for patients being treated with antimuscarinics for OAB. ♦

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## COURSE 109EC

## Incontinence in Women: An Objective Look at the Options

Kristene E. Whitmore, M.D., Course Director; Judy Fried Siegel, M.D. and Raymond A. Bologna, M.D., Faculty

### Definitions

Overactive bladder (OAB) is defined as frequency, urgency and/or urge urinary incontinence (UUI). Stress urinary incontinence (SUI) is defined as involuntary leakage with effort, exertion, coughing or sneezing. Mixed urinary incontinence (MUI) is defined as UUI and SUI.<sup>1</sup>

### Etiology

The etiology of UUI involves sensitization of peripheral afferent terminals in the bladder or damage to central inhibiting pathways that can unmask primitive voiding reflexes.<sup>2</sup> This results in a leak of acetylcholine (ACH) from parasympathetic nerve terminals during filling and storage with micromotion of detrusor bundles and further

afferent activation (neurogenic-myogenic theory).<sup>3</sup>

Changes in the properties, structure and innervation of the detrusor muscle can result in a change in afferent receptors and nerves in the urothelium and suburothelium with an increased sensory urothelium function and an increased release of ACH, adenosine triphosphate, nitrous oxide, urothelial inhibitory factor and other factors that may activate afferent nerves. Changes in the detrusor muscle cells may cause an increased excitability and impulse propagation resulting in increased coordinated myogenic contractions of the whole detrusor muscle. This may result in hypersensitivity to cholinergic stimulation which results in OAB.<sup>4,5</sup> The etiology of SUI is predominately asso-

ciated with vaginal childbirth and is likely associated with deficient collagen properties in targeted populations. Hypermobility urethra and poor urethral closing pressures (intrinsic sphincteric deficiency) are present.

### Causes

Causes related to UUI and SUI include bladder calculi, bladder cancer, increased post-void residual, interstitial cystitis (IC)/painful bladder syndrome, urinary tract infection (UTI), urethral diverticulum, pelvic organ prolapse (POP), SUI, atrophic vaginitis, pelvic radiation, congestive heart failure, diabetes mellitus, upper motor lesions, impaired renal function, anxiety and habitual fluid intake (excessive/decreased intake).

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**Prevalence**

UII and SUI are likely unreported secondary to results of aging and childbirth, poor awareness of treatment options, low expectations for efficacy and treatment, embarrassment and lack of coping mechanisms. The prevalence of UII among United States women is 16.9% which increases with age (2% to 19%) and has been reported in up to 36% of survey responders.<sup>6</sup> The prevalence of SUI is estimated at 29.5 million American women with SUI and MUI, which is present in 12% to 52% of nulliparous women. The EPINCONT (epidemiology of urinary incontinence) study revealed that 50% of women have SUI, with UII in 11% and MUI in 36%. SUI was bothersome in 17% to 24% of incontinent women.<sup>7</sup>

**Quality of Life Impact**

OAB is one of the 4 leading health problems affecting the quality of life (QOL) of senior citizens. Urinary incontinence (UI) accounts for greater than 50% of nursing home admissions. Patients with UI complain of a significant decrease in sexual function, increase in sleep disturbances, a decreased participation in normal activities and an increased fear of stigmatization.<sup>8</sup> UUI is associated with an increased risk of falls (26%), fractures (34%), UTIs (21.7%) and skin infarctions (7.57%). The social function 36 (SF-36) showed a significant decrease in all physical and emotional QOL domains.<sup>9</sup>

**Economics**

The total estimated direct and indirect costs of UI are \$12.6 billion with institutional costs being the majority of the burden and, thus, Medicare mandates an incontinence evaluation for all institutionalized patients with inconti-

nence.<sup>10</sup> Brown et al estimated a potential swing of \$3 million to treated UTIs and \$300,000 for skin conditions if OAB was treated before patients entered a nursing home.<sup>9</sup>

**Diagnostic Options**

An assessment of pelvic floor dysfunction is pivotal. Hypotonic disorders include SUI, POP and sphincteric incompetence. Hypertonic disorders include OAB, interstitial cystitis, vulvodynia, chronic pelvic pain, overactive bowel syndrome and sexual dysfunction.<sup>11</sup> Lower urinary tract nervous innervation is altered in patients with UII in that unmyelinated c-fibers become the predominant sensory innervation which causes activation of a sustained guarding reflex (overactive bladder and/or high tone pelvic muscle floor dysfunction).

**Assessment**

History taking involves a medication list (prescriptions and over-the-counter drugs), duration of symptoms, type of symptoms (SUI vs UII vs pain) and symptom bother. A validated questionnaire should be administered and given during followup visits to monitor progress. The Incontinence Quality of Life Questionnaire is validated for males and females with UI. A voiding diary (validated) should also be administered.<sup>12</sup>

Physical examination involves assessment of the external and internal pelvis, and urinalysis/culture.<sup>13,14</sup> Optional tests include urodynamics and cystoscopy. Urine cytology and renal ultrasound should also be performed in patients with hematuria. Digital pelvic floor muscle measurement and electromyography (EMG) or perineometry assess pelvic floor muscle function.<sup>15-19</sup> The pelvic organ prolapse quantification exam assesses

POP. Sexual function can be determined using the female sexual function index and bowel function can be monitored using a bowel diary.

**Nonsurgical Treatment of SUI**

Lifestyle interventions for behavioral therapy include weight loss, smoking cessation, fluid management and cough prevention. Mechanical devices comprise pessaries and urethral occlusion devices. Pelvic floor muscle therapy (PFMT) is designed to increase strength, coordination, speed and endurance of the pelvic floor muscles during 6 weeks to 6 months of therapy assessed by digital assessment, EMG and/or perineometry to achieve a cure plus improvement rate of 41% to 100%.<sup>20</sup> Adjunctive therapy with biofeedback and/or functional electrical stimulation or vaginal cones increased QOL and decreased 24-hour mean usage. Behavioral therapy does not significantly prevent surgical procedures.

**Nonsurgical Treatment of UII**

Behavioral modification predominantly involves PFMT.<sup>21-24</sup> The International Consultation on Incontinence group recommends PFMT as first line therapy (grade A level of evidence) with a significant reduction in incontinence episodes and an increase in voiding intervals. Combining PFMT with pharmacological therapy has shown no added benefit.

**Medical Therapy for OAB**

Several head-to-head studies show rapid results among the 6 popularly available agents.<sup>24-27</sup> Treatment with 10 mg oxybutynin XR daily was superior to 4 mg tolterodine ER daily in mean change in incontinent episodes per 24 hours and the number of patients who became continent.<sup>28</sup> Solifenacin resulted in

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fewer urgency episodes and fewer micturitions per day than 4 mg tolterodine ER daily. Antimuscarinic agents are chosen based on dosing options, efficacy, tolerability and safety.<sup>26</sup>

Estrogen therapy for UI is not efficacious for SUI, but may be useful for urgency and frequency.<sup>27</sup> Afferent agents, capsaicin and resiniferatoxin, used intravesically target unmyelinated c-fibers and result in increased bladder capacity, decreased frequency and decreased incontinence episodes.<sup>28,29</sup> Functional electrical stimulation showed no apparent benefit compared to PFMT which was likely secondary to a variety of techniques used and lack of consistency in protocols.

**Surgical Treatment of SUI**

Periurethral bulking agents can be administered with the patient under local anesthesia and are minimally invasive.<sup>30</sup> Needle suspension procedures for SUI are inferior to retropubic colposuspension and slings.<sup>31</sup> Laparoscopic Burch colposuspension is inferior to the mid urethral sling. Tension-free vaginal tape and tension-free obturator techniques offer minimally invasive, low cost, effective and safe alternatives to traditional sling procedures with an 88% improvement in subjective symptoms.<sup>32,33</sup>

**Surgical Treatment of UI**

Intravesical botulinum toxin (BTX-A) injections have resulted in increased bladder capacity, decreased frequency, increased bladder compliance and increased QOL.<sup>34-36</sup> BTX-A injections into high tone pelvic floor muscle trigger points have resulted in decreased pelvic pain and decreased pelvic floor muscle pressure.<sup>37,38</sup> Sacral nerve stimulation at S3 with InterStim® has

resulted in long-term (greater than 5 years) decreases in leakage episodes, voids per 24 hours and increased QOL.<sup>39,42</sup> InterStim therapy has also been shown to be effective in decreasing frequency, urgency and pain, and increasing QOL in patients with IC, as well as decreasing fecal incontinence episodes per week. Augmentation cystoplasty is effective in most patients with low bladder capacity but results in a 70% self-catheterization rate.<sup>43,44</sup> Multimodal therapy is key in treating UI, incorporating multiple forms of behavioral and pharmacological therapeutic interventions and/or surgery. ♦

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**COURSE 10EC****Female Urology: Foundations for Urologists**

J. Christian Winters, M.D., FACS, Course Director; Stephen R. Kraus, M.D. and Nirit Rosenblum, M.D., Faculty

Approximately 50% of residents are graduating from United States residency programs that do not have a specialist in female urology on the faculty. Female urology has been identified as one of the most requested areas of continuing medical education by the AUA membership. To address these needs, this course on the basic fundamentals of female urology was developed. The goals of the course are to present the basic concepts of female pelvic anatomy, stress urinary incontinence, urodynamics, periurethral masses, and the surgical treatment of these conditions. Also, time is devoted to discuss the nuances of establishing a female urology practice setting within previously established urological practices. The course is typically held early in the week of the AUA annual meeting so participants can apply these basic principles as they attend other female urology sessions.

Dr. Nirit Rosenblum presented a comprehensive review of anatomy and pelvic floor support. She emphasized that pelvic floor support is a

complex interaction of levator ani muscular function and connective tissue attachments. The development of pelvic organ prolapse is a complex event associated with multiple predisposing factors. Dr. Rosenblum reviewed the 3 levels of vaginal support popularized by Dr. John Delancey and noted, "The most important aspect for pelvic surgeons to realize is apical support is critical for the success of most prolapse repairs. Urologists must become adept at diagnosing apical support defects, and how to correct them." She also outlined the anatomical defects that cause cystocele, rectocele and enterocele.

Dr. Winters then gave a lecture on the surgical procedures to correct these various defects. The role of anterior, posterior, paravaginal and apical repair operations was described, and the use of abdominal, laparoscopic and vaginal approaches was presented. Once again, the importance of apical support was emphasized.

Dr. Rosenblum provided an excel-

lent overview of the pathophysiology and treatment of stress urinary incontinence. The concepts of urethral hypermobility and intrinsic sphincteric deficiency contributing to the development of stress incontinence were outlined, and the implications for treatment discussed. The contemporary surgical management of stress incontinence was discussed, clarifying the roles of retropubic suspensions, pubovaginal slings and mid urethral slings.

Dr. Stephen Kraus gave a lecture entitled, "Urodynamics: All We Can Fit Into 25 Minutes." He focused on the basic principles of urodynamic testing, and then outlined the use of abdominal leak point pressures and urethral pressure profilometry in women with stress incontinence. Excellent examples of urodynamic findings in women with pelvic organ prolapse were provided, and participants learned about the technical and interpretive nuances of urodynamic testing in women. Dr. Kraus noted that "pressure flow analysis in

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women is different than that in men; this is an important issue when evaluating women with lower urinary tract symptoms.”

Dr. Winters completed the clinical lectures with an update on the evaluation and management of periurethral masses which included leiomyomas, caruncles and diverticula among others. Dr. Kraus then closed the session with a lecture on establishing a female urology prac-

tice. Many urologists who specialize in female urology join practices that are not primarily focused on delivering care to women. He reviewed practical issues such as atmosphere, restroom facilities, examination settings and techniques that make these practices more comfortable for women. In addition, Dr. Kraus reviewed some of the billing and coding issues that are commonly encountered as we provide care to

more female patients.

Overall, this session provided the participants with a comprehensive overview of the established basic principles of female urology and practical suggestions on how to establish a practice environment comfortable for women. From this course it is expected that the urologist has the foundations upon which to explore the many emerging areas of the dynamic specialty of female urology. ♦

**ABSTRACT HIGHLIGHTS****ABSTRACT 70: THE IMPACT OF OVERACTIVE BLADDER IN THE ELDERLY: A RETROSPECTIVE ANALYSIS OF MEDICARE CLAIMS**

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**Introduction and Objective:** Direct medical (non-pharmacy) costs attributable to overactive bladder (OAB) in the community-dwelling elderly were estimated at \$4.5 billion in 2000 (Hu 2003). The financial impact of OAB relative to other chronic conditions is important for decision makers allocating resources from fixed budgets. However, OAB-attributable costs in the Medicare population have not yet been published. The goal of this study is to provide annual estimates for the diagnosed prevalence of, and direct non-pharmacy costs attributable to OAB in the Medicare population.

**Methods:** We extracted all medical (non-pharmacy) claims for beneficiaries over 65 with continuous coverage for Medicare Parts A and B during 2003- 2004. Coding inaccuracies inherent in claims data made it impossible to definitively identify OAB claims. We therefore created two OAB definitions to provide a range of estimates for diagnosed OAB prevalence and cost: (1) the base case included diagnosis codes that more narrowly defined OAB, and (2) the sensitivity variant included additional codes (ICD-9-CM 788.30, 788.34, 788.35, 788.36, 788.37, 788.39, 788.43) indicative of OAB. We totaled Medicare expenditures for individuals and used multiple regres-

sion techniques to estimate a range of costs attributable to OAB after adjusting for demographic characteristics and comorbidities.

**Results:** The prevalence rate of patients with an OAB diagnosis code ranged from 8.8% to 13.6% for the base and sensitivity definitions. These estimates are within the ranges of other common chronic diseases of the elderly in the US (Figure 1). While mean total annual expenditures ranged from \$9331 - \$9655, mean annual expenditures attributable to OAB, after adjusting for demographic and comorbidity differences, ranged from \$825 - \$1184 per patient (9 - 12% of total medical costs for OAB patients), with an aggregate

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total attributable cost of \$1.8 to \$3.9 billion per year.

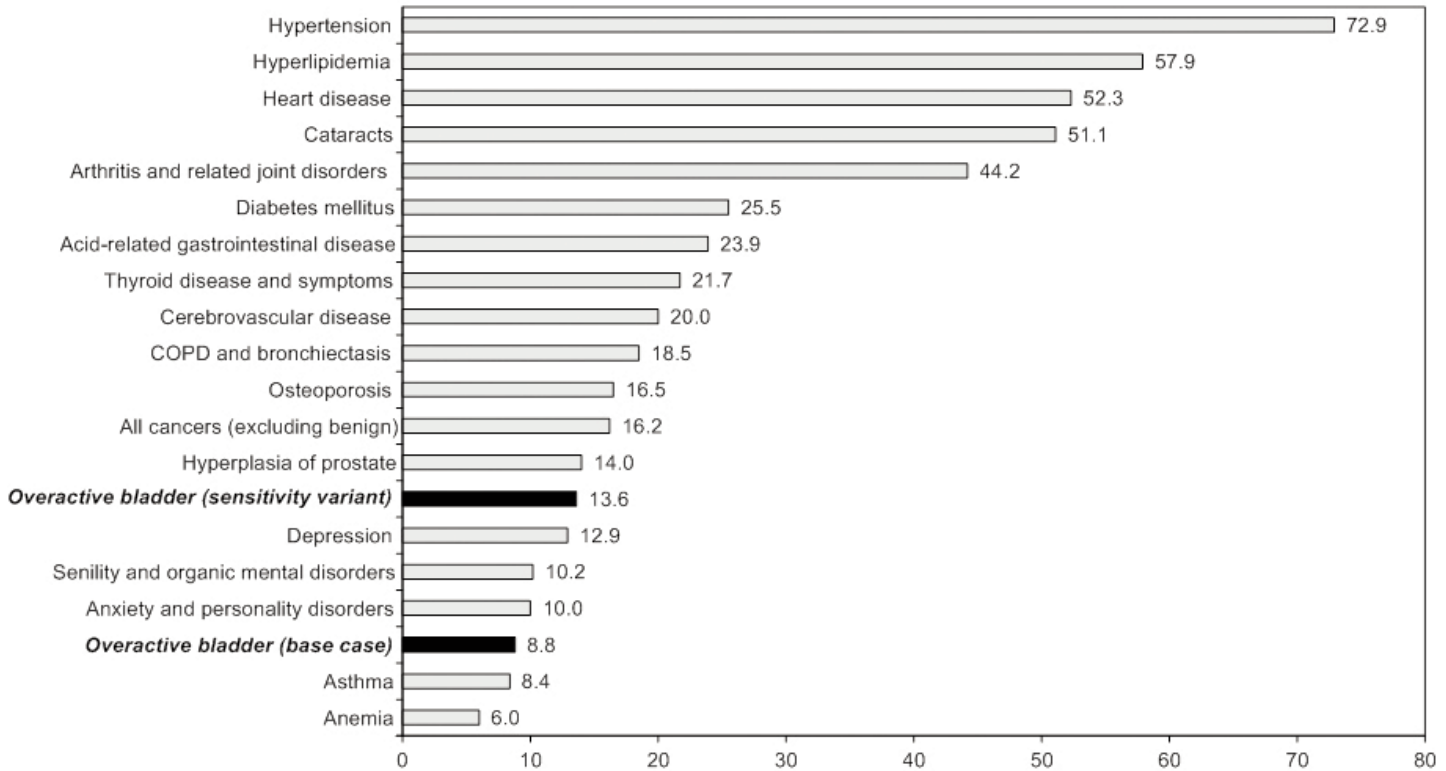
**Conclusions:** The prevalence of individuals seeking treatment for OAB in the elderly Medicare popula-

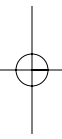
tion is comparable to some common chronic conditions in that population, and the costs attributable to OAB are considerable. A reanalysis of Medicare data once Part D pharmacy

claims are available will provide a more accurate picture of both OAB prevalence and cost. ♦

*Source of Funding:* Astellas Pharma US, Inc. and GlaxoSmithKline, USA

**Figure 1. Treated Prevalence Rate (%) of OAB Compared to Other Common Chronic Conditions Medicare Patients, 2003 - 2004**





Cover 3

Cover 4

