THE UNIVERSITY OF IOWA E-NEWS
IOWA GERIATRIC EDUCATION CENTER

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Our Mission: Helping to prepare Iowa's health practitioners to care for our growing population of elders. *E-NEWS* is one of our methods of teaching through technology.

Each month, *E-NEWS* delivers abstracts from current multidisciplinary healthcare journal articles related to a specific geriatric topic. This month's *E-NEWS* focuses on URINARY INCONTINENCE IN OLDER ADULTS.

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URINARY INCONTINENCE IN OLDER ADULTS

In this issue of the *E-NEWS*, you will find abstracts for:

- An article that provides an overview of current thoughts on pharmacological treatment of overactive bladder from the International Consultation on Incontinence.
- A study that explores trends in the surgical management of stress urinary incontinence among female Medicare beneficiaries.
- An article that presents the CHAMMP tool for individualizing the plan of care for long-term care residents with incontinence.
- A study that examines whether behavioral therapy can enable women with urge incontinence to discontinue drug treatment.
- A study that investigates changes in continence status among older women and identifies factors associated with incontinence.
- A study that evaluates the effect, safety, and tolerability of oral extended-release oxybutynin in cognitively impaired nursing home residents with incontinence.
- A study that compares the effectiveness of percutaneous tibial nerve stimulation to extended-release tolterodine.
- An article that discusses physical activity as a way to reduce incontinence.
- A study that assesses whether individualized and comprehensive care can improve urinary incontinence among nursing home residents.

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- Andersson KE, Chapple CR, Cardozo L, Cruz F, Hashim H, Michel MC, Tannenbaum C, Wein AJ. Pharmacological treatment of overactive bladder: report from the International Consultation on Incontinence. *Curr Opin Urol*. 2009 Jul;19(4):380-94.

  PURPOSE OF REVIEW: Treatment options for the overactive bladder were recently discussed at the 4th International Consultation on Incontinence (ICI) held in Paris, 5-8 July 2008. This article will overview current thoughts on the pharmacological and clinical basis for the different classes of drugs currently used for the treatment of lower urinary tract symptoms/overactive bladder syndrome/and detrusor overactivity. Individual drugs are not discussed in detail; particular consideration is given to therapeutic aspects of the management of the elderly patient. RECENT FINDINGS: An extensive literature review confirms the rationale for using antimuscarinic drugs, and that the currently used drugs are efficacious with an acceptable tolerability and safety. In patients resistant to antimuscarinics, botulinum toxin may be an alternative--the vanilloids resiniferatoxin and capsaicin have very limited use. New therapeutic options with positive proof-of-concept studies, but with limited clinical experience, are beta3 adrenoceptor agonists and phosphodiesterase type 5 inhibitors. Positive signals have been found for other classes of drugs (e.g., gonadotropin-releasing hormone antagonists, neurokinin receptor-1 antagonists), but available information is not sufficient for proper assessment. SUMMARY: Antimuscarinic drugs remain the first-line treatment of the overactive bladder and a favorable efficacy/tolerability-safety ratio can be confirmed. Promising new alternatives are emerging and future controlled studies will decide their place in the therapeutic arsenal.

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- Anger JT, Weinberg AE, Albo ME, Smith AL, Kim JH, Rodríguez LV, Saigal CS. Trends in surgical management of stress urinary incontinence among female Medicare beneficiaries. *Urology*. 2009 Aug;74(2):283-7.

  OBJECTIVES: To identify patterns in the surgical treatment of women with stress urinary incontinence in the United States from 1992 to 2001. METHODS: As a part of the Urologic Diseases in America Project, we analyzed data from a 5% national random sample of female Medicare beneficiaries aged > or =65 years. The data were obtained from the Centers for Medicare and Medicaid Services carrier and outpatient files from 1992, 1995, 1998, and 2001. Women in the sample with a diagnosis of urinary incontinence were identified using the International Classification of Diseases, 9th edition, codes. Surgical procedures were identified using the Current Procedural Terminology, 4th edition, codes. The patterns of care were then analyzed during the 10-year period. RESULTS: The overall number of surgical procedures increased from 18 820 to 32 480 during the 10-year period, likely owing to the growing population of Medicare beneficiaries. Needle suspension was the most commonly performed incontinence procedure in 1992 and 1995. Collagen injections gained rapid popularity and became the most common procedure by 1998. A drastic increase in the numbers and rates of sling placements occurred from 1995 to 2001. CONCLUSIONS: A rapid shift occurred in the surgical management of stress urinary incontinence in the 1990s. The rapid increase in the use of sling procedures corresponded with a decrease in the use of the many other available anti-incontinence procedures. As in previous years, we identified a trend toward minimally invasive approaches to surgery, without the presence of randomized controlled clinical trials to support these trends. We anticipate that the analysis of Medicare claims from 2004 onward will demonstrate an additional increase in the use of sling procedures.

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- Bucci AT. Be a continence champion: use the CHAMMP tool to individualize the plan of care. *Geriatr Nurs*. 2007 Mar-Apr;28(2):120-4; quiz 125.

  In June 2005, the U.S. Centers for Medicare and Medicaid Services (CMS) issued revised guidance to surveyors for Section 483.25(d), Urinary Incontinence, Tag F315. Part 1 instructs that an indwelling catheter not be used without valid medical justification. Part 2 requires that a resident receive treatment to restore continence to the extent possible. Identification, assessment, and diagnosis of incontinence are crucial to preparing an individualized plan of care for treatment. Many articles discuss treatment protocols, but they do not focus on identification and assessment of the incontinent resident. The CHAMMP (Continence, History, Assessment, Medications, Mobility, Plan) Tool provides a comprehensive evaluation tool that incorporates information from the resident and provides the documentation necessary for the MDS (Minimum Data Set) and RAP (Resident Assessment Protocol) assessment process. It is used to establish an individualized plan of care.

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- Burgio KL, Kraus SR, Menefee S, Borello-France D, Corton M, Johnson HW, Mallett V, Norton P, FitzGerald MP, Dandreo KJ, Richter HE, Rozanski T, Albo M, Zyczynski HM, Lemack GE, Chai TC, Khandwala S, Baker J, Brubaker L, Stoddard AM, Goode PS, Nielsen-Omeis B, Nager CW, Kenton K, Tennstedt SL, Kusek JW, Chang TD, Nyberg LM, Steers W; Urinary Incontinence Treatment Network. Behavioral therapy to enable women with urge incontinence to discontinue drug treatment: a randomized trial. *Ann Intern Med*. 2008 Aug 5;149(3):161-9.

  BACKGROUND: Women with urge urinary incontinence are commonly treated with antimuscarinic medications, but many discontinue therapy. OBJECTIVE: To determine whether combining antimuscarinic drug therapy with supervised behavioral training, compared with drug therapy alone, improves the ability of women with urge incontinence to achieve clinically important reductions in incontinence episodes and to sustain these improvements after discontinuing drug therapy. DESIGN: 2-stage, multicenter, randomized clinical trial conducted from July 2004 to January 2006. SETTING: 9 university-affiliated outpatient clinics. PATIENTS: 307 women with urge-predominant incontinence. INTERVENTION: 10 weeks of open-label, extended-release tolterodine alone (n = 153) or combined with behavioral training (n = 154), followed by discontinuation of therapy and follow-up at 8 months. MEASUREMENTS: The primary outcome, measured at 8 months, was no receipt of drugs or other therapy for urge incontinence and a 70% or greater reduction in frequency of incontinence episodes. Secondary outcomes were reduction in incontinence, self-reported satisfaction and improvement, and scores on validated questionnaires measuring symptom distress and bother and health-related quality of life. Study staff who performed outcome evaluations, but not participants and interventionists, were blinded to group assignment. RESULTS: 237 participants completed the trial. According to life-table estimates, the rate of successful discontinuation of therapy at 8 months was the same in the combination therapy and drug therapy alone groups (41% in both groups; difference, 0 percentage points [95% CI, -12 to 12 percentage points]). A higher proportion of participants who received combination therapy than drug therapy alone achieved a 70% or greater reduction in incontinence at 10 weeks (69% vs. 58%; difference, 11 percentage points [CI, -0.3 to 22.1 percentage points]). Combination therapy yielded better outcomes over time on the Urogenital Distress Inventory and the Overactive Bladder Questionnaire (both P <0.001) at both time points for patient satisfaction and perceived improvement but not health-related quality of life. Adverse events were uncommon (12 events in 6 participants [3 in each group]). LIMITATIONS: Behavioral therapy components (daily bladder diary and recommendations for fluid management) in the group receiving drug therapy alone may have attenuated between-group differences. Assigned treatment was completed by 68% of participants, whereas 8-month outcome status was assessed on 77%. CONCLUSION: The addition of behavioral training to drug therapy may reduce incontinence frequency during active treatment but does not improve the ability to discontinue drug therapy and maintain improvement in urinary incontinence. Combination therapy has a beneficial effect on patient satisfaction, perceived improvement, and reduction of other bladder symptoms.

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- Byles J, Millar CJ, Sibbritt DW, Chiarelli P. Living with urinary incontinence: a longitudinal study of older women. *Age Ageing*. 2009 May;38(3):333-8; discussion 251.

  BACKGROUND: urinary incontinence carries major social burden and considerable costs for health care systems. OBJECTIVE: the aim of this study was to investigate changes in continence status among a large cohort of older women, and to identify factors associated with incidence of incontinence in later life. SUBJECTS: participants of the Australian Longitudinal Study of Women's Health (ALSWH), aged 70-75 years in 1996 and who have completed four health surveys over the past 10 years. METHODS: continence status across four survey periods, spanning 9 years, were defined according to women's reports of 'leaking urine' at each survey. Generalized estimating equation (GEE) models were used in longitudinal analyses of the factors associated with changing continence status over time. RESULTS: this study presents longitudinal data on the prevalence and incidence of incontinence from a large cohort of older women, over 9 years of follow-up. Over this time, 14.6% (95% CI 13.9-15.3) of the women in the study who had previously reported leaking urine 'rarely' or 'never' developed incontinence, and 27.2% (95% CI 26.2%, 28.3%) of women participating in Survey 4 (S4) in 2005 reported leaking urine 'sometimes' or 'often' at that survey, with women being twice as likely to report incontinence at S4 as they were 6 years earlier. Longitudinal models demonstrated the association between incontinence and dementia (P < 0.001; OR = 2.34; 95% CI 1.64, 3.34), dissatisfaction with physical ability (P < 0.001; OR = 1.70; 95% CI 1.52, 1.89), falls to the ground (P <0.001; OR = 1.23; 95% CI 1.13,

1.33), BMI (P < 0.001; OR = 2.18; 95% CI 1.70, 2.80 for obese), constipation (P < 0.001; OR 1.46; 95% CI 1.34-1.58), urinary tract infection (P < 0.001; OR 2.07; 95% CI 1.89-2.28), history of prolapse (P </= 0.001; OR = 1.53; 95% CI 1.35, 1.74) and prolapse repair (P = 0.002; OR = 1.23; 95% CI 1.08, 1.40). Stroke (P = 0.01), parity (P = 0.017) and hysterectomy (P = 0.026) and number of visits to the general practitioner (P = 0.040) were less strongly associated with incontinence in the final longitudinal model. Incontinence was not significantly associated with area of residence (P = 0.344), education (P = 0.768), smoking (P = 0.055), diabetes (P = 0.072), attending support groups (P = 0.464) or attending social groups (P = 0.022). CONCLUSION: strong associations between BMI, dysuria and constipation indicate key opportunities to prevent incontinence among older women.

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- Lackner TE, Wyman JF, McCarthy TC, Monigold M, Davey C. Randomized, placebo-controlled trial of the cognitive effect, safety, and tolerability of oral extended-release oxybutynin in cognitively impaired nursing home residents with urge urinary incontinence. *J Am Geriatr Soc*. 2008 May;56(5):862-70.

  OBJECTIVES: Determine the cognitive effect, safety, and tolerability of oral extended-release oxybutynin in cognitively impaired older nursing home residents with urge urinary incontinence. DESIGN: Randomized, double-blinded, placebo-controlled trial. SETTING: Twelve skilled nursing homes. PARTICIPANTS: Fifty women aged 65 and older with urge incontinence and cognitive impairment. INTERVENTION: Four-week treatment with once-daily oral extended-release oxybutynin 5 mg or placebo. MEASUREMENTS: Withdrawal rates and delirium or change in cognition from baseline at 1, 3, 7, 14, 21, and 28 days after starting treatment using the Confusion Assessment Method (CAM), Mini-Mental State Examination (MMSE), and Severe Impairment Battery (SIB). The Brief Agitation Rating Scale, adverse events, falls incidence, and serum anticholinergic activity change with treatment were also assessed. RESULTS: Participants' mean age +/- standard deviation was 88.6+/-6.2, and MMSE baseline score was 14.5+/-4.3. Ninety-six percent of subjects receiving oxybutynin (n=26) and 92% receiving placebo (n=24) completed treatment (P=.50). The differences in mean change in CAM score from baseline to all time points were equivalent between the oxybutynin and placebo groups. Delirium did not occur in either group. One participant receiving oxybutynin was withdrawn because of urinary retention, which resolved without treatment. Mild adverse events occurred in 38.5% of participants receiving oxybutynin and 37.5% receiving placebo (P=.94). CONCLUSION: Short-term treatment using oral extended-release oxybutynin 5 mg once daily was safe and well tolerated, with no delirium, in older female nursing home participants with mild to severe dementia. Future research should investigate different dosages and long-term treatment.

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- Peters KM, Macdiarmid SA, Wooldridge LS, Leong FC, Shobeiri SA, Rovner ES, Siegel SW, Tate SB, Jarnagin BK, Rosenblatt PL, Feagins BA. Randomized trial of percutaneous tibial nerve stimulation versus extended-release tolterodine: results from the overactive bladder innovative therapy trial. *J Urol*. 2009 Sep;182(3):1055-61.

  PURPOSE: The Overactive Bladder Innovative Therapy trial was a randomized, multicenter, controlled study that compared the effectiveness of percutaneous tibial nerve stimulation to extended-release tolterodine. The reduction in overactive bladder symptoms along with global response assessments was evaluated. MATERIALS AND METHODS: A total of 100 adults with urinary frequency were randomized 1:1 to 12 weeks of treatment with weekly percutaneous tibial nerve stimulation or to 4 mg daily extended-release tolterodine. Voiding diaries and an overactive bladder questionnaire were completed at baseline and at the end of therapy to compare 24-hour voiding frequency, urinary urge incontinence episodes, voids causing waking, volume voided, urgency episodes and quality of life indices. Global response assessments were completed by subjects and investigators after 12 weeks of therapy. RESULTS: The global response assessment demonstrated that subject assessment of overactive bladder symptoms compared to baseline was statistically significant in the percutaneous tibial nerve stimulation arm with 79.5% reporting cure or improvement compared to 54.8% of subjects on tolterodine (p = 0.01). Assessments by investigators were similar but did not reach statistical significance (p = 0.05). After 12 weeks of therapy objective measures improved similarly in both groups for reductions in urinary frequency, urge urinary incontinence episodes, urge severity and nighttime voids, as well as for improvement in voided volume. There were no serious adverse events or device malfunctions. CONCLUSIONS: This multicenter, randomized trial demonstrates that percutaneous tibial nerve stimulation is safe with statistically significant improvements in patient assessment of overactive bladder

symptoms, and with objective effectiveness comparable to that of pharmacotherapy. Percutaneous tibial nerve stimulation may be considered a clinically significant alternative therapy for overactive bladder.

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- Peterson JA. Minimize urinary incontinence: maximize physical activity in women. *Urol Nurs*. 2008 Oct;28(5):351-6.

  Urinary incontinence (UI) is a common problem for women. Many women do not seek professional help for UI because of embarrassment or they believe UI is a normal part of aging. Research findings have shown that pelvic floor muscle strengthening is effective in reducing UI in middle-aged and older women. Women engaging in regular, moderately intense physical activity have a lower incidence of UI than sedentary women. Health care providers have a responsibility to facilitate an active lifestyle in their patients and teach the proper techniques to perform effective pelvic floor exercises. With health behavior changes, including moderately intense physical activity, use of pelvic floor strengthening exercises and weight management, as well as avoidance of constipation, women can reduce the incidence of UI.

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- Tanaka Y, Nagata K, Tanaka T, Kuwano K, Endo H, Otani T, Nakazawa M, Koyama H. Can an individualized and comprehensive care strategy improve urinary incontinence (UI) among nursing home residents? *Arch Gerontol Geriatr*. 2009 Sep-Oct;49(2):278-83.

  Urinary incontinence (UI) is one of the most common and distressing conditions among nursing home residents. Although scheduled care is usually provided for them, incontinence care should be individualized regarding going to the toilet, changing diapers, and taking food and water. We have developed an individualized and comprehensive care strategy to address the problem. We conducted an intervention study that involved training chiefs of staffs, who in turn trained other staffs, and encouraging residents. A total of 153 elderly subjects selected from 1290 residents in 17 nursing homes were eligible to receive our individualized and comprehensive care. The goals of the care strategy were (i) to complete meal intake; (ii) to take fluids up to 1500 ml/day; (iii) to urinate in a toilet; (iv) to spend over 6h out of bed; and (v) to reduce time spent in wet diapers. We explained the aims of our strategy to the chiefs of staff of each nursing home and instructed them to encourage residents to take an active part in our individualized and comprehensive care strategy for 12 weeks. For 3 days before and after that period, we assessed the changes in fluid volume intake, time spent in wet diapers, size of diaper pads, and urination habits. The result was that fluid volume intake significantly increased ($p<0.001$) while time spent in wet diapers decreased ($p<0.001$). The number of residents wearing diapers decreased as did the size of pads during the day ($p=0.0017$). The proportion of residents using diapers at night was reduced and those using toilets at night increased ($p=0.007$). This study suggests that such an individualized and comprehensive care strategy can offer a measurable improvement in UI care.

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Next Month's Issue:

Reducing Pressure Ulcers with Collaborative Care

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