Continence
Current Awareness Bulletin
July 2020

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Title: A revalidation and critique of assumptions about urinary sample collection methods, specimen quality and contamination.

Citation: International Urogynecology Journal; Jun 2020; vol. 31 (no. 6); p. 1255-1262
Author(s): Collins, Linda; Sathiananthamoorthy, Sanchutha; Rohn, Jennifer; Malone-Lee, James

Objective: Midstream urine (MSU) is key in assessing lower urinary tract syndrome (LUTS), but contingent on some assumptions. The aim of this study was to compare the occurrence of contamination and the quality of substrates obtained from four different collections: MSU, catheter specimen urine (CSU), a commercial MSU collecting device (Peezy) and a natural void. Contamination was quantified by differential, uroplakin-positive, urothelial cell counts.

Methods: This was a single blind, crossover study conducted in two phases. First, we compared the MSU with CSU using urine culture, pyuria counts and differential counting of epithelial cells after immunofluorescence staining for uroplakin III (UP3). Second, we compared the three non-invasive (MSU, Peezy MSU™, natural void) methods using UP3 antibody staining only.

Results: The natural void was best at collecting bladder urinary sediment, with the majority of epithelial cells present derived from the urinary tract. CSU sampling missed much of the urinary sediment and showed sparse culture results. Finally, the MSU collection methods did not capture much of the bladder sediment.

Conclusion: We found little evidence for contamination with the four methods. Natural void was the best method for harvesting shed urothelial cells and white blood cells. It provides a richer sample of the inflammatory exudate, including parasitised urothelial cells and the microbial substrate. However, if the midstream sample is believed to be important, the MSU collection device is advantageous.

Title: Development and randomised controlled trial of a Continence Product Patient Decision Aid for men postradical prostatectomy.

Citation: Journal of Clinical Nursing (John Wiley & Sons, Inc.); Jul 2020; vol. 29 (no. 13/14); p. 2251-2259
Author(s): Murphy; Laine, Christine; Macaulay, Margaret; Fader, Mandy

Objective: To develop and evaluate an evidence-based Continence Product Patient Decision Aid (CP-PDA) to reduce decisional conflict and support continence product choice for men postradical prostatectomy. In 2018, 1.3 million men globally were diagnosed with prostate cancer. A common treatment is radical prostatectomy, usually leading to sudden onset of urinary incontinence. For people experiencing incontinence, products to contain leakage are fundamental to health-related quality of life, but many product users and healthcare professionals are unaware of available options. No evidence-based guidance on choosing products exists despite known physical and psychological burdens of poorly managed leakage (e.g. isolation, anxiety, depression, skin damage).

Design and Methods: 4 phases, underpinned by international decision aid guidance. Evidence/expert opinion: Literature review; consultation with specialist continence clinicians (n = 7) to establish evidence base.
Prototype: CP-PDA developed with continence specialist (n = 7) feedback. Alpha testing (stakeholders): CP-PDA materials were provided to expert patients (n = 10) and clinicians (n = 11) to assess content/presentation. Beta testing (field) following CONSORT guidelines, registered NIHR CPMS 31077: Men (n = 50) postradical prostatectomy randomised to evaluate usability and decision-making using the Decisional Conflict Scale compared with usual care.

Results: An algorithm differentiating patients by mobility, dependency, cognitive impairment and type/level of leakage, leading to 12 user groups, was developed. For each group, an option table and associated product information sheets guide product choice. Total Decisional Conflict Score for men using the CP-PDA was significantly better than for men without. CP-PDA users reported greater confidence in product knowledge and choice.

Conclusion: This is the first evidence-based CP-PDA, developed using an internationally recognised method. Compared to usual care, it significantly reduced decisional conflict for men choosing continence products postprostatectomy. Relevance to clinical Practice: The CP-PDA provides nurses with the first comprehensive, evidence-based intervention to help postprostatectomy men in complex continence product choices.

Title: An introduction to urodynamics: procedure and patient care.

Citation: British Journal of Nursing; Jun 2020; vol. 29 (no. 12); p. 710-711

Author(s): Hillery

Abstract: The article focuses on the function and utility of common urodynamic studies (UDS). Topics include the continence nurses and other healthcare providers unfamiliar with the concepts has involved may find it useful to understand, the urodynamic studies being undertaken in order to support their own decision-making for patients with continence problems, and the explanation focuses on one centre's approach to undertaking UDS.

Title: Moisture-associated skin damage: causes and an overview of assessment, classification and management.

Citation: British Journal of Nursing; Jun 2020; vol. 29 (no. 12)

Author(s): Parnham; Copson, Dale; Loban, Tanya

Abstract: Moisture-associated skin damage (MASD) can result when the skin has prolonged or continuous exposure to excessive moisture. If the skin experiences too much moisture, it becomes overhydrated and is prone to maceration. This makes it easier for irritants and microorganisms to penetrate the skin, reduce its integrity to mechanical forces and disrupt its protective acid mantle. The condition can greatly affect patient wellbeing. MASD is a collective definition and it has four main causes: incontinence-associated dermatitis, periwound skin damage, intertriginous dermatitis and peristomal moisture-associated dermatitis. Practitioners can use tools such as the Skin Moisture Alert Reporting Tool (S.M.A.R.T.) to identify its aetiology, which informs its management. Management of MASD involves assessment, addressing the underlying cause, and implementing a structured skin care regimen to treat it and prevent its recurrence. Case studies illustrate the use of a structured treatment strategy using Medi Derma barrier products and the principles of Total
Barrier Protection to provide a cost-effective solution for the prevention and management of skin compromised by MASD.

**Title:** Effect of darifenacin on fecal incontinence in women with double incontinence.

**Citation:** International Urogynecology Journal; Jun 2020

**Author(s):** Kissane, Lindsay M; Martin, Kimberly D; Meyer, Isuzu; Richter, Holly E

**Objective:** To evaluate change in fecal incontinence symptom severity after 8 weeks of darifenacin therapy in patients with double incontinence-urgency urinary incontinence (UUI) and fecal incontinence. Important secondary outcomes included fecal incontinence symptom distress and impact on quality of life, fecal incontinence episodes, global impression of improvement and overactive bladder symptom distress and impact.

**Methods:** Prospective open-label cohort study of women presenting primarily with UUI, diagnosed with double incontinence and electing antimuscarinic therapy for UUI. Women ≥ 18 years with moderate or greater bothersome UUI and fecal incontinence of liquid/solid stool with St. Marks (Vaizey) score ≥ 12 were included. Subjects were treated with darifenacin 15 mg daily for 8 weeks. The primary outcome was change in fecal incontinence symptom severity using the St. Marks (Vaizey) score after 8 weeks. Sample size was based on the minimally important difference of the St. Marks, -5, and standard deviation, ± 8.5; 30 subjects provided 80% power and type I error of 0.05, including a 15% attrition rate.

**Results:** Thirty-two women were consented with mean baseline St. Marks (Vaizey) score of 18.0 ± 3.0. Mean age was 66.5 ± 10.3 years. Twenty-eight subjects (29/32, 87.5%) completed assessments. St. Marks (Vaizey) score significantly improved from 18.0 to 11.0 [mean difference -7.0, 95% confidence interval (CI): -8.7, -5.3], and 19 subjects (19/32, 67.9%) met the minimally important difference. Statistically significant improvements were also noted in fecal incontinence frequency, quality of life, and overactive bladder symptom bother and quality of life (all p < 0.01).

**Conclusions:** Darifenacin can be considered a highly effective early intervention in women suffering from double incontinence.

**Title:** Effects of extracorporeal magnetic stimulation on urinary incontinence: A systematic review and meta-analysis.

**Citation:** Journal of advanced nursing; Jun 2020

**Author(s):** Hou, Wen-Hsuan; Lin, Pi-Chu; Lee, Pi-Hsia; Wu, Jeng-Cheng; Tai, Ting-En; Chen, Su-Ru

**Objective:** To examine the effectiveness of extracorporeal magnetic stimulation for treatment of stress urinary incontinence

**Design:** Systematic review and meta-analysis.

**Data resources:** Four electronic databases from inception to 18 May 2019.

**Methods:** Two authors independently performed the search, assessed the methodological quality and extracted data. The final studies included in the analysis were selected after reaching consensus with the third author.
Results: A total of 20 studies were included in the systematic review and 12 of these in the meta-analysis. Quality assessment indicated that only eight of 17 randomized controlled trials had low risk in overall risk of bias, whereas all controlled trials had serious risk of bias. The weighted mean effect size of magnetic stimulation on quality of life, number of leakages, pad test outcomes and number of incontinence events was 1.045 (95% CI: 0.409-1.681), -0.411 (95% CI: 0.178-0.643), -0.290 (95% CI: 0.025-0.556) and -0.747 (95% CI: -1.122 to -0.372), respectively. Subgroup analysis revealed a significant difference in the type of quality of life measurement used. Sensitivity analyses revealed that a high degree of heterogeneity persisted even after omitting studies individually.

Conclusions: Extracorporeal magnetic stimulation may be effective in treating urinary incontinence and improving quality of life without major safety concerns. However, because of a high degree of heterogeneity among studies, inferences from the results must be made with caution.

Impact: We recommend that clinical nurses apply extracorporeal magnetic stimulation to treat stress urinary incontinence among female patients and encourage researchers to conduct further qualitative and quantitative studies to develop consistent content and dosage for the intervention.

Title: Economic evaluation of surgical treatments for women with stress urinary incontinence: a cost-utility and value of information analysis.

Citation: BMJ Open; Jun 2020; vol. 10 (no. 6); p. e035555

Author(s): Javanbakht, Mehdi; Moloney, Eoin; Brazzelli, Miriam; Wallace, Sheila; Ternent, Laura; Omar, Muhammad Imran; Monga, Ash; Saraswat, Lucky; Mackie, Phil; Becker, Frauke; Imamura, Mari; Hudson, Jemma; Shimonovich, Michal; MacLennan, Graeme; Vale, Luke; Craig, Dawn

Objectives: Stress urinary incontinence (SUI) and stress-predominant mixed urinary incontinence (MUI) are common conditions that can have a negative impact on the quality of life of patients and serious cost implications for healthcare providers. The objective of this study was to assess the cost-effectiveness of nine different surgical interventions for treatment of SUI and stress-predominant MUI from a National Health Service and personal social services perspective in the UK.

Methods: A Markov microsimulation model was developed to compare the costs and effectiveness of nine surgical interventions. The model was informed by undertaking a systematic review of clinical effectiveness and network meta-analysis. The main clinical parameters in the model were the cure and incidence rates of complications after different interventions. The outcomes from the model were expressed in terms of cost per quality-adjusted life-years (QALYs) gained. In addition, expected value of perfect information (EVPI) analyses were conducted to quantify the main uncertainties facing decision-makers.

Results: The base-case results suggest that retropubic mid-urethral sling (retro-MUS) is the most cost-effective surgical intervention over a 10-year and lifetime time horizon. The probabilistic results show that retro-MUS and traditional sling are the interventions with the highest probability of being cost-effective across all willingness-to-pay thresholds over a lifetime time horizon. The value of information analysis results suggest that the largest value appears to be in removing uncertainty around the incidence rates of complications, the relative treatment effectiveness and health utility values.

Conclusions: Although retro-MUS appears, at this stage, to be a cost-effective intervention, research is needed on possible long-term complications of all surgical treatments to provide reassurance of safety, or earlier warning of unanticipated adverse effects. The value of information...
analysis supports the need, as a first step, for further research to improve our knowledge of the actual incidence of complications.

Title: User Experiences and Preferences Regarding an App for the Treatment of Urinary Incontinence in Adult Women: Qualitative Study.

Citation: JMIR mHealth and uHealth; Jun 2020; vol. 8 (no. 6); p. e17114

Author(s): Wessels, Nienke J; Hulshof, Lisa; Loohuis, Anne M M; van Gemert-Pijnen, Lisette; Jellema, Petra; van der Worp, Henk; Blanker, Marco H

Objective: Although several apps are available to support the treatment of urinary incontinence (UI), little has been reported about the experiences and preferences of their users. The objective of this study was to explore the experiences and preferences of women using a mobile app for the treatment of UI and to identify potential improvements to the app. We developed this app for three types of UI: stress UI, urgency UI, and mixed UI.

Methods: The participants in this qualitative study were women with self-reported stress UI, urgency UI, or mixed UI who used an app-based treatment to manage their condition for at least six weeks. Following the intervention, semistructured interviews were conducted to explore the participants' experiences and preferences regarding the app. All interviews were audio-recorded, transcribed verbatim, and analyzed separately by two researchers.

Results: Data saturation was reached after interviewing 9 women (aged 32-68 years) with stress UI (n=1, 11%), urgency UI (n=3, 33%), or mixed UI (n=5, 56%). Accessibility, awareness, usability, and adherence emerged as the main themes. On the one hand, participants appreciated that the app increased their accessibility to care, preserved their privacy, increased their awareness of therapeutic options, was easy to use and useful, and supported treatment adherence. On the other hand, some participants reported that they wanted more contact with a care provider, and others reported that using the app increased their awareness of symptoms.

Conclusions: This qualitative study indicates that women appreciate app-based treatment for UI because it can lower barriers to treatment and increase both awareness and adherence to treatment. However, the app does not offer the ability of face-to-face contact and can lead to a greater focus on symptoms.

Title: Urinary incontinence after uncomplicated spontaneous vaginal birth in primiparous women during the first year after birth.

Citation: International Urogynecology Journal; Jul 2020; vol. 31 (no. 7); p. 1409-1416

Author(s): Åhlund, Susanne; Rothstein, Emilia; Rådestad, Ingela; Zwedberg, Sofia; Lindgren, Helena

Objective: Urinary incontinence (UI) is associated with pregnancy and parity and can cause health problems for women. Our objective was to explore risk factors for UI and its effect on women's daily activities, psychological health and wellbeing 9-12 months postpartum in a low-risk primiparous population.

Methods: In this prospective cohort study, first-time mothers in a low-risk population with a spontaneous vaginal birth reported the occurrence of UI and its effect on daily activities and on
their psychological health and wellbeing in a questionnaire completed 1 year after birth. Descriptive and comparative statistics were employed for the analysis.

**Results:** A total of 410 women (75.7%) completed the questionnaire. The self-reported rates of stress urinary incontinence, urge urinary incontinence and mixed urinary incontinence were 45.4%, 38.0% and 27.0% respectively. Neither the duration of the second stage of labour, the baby’s head circumference or its birth weight were associated with the incidence of UI. There was an association between reported negative impact on daily activities and more negative psychological wellbeing (p < 0.001).

**Conclusions:** Urinary incontinence was common among primiparous women at 9-12 months postpartum. Women whose symptoms had a negative impact on their daily activities reported more psychological suffering.

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**Title:** Systematic review of guidelines for urinary incontinence in women.  

**Citation:** Journal of gynecology obstetrics and human reproduction; Jun 2020 ; p. 101842  
**Author(s):** Favre-Inhofer, A; Dewaele, P; Millet, P; Deffieux, X

**Objective:** Urinary incontinence in women is the subject of multiple recommendations all over the world. The aim of our study was to compare methodologies and search for inconsistencies in texts and grades in these guidelines.

**Methods:** Seventeen recommendations from different medical societies in English, French and German were included. Their methodologies were analyzed, including writing methods, cyclicity, level of evidence (LE) and grades. The recommendations were synthesized and inconsistencies in texts and grades were studied. The quality of recommendations was evaluated with the Appraisal of Guidelines for Research and Evaluation (AGREE II) scale.

**Results:** Methods, rigour and cyclicity varied depending on societies. LE and grades are broadly consensual for higher LE and grades and less so for lower LE and grades. The Collège National des Gynécologues et Obstétriciens Français, the Deutsche Gesellschaft für Gynäkologie und Geburtshilfe, the European Association of Urology, the International Consultation on Urological Diseases and the National Institute for Health and Care Excellence have an AGREE score ≥ 80% (third quartile). Grading and textual inconsistencies are explained by the order of studies or the absence of high LE.

**Conclusion:** With the present study we closely explored comparatively the methods and semantics of recommendations for urinary incontinence in women.

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**Title:** Effect of oestrogen therapy on faecal incontinence in postmenopausal women: a systematic review.  

**Citation:** International urogynecology journal; Jul 2020; vol. 31 (no. 7); p. 1289-1297  
**Author(s):** Bach, Fiona L; Sairally, B Zeyah F; Latthe, Pallavi

**Objective:** Faecal incontinence (FI) is prevalent in postmenopausal women. Oestrogen receptors have been identified in the anal sphincter and have been implicated in the pathogenesis and
potential treatment. We sought to evaluate the literature regarding the impact of local and systemic oestrogen therapy on FI in postmenopausal women.

**Methods:** A systematic review of all studies in postmenopausal women was performed to establish how oestrogen therapy affects FI. Eight articles were deemed eligible for inclusion following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Their quality was assessed using the Cochrane risk-of-bias tool (RoB-2) and Newcastle-Ottawa quality assessment scale.

**Results:** One randomised controlled trial (RCT), two cohort studies, one observational and four cross-sectional studies were identified. The RCT showed an improvement in FI with anal oestrogen (p = 0.002), but this improvement was also observed in the placebo arm (p = 0.013) and no difference was seen between these groups. A prospective observational study demonstrated significant improvement with an oestrogen patch (p = 0.004), but had no control group. Conversely, a large prospective cohort study demonstrated an increased hazard ratio of FI with current (1.32; 95% CI, 1.20-1.45) and previous oestrogen use (1.26; 95% CI, 1.18-1.34) compared with non-users.

**Conclusion:** All studies had a high risk of bias and had conflicting views on the effects of oestrogen on FI in postmenopausal women. This review has identified the need for further research in this area by highlighting the paucity of good research for evidence-based practice. We believe that a further RCT of local oestrogen is mandated to draw a valid conclusion.

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**Title:** Variables associated with an inability to learn clean intermittent self-catheterization after urogynecologic surgery.

**Citation:** International urogynecology journal; Jul 2020; vol. 31 (no. 7); p. 1401-1407

**Author(s):** Sassani, Jessica C; Stork, Abby; Ruppert, Kristine; Bradley, Megan S

**Objective:** Post-operative urinary retention is a common problem affecting close to half of all women undergoing pelvic reconstructive surgery. This was an exploratory analysis that was aimed at identifying factors associated with an inability to learn clean intermittent self-catheterization (CISC) after a failed post-operative retrograde voiding trial (RGVT).

**Methods:** We performed a retrospective case-control study of women who underwent pelvic organ prolapse or urinary incontinence surgery within a single division from 2016 to 2018. We compared women who could learn CISC with those unable to learn and discharged home with an indwelling catheter (IC). Analyses were carried out using Fisher’s exact test, the Mann-Whitney U test, the Chi-squared test, and the t test with logistic regression.

**Results:** Of the 202 women who failed their RGVT, 134 (66.3%) were able to learn CISC and 68 (33.7%) were not. Older age, urinary incontinence, diabetes and colpectomy/colpocleisis were associated with an inability to learn CISC (p < 0.05). Women with an IC were more likely to have an office visit related to catheter care (65.7% vs 5.2%, p < 0.001). A UTI within 30 days of surgery was more common with CISC (16.4% vs 6.0%, p = 0.037). In a multivariate logistic regression model, each increasing year of age was associated with a 1.036-fold decrease in the ability to learn CISC (aOR 1.036, 95% CI 1.002-1.071; p = 0.04).

**Conclusions:** Increasing age was the only variable identified on multivariate logistic regression as a risk factor for failure to learn CISC. Further studies are needed to identify barriers to learning post-operative self-catheterization.
Sources Used

The following databases are searched on a regular basis in the development of this bulletin:

British Nursing Index, Cinahl, Medline, King’s Fund & Health Foundation

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