

Start	End	Topic	Speakers
11:00	11:05	Introduction to Workshop	Sandra Engberg
11:05	11:25	Cultural Aspects of continence care	Veronica Hagggar
11:25	11:45	Advanced Practice Provider Taking Continence Practice Out of the Box	Tamara Dickinson
11:45	12:15	Urodynamic Testing for the Advanced Practice Provider: Interpretation of Findings	Mikel Gray
12:15	12:30	Questions	All

Aims of Workshop

This workshop on the nursing management of incontinence will focus on the impact of cultural factors on management, incorporating continence care into advanced practice nursing and urodynamic-informed incontinence management.

Learning Objectives

1. Discuss culturally and ethnicity-informed continence care.
2. Discuss how advanced practice nurses can incorporate continence care in primary care and other non-continence specific settings.
3. Review elements of interpretation of urodynamic findings including indicators of good urodynamic practices as outlined by the International Continence Society.

Learning Outcomes

After this course participants will be able to:

1. Discuss how cultural and ethnicity considerations should inform continence care.
2. Identify ways to incorporate continence care into non-continence advanced practice nursing settings.
3. Discuss the utilisation of urodynamic findings in the assessment and management of incontinence.

Target Audience

Nurses and members of other health care disciplines who collaborate with nurses in research and practice.

Advanced/Basic

Basic

Suggested Reading

Kraus SR, Markland A, Chai TC, et al. (2007) Race and ethnicity do not contribute to differences in preoperative urinary incontinence severity or symptom bother in women who undergo stress incontinence surgery. *Am J Obstet Gynecol* 2007;197:92.e1-92.e6.;

Thom DH1, van den Eeden SK, Ragins AI, Wassel-Fyr C, Vittinghof E, Subak LL, Brown JS. (2006) Differences in prevalence of urinary incontinence by race/ethnicity. *J. Urol.* 2006 Jan;175(1):259-64.; Sange, C. et al (2008) Urinary incontinence in Muslim women. *Nursing Times*; 104, 25, 49–52.; Fulop, N; Jewkes, N; (1992) Background information. *Health Serv J* , 102 (5292) pp. 28-29.; Gray, M, Ratliff, C., & Mawyer, R. (2000). A brief history of advanced practice nursing and its implications for WOC advanced nursing practice. *Journal Wound Ostomy and Continence Nursing*, 27, 48-54.; Keilman, L.J., Dunn, K.S. (2010). Knowledge, attitudes, and perceptions of advanced practice nurses regarding urinary incontinence in older women. *Research and Theory for Nursing Practice*, 24,260-279. doi: 10.1891/1541-6577.24.4.260.; Lamin, E., Parrillo, L.M., Newman, D.K., Smith, A.L. (2016). Pelvic floor muscle training: Underutilization in the USA. *Current Urology Reports*, 17, 1-7. doi: 10.1007/s11934-015-0572-0.;

Rozier PF, Schaefer W, Lose G, Goldman HB et al. International Continence Society Good Urodynamic Practices and Terms 2016: Urodynamics, uroflowmetry, cystometry, and pressure-flow study. *Neurourology and Urodynamics* 2016; 9999: 1-18, DOI: 10.1002/nau.23124.; Gray M. Traces: making sense of urodynamics testing--Part 5: evaluation of bladder filling/storage functions. *Urologic Nursing* 2011; 31(3):149-53.;

Gray M. Traces: making sense of urodynamics testing--Part 10: Evaluation of micturition via the voiding pressure-flow study. *Urologic Nursing*. 2012; 32(2):71-8.

Cultural Sensitivity in Continence Care

Veronica Hagggar MSc, BSc Hons, R
Registered Nurse
United Kingdom

As countries become increasingly multicultural it is important to look at how this impacts on our care of a patient with incontinence.

The sensitivities of the topic plus language barriers in immigrant culturally and linguistically diverse communities (CALD) may impose barriers to accessing help which would consequently result in lower numbers from these communities being seen by continence services. When seeing patients from CALD communities we must ensure that we practice cultural sensitivity and develop cultural competence that allows us to avoid stereotyping patients.

During this presentation we will discuss

- Culture – what is it, how does it define us and how one person may identify themselves as from a number of different cultures
- Cultural Competence
- Ethnicity and the prevalence of Incontinence; very few studies have used the same methodologies to allow prevalence to be compared across countries in any meaningful way. It is also unclear in studies that show any differences, as to whether the impact is due to the linguistic difference of the questionnaires or true differences. There does however appear to be difference in prevalence between ethnic groups, with white women experiencing significantly more incontinence than other groups (ICI 2017).
- The taboo nature of incontinence - the difficulty in discussing it crosses all cultures but an inability to speak the language of the country in which patients are living will often result in them seeking out a General Practitioner or Family Doctor who speaks their language. For women if this person is male further barriers can result.
- Culture and religion, including religious festivals. Beliefs about cleanliness and interfering with the need to pray
- Health Promotion, the need to adapt information to fit with different diets and lifestyles.
- Practical issues – toilets, washing, incontinence pads, carers, gender of healthcare professionals
- Interpretation or advocacy - are they different, what is needed for the consultation and whether family members are appropriate to translate.
- Translation of patient information – movement of community often results in the termination of education resulting in lower levels of literacy that can often be gender specific; consequently simple and plain language is required. Languages often don't have specific words for medical conditions requiring them to be described and resulting in a much longer leaflet.

I. Milsom, D. Altma , R. Cartwright , M.C. Lapitan,R. Nelson , S. Sjöström , K. Tikkinen. Epidemiology of Urinary Incontinence (UI) and Other Lower Urinary Tract Symptoms (LUTS), Pelvic Organ Prolapse (POP) and Anal (AI) Incontinence. In: : Abrams P, Cardozo L, Wagg A, Wein A, Editors. Incontinence. 6th ed. Bristol: International Continence Society; 2017 p. 4-142

Advanced Practice Provider Taking Continence Practice Out of the Box

Speaker: Tamara Dickinson, MSN, AGPC-NP, CURN, CCCN
Nurse Practitioner
United States

In healthcare today, there is a shifting focus towards primary prevention and this is no different in the field of continence care and promotion. It is known in continence care that there is a certain taboo surrounding the topic. Continence promotion should be of particular concern given the global aging population (WHO, 2016) and well established epidemiological statistics. Primary prevention models involve education to raise awareness, interventions, creating embedded change and measuring the outcomes (Palmer, 2002). Unfortunately, only some countries governments provide support and funding for continence care much less promotion and primary prevention. It is important to educate primary care providers about the myth that incontinence is a normal part of aging. This is supported by qualitative data that the general public has a narrow view of the topic making public awareness key in primary prevention and promotion. Advocacy, education and interventions need to be sensitive to culture, diversity in socioeconomic means and access to care.

With the aging population will come more comorbidities and higher healthcare costs. A project in the Netherlands has shown some evidence that creating a program utilizing advanced practice nurses with specialized continence training to help care for community dwelling elders benefited healthcare and societal costs (Franken et al, 2018). The program also resulted in improvement in comorbid conditions, urinary incontinence and overall quality of life (Franken et al, 2018). Another program in the United Kingdom evaluated a holistic integrated service for men diagnosed with prostate cancer (Lamb et al, 2017). A comprehensive service structure was developed by a multi-disciplinary panel that included categories of environment and patient pathways (Lamb et al, 2017). The program incorporated a quality focus team approach and patient centered care largely

led by the specialist advanced practice nurse (Lamb et al, 2017). It is well documented that advanced practice nurse utilization improves patient satisfaction.

As a highly trained specialized nurse in the field, then trained as an adult geriatric primary care provider I took continence care and promotion out of the usual box of the urologic or urogynecology practice. I will discuss my role as a genitourinary nurse practitioner in the radiation oncology department a large tertiary university medical center in Dallas, Texas.

References

- Abrams, P., Cardozo, L., Wagg, A., & Wein, A. (Eds.). (2017). *Incontinence* (6th ed.). : International Consultation on Incontinence, Tokyo September 2016.
- Franken, M. G., Ramos, I. C., Los, J., & Al, M. J. (2018). The increasing importance of continence nurse specialist to improve outcomes and save costs of urinary incontinence: An analysis of future policy scenarios. *BMC Family Practice*, 19. <https://doi.org/10.1186/s12875-018-0714-9>
- Health promotion and disease prevention through population-based interventions, including action to address social determinants and health inequity. (WHO). Retrieved from <http://www.emro.who.int/about-who/public-health-function/health-promotion-disease-prevention.html>
- Lamb, A. D., Thompson, S., Kinsella, N., Gerbitz, I., Chapman, E., Putt, L., ... Kastner, C. (2017). Aiming for holistic integrated service for men diagnosed with prostate cancer: Definitions of standards and skill sets for nurses and allied health professionals. *European Journal of Oncology Nursing*, 29, 31-28.

Urodynamic Testing for the Continence Nurse: Interpretation of Findings

**Mikel Gray, PhD, FNP, PNP CUNP, CCCN, FAANP, FAAN
Nurse Practitioner
United States**

Urodynamics is a set of tests designed to measure storage and emptying of the lower urinary tract. The most commonly performed tests are the filling cystometrogram that measures bladder filling/storage function, along with nonintubated uroflowmetry and a voiding pressure flow study that combines uroflowmetry with intravesical, abdominal and detrusor pressures to evaluate bladder emptying. Supplemental examinations include pelvic floor muscle electromyography (EMG) and urethral pressure profilometry. These tests are typically performed together in a step-wise evaluation commonly referred to as multichannel urodynamic testing. The purpose of this lecture is to describe best practices for measuring pressure, flow and EMG during urodynamic testing, and to apply this knowledge to interpretation of urodynamic findings and their application to clinical decision making for the continence nurse engaging in specialty or advanced practice.

Measurement of pressures, flow and EMG will be described based on nomenclature for the ICS Committee on Standardization of Terminology of Lower Urinary Tract Function and the Good Urodynamic Practices and Terms 2016. Emphasis will be placed on quality control during urodynamic testing, accurate differentiation of abdominal and detrusor events from physiologic or technical artifacts and characteristics of high quality urodynamic testing. For example, measurement of pressures will emphasize zeroing with respect to atmosphere, establishing a reference level based on ICS standards, and use of the test cough as a quick quality test for accuracy of pressure measurements. Similarly, measurement of uroflow will focus on proper placement of the uroflow transducer and distance from the collecting funnel, provision of privacy during nonintubated flow pattern, and use of flow rate nomograms.

Interpretation of urodynamic findings usually occurs in one of 2 settings; ongoing or interactive interpretation during testing, or evaluation of findings following testing. This lecture will emphasize the importance of a structured approach to interpretation of urodynamic findings to describe the 2 phases of bladder function (storage/filling and evacuation). Specifically, I will describe interactive interpretation based on answers to 5 broad outcomes used to evaluate bladder storage/filling: cystometric capacity, bladder wall compliance, competence of the urethral sphincter mechanism, sensations of bladder filling, and the detrusor response to bladder filling. Interpretation of bladder emptying will focus on 3 board questions, characteristics of the flow pattern, detrusor muscle contraction strength, and urethral resistance (including the EMG response to micturition).

Application of urodynamic findings to clinical decision making will focus on the relationship between lower urinary tract symptoms, physical signs used to verify and quantify lower urinary tract symptoms, and their relation with urodynamic observations made during multichannel testing. Case studies will be used to illustrate these relationships and their application to evidence-based management. Case examples will include pure stress incontinence in an adult female, mixed stress and urge incontinence in an adult female, overactive bladder dysfunction in an adult male with bladder outlet obstruction and prostate enlargement, and underactive bladder function with incomplete bladder function in an adult male. Case presentations will be used to encourage discussion and present options for managing these prevalent lower urinary tract disorders.

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Cultural sensitivity in continence care

Veronica Haggar MSc BSc (Hons)RN
Service Lead
Adult Integrated Continence Service



Veronica Haggar

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Affiliations to disclose¹:

No Disclosures

* All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

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Culture - what is it?

A young Asian person living in Glasgow, Scotland may consider themselves

- British
- Scottish
- Glaswegian
- Asian
- Bangladeshi
- Sylheti

at different times and circumstances



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Iceberg Concept of Culture


Observable may or may not be obvious

Non-observable usually out of our own & others awareness

Observable (above water): Age, Ethnicity, Language, Country of Birth, Religion

Non-observable (below water): Non-verbal language, Etiquette, Notion of modesty, Notions of cleanliness, Individual or group orientation to decisions and/or resources, Gender roles, age roles, caring roles, Notions of ageing, disability, dementia, mental illness etc., Notions of superior and inferior, Values, ethics, notions of 'good' and 'bad'

Adapted from the National Centre for Cultural Competence (2005)




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Ethnicity and Incontinence

- Wide variation in prevalence between studies
- Race/ethnicity can only be compared within the same study.
- Very few studies looking at prevalence in men by ethnicity
- One four country study – lower rates in Korea and France, than Britain and Denmark
- But two sets of American data could find no difference by race/ethnicity

(Milsom et al 2017)




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Ethnicity and Incontinence

- Most studies comparing ethnicity in women are American in origin.
- In general – white women have higher prevalence on UI than all other groups
- Black women have half prevalence of SUI compared to white women
- Mixed and UUI less consistency.
- But some studies show a higher prevalence of UUI in black women

(Milsom et al 2017)



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Culturally Sensitive Services

- Taboo nature of the subject
 - Applies to all communities, but differences within communities
 - Creating the right setting – safe environment
 - Varies with generations (Sange C et al 2008)

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Culturally Sensitive Services

- Religious or cultural issues
 - Muslim/Hasidic Jewish communities
 - Examination by a female practitioner
 - Female Genital Cutting (Mutilation)
 - Language
 - Law
 - In UK from Oct 2015, legal obligation report known cases of FGM in under 18-year-olds to the police

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Culturally Sensitive Services

- Festivals - religious/cultural
 - Ramadan
 - Sabbath
- Health Promotion Advice
 - Food
 - Alcohol
 - Tobacco

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Culturally Sensitive Services

- Practical issues
 - Bathroom etiquette
 - Washing jugs
 - Pads
 - Seen as dirty
 - Need to be clean for prayer
 - Leakage during prayer
 - Answer-phones and Helplines

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UK Bathroom Etiquette



Arkell 2014
<http://www.dailymail.co.uk/news/article-2572752/Stop-standing-toilet-Now-Lloyds-Bank-issues-instructions-use-British-loos-foreign-staff.html>

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Interpretation or Advocacy?


- What is the difference?
- *Interpreter's role is to find out from the patient the answers to the staff's questions and to relay to the patient the staff's wishes or directives. An advocates role is the exact opposite: to find out from the staff answers to the patients questions and communicate their wishes.*

Fulop and Jewkes (1992)



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Interpretation or Advocacy?

- Everyone needs an advocate
- A child can interpret but cannot advocate
 - appropriateness of children or husbands interpreting
- What do:
 - health professionals need?
 - patients need?
 - the service need?
- Is there a conflict of interest?







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Translation

- Local people not academics
- Pilot the leaflet, before printing
- English translation
- Think simple, less is best, pictures
- Ultimately the spoken word is best
- <https://www.continence.org.au/other-languages.php>








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Case Study

- Bangladeshi Women's Continence Project in the East End of London
- Identification of patients
- Advocacy
- Access to the service
- Patient information

Haggar (1994)






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Case Study

- Australia – Melbourne, Lisa Wragg
- 81 year old Chinese woman
- Collapsed - A&E
- Dementia and urethral catheter
- Assessed with aid of interpreter
- Delirium and language not dementia
- Constipation causing retention

Continence Foundation of Australia (2013)



ADVANCED PRACTICE PROVIDER TAKING CONTINENCE PRACTICE OUT OF THE BOX

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NURSE PRACTITIONER, RADIATION ONCOLOGY GU TEAM
UT SOUTHWESTERN MEDICAL CENTER
DALLAS, TEXAS

Tamara Dickinson 

Affiliations to disclose*:

No disclosures

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PRIMARY PREVENTION

- HEALTHCARE TODAY IS SHIFTING FOCUS TO PRIMARY PREVENTION IN NEARLY ALL AREAS
- CONTINENCE PROMOTION CONTINUES TO CARRY A CERTAIN TABOO DESPITE GLOBAL AGING AND WELL ESTABLISHED EPIDEMIOLOGY
- PRIMARY PREVENTION MODELS INVOLVE EDUCATION TO RAISE AWARENESS, INTERVENTIONS, CREATING EMBEDDED CHANGE AND MEASURING OUTCOMES (PALMER, 2002)

EDUCATION

- IN THIS GLOBAL AGING POPULATION EDUCATION OF GENERAL PRACTITIONERS THAT INCONTINENCE IS NOT A NORMAL PART OF AGING AND OTHER MYTHS RELATED TO OUR FIELD
- GENERAL PUBLIC HAS A NARROW VIEW OF THE TOPIC, PUBLIC AWARENESS IMPORTANT IF WE WANT TO SHIFT PARADIGMS TO PRIMARY PREVENTION
- ADVOCACY AND EDUCATION NEEDS TO BE SENSITIVE TO CULTURE

MONETARY CONSIDERATIONS

- NOT EVERY COUNTRY PROVIDES SUPPORT AND FUNDING FOR CONTINENCE CARE
- INTERVENTIONS NEED TO BE SENSITIVE TO DIVERSITY IN SOCIOECONOMIC MEANS AND ACCESS TO CARE
- CONTINENCE CARE CAN IMPACT HEALTHCARE COSTS IN TERMS OF FALLS AND FALL RISKS, SKIN BREAKDOWN, NURSING HOME ADMISSIONS AND PROLONGED HOSPITAL ADMISSIONS

ADVANCED NURSING PRACTICE

- NOVICE TO EXPERT
- EXPERT IS A CULMINATION OF KNOWLEDGE, PRACTICE AND THEORY
- APRN REQUIRES A HIGH LEVEL OF EXPERTISE AND EDUCATION IN ASSESSMENT, DIAGNOSIS AND TREATMENT (ANA)
- SPECIALTY NURSING FOCUSES ON EXPERTISE IN A CONCENTRATED AREA AND CAN BE AT THE ADVANCED PRACTICE LEVEL OR NOT

CONTINENCE APN AND COMMUNITY DWELLING ELDERLS

- A PROGRAM IN THE NETHERLANDS WAS CREATED UTILIZING ADVANCED PRACTICE NURSES WITH SPECIALTY CONTINENCE TRAINING TO HELP COMMUNITY DWELLING ELDERLS
- THE PROGRAM FOCUSED ON COMMUNITY DWELLING ELDERLS WITH 4 OR MORE CHRONIC DISEASES AND ADDED A CONTINENCE NURSE SPECIALIST WITHIN THE GENERAL PRACTICE
- THE PROGRAM RESULTED IN NOT ONLY BENEFIT IN CONTINENCE BUT IN OTHER COMORBID CONDITIONS AND QUALITY OF LIFE
- IN ADDITION THEY SHOWED LOWER HEALTHCARE AND SOCIETAL COSTS

FRANKEN ET AL, 2018

HOLISTIC INTEGRATED SERVICE FOR PROSTATE CANCER PATIENTS

- A PROGRAM IN THE UK WAS CREATED TO INCORPORATE A QUALITY FOCUS TEAM AND PATIENT CENTERED CARE PATHWAY
- MULTI-DISCIPLINARY PANEL LEAD BY THE SPECIALIST ADVANCED PRACTICE NURSE
- THE PANEL DEVELOPED 33 ITEMS THAT WOULD BE UTILIZED TO DEVELOP THEIR PROGRAM
- THE ITEMS WERE GROUPEED UNDER THE CATEGORIES OF ENVIRONMENT AND PATIENT PATHWAY AND INCLUDED ITEMS RELATED TO PROSTATE CANCER DIAGNOSIS CLINICS, TREATMENT CLINICS AND FOLLOW-UP SURVIVOR GROUPS

LAMB ET AL, 2017

HOLISTIC INTEGRATED SERVICE FOR PROSTATE CANCER PATIENTS

- THE CATEGORY OF ENVIRONMENT FOCUSED ON PROVIDING THE FRAMEWORK AND PHILOSOPHY IN WHICH PATIENTS ARE MANAGED AND THEIR HEALTHCARE DELIVERED
- 3 BROAD AREAS INCLUDED QUALITY, LEADERSHIP & TRAINING
- STRONG EMPHASIS OF INTEGRATION OF NURSES AND ALLIED HEALTH PROFESSIONALS INTO THE OVERALL LEADERSHIP STRUCTURE
- ALSO FOCUS ON MODES OF COMMUNICATION AND INTERACTION
- IN THE ENVIRONMENT GROUP A RECOMMENDATION OF A MANDATORY CULTURAL ASSESSMENT AND PATIENT SATISFACTION MEASUREMENTS

HOLISTIC INTEGRATED SERVICE FOR PROSTATE CANCER PATIENTS

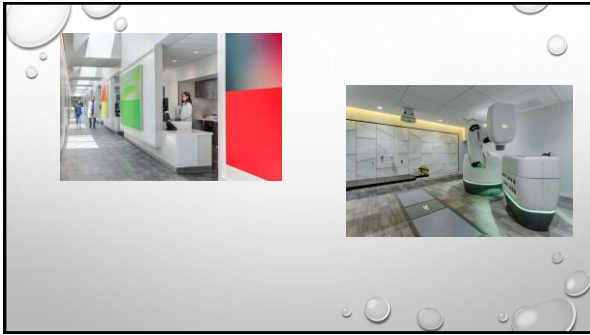
- IN THE PATIENT PATHWAY CATEGORY THE DISCUSSION FOCUSED ON ESSENTIAL ASPECTS OF A PATIENT PROGRESSING THROUGH DIAGNOSIS, MANAGEMENT AND SURVIVORSHIP OF PROSTATE CANCER
- THE PATIENT PATHWAY WOULD BEGIN AT POINT OF ENTRY INTO THE DIAGNOSTIC CLINIC WITH EMPHASIS ON BASIC PROSTATE CANCER KNOWLEDGE AND EMPATHETIC COMMUNICATION
- NURSE CONSULTANTS WERE IDENTIFIED AS THOSE WHO COULD PLAY AN ACTIVE ROLE IN PRIMARY CARE EDUCATION ANDPATIENT ADVOCACY

HOLISTIC INTEGRATED SERVICE FOR PROSTATE CANCER PATIENTS

- OUT OF THIS PROGRAM WAS DEVELOPED A SET OF STANDARDS AND CONSENSUS RECOMMENDATIONS FOR THE ROLES AND SKILL SETS REQUIRED OF THE PANEL MEMBERS TO PROVIDE GOLD-STANDARD PROSTATE CANCER CARE AND PATIENT CENTERED SERVICE
- OF NOTE, BALUN IS DEVELOPING A DEFINITION AND SKILL SET FOR THE PROSTATE CANCER NURSE SPECIALIST

RADIATION ONCOLOGY AT UT SOUTHWESTERN MEDICAL CENTER (DALLAS, TEXAS)

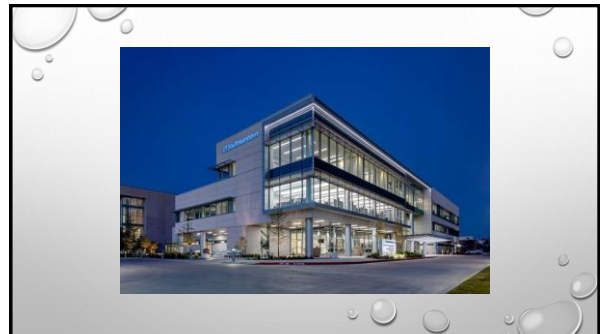




GU TEAM PROVIDERS



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Urodynamic Testing for the Advanced Practice Provider: Interpretation of Findings

Mikel, PhD, PNP, FNP, CUNP, CCCN, FAANP, FAAN
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Objective

Review elements of interpretation of urodynamic findings including indicators of good urodynamic practices as outlined by the International Continence Society.

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Urodynamics: Definition

- ❖ Definition: set of tests designed to evaluate storage (filling) and evacuation of urine from the lower urinary tract¹
 - ❖ Filling cystometrogram (CMG): graphic representation of pressure (intravesical, abdominal, detrusor) versus volume; used to measure storage function²
 - ❖ Uroflowmetry: graphic representation of flow (Q) versus time in seconds, screening study used to measure evacuation
 - ❖ Voiding pressure flow study: graphic representation of uroflowmetry, cystometric pressures ± sphincter EMG, definitive study for measurement of evacuation function of lower urinary tract
 - ❖ Sphincter EMG: graphic representation of electrical activity of striated pelvic floor muscles, useful in both phases of testing

1. Davis DM Annals of Surgery 1954; 140(6): 839-49.
 2. Mundy AR, Stephenson TD, Wein AJ. Urodynamic, 2nd ed. London: Churchill-Livingstone, 1994.

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LUT Function:

Adapted from Abrams, R, Wein AJ. The OAB, 1996.

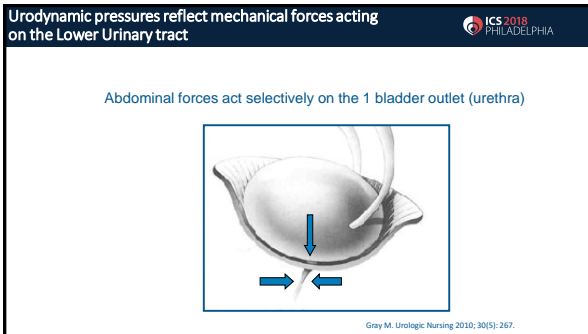
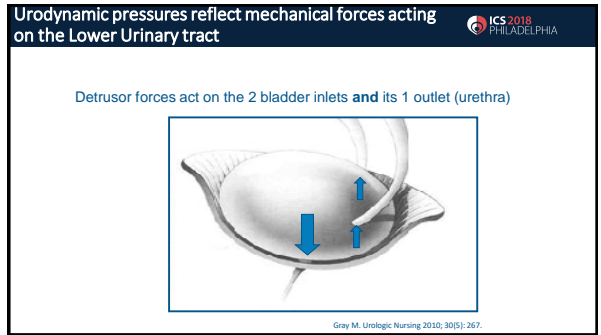
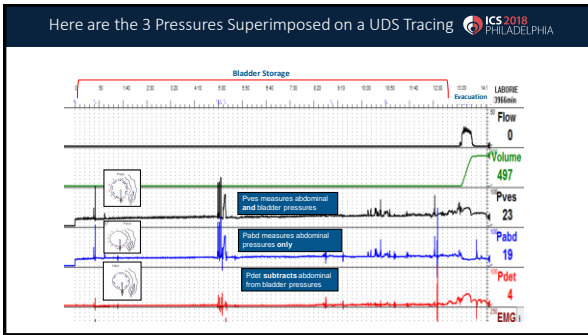
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Urodynamic Pressures

Lower urinary tract function evaluated via 3 fundamental pressures

- Intravesical pressure (Pves); reflects detrusor pressure + abdominal pressures acting on the LUT
- By measuring abdominal pressure (Pabd) separately, we have the potential to differentiate abdominal from detrusor events
- The computer subtracts Pabd from Pves to generate detrusor pressure (Pdet) tracing

Figure adapted from Sigwart-Krums, MD



How do we measure urinary flow (Q)? ICS 2018 PHILADELPHIA

- ❖ $Q = A \times v$, where A is the cross sectional area of the urethral lumen and V is the velocity of water molecules moving through the urethra
- ❖ Area (A) varies along the course of the urethra, as a result V is determined by the narrowest area of the urethra; this is called the **flow determinant zone**
- ❖ A comparison of Pdet (energy generating urine movement) and Q enables analysis of urethral resistance during micturition

Gray M. Urologic Nursing 2010; 30(6): 321-6.

- Indications for Urodynamic testing ICS 2018 PHILADELPHIA
- As an Advanced Practice Provider you may be ordering urodynamic testing for selected individuals and be aware of clinical guidelines based on area of world where you practice
- International Consultation on Incontinence/ International Continence Society
 - AUA/ SUFU Clinical Guideline
 - European Association for Urology
 - Society of Obstetrics and Gynecologists of Canada

Interpretation of UDS ICS 2018 PHILADELPHIA

- ❖ My experience strongly suggests that interactive interpretation of UDS study as it proceeds is superior to routine performance of rigid tasks in a specific order; others support this approach
- ❖ Alternatively, interpretation relies on scrutiny of the traces themselves (rather than merely reading a written report) combined with analysis of their quality and veracity given other findings from the patient's history, physical assessment, and other diagnostic tests
- ❖ As continence nurses, we should be familiar with basic concepts of bladder storage/filling and bladder emptying/micturition that urodynamic testing can measure

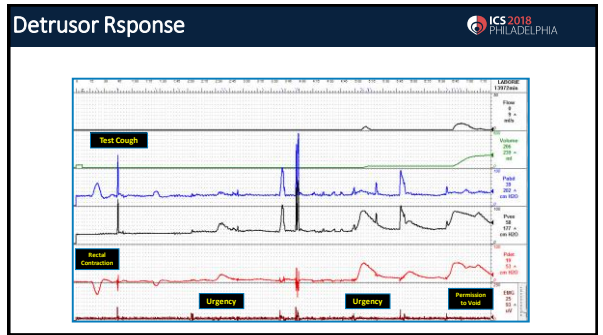
1. Gray M. Urologic Nursing 2011; 31(3): 149.
2. Rowen G, Kiosk M. Rapid and practical interpretation of urodynamics. New York: Springer, 2014.

Interpretation of Bladder Storage Function (Filling Cystometrogram)

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- What is the **cystometric capacity**?
 - Low (inflammation/ infection, detrusor overactivity, low compliance)
 - High (diabetes mellitus, chronic alcohol abuse, behavioral, other denervation)
- What is **bladder wall compliance**?
 - Normal (300-600 ml, usually higher than functional capacity)
 - Low (inflammation/ infection, detrusor overactivity, low compliance)
- What is the **detrusor response** to bladder filling?
 - Normal (no contractions or subclinical/ filling contractions)
 - Overactive (involuntary contractions with urgency and/or leakage)
- What **sensations** are reported during bladder filling?
 - Normal, increased (urgency with fear of leakage vs noceptive urgency), reduced or absent
- Is the **urethral sphincter mechanism competent**?
 - Competence = no urodynamic stress UI
 - Incompetence = urodynamic stress UI

Gray M. Urologic Nursing 2011; 31 (3): 149.



Abdominal Leak Point Pressure Testing

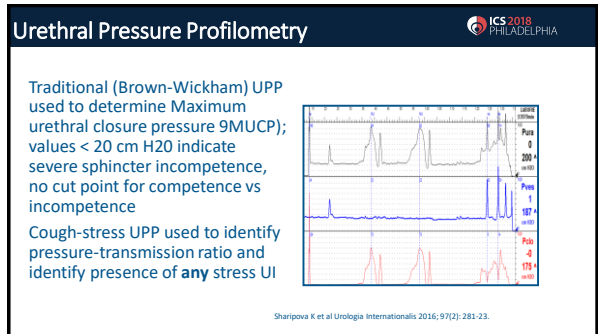
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Magnitude of **abdominal force** needed to drive urine across a closed urethral sphincter mechanism, ideally measure via Pves, Pabd used in certain cases¹

Testing begins at 150-200 ml; start with Valsalva, use cough if this does not provoke leakage

LPP < 90 cm H2O indicates severe incompetence, any measurable LPP indicates clinically relevant stress UI

McGuire EJ. Urologic Clinics North America 1996; 23: 253.



Assessment of Bladder Evacuation

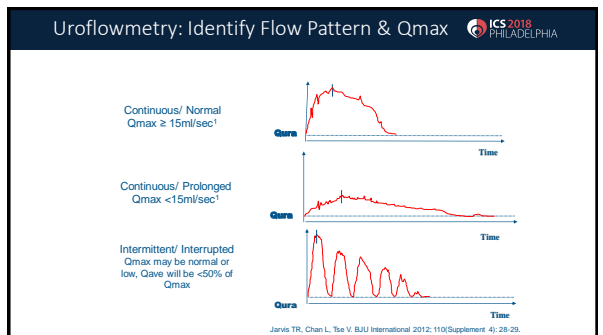
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Uroflowmetry

- Screening study: abnormal flow pattern indicates obstruction or underactive detrusor function

Voiding pressure flow study

- Combines uroflowmetry, pressures ± pelvic floor muscle EMG for definitive diagnosis



Definitive Evaluation: voiding Pressure Flow Study

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Simultaneous measurement of 3 fundamental urodynamic pressures, uroflow ± sphincter EMG; possibly with fluoroscopic imaging (videourodynamic testing)

Abnormalities of the voiding Pressure Flow Study

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3 VPFS combinations similar to the 3 uroflow patterns discussed before

Continuous/ normal flow + low detrusor pressure = NORMAL

Prolonged/ low or intermittent flow + low detrusor pressure = Underactive detrusor

Prolonged or intermittent flow + high detrusor pressure = Obstruction

65 yo female with vaginal wall prolapse and UI

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- G4,P3, Ab1; ACOG Stage 4 prolapse diagnosed on urogynecologic evaluation, referred VUDS
- LUTS:
 - Nocturia x 3-4 (no enuresis); 11-14 voids/day on 3 day bladder diary
 - Leaks with urgency and physical activity, multiple leaks/day
 - Feelings of incomplete bladder emptying
 - Vaginal pressure (“like a ball trying to come out”), low back pain exacerbated by standing or walking, alleviated by lying down
 - Difficulty passing stool, must lean forward or press finger into vagina

LABORIRE 715 min

Flow 8 ml/sec

Volume 24 300 ml

Pabd 13 100 cm H2O

Pves 8 113 cm H2O

Prect 5 113 cm H2O

Sensations of bladder filling

1st desire: 75 ml

Strong Desire 150 ml

Imminent desire 500 ml

LABORIRE 715 min

Flow 8 ml/sec

Volume 24 300 ml

Pabd 13 100 cm H2O

Pves 8 113 cm H2O

Prect 5 113 cm H2O

Strain

Is urethral pressure profilometry consistent with LPP testing?

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LABORIRE 715 min

Pves 8 113 cm H2O

Pue 100 100 cm H2O

Pabd 13 100 cm H2O

74 year old male with LUTS and urge UI
18 months following stroke

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- ❖ LUTS
 - Nocturia x 4-5
 - Daytime frequency, 12-14 voids/day on 3 day bladder diary; 1-3 urge UI episodes per day
 - Weak urinary stream, feelings of incomplete bladder emptying
 - On doxazosin and dutasteride for 6 months
- ❖ PMH: CVA 18 months prior; very mild residual hemiparesis, HTN, Type 2 DM diagnosed 13 years prior

74 year old with LUTS and urge UI
18 months following stroke

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Sensations:
1st desire: 60 ml
Urgency: 90 ml

Urgency associated with involuntary void despite efforts to inhibit?

Voiding pressure flow study shows bladder outlet obstruction

Flow	0
Volume	99
Pves	56
Pabd	29
Pdet	27
EMG	26

74 year old with LUTS and urge UI

ICS 2018 PHILADELPHIA

What is the level of obstruction?

Flow	0
Volume	99
Pves	56
Pabd	29
Pdet	27
EMG	26

53 year old female with urge incontinence and recent onset of enuresis

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- LUTS
 - Previously nocturia x 3-4 with daytime voiding frequency, urgency, urge incontinence that has improved with antimuscarinic (tolterodine); urodynamic testing ordered after new onset of nocturnal enuresis
 - Recurrent UTI, on nitrofurantoin prophylaxis for >5 years, switched to TMP/SMX due to respiratory issues
 - Recent CT showed bilateral hydronephrosis with several small stones in left kidney
 - OB history: G3, P2, Ab1

53 year old female with urge incontinence and recent onset of enuresis

ICS 2018 PHILADELPHIA

Identify the abnormality on this urodynamic study...

What is the primary urologic implication of this finding?

53 year old female with urge incontinence and recent onset of enuresis

ICS 2018 PHILADELPHIA

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