W29: (Committee Activity) Evidence Based Continence Care in Interdisciplinary and Nurse Led Services and Clinics (Open Session)

Workshop Chair: Kathleen Hunter, Canada
09 October 2015 09:00 - 10:30

Start	End	Topic	Speakers
09:00	09:15	Conservative management of urinary incontinence	Frankie Bates
09:15	09:30	Discussion	Frankie Bates
09:30	09:45	Self management in continence care	Grace Neustaedter
09:45	10:00	Discussion	Grace Neustaedter
10:00	10:15	Pharmacological management of urinary incontinence and lower urinary tract symptoms: NP Role	Kathleen Hunter
10:15	10:30	Discussion	Kathleen Hunter

Aims of course/workshop

The aim of this workshop is to examine the delivery of evidence based continence care in speciality clinics and services, both nurse led and interdisciplinary, to improve management and quality of life for individuals living with lower urinary tract and pelvic floor symptoms and incontinence. Please note that this workshop will be translated from English to French to those that require it.

Learning Objectives

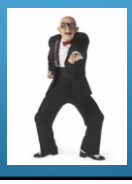
1. Describe delivery of evidence based continence care in specialty clinics and services, both nurse led and interdisciplinary

2. Identify conservative and pharmacological strategies to improve continence management and quality of life

3. Discuss use of educational and self management strategies in the continence clinic

Conservative Care of Urinary Incontinence

Frankie Bates

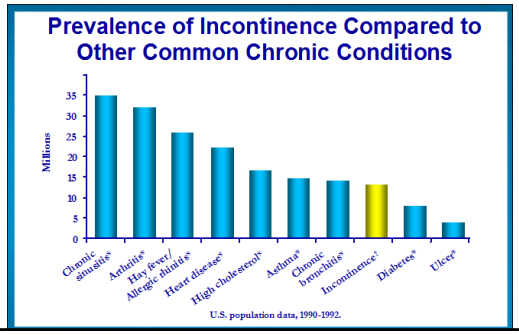


UI is a Global Problem:

- 400 million people worldwide
- Assuming LUTS prevalence rates remain stable for the next ten years, **2.3 billion** individuals are estimated to experience LUTS by the year **2018.**
- Asia region is estimated to carry the highest burden of LUTS. Estimated 1.2 billion individuals

- Epidemiology of Urinary (UI) Committee 1 (ICI 2013)

Stewart WF et al. World J Urol 2003 20 (6) : 327 -36



Assessment is Vital !

- History (Can be subjective)
- Physical Exam (Including pelvic exam)
- U/A
- Post void residual urine volume
- Medication review (RX and over the counter)
- Assess Functional Ability
- Past surgeries (particularly pelvic)
- Rule out neurogenic causes
- Bladder Diary, Pad weigh test, Questionnaires (ICIQ) etc.

MartinJL; Williams KS et al. 2006. Krhut J; Zachoval R; et al 2014. Avery K; Donovan J; Abrams e tal ICIQ 2004. Kobwitaya K; Bunyavejchevin S; et al 2015. Ryhammer AM Djurhuus JC et al. 1999. Wagner TH; Patrick DL et al 1996

Assessment Tools

Bladder Diary

(ICI 5th edition 2013)

References :

1. Bright, E., Drake, M., & Abrams, P. (201). **Urinary diaries**: Evidence for the development and validation of diary content, format, and duration. Neurourology and Urodynamics, 30(3), 348-352.

2. Honjo, H., Kawauchi, A., Ukimura, O., Nakao, M., Kitakoji, H., & Miki, T. (2009). **Analysis of bladder diary** with urinary perception to assess overactive bladder symptoms in community-dwelling women. Neurourology and Urodynamics, 28(8), 982-985.

3. Jeyaseelan, S.M., Roe, B.H., & Oldham, J.A. (2000). The use of **frequency/volume charts** to assess urinary incontinence. Physical Therapy Reviews, 5(3), 141- 146.

4. Tincello, D.G., Williams, K.S., Joshi, M., Assassa, R.P., & Abrams, K.R. (2007). **Urinary diaries**: A comparison of data collected for three days versus seven days. Obstetrics & Gynecology, 109(2), 277-280.

Identify Contributing Factors

- Mobility issues
- Reduced cognitive awareness
- Constipation
- Fluid Intake; Caffeine intake
- Excessive weight
- Smoking
- Previous Pregnancies, deliveries
- Underlying medical issues/medications
- Recurrent UTI
- Environmental barriers

Das RN; grimmer-Sommers KA; 2012 Liang CC; Wu MP; et al 2013 Vissers D; Neels H et al. 2014

Establish a working Diagnosis!

- Try to establish a working diagnosis of patients' bladder problem and understand what they need.
- Remember! You can only change what the patient *wants* changed!

Conservative Treatments

- Kegel Exercises (Pelvic floor exercises)
- Biofeedback and stimulation Therapy
- Posterior Tibial Nerve Stimulation
- Pessaries
- Products
- Clean Intermittent Catheterization
- Behavior modification
- Life style changes
- Education

Arnold EP; Milne DJ. et al 2015. Bardsley A. 2014. Rovner ES; Wein AJ ;Treatment Options for Stress UI. Rev Urol 2004.
Urinary Incontinence in Adults: Clinical Practice Guideline Update. Agency for Health Care Policy and Research

Behavior Modification

- Timed Voiding: Voiding on a schedule based on time between incontinent episodes. (cognitively intact)
- Bladder Retraining: Increasing bladder capacity and awareness.
- Prompted Voiding: Reminding or asking patient if they need to void on a schedule based on their voiding pattern. (cognitively impaired)
- **NOTE**: Requires training , motivation and continued caregiver effort.

Wyman JF et al Int J Clin Pract, August 2009, 63, 8, 1177-1191

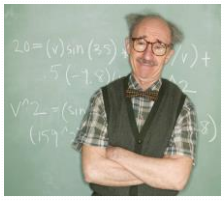
Changing Lifestyle Factors

- Ensure a good fluid intake (2 liters / day)
- Avoid / minimize caffeine / Alcohol intake
- Review prescription and OTC medications
- Maintain a healthy weight
- Cessation of smoking
- Prevent / treat constipation

Bryant CM et al British Journal of Nursing, 2002, Vol. 11, No 8
Wyman JF et al Int J Clin Pract, August 2009, 63, 8, 1177-1191

Factors Contributing to Constipation

- Low fluid intake
- Low dietary fiber intake
- Prolonged use of laxatives
- Ignoring urge to defecate
- Sedentary lifestyle
- Polypharmacy
- Lack of awareness

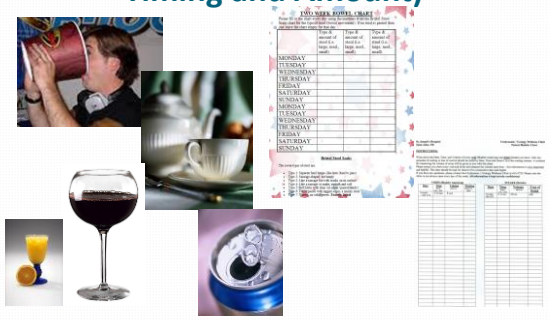


Doughty DB; 2002. Wanitshke R;Goerg KJ et al. 2003.
Borum ML; 2001. Talley NJ Jones M; et al 2003.
Schaefer DC Cheskin LJ 1998

Attention to Dietary Intake and Bowel Regime :

- Fresh fruits and vegetables
- Whole grains
- High Fiber (Flax Seed)
- Track BMs x 1 -2 weeks
- Consistency
- frequency

Attention to fluid intake (Type, Timing and Amount)



Pelvic Floor Exercises

- **Ensure Isolation**
- **Daily Exercise Program**
- **Do 10 exercises (Three sets) two to three times a day**
- **Build up to hold for 10 seconds , rest for 10 seconds**
- **Do both slow twitch and fast twitch exercises**
- **Appropriate Use or the "Knack"(Squeeze before sneeze)**
- **Use modified oxford scale to assess pelvic floor contraction**
- **Provide supervision and motivation for the patient**
- **Review and teach abdominal (core) exercises in daily routine**

Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women (Review) 2010 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd. Dumoulin C ; Jean Hay-Smith Dumoulin C; Alewijnse D; Bo K; et al 2015. McClurg D; Frawley H et al 2015

Requirements of PFME

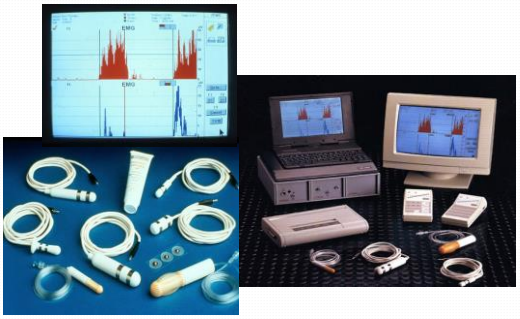
- Specifity
- Overload
- Progression
- Maintenance
- Clinical trials shown PFME better than no Tx (54% vs 84%)
- High load intensity training more effective
- Biofeedback no more effective than PFME alone
- Stimulation Tx does improve PF strength and tone

Biofeedback and Stimulation

- **Biofeedback:** a technique by which the patient receives visual, auditory or sensory information in relation to a particular body function
- **Stimulation:**
- Improves proprioception of the Levator Ani group of muscles (pelvic floor).
- Maximizes contraction, improves circulation & increases mobilization of tissue.
- Used to treat stress, urge and mixed incontinence

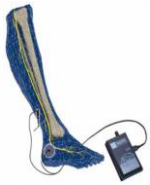
Biofeedback and Stimulation Therapy

Newman DK. 2014. Dumoulin C; Alewijnse D; Bo K; et al 2015. Lui J; Zeng J et al 2014



Posterior Tibial Nerve Stimulation

- Treat: frequency, urgency, nocturia (OAB), IC
- Tibial nerve - cephalad to the medial malleolus (approximately 3 finger breadths) (SP6)
- Initial 8 week assessment / Tx weekly treatments at home
- Possible other uses – fecal incontinence



A Transcutaneous Electrical Nerve Stimulator is an electronic device that produces electrical signals used to stimulate nerves through unbroken skin. The name was coined by Dr. Charles Burton. The unit is usually connected to the skin using two or more electrodes. A typical battery-operated TENS unit consists of a pulse generator, small transformer, frequency and intensity controls, and a number of electrodes.

Posterior Tibial Nerve Stimulation

- **References:**

- Stoller ML: Afferent nerve stimulation for pelvic floor dysfunction. Eur Urol 1999, 35(Suppl 2):132.
- Vandoninck V; Van Balken MR. et al. Neurourol 2003
- Staskin DR Peters KM et al . Curr Urol Rep 2012
- Gaziev G, Topazio L et al BMC Urol 2013
- Finazzi Agrò E, Campagna A, Sciobica F, et al. Minerva Urol Nefrol 2005
- Schreiner L, dos Santos TG, et al. Int Urogynecol J Pelvic Floor Dysfunct 2010
- MacDiarmid SA, Peters KM, et al. J Urol 2010,
- Gobbi C, Digesu G. Mult Scler 2011
- Gokyldiz S, et al. Gynecol Obstet Invest 2012

Various Products

Richter HE; Burgio KL; et al Obstet Gyn 2010
Lekan-Rutledge D; Doughty D; Moore KN; et al Urol Nur 2003
Abrams, Cardozo, Khoury, & Wein, ICI 2002
Magali Robert, Schulz JA, J Obstet Gynaecol Can 2013
Farrell SA, Baydock S, Am J Obstet Gynecol 2007

Ensure Your Patient knows they are not alone!
Discussion/ Questions ?

Patient Education & Self-Management – Keeping With the Times

Grace Neustaedter RN MN NCA
CNS Pelvic Floor Clinic, Calgary, Alberta
ICS Nurse's Workshop, September 2015

Objectives

1. Explore patient engagement, patient centered care and chronic health management strategies and how they improved outcomes
2. Contemplate the use of current technology to assist in teaching and supporting patients
3. Participants will be prompted to consider the use of innovative technology in their settings

"Patient Engagement"

- One of the 7 values of Alberta Health Services (AHS): "Collaborating with patients and their families, health-care providers, research and education institutions, government and the community" (Facilitating people to take responsibility for their own health...)

Leading with Values, AHS

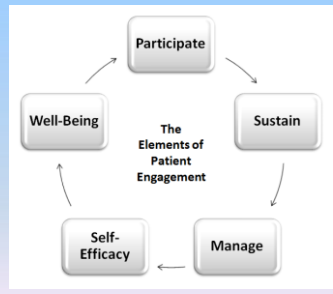
What matters to patients?

Respect me *Listen to me* *Involve me* *Don't confuse me*

3 Important Patient questions:

1. What is my condition?
2. What do I need to know?
3. Why is it important for me to do this?

Elements of Patient Engagement



Worden, I. (2013)
www.betterpatientengagement.com

Patient Engagement – what matters

(Picker Institute Europe 2012)

Relationships & Communication

1. Respect – values, preferences, involvement in decisions
2. Information, communication & education
3. Emotional support and alleviation of anxiety

Healthcare Service/System

1. Coordination & integration of care
2. Physical comfort
3. Involvement
4. Transition & continuity

"Self-Efficacy"

- Patient engagement is a person's sustained participation in managing their health in a away that creates the necessary self-efficacy to achieve physical, mental and social well-being.

Ian Worden, 2012 *Better Patient Engagement*

Self-Efficacy – to believe in your ability to do what is required to manage your health issues – setting goals, remain task oriented, compliance

"Patient-and Family-Centered Care"

Alberta Health Services (AHS)

1. Communication (all aspects) – ***need to improve communication*** between patients and providers (via technology)
2. Treating people well
3. Adopting a team-based approach to care
4. Transitions of care

Patient and Family Centered Care: Summary Report- Phase 1, Literature Review and Consultation (May 2014) Alberta Health Services Knowledge Management, 1-29.

Patient Centered Care

- Sees patients and families as integral members of the healthcare team, encourages their active participation in all aspect of care
- Benefits? – ↑satisfaction (patient, family, healthcare provider), ↑quality & safety of healthcare, ↓costs of healthcare
- *"nothing about me, without me"*

Chronic Condition (Disease) Models

- Self-management support versus "treatments" or interventions – *a philosophy or approach*
- Motivates patients to understand their condition and live successfully with it - persist in therapies & interventions to improve quality of life

Examples of models:

Stanford ("Long Model") (USA – 1990s)

- Reduces sense of isolation, facilitates self-efficacy by courses – (6 wk, group based)
- Empowerment of participants
- Goal setting and problem solving focus

http://patienteducation.standford.edu/programs/cdsmp.html

Flinders Program (Australia 1990's)

- More individualized (one-on-one), comprehensive

http://www.flinders.edu.au/medicine/sites/fhbhru/

Patient Navigation Models

Cost-effective approaches for self-management

- **Transforacion Para Salud (TPS)** – facilitates behavior change through trained patient navigators – so they can manage their conditions Esperet, et al (2012) Transformacion para Salud: Online J Issues Nurs
- **MacColl Institute** – (6 elements: health care organization, community resources, self-management support, delivery system design, decision support, clinical information systems) MacColl Chronic Care Model: www.improvingchroniccare.org
- **Care Transitions Intervention –** (4 pillars: medication self-managemnt, follow-up with provider, knowledge of "red flags", patient-centered records) http://www.caretransitions.org/

The Pelvic Floor Clinic…then

- Urogynecology Clinic in Calgary, serving southern Alberta
- PRE-Clinic (1998) - 2 UGs, 1 UD nurse, 1 RN

Pelvic Floor Clinic Inception 2002

- 3 UGs, 3 nurses, 1 Physiotherapist

The Pelvic Floor Clinic - NOW

- 15 years constant demand, growth & changes
- 5 UGs, 1 GP
- Nurses: 1 NP, 1 CNS, 8 RNs, 3 LPNs
- 2 Physiotherapists
- Clerical support– 7-8

The Pelvic Floor Clinic - Calgary

WE OFFER:

- Education
- Assessments
- Conservative Therapies
- Pessary Fittings, some follow up
- Medical Treatment
- Surgical Intervention
- UDS/Cystoscopy
- Sacral Nerve Stimulation
- Physiotherapy for Pelvic Floor MSK issues

The Pelvic Floor Clinic - Calgary

WE OFFER:

- Education (Nurses)
- Assessments (Nurses or Physician)
- Conservative Therapies (Nurses)
- Pessary Fittings, some follow up (Nurses)
- Medical Treatment (Physician or Nurse Practitioner)
- Surgical Intervention (including Botox) - UGs
- UDS/Cystoscopy (Nurses, UGs)
- Sacral Nerve Stimulation (Nurses, UGs)
- Physiotherapy (Pelvic Floor MSK issues)

Educational Workshops

- **Purpose & Value**:
  - provide women with knowledge & understanding, make own treatment choices (*patient engagement – patient centered care*)
- 2000 –repeating same info to each patient
- Started with one class/month - optional
- Then – physicians began noticing a difference... patient came equipped, aware...

Educational Workshops NOW

- In-house (since 2002) 4 per week (2.5 hour each)
- Online (May 2015)
- For: under age 80, all new patients

ALL new referrals **required** to attend/view class before first clinical appointment (2008)

- After class, patient selects direction of care – conservative or medical/surgical

Workshop first

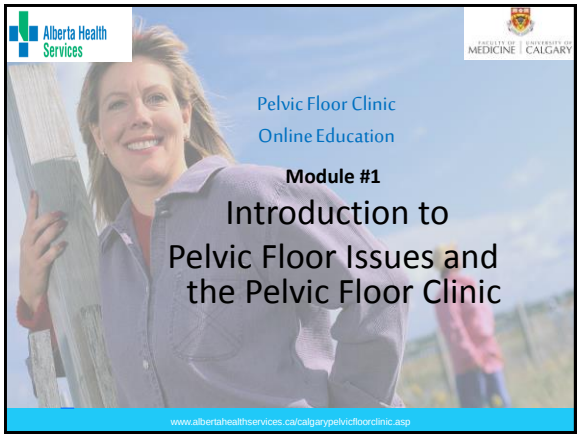
- Class 2.5 hours long
- Ongoing positive feedback from patients
- Felt "normalized", "not alone", informed
- Nurses rotate to teach – enjoy teaching
- Increase frequency of class to 4/week
- One telehealth/month to rural sites

Dilemma

- Longer waits after workshop
- Patient find it hard to take half day off
- Asked for classes closer to home or evenings/weekends

Vision

- Keep up to current time and use technology to advantage patients and clinic
- Proposal for creating online version of classes accepted
- Started writing scripts in 2013
- Broke into 5 segments – 20 +/- minutes each
- Interdisciplinary involvement

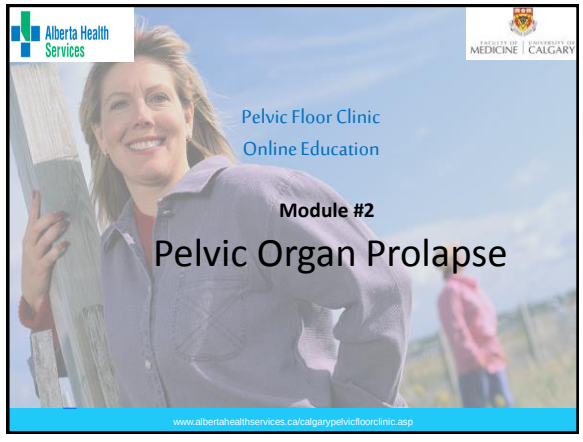


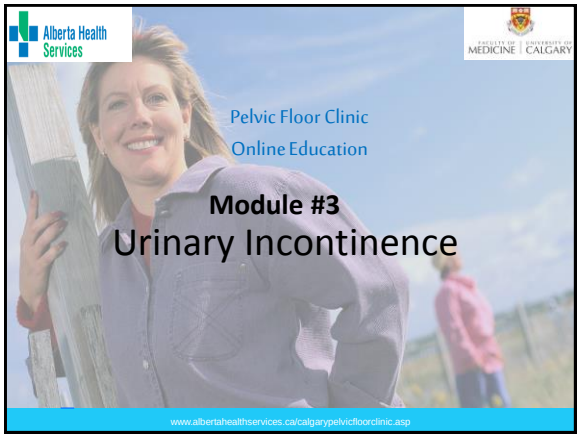
Objectives – Module 1

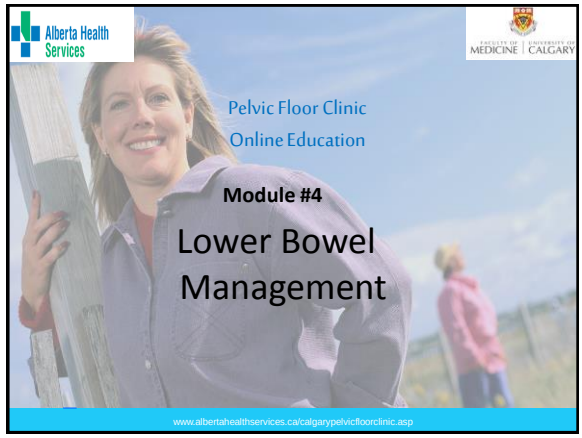
1. To help you understand how your pelvic floor normally *should be* working
2. To help you identify what might be happening to cause *symptoms* that are bothering you
3. To provide information and suggestions that *might help you manage* your symptoms
4. To *help you select* the best treatment option for you

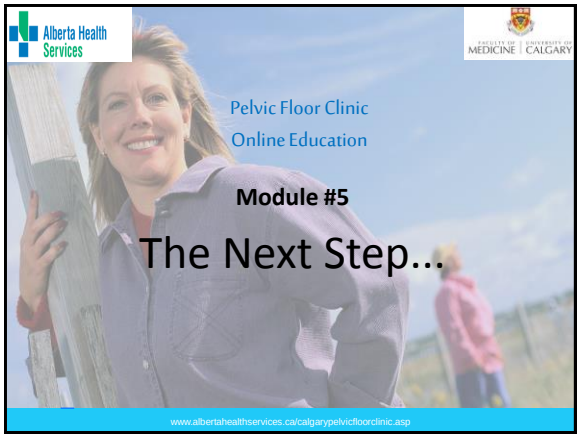
Take Home Thoughts

1. Can you understand where the pelvic floor is and how it should be working?
2. Can you better understand the issues you have been referred to our clinic for?
3. Can you identify some associated factors that might apply to your own issues?









Objectives for Module 5

1. To summarize treatment options for prolapse, bladder and bowel management issues
2. To ensure you understand your role in improving the symptoms you are having
3. To assist you to consider and select your direction for ongoing care, if needed, in the clinic
4. To help you understand what to expect in the clinic
5. To direct you on what YOU MUST DO to ensure a clinic appointment is made for you

Do You Have Prolapse?

YES – how much of a bother?

none ____ **some** ____ **a lot**

If **NONE** – train and protect your pelvic floor muscles

Prevent it from worsening in the future

Do You Have Prolapse?

YES – how much of a bother?

none ____ **some** ____ **a lot**

If **SOME** - is it enough of a bother to want to try a pessary or - consider surgery?

Or can you improve it by training and protecting your pelvic floor? You may WAIT & WATCH....

Do You Have Prolapse?

YES – how much of a bother?

none_____**some**_____**a lot**

If **A LOT –** would you like to try a pessary? Surgery?

A pessary – there is no permanent change and may work well. If it doesn't, you could go on to surgery

If you want surgery, this is a permanent change you can't undo

You can choose not to do anything as well

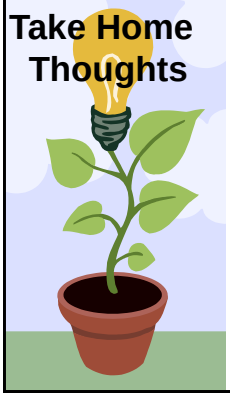
Do You Have Prolapse?

NO - I do not have any symptoms of prolapse

Consider – half of all women develop prolapse from things like having babies, gaining weight, straining from constipation, coughing, lifting heavy things and high impact activities

Practice PREVENTION by being careful with all these things

Take Home Thoughts



1. *What is the pelvic floor issue that is bothering you the most?*
2. *Are you clear on items that you will change in your lifestyle to improve your symptoms?*
3. *Are you aware of what your options for treatment include?*
4. *Have you filled in your forms and know where to fax or mail them to?*

Online Classes

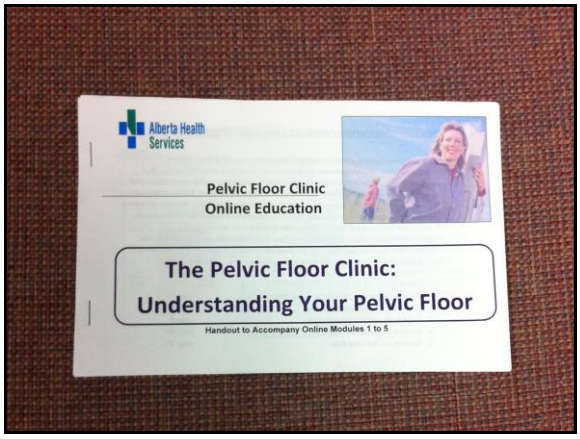
- Script - consensus
- Legal – okay with content, wording
- Source permission – to use certain pictures, graphics
- Voice over slide and direct filming
- Filming –Need "disclaimer" slides

Process

- Complicated….time consuming
- To put on clinic website – which one? How?
- Added external links
- Option to print some clinic handouts
- Alberta now has my health.alberta website for all clinical content – had to work with them

Benefits

- Do at their convenience, in their own home, at the best time
- They can review – repeat modules any time
- Anyone in community can benefit from viewing – not just our patients
- Created accompanying booklet (funding from Sponsors)



Future

- Coming – Supplementary Modules –additional info on specific topics
- Online Registration and transfer of information from patients
- Interactive? (questions/answers)

Clip from Module 1

Summary

1. Looked at "Patient Engagement", "Patient Centered Care", "Chronic Health (Disease) Management" and "Self-Efficacy" to see how these relate to our patients with pelvic floor dysfunction
2. Looked at how the PFC uses technology to enable patients to learn and promote decision making and self-care
3. What can YOU do in YOUR setting to help your patients to achieve optimum results?

Leanna

- 37 years old, professional
- Referred for mixed incontinence
- Normal BMs – no issues
- G3P1
- 2 C coffee, 2 tea, 5 water, 1 alcohol
- No oral meds (Nuva ring)
- Her main concern: bladder is controlling her life, depressing her

Where would you start?

- Education….on….

Where would you start?

- Education….on….
- Contributing Factors:
  - vaginal delivery, long stage 2,
  - Heavy lifting – she lifts heavy crates
  - Bladder irritants (coffee, wine)
  - PFMT
  - ?weight reduction

Leanna

- Attended workshop; 6 weeks later appointment
- Cut down on caffeine, total fluid volume, wine
- Altered work – no more heavy lifting
- Double voiding, urge suppression
- PFMT
- Consider bladder retraining, vaginal estrogen, ?
- Vag exam – no prolapse; urine - normal
- Noticed improvement
- Reinforced, encouraged, supported

Beth

48 years old, irreg periods
Wears pads – causing yeast?
P2G2 – vacuum, tear
Last baby 12 years ago
Drinks 20 cups water + 5 tea
Extra weight
No other health concerns
Main concern – constant leak of urine

Contributing Factors

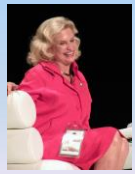
- Contributing factors?

Contributing Factors = Education

- Contributing factors?
  - *extra weight*
  - *perimenopause*
  - *weak pelvic floor muscles*
  - *huge fluid intake*
  - *Pregnancy, difficult delivery (vacuum), large baby*
  - *large fluid intake, irritants*

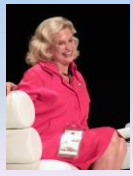
Contributing Factors = Education

- Contributing factors?
  - wearing menstrual (not incontinence) pads
  - plays tennis, runs a bit
  - weak pelvic floor
  - anterior prolapse
  -



Attended Workshop

- Felt normalized!
- Realized – huge intake, extra weight, activities, weak muscles, age related changes
- Came for clinic visit
- Started on vaginal estrogen
- Sent for physio
- Considering pessary
- Weight loss program working
- Decreased intake



QUESTIONS?

grace.neustaedter@albertahealthservices.ca 403 944-2658

Pharmacological management of urinary incontinence and lower urinary tract symptoms

KATHLEEN F. HUNTER RN NP PHD GNC(C) NCA
ASSOCIATE PROFESSOR, FACULTY OF NURSING, U OF A
NURSE PRACTITIONER, GLENROSE SPECIALIZED GERIATRICS
ADJUNCT ASSISTANT PROFESSOR, DIVISION OF GERIATRIC MEDICINE
ICS MONTREAL 2015

Learning objectives

Describe the role of the Nurse Practitioner in pharmacological management of incontinence and other LUTS symptoms

Review prescribing and monitoring of medications for LUTS

Describe independent and collaborative practice in a continence service

What is a Nurse Practitioner?

One of the advanced practice roles in nursing

Educational preparation, titles, legislation (including prescribing authority) and scope varies

Titles for example
- Nurse Practitioner (NP)(US, English Canada, Thailand)
- Infirmière praticienne spécialisée (Quebec Canada)
- Advanced Nurse Practitioner (ANP) UK and Ireland

http://international.aanp.org/Content/docs/CountryProfiles2014.pdf

Further information on advanced practice in countries around the world can be found on the ICN Nurse Practitioner/ Advanced Practice Nursing Network website

http://international.aanp.org/

Canadian Perspective

An NP is defined as a registered nurse with additional educational preparation and experience who possesses and demonstrates the competencies to autonomously diagnose order and interpret diagnostic tests, prescribe pharmaceuticals and perform specific procedures within the legislated scope of practice.

Canadian Nurses Association. (2006).Practice Frameworks for Nurse Practitioners. Ottawa: Author.

Our clinic

Physician/NP model

Outpatient and inpatient consultation

Initially a geriatric continence clinic, evolved to adult to meet demands for service in our region

Primary patient populations: older adults, people living with neurological disease (dementia, MS, Parkinsons)

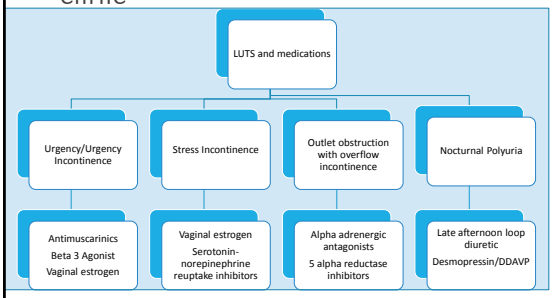
GLENROSE
CONTINENCE CLINIC

What does the NP role bring to the continence clinic?

Specialist nurse continence advisor and advanced practice combination

Use of conservative strategies with the addition of
- Diagnosis
- Investigations: Lab and DI
- Pharmacological strategies
- Referral to other health care professionals and specialist physicians

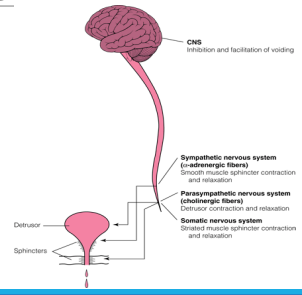
Common pharmacological interventions in the continence clinic



Pharmacological interventions

Many pharmacological interventions for LUTS are based neuroreceptor theory and affect the autonomic nervous system

The prescriber must take a history, including current medications, conduct a physical exam and review any available lab and DI data as background to formulating a differential diagnosis and recommending treatments



http://www.merck.com/media/mmpe/figures/MMPE_17GU_228_01_eps.gif

Autonomic Nervous System

Sympathetic nervous system

- "fight or flight"
- primarily adrenergic
- bladder filling: detrusor relaxation, sphincter contraction

Parasympathetic nervous system

- "rest and repose"
- primarily cholinergic
- bladder emptying: detrusor contraction, sphinter relaxation

Prescribing requires

Consideration of:

- Pharmacodynamics (e.g. receptor theory) – how does the drug work?
- Pharmacokinetics - absorption, distribution, biotransformation and excretion of pharmacotherapeutic agents
- Understanding of the pathophysiology – the conditions targeted by the treatment and any comorbidities the patient has
- Age related changes (e.g. renal function, changes in receptor affinity)
- Potential drug-drug, drug-food, drug-environment interactions
- Potential side effects and adverse reactions

Urgency and Urgency Incontinence

Bladder specific antimuscarinics (anticholinergic)

- Teritary amines: oxybutynin, tolterodine, solfenacin, fesoterodine, darifenacin
- Quaternary amines: trospium

Beta-3 adrenergic agonists

- mirabegron

Vaginal Estrogen

What's the evidence?

Bladder specific antimuscarinics

- antimuscarinics are effective in treating urgency, UUI
- newer agents more targeted to M3 receptors abundant on bladder wall and in the detrusor
- oxybutynin higher adverse effects (less targeted) – tolerated poorly in older adults
  - Immediate release oxybutynin associated with cognitive adverse effects in older people with dementia
  - may also adversely affect cognition in those with mild cognitive impairment as well as those with normal cognition

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
Ruxton et al 2015 British Journal of Clinical Pharmacology, online before print DOI: 10.1111/bcp.12617
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence
Wagg et al 2013. European Urology, 64 (1), 74-81,

What's the evidence?

Beta 3 agonists

- new agents, target Beta 3 receptors in the bladder, thought to relax the bladder but avoid the antichonergic side effects
- may increase hypertension, nasopharyngitis
  - Monitor BP, not for those with severe uncontrolled hypertension
- limited trials to date in frail older adults have been published

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence

Anticholinergic Side Effects

Action	Ach SE
Inhibition of salivation Inhibition of bladder contraction and gut mobility	Dry (dry mouth, urinary retention, constipation)
Suppression of thermoregulatory sweating May increase heart rate, prolong QT	Hot (feeling warm)
Cutaneous vasodilation	Red (flushing)
Distribution into the CNS causing drowsiness, amnesia and sometimes the opposite – excitement, agitation and hallucinations	Mad (confusion)

What's the evidence?

Vaginal estrogen for urgency and urgency urinary incontinence

- Used for symptomatic urogenital atrophy, evidence inconsistent for urgency/UUI
  - Combination treatment with antimuscarnic - results contradictory

Failure of treatment (severe, intractable urgency/UUI)

- Botulinum toxin, sacral nerve stimulation (referral to specialist)

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
NICE Clinical Guideline 2013. The management of urinary incontinence in women. https://www.nice.org.uk/guidance/cg171/
Robinson et al 2015. Obstetics & Gynecology survey. 70, 21-22. doi: 10.1097/01.ogx.0000460707.04967.93
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence

Stress Incontinence

Mixed action agents

- Duloxetine (Cymbalta) – serotonin- norepinephrine reuptake inhibitor (inhibits micturition reflex centrally)

Estrogen (vaginal) for atrophic vaginitis

- Estradiol-17B vag tab (Vagifem)
- Estradiol-15B (Estring) –
- Conjugated estrogens vaginal cream (Premarin cream)
- Oestriol cream

What's the evidence?

Mixed action agents

- Duloxetine - approved as an antidepressant, not approved for incontinence in all countries
  - Nausea, constipation, fatigue, dizziness have been reported as Ses
  - Considered to be a second line agent for those who are not surgical candidates

Estrogen for stress UI

- Vaginal estrogen is useful in the treatment of symptomatic urogenital atrophy
- Limited evidence that vaginal estrogen alone is effective in stress UI
  - Studies contradictory, considerable variation in type of estrogen, dose, study populations
  - Some limited evidence for improvement when combined with pelvic floor muscle exercises
- Systemic estrogen (+/- progesterone; oral, transdermal) may worsen incontinence

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
Cody et al 2012. Cochrane Database of Systematic Reviews. DOI: 10.1002/14651858.CD001405.pub3
Ishiko et al 2001. Journal of Reproductive Medicine, 46(3), 213-20
NICE Clinical Guideline 2013. The management of urinary incontinence in women. https://www.nice.org.uk/guidance/cg171/
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence

Outlet Obstruction (Overflow)

Benign prostatic hyperplasia (BPH)

Alpha adrenergic antagonists (Alpha blockers)

- tamsulosin, terasosin

5 – alpha reductase inhibitor

- finasteride, dutasteride

Combination agents

- Alpha blocker/5 – alpha reductase inhibitor
- Alpha blocker/antimuscarinic (obstruction with OAB)

What's the evidence?

Alpha adrenergic antagonists (Alpha blockers) are first line in BPH

- decrease smooth muscle tone in prostate and bladder neck
  - Risk of postural hypotension with adrenergic receptors in the cardiovascular system being blocked
    - for tamsulosin this is reported during the first 8 weeks of therapy initiation or restart
- if efficacy limited, can add in a 5 – alpha reductase inhibitor (reduces prostate volume)
  - Usually decrease the PSA, but any increase in PSA requires investigation as there is an association with risk for high grade prostate cancer
- For men with bladder outlet obstruction and urgency/overactive bladder, can add in an antimuscarinic
  - Monitor post void residual

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
Bird et al 2013. BMJ; 347: f6320 doi: http://dx.doi.org/10.1136/bmj.f6320
FDA Safety Communication: 5-alpha reductase inhibitors http://www.fda.gov/Drugs/DrugSafety/ucm258314.htm
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence

Nocturnal polyuria

Defined as more than 20-30% of urine output in 24hours at night

- >30% in older adults
- Nocturnal polyuria can be due to peripheral edema, calcium channel blockers, diuretics, sleep apnea and (possibly) loss of diurnal rhythm of AVP

Treatment - Conservative measures first!

Desmopression

- Analogue of the endogenous hormone vasopressin (antidiuretic hormone)
  - vasopressin contracts vascular smooth muscle and stimulates renal water reabsorption
- Desmopressin can cause hyponatremia from water resorption
  - Older adults with low baseline serum sodium (Na) at higher risk
  - Not recommended for frail older adult
- Late afternoon loop diuretic an alternative in peripheral edema/CHF

Andersson et al 2013. Pharmacological treatment of urinary incontinence. 5th International Consultation on Incontinence
Bird et al 2013. BMJ; 347: f6320 doi: http://dx.doi.org/10.1136/bmj.f6320
Wagg et al 2013. Incontinence in the frail elderly. 5th International Consultation on Incontinence

Case 1

86 year old female with mixed urinary incontinence, urgency dominant

PMHx: hypertension, hypothyroidism, osteoarthritis, Parkinson's disease

Medications: hydrochlorothiazide, ramipril, levothyroxine, acetaminophen, levodopa/carbadopa

Conservative treatments: fluid management, PFME, bladder retraining

Is there any other information you would like to know about this patient?

What medications would you order and why?

Is there anything else you might adjust?

Case 2

78 year old male, very bothersome nocturia (5-7 episodes nightly), moderate voiding symptoms, mild urgency

PMHx – depression, alcohol substance abuse, hypertension, atrial fibrillation, previous myocardial infarction, B12 deficiency anemia, falls associated with postural hypotension

Medications: nortriptyline, quetiapine, amlodipine, candesartan, warfarin, Vitamin B12

Other: Peripheral edema – referral to OT for pressure gradient hose

What do you need to assess?

What pharmacological treatments would you consider? Other changes?

Questions? Comments?

Kathleen.Hunter@ualberta.ca

ICS 2015 Montreal

Notes