



Urinary Incontinence In Primary Care

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Outline

- ✦ Definition of urinary incontinence
- ✦ Prevalence and significance
- ✦ Causes and risk factors
- ✦ Types
- ✦ Assessment and management strategy for primary care: “Identify, Prepare, Evaluate, Action”
- ✦ Case studies

Definition of UI

“the complaint of any involuntary leakage of urine”

(International Continence Society)

Prevalence of UI in Canada

- ✚ By population:
 - 3.3 million Canadians (10 % of population)
 - Gender proportion M>F (2:1) until age 80, then M=F
- ✚ By location:
 - Community:
 - More than half of women \geq 45 years
 - 15-30% of persons \geq 65
 - LTC or housebound elderly: up to 50%
 - Home Care population: 22%
 - Acute care medical admissions: 20%

The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

UI – Putting it in a Canadian Perspective

- ✦ 1 in 5 community-dwelling women reported that UI affected normal daily activities
- ✦ UI is the most common cause of admission to Long Term Care facilities
- ✦ Compared to continent individuals:
 - More frequent visits to physicians
 - Spend more time in hospitals and nursing homes

The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

The Costs of UI in Canada

- ✦ Individual – physical, emotional/social, financial
 - Drugs – side effects
 - Physical/Psychological – “reduced wellness”, depression, embarrassment, social isolation
 - “Consequence costs” – falls, fractures, skin breakdown
 - Financial Cost
 - UI supplies not covered by health insurance or private insurance - \$1000-\$1500 per year (seniors fixed incomes)
 - Loss of productivity, financial impact

The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

The Costs of UI in Canada

- + Individual
- + Spouse / caregiver / family
 - Share the burden - social isolation, financial
 - High caregiver demand - burnout
 - Main cause of admission to LTC – guilt
 - Loss of intimacy, sexuality

The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

The Costs of UI in Canada

- + Individual
- + Spouse / caregiver / family
- + Society
 - Loss of productivity, absenteeism, presenteeism
 - Physician and diagnostic expenditures
 - Drug expenditures
 - Surgery expenditures – increasing cost
 - Hospital and LTC expenditures – nursing, supplies, laundry
 - LTC - \$3000-\$10,000 per person per year for supplies and nursing care
 - LTC total: \$1 Billion per year

The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

UI in Canada – Future Crisis

- ✦ Total direct and indirect costs presently \$2.5 Billion / yr
- ✦ With Canada's aging population and an increasing prevalence of UI with age -incontinence likely to become an increasing burden
- ✦ Can be better managed!
“Urinary incontinence can be resolved, better managed, or better contained in 100% of people affected.” (Borrie, M.J. & Valiquette, L. (2002). Managing adults with urinary incontinence: clinical practice guidelines. Canadian Family Physician. 48, 1.)

UI – Barriers to Receiving Care

- ✦ Under reported
 - Survey of Canadian family physicians (2002)*
 - Fewer than half asked their patients about UI!
 - Fewer than 50% of individuals report UI to their physician!
 - Canadian Urinary Bladder Survey (CUBS): only 26% with any bladder problem had seen a health care professional.
- ✦ Underfunded – health plans
- ✦ Lack of access to resources/information
- ✦ Lack of access to skilled clinicians (Survey 2002)
 - Only 46% reported clear understanding of UI
 - Only 38% had organized plan for UI
 - Only 35% felt very comfortable dealing with UI
 - Long wait time to see specialist (> 6 months)

UI Causes

- ✚ Not a normal part of aging
- ✚ Loss of urine control due to a combination of
 - Predisposing factors:
 - Age-related changes
 - Intrinsic factors:
 - Genitourinary pathology
 - Comorbid conditions
 - Extrinsic factors
 - Lifestyle and behaviours
 - Medications
 - Environmental obstacles

Reuben DB, Herr KA, Pacala JT, et al. Incontinence – Urinary and Fecal. In *Geriatrics at Your Fingertips: 2008-2009, 10th Edition*. New York: The American Geriatrics Society; 2008.

UI Causes: Age-related Predisposing Factors



↑ post-void residuals
↑ Nocturia:
(↑ urinary output later in day, ↓ ability to postpone void, ↓ time between voids)
↓ urine concentrating ability
↑ involuntary detrusor contractions
↓ detrusor contractility



↓ bladder capacity
↓ urethral compliance
↓ maximal urethral closing pressure
↓ flow rates
↓ estrogen loss – weakness of pelvic muscles



↑ urethral resistance

UI Causes – Intrinsic Risk Factors

- ✦ Genitourinary pathology:
 - Atrophic vaginitis & urethritis
 - Benign Prostatic Hypertrophy
- ✦ Comorbid conditions (1/3 have multiple conditions):
 - Depression
 - Stroke, Parkinson's Disease, TIA, or other neurological injury or disease
 - Dementia (moderate to severe)
 - Arthritis or impaired mobility
 - Diabetes, FI, Obesity, CHF, COPD, Chronic cough
 - Constipation
 - UTI

UI Causes – Extrinsic Risk Factors

- ✦ Lifestyle:
 - Insufficient fluid intake
 - Excessive caffeine
 - Alcohol
 - Smoking
 - Physical activity - high impact, heavy lifting, straining
 - Poor bowel habits
- ✦ Medications:
 - Diuretics, etc
- ✦ Environmental:
 - Bathroom obstacles / mobility issues (LTC, restraints, etc)

Types of UI

- ✦ Transient
- ✦ Established
 - Stress
 - Urge
 - Mixed
 - Overflow
 - “Functional”

Transient UI

- ✦ Precipitated by reversible factor (may include functional causes)
- ✦ 1/3 community dwelling individuals
- ✦ 1/2 hospitalized aged patients

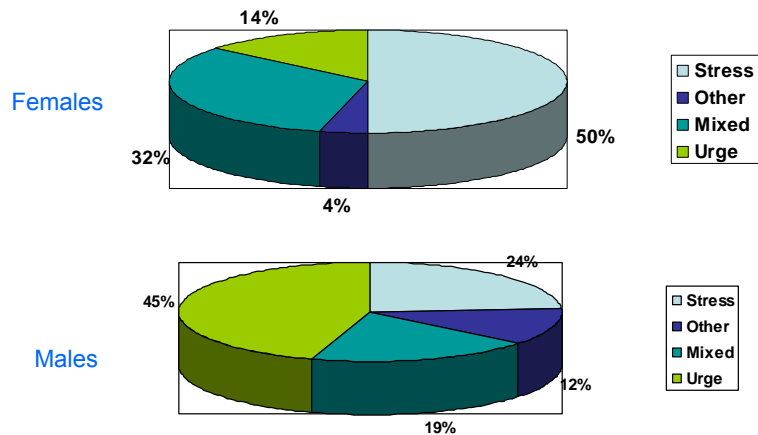
Transient UI - Causes

- + D Delirium
- + I Infection
- + A Atrophic vulvovaginitis
- + P Psychological
- + P Pharmacologic agents
- + E Endocrine, Excessive U/O
- + R Restricted mobility
- + S Stool impaction

Transient UI - Pharmacological Mechanisms

- + Reduced awareness
 - Sedatives
- + Polyurea
 - Diuretics, Alcohol, Caffeine
- + Depressed detrusor activity with urinary retention and overflow incontinence
 - Opioids
 - Calcium channel blockers Anti-Parkinsons drugs Anti-cholinergics
 - Prostaglandin inhibitors
- + Increased detrusor activity
 - cholinergics (donepezil)
- + Altered urethral tone
 - Increased leading to retention and overflow (alpha-agonists)
 - Decreased leading to stress incontinence (alpha-antagonists)

Prevalence by Type of Established UI



The Canadian Continence Foundation (2007). Incontinence: A Canadian Perspective. Accessed September 11, 2008 from <http://www.continence-fdn.ca>

Stress Incontinence

- ✚ 50% of female and 25% males with UI have Stress UI
- ✚ Impaired urethral closure due to insufficient pelvic support, sphincter opens during bladder filling
- ✚ Leaking associated with \uparrow intra-abdominal pressure cough, sneeze, etc.

Urge Incontinence

- ✚ Detrusor overactivity with uninhibited bladder contractions
- ✚ Unpredictable, abrupt urgency, frequency, variable volumes lost, PVR usually normal



Mixed Incontinence

- ✚ Features of both urge and stress UI
- ✚ Common in older women



Little Britain (2008) *Incontinence*. Accessed online September 11, 2008 at <http://www.youtube.com/watch?v=RrtgfX0Sjs4>

Overflow Incontinence

- ✦ Detrusor underactivity and/or outlet obstruction
- ✦ Continuous small volume leakage
- ✦ Dribbling, weak stream, hesitancy, nocturia
- ✦ Outlet obstruction = 2nd most common cause of UI in males (elderly men with enlarged prostate)
- ✦ Detrusor underactivity → urinary retention & overflow incontinence in 12%F; 29%M

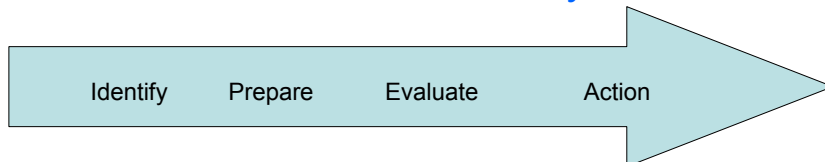
Functional Incontinence

- ✦ Unable or unwilling to toilet due to physical impairment, psychological or cognitive dysfunction, environmental barriers
- ✦ No underlying GU dysfunction
- ✦ Diagnosis of exclusion

Principles of UI Management in Primary Care

- ✦ Establish a presumed etiology and treatment plan
- ✦ Identify complex cases or serious conditions for specialist referral
- ✦ Requires time for thorough education in lifestyle modification and behavioural techniques for impact on symptoms (may require referral to another professional)
- ✦ Lifestyle and behavior modifications alone may completely resolve UI or significantly improve it and the individual's quality of life

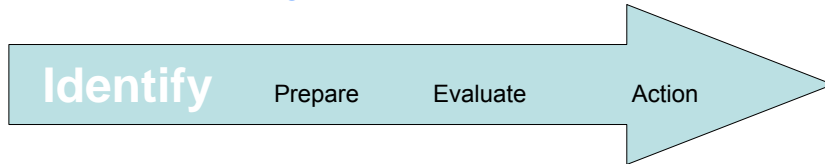
Framework for UI in Primary Care



“An adequate evaluation [of UI] may take 2 to 3 visits. The first visit may involve a full history [PREPARE], the second a physical examination (including a pelvic examination for women and a measurement of post-void residual urine volumes with a catheterization) [EVALUATE] and ... a third visit to review management strategies [ACTION].”

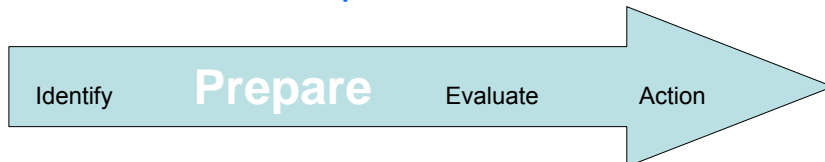
Frank, C. (2003). Incontinence and the Family Physician. In *The Informer*. The newsletter of the Canadian Continence Foundation. Vol 4, Issue 1.

Case Finding



- + “Do you have any problems with involuntary loss of water/urine?”
- + If “yes” – discuss need for further evaluation (consent) and give “Prepare” forms to complete for return appointment

Patient Self-Report Tools



- For review at follow-up visit:
- + ICIQ-UI or IIQ-7
 - measures frequency, severity, and impact on quality of life
 - + Incontinence Patient Information Form
 - Lifestyle, habits, symptoms, medications, medical history
 - + Bladder diary (7 days)
 - Frequency, timing, and amount of voids and accidents, associated activity, amount and type of fluids, associated urgency

Evaluation of UI in Primary Care

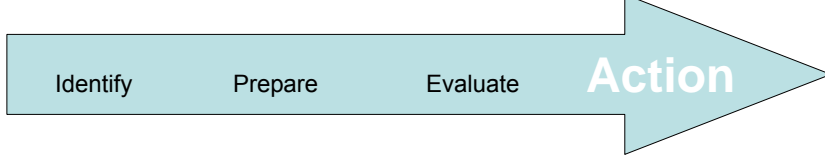


- + Review of self-report forms – impact, habits, precipitants
- + Medication review
- + Vitals and physical exam:
 - Abdominal
 - Neurologic
 - Musculoskeletal
 - GU exam
- + Labs
 - Urinalysis with C&S
 - Creatinine, BUN, Glucose, Calcium, (?PSA)
- + Other tests:
 - Post-Void Residual (scanner, catheterization, or referral for pre/post void U/S)
 - Clinical urinary stress test or Provocative tests (cough, stand, heel bounce, running water)

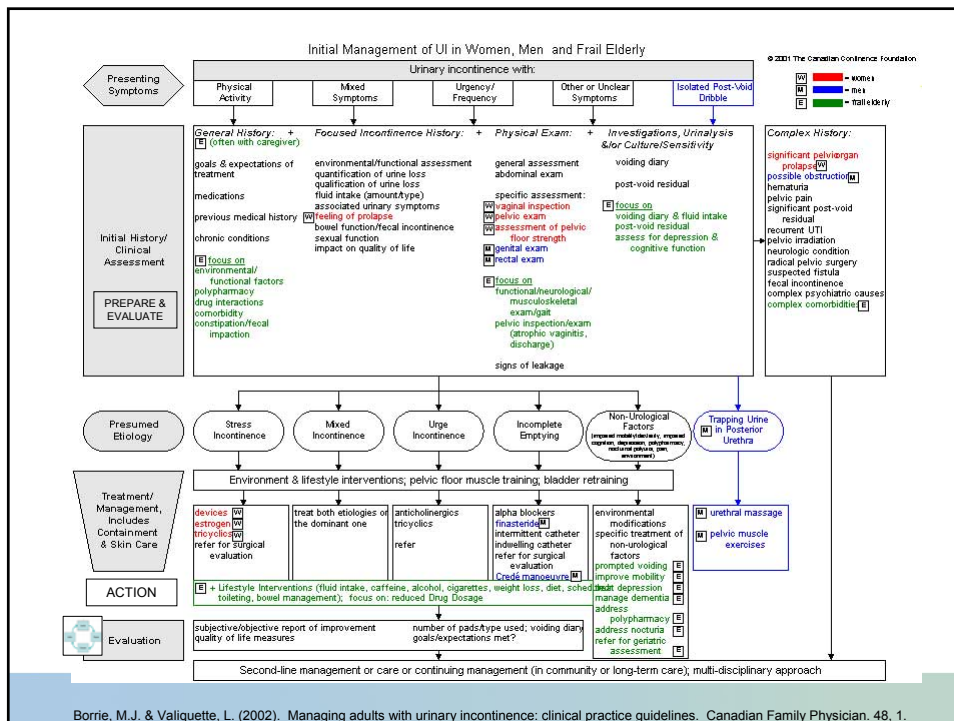
Post Void Residual

- + Measure volume of urine left in bladder after voiding by catheter or bladder scan
- + < 50-100: Normal
- + 100 – 400: Monitor until consistently less than 200cc.
- + > 400cc: Needs intermittent catheterization
 - Consider referral to secondary care for cystometry, cystoscopy, and further urodynamic studies

Action Framework For Identified Causes / Modifiable Risk Factors



1. Initial management – primary care
2. Secondary management - specialists



Interprofessional Treatment Options in Primary Care

- ✚ Behavioral (alone may effectively resolve UI)
 - Lifestyle modifications – healthy bladder habits
 - Scheduled voiding
 - Pelvic muscle exercises - Kegel's
- ✚ Pharmacological (medical)
 - remove drugs
 - add drugs
- ✚ Containment devices and skin care
 - Pads
 - Catheters
 - Education re: hygiene
- ✚ Supportive devices
 - Pessaries
- ✚ Other – referral to other professionals:
 - Social Work – financial, social and emotional impact
 - Occupational Therapy – home safety – nocturia
 - Continence Nurse – education
 - Physiotherapist - exercises

Pelvic Muscle Strengthening (Kegels)

- ✚ Individuals need instruction
- ✚ May refer to Physiotherapist or Continence Nurse
- ✚ Biofeedback or electrical stimulation may improve technique
- ✚ May add vaginal weights

All Types of UI – Initial Management in Primary Care

- ✦ Environment and lifestyle interventions
 - Increase fluid, decrease caffeine, alcohol and cigarettes, weight loss, diet, scheduled toileting, bowel management
- ✦ Pelvic Floor Muscle Training
 - May require referral to Continence RN, Physiotherapy, biofeedback, weights, etc
- ✦ Bladder Retraining and Bladder Diary
 - Schedule and tracking of voids, accidents, pads used
- ✦ Devices for Containment (pessary – women, pads)
- ✦ Education +++

Stress UI –Management in Primary Care

- ✦ Environment and lifestyle interventions
- ✦ Pelvic Floor Muscle Training
- ✦ Bladder Retraining and Bladder Diary
- ✦ Devices for Containment (pessary, pads)
- ✦ Education +++
- ✦ Medications – estrogen, alpha-stimulation, tricyclic antidepressants
- ✦ Referral to specialist for further evaluation if req'd

Urge UI –Management in Primary Care

- ✦ Environment and lifestyle interventions
- ✦ Pelvic Floor Muscle Training
- ✦ Bladder Retraining and Bladder Diary
- ✦ Devices for Containment
- ✦ Education+++
- ✦ Medications – with caution in elderly
 - oxybutinin
 - flavoxate
 - tolterodine
 - TCA's
- ✦ Referral to specialist for further evaluation if req'd

Drugs Prescribed to Treat Urge Incontinence

Drug	Drug Type	Typical Dosing	Adverse Effects
Oxybutynin (Ditropan & generics)	Anticholinergic/ Spasmolytic	2.5 mg twice or three times daily	<ul style="list-style-type: none"> • Dry mouth • Sensitivity to light • Blurred vision • Dry eyes • Decreased sweating • Flushing • Drowsiness • Constipation
Extended Release (Ditropan XL)		Once daily	
Skin Patch (Oxytrol)		Apply patch every 3 to 4 days	
Tolterodine (Detrol) Prolonged Release (Detrol LA)	Anticholinergic	2 mg twice daily (4mg daily for LA)	<ul style="list-style-type: none"> • Dry mouth • Abnormal Vision • Sensitivity to light
Imipramine (sometimes prescribed in combination with oxybutin or tolterodine)	Anticholinergic/ Antidepressant	25-75 mg daily	<ul style="list-style-type: none"> • Gastrointestinal effects • Drowsiness • Weakness/tiredness • Dry mouth • Excitement/anxiety
Flavoxate (Urispas & generics)	Anticholinergic Antispasmodic	2.5-5.0 mg Up to four times daily	<ul style="list-style-type: none"> • Dry Mouth • Nausea & Vomiting • Headache • Drowsiness
Oxybutynin CR (Uromax)	Anticholinergic, Antispasmodic	10-15 mg once daily	<ul style="list-style-type: none"> • Dry Mouth • Pharyngitis
Darifenacin (Enablex)	Anticholinergic (selective M3 blocker)	7.5-15 mg once daily	<ul style="list-style-type: none"> • Dry mouth • Constipation • Blurred vision
Solifenacin (Vesicare)	Anticholinergic	5-10 mg once daily	<ul style="list-style-type: none"> • Dry mouth • Constipation • Blurred vision
Trospium (Trosec)	Anticholinergic	20 mg twice daily	<ul style="list-style-type: none"> • Dry mouth • Constipation • Dyspepsia • Headache

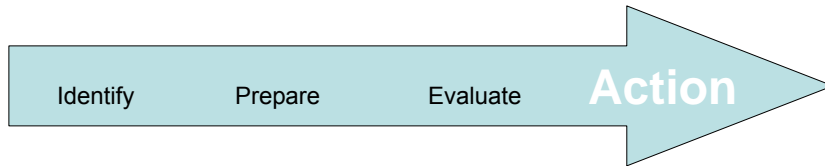
Mixed UI – Management in Primary Care

- ✦ Treat both etiologies or the dominant one
- ✦ Environment and lifestyle interventions
- ✦ Pelvic Floor Muscle Training
- ✦ Bladder Retraining and Bladder Diary
- ✦ Devices for Containment
- ✦ Education +++
- ✦ Medications – estrogen, tricyclic antidepressants
- ✦ Referral to specialist for further evaluation if req'd

Overflow UI – Management in Primary Care

- ✦ Environment and lifestyle interventions
- ✦ Pelvic Floor Muscle Training
- ✦ Bladder Retraining and Bladder Diary
- ✦ Crede maneuver (men)
- ✦ Catheterization – intermittent or indwelling
- ✦ Education+++
- ✦ Medications –
 - terazosin
 - Finasteride (men)
 - bethacoline
- ✦ Referral to specialist for further evaluation if req'd

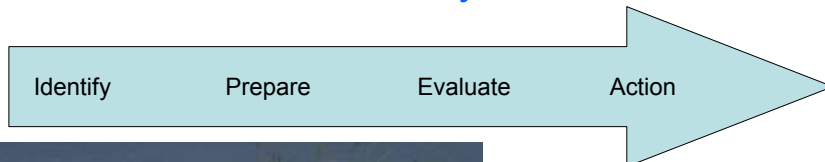
Referral to Secondary Care



Specialist referral:

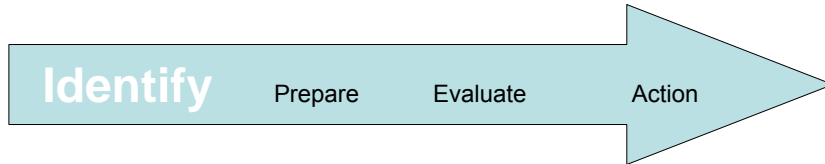
- Contenance specialist from a variety of disciplines: Urology, Gynecology or Geriatrics, Contenance Nurse
- More invasive urologic and urodynamic investigations
- Further management options when refractory to initial management in primary care:
 - Further trials of medications
 - Devices
 - Bulking agents – periurethral collagen
 - Surgery

Case Study - Helen



- ✚ 76 years old
- ✚ Healthy and active
- ✚ No chronic conditions
- ✚ Comes in for periodic health evaluation

Helen's Periodic Health Evaluation Form



- + “Do you have any problems with involuntary loss of water/urine?”
 - Yes

- + Helen is interested in receiving help for her condition and agrees to come back for an assessment. What forms should she take with her to complete prior to her next visit?

Helen's Return Visit: ICIQ - UI



- + ICIQ-UI or IIQ-7
 - Leaks a small amount of urine several times daily
 - 8/10 rating of “interference with every day life”
 - Urine leaks “before she can get to the toilet” and “for no obvious reason”

Helen's Return Visit – Incontinence Form



- + Her goals: “reduce daytime accidents” and “reduce the number of times I get up to empty my bladder”
- + Urine leakage for 1 ½ years, never treated
- + Uses pads
- + Often leaks when rushing to toilet, running water, washing hands
- + Once bladder full, can hold less than 1-2 minutes
- + Wakes up >4 times per night to urinate
- + Feels that bladder does not completely empty
- + Drinks 2 cups of coffee per day and about 4 glasses of water
- + Drinks 4 oz fluid before she goes to bed
- + Vaginal delivery of one child
- + Does not take estrogens
- + Vaginal hysterectomy and ovaries removed 24 years ago

Helen's Return Visit – Bladder Diary



- + Tracked for 7 days
- + 11 accidents
- + 43 voids
- + 19 pad changes

Helen's Evaluation



- + Medication review
 - Uses 3 meds per day, none of special note
- + Vitals and physical exam:
 - Abdominal - normal
 - Neurologic - normal
 - Musculoskeletal – mild OA in hands
 - GU exam – atrophic vaginitis, no uterus palpated
- + Other tests:
 - Post-Void Residual - 50 ml by bladder scan
 - Clinical urinary stress test - normal
 - Provocative tests – incontinent with running water
- + Labs
 - Urinalysis with C&S
 - Creatinine, BUN, Glucose, Calcium

Helen's Evaluation



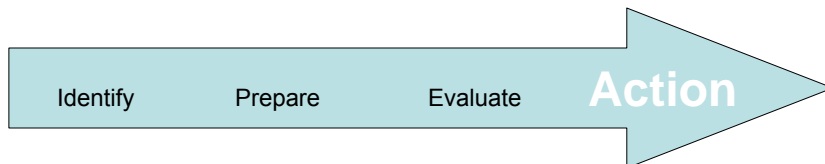
- + What is the likely etiology?
 - Stress
 - Urge
 - Mixed
 - Overflow
 - Functional

Helen's Evaluation



- ✚ What are the factors contributing to her incontinence?
 - Predisposing (age-related)
 - Intrinsic (comorbidities)
 - Extrinsic (lifestyle, medications, environment)

Helen's Management Plan



- ✚ Helen's goals and treatment preferences
- ✚ Lifestyle / behavioral (coffee and night drink)
- ✚ Education
- ✚ Containment
- ✚ Follow-up / Interprofessional Care Plan
- ✚ Medication

Summary and Take Home Message

- + Incontinence is very common, can be treated, and is NOT a normal part of aging
- + It has an enormous impact on quality of life for the individual and family, and will have an increasing impact on Canadian society as our population ages
- + Several barriers exist to receiving effective care including underreporting to health care professionals and a lack of access to skilled continence practitioners
- + It is important to determine the type of incontinence as well as the contributing factors
- + A bladder diary is a helpful tool to assist with identifying the type of incontinence
- + In most cases, a history, physical evaluation, and simple tests done in primary care can identify the cause of incontinence
- + Although most cases of incontinence can be effectively treated in primary care with conservative approaches – lifestyle modification, pelvic exercises, and bladder retraining – pharmacologic interventions are used about 50% of the time
- + Specialists – urologists, gynecologists, geriatricians – can provide secondary management for cases refractory to initial management. This may include further urodynamic evaluations, drug interventions, and surgical evaluations.
- + Continence nurses and physiotherapists are able to provide specialty management for incontinence including further evaluation, counselling, and exercise
- + Other interprofessional team members have a valuable role for assisting with financial impact and adjustment counselling (SW) and remediation of environmental factors (OT)

Toolkit Resources

- + **Algorithm for Initial Management of Incontinence for Women, Men, and the Frail Elderly**
- + **Patient Forms and Tools**
 - ICIQ – UI and IIQ-7 (Impact on Quality of Life Questionnaires)
 - Incontinence Patient Information Form
 - Bladder Diaries
 - Symptom Checklists
- + **Clinician Forms**
 - Urinary Incontinence Evaluation Form
- + **Patient Handouts**
 - Lifestyle Modification – Healthy Bladder Habits
 - Exercise
 - Bladder Training
- + **Incontinence professionals in Kingston and surrounding areas**

Further Resources

+ Resources

- The Canadian Continence Foundation www.continence-fdn.ca (guidelines, professional tools, facts, downloadable handouts)
- The AHRQ Acute and Chronic Incontinence Clinical Practice Guideline Update (1996) www.ahrq.gov/clinic/cpgarchv.htm
- Incontinence chapter of American Geriatrics Society's annually updated publication "Geriatrics At Your Fingertips" (online, free of charge) www.geriatricsatyourfingertips.org
- Practicing Physician Education in Geriatrics Toolkits - <http://www.gericareonline.net/tools/index.html>

+ Organizations

- Canadian Urological Association www.cua.org (professionals and public info for download)
- Canadian Nurse Continence Advisors www.cnca.ca
- Canadian Physiotherapy Association www.physiotherapy.ca
- Canadian Women's Health Network www.cwhn.ca
- The Powder Room (overactive bladder) www.powderroom.ca

+ Assessment and Treatment Programs

- Incontinence Clinic – Providence Care St Mary's of the Lake Site – Kingston www.providencecare.ca
- Other health care professionals listed in your toolkit

References

- Busby-Whitehead, J., Kincade, J., Lekan-Rutledge, D., & Granville, L. (2006) Urinary Incontinence: Management in Primary Practice, 3rd Edition. In *The Practicing Physician Education Project. Tools for the Evaluation and Management of Geriatric Patients in Primary Practice*. Robinson, B.E. & Levine, S.A. (Eds). Merck Institute of Aging and Health.
- Reuben DB, Herr KA, Pacala JT, et al. Incontinence – Urinary and Fecal. In *Geriatrics at Your Fingertips: 2008-2009, 10th Edition*. New York: The American Geriatrics Society; 2008.
- Borrie, M.J. & Valiquette, L. (2002). Managing adults with urinary incontinence: clinical practice guidelines. *Canadian Family Physician*. 48, 1.
- Swanson, J.G., Skelly, J., Hutchinson, B. & Kaczorowski, J. (2002). Urinary incontinence in Canada: National survey of family physicians' knowledge, attitudes, and practices. *Can Fam Physician*. 48, p.86-92.
- Frank, C. (2003). Incontinence and the Family Physician. In *The Informer*. The newsletter of the Canadian Continence Foundation. Vol 4, Issue 1.
- Little Britain (2008) *Incontinence*. Accessed online September 11, 2008 at <http://www.youtube.com/watch?v=RrtgfX0Sjs4>
- The Canadian Continence Foundation (2007). *Incontinence: A Canadian Perspective*. Accessed September 11, 2008 from <http://www.continence-fdn.ca>