URINARY INCONTINENCE AND DEMENTIA

"A TABOO WITHIN A STIGMA"

DR. KRISTINA SWAIN MD, CCFP

JANUARY 2019

FACULTY/PRESENTER DISCLOSURE

- **Faculty:** Dr. Kristina Swain

- **Relationships with commercial interests:** Not Applicable

MITIGATING POTENTIAL BIAS

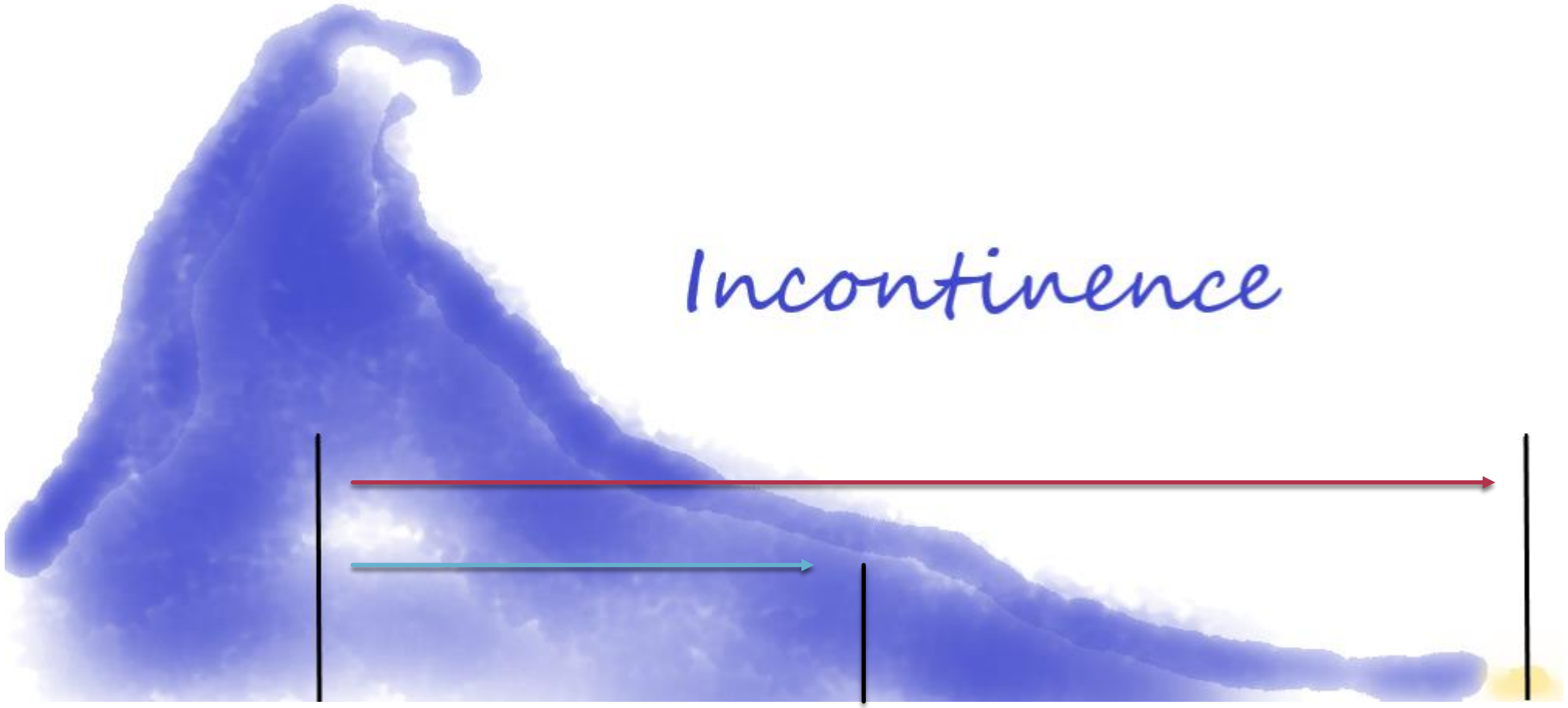
- Not Applicable

MY RECENT TRAINING IN URINARY INCONTINENCE . . .

TO COVER TODAY:

- REVIEW the general approach for diagnosis and treatment of urinary incontinence (UI)
- EXPLAIN differences when approaching UI in patients with dementia
- DISCUSS how to modify our general approach when treating patients with dementia

HOW ARE WE DEFINING "CONTINENCE"?



HOW ARE WE DEFINING "CONTINENCE"?

- INDEPENDENT CONTINENCE
- DEPENDENT CONTINENCE
- CONTAINED CONTINENCE

TAKE HOME POINT #1

ASK!

A GENERAL APPROACH TO FEMALE URINARY INCONTINENCE

HOW OFTEN DO YOU LOSE CONTROL OF YOUR URINE?

History, physical exam, UA
? Bladder Diary; Bladder Scan

DO **NOT** TREAT ASYMPTOMATIC BACTURIA

STRESS INCONTINENCE
"leak with strain" (LR 2.2)

URGE INCONTINENCE
"strong urge" (LR 4.2)

RED FLAGS
Neurodegenerative d/o
Spinal Stenosis
CVA
Surgical Hx
Unclear Dx
Ineffective Tx
Hematuria
Constitutional Sxs

?

Weight Loss (8%)

PELVIC FLOOR PHYSIOTHERAPY

BLADDER TRAINING

REFERRAL TO UROGYNECOLOGY
(pessary, surgical correction)

B_3-agonist
Anticholinergic

REFERRAL TO UROLOGY/ UROGYNECOLOGY

EXAMPLE OF A BLADDER DIARY

- TRIGGER IDENTIFICATION
  - Caffeine, alcohol, carbonation, tomatoes
  - "Key in Lock Syndrome"
- FLUID INTAKE (>2L)
- FREQUENCY?
- URGENCY?
- LEAKAGE?

Your Daily Bladder Diary

This diary will help you and your health care team figure out the causes of your bladder control trouble. The "sample" line shows you how to use the diary.

Your name: _____

Date: _____

Time	Drinks		Trips to the Bathroom		Accidental Leaks	Did you feel a strong urge to go?	What were you doing at the time?
	What kind?	*How much?*	*How many times?*	*How much urine? (circle one)*	*How much? (circle one)*	*Circle one*	*Sneezing, exercising having sex, lifting, etc*
Sample	*Coffee*	*2 cups*	✓✓	(sm) med lg	sm (med) lg	Yes (No)	*Running*
6-7 A.M.				sm med lg	sm med lg	Yes No	
7-8 A.M.				sm med lg	sm med lg	Yes No	
8-9 A.M.				sm med lg	sm med lg	Yes No	
9-10 A.M.				sm med lg	sm med lg	Yes No	
10-11 A.M.				sm med lg	sm med lg	Yes No	
11-12 noon				sm med lg	sm med lg	Yes No	

A GENERAL APPROACH TO FEMALE URINARY INCONTINENCE

CHRONIC

HOW OFTEN DO YOU LOSE CONTROL OF YOUR URINE?

History, physical exam, UA
? Bladder Diary; Bladder Scan

DO **NOT** TREAT ASYMPTOMATIC BACTURIA

RED FLAGS
Neurodegenerative d/o
Spinal Stenosis
CVA
Surgical Hx
Unclear Dx
Ineffective Tx
Hematuria
Constitutional Sxs

STRESS INCONTINENCE
"leak with strain" (LR 2.2)

URGE INCONTINENCE
"strong urge" (LR 4.2)

?

Weight Loss (8%)

PELVIC FLOOR PHYSIOTHERAPY

BLADDER TRAINING

NOVA PHYSIO

donna Sarna Physiotherapy & Rehabilitation

REFERRAL TO UROGYNECOLOGY
(pessary, surgical correction)

B_3-agonist
Anticholinergic

REFERRAL TO UROLOGY/ UROGYNECOLOGY

TAKE HOME POINT #2

NonRX = RX

BLADDER RX

ANTICHOLINERGIC/MUSCARINICs	BETA-ADRENERGIC
Examples: oxybutinin ER/IR (Ditropan), fesoteradine (Toviaz), tolterodine (Detrol), darifenacin (Enablex), solifenacin (VESIcare), trospium (Sanctura)	Examples: mirabegron(mirabetriq)
Common side effects: dry mouth, dizziness, constipation, somnolence, blurred vision, tachycardia (50% d/c at 6m) Increased risks in dementia patients? ASSOC WITH future DEMENTIA RISK	Common side effects: hypertension (8%)
Absolute Contraindications: gastric retention, acute narrow angle glaucoma, tacchyarrhythmias, myasthenia g.	Absolute contraindications: severe/uncontrolled hypertension
Efficacy: systematic reviews ARR 0.1 NNT10 (clinical benefit) NNH 5-8 No dose-related differences in efficacy	Efficiacy: similar to anticholinergics; Better tolerated

URINARY INCONTINENCE AND DEMENTIA

- WHY IS THERE AN ASSOCIATION BETWEEN DEMENTIA AND UI?
- Cerebral dysfunction of inhibitory micturition reflex leading to detrusor overactivity
- Functional Incontinence due to physical impairment or cognitive disorientation

- BLOOD-BRAIN BARRIER ABNORMALITIES
  - Impact on risk with pharmaceutical treatment

ASSESSMENT OF UI AND DEMENTIA

CAREGIVER BURDEN

- Financial
- Isolation
- Anxiety
- Physical Exhaustion
- Increased LTC

MEDICATION REVIEW

- Antipsychotics
- Antidepressants
- Calcium Channel Blockers
- Diuretics
- ACEi/ARBs
- Alpha-antagonists
- Anticholinergics
- Cholinesterase Inhibitors
- Opioids
- Benzodiazepines

ENVIRONMENT

- Location (LTC/home)
- Location (washroom)
- Location (toilet/commode)
- Undressing
- Doorway Width (wheelchair)
- Lighting
- Cues

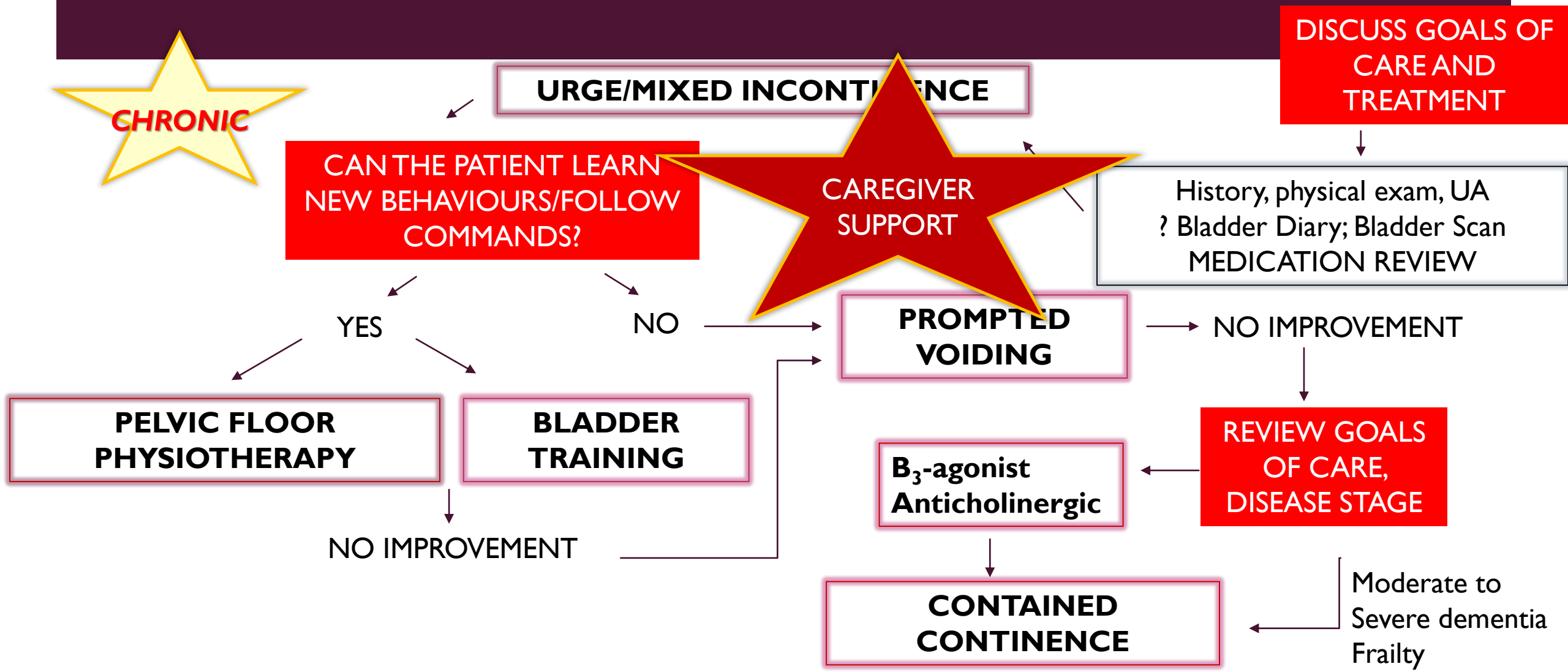
TAKE HOME POINT #3

TRY TO REMOVE OFFENDING MEDICATIONS BEFORE ADDING MORE Rxs

TAKE HOME POINT #4

TREAT THE PATIENT
AND
THE CAREGIVER

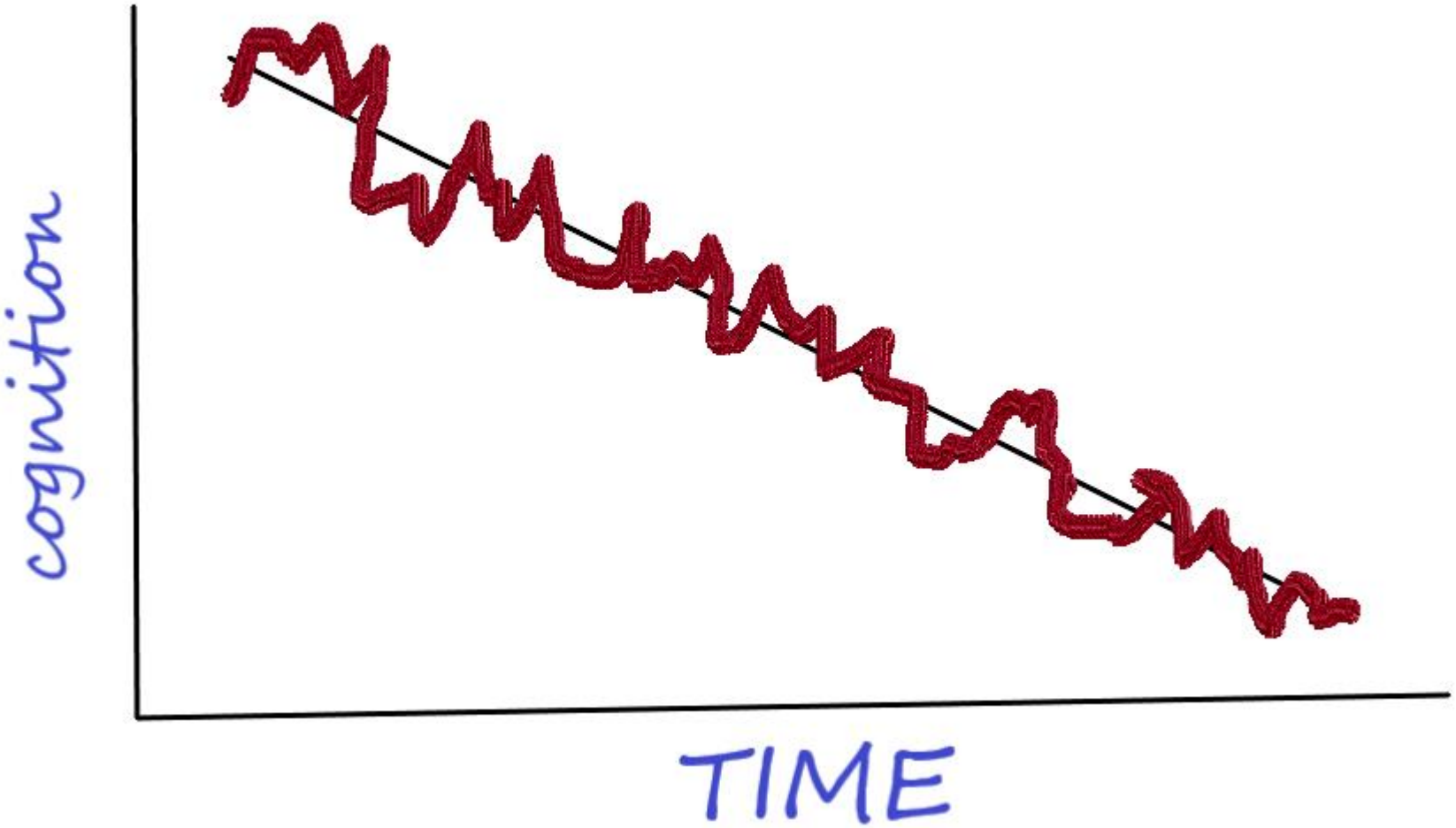
APPROACH TO URINARY INCONTINENCE AND DEMENTIA



PHARMACEUTICALS IN UI AND DEMENTIA

- The evidence for use in patients with dementia is extremely limited
- Beta-agonist likely better tolerated
- LOW, SLOW, and MONITOR

MONITORING THERAPY



TAKE HOME POINT #5

REASSESS, REASSESS, REASSESS

(symptoms, goals of care, offending agents, need for Rx)

DUAL THERAPY: ANTICHOLINERGIC AND CHOLINESTERASE INHIBITORS

- UI side effect of Cholinesterase inhibitors – avoid prescription cascade
  - 7% risk precipitating or worsening
- Sink et al. 2008: faster rates of functional decline in higher functioning dementia patients on both therapies

- Systematic Review (2018) - 5 studies (4 prospective, 1 retrospective)
  - Conflicting results between studies and poor study quality

TAKE HOME POINTS

- ASK about incontinence!
- Nonpharmacologic treatments are as effective as pharmacologic (without the side effects)
- Medication Review to eliminate offending Rxs BEFORE adding to pill burden
- Caregiver support is essential
- Reassess, reassess, reassess!

USEFUL LINKS

- Bladder Diary
  - https://www.health.qld.gov.au/__data/assets/pdf_file/0020/431183/consumer-bladder-diary.pdf
- PELVIC FLOOR PHYSIOTHERAPISTS in Winnipeg:
  - http://www.nova-physio.com/ (NOVA Physiotherapy)
  - http://www.dsphysio.com/ (Donna Sarna Physiotherapy)
- Urogynecologists (with pessary nurses) in Winnipeg (St Boniface ACU)
  - Dr. K. Maslow
  - Dr. Gunderson

Bladder training instructions

These methods are to help you regain bladder control. Think of it as "mind over bladder."

1. Start by going to the toilet and trying to urinate as often as your shortest voiding interval (the length of time between trips to the bathroom) based on your voiding diary. For example, go every hour if that is what your bladder diary indicates is the shortest interval of time between visits to urinate. Make these regular trips to the toilet while you are awake. You do not have to get up during the night!
2. You must try to urinate whether you feel the need or not. You must try to urinate even if you have just been incontinent.
3. If you get a strong urge to go to the bathroom before your scheduled time, use distraction or relaxation:
   - Stop, do not run to the bathroom!
   - Stand still or sit down if you can.
   - RELAX. Take a deep breath and let it out slowly.
   - Concentrate on making the urge decrease or even go away anyway you can (imagine the pressure becoming less and less). You can also try doing quick contractions of your pelvic floor muscles.
   - DISTRACT yourself, for example by doing math problems in your head.
   - When you feel IN CONTROL OF YOUR BLADDER, walk slowly to the bathroom, and then go.
4. Keep this schedule until you can go one day without urine leakage. Then, increase the time between scheduled trips to the toilet by 15 minutes. When you can go one day on this new schedule without urine leakage, extend the time between bathroom trips again by 15 minutes.
5. Keep this up until you can go four hours between trips to the toilet (which is NORMAL), or until you are comfortable with a shorter time interval. This may take several weeks.
6. DO NOT GET DISCOURAGED! Bladder training takes time and effort, but it is an effective way to get rid of incontinence without medication or surgery.

Information from:

1. *http://www.oabcentral.org/resources/AUGS_Voiding_Diary.pdf (Accessed on November 10, 2017).*
2. *Dumoulin C, Hay-Smith EJC, Mac Habée-Séguin G. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. Cochrane Database of Systematic Reviews 2014; (5):CD005654.*

Antimuscarinic medications for treatment of women with urge incontinence or overactive bladder (OAB) with incontinence

Medication	Starting dose	Maximum dose	Selected characteristics
Darifenacin extended-release 7.5 and 15 mg tablets	7.5 mg orally once daily	15 mg orally once daily	▪ See "General antimuscarinic issues" below this table ▪ Dry mouth (19 to 35%) and constipation (15 to 21%) are common ▪ Metabolized in liver by CYP3A4; maximum 7.5 mg daily with strong CYP3A4 inhibitors* ▪ Reduced dose for moderate hepatic impairment ▪ Not recommended for severe hepatic impairment
Fesoterodine extended-release 4 and 8 mg tablets	4 mg orally once daily	8 mg orally once daily	▪ See legend ("General antimuscarinic issues") below this table ▪ Dry mouth (19 to 35%) and constipation (4 to 6%) are common ▪ Metabolized in liver by CYP3A4; maximum 4 mg daily with strong CYP3A4 inhibitors* ▪ Reduced dose for severe renal impairment ▪ Not recommended for severe hepatic impairment
Oxybutynin immediate-release 5 mg tablet	5 mg orally two or three times daily	5 mg orally four times daily	▪ See "General antimuscarinic issues" below this table ▪ Dry mouth (71%) and constipation (9%) are common ▪ Dizziness (17%) and somnolence (14%) can occur ▪ Often not tolerated by older adults and medically ill patients due to anticholinergic (including CNS) side effects ▪ Reduced dose in older adults ▪ Short effect may be useful when continence is desired at specific times ▪ Compliance is difficult with frequent dosing
Oxybutynin extended-release 5, 10, and 15 mg tablets	5 to 10 mg orally once daily	30 mg orally once daily	▪ See "General antimuscarinic issues" below this table ▪ Dry mouth (35%) and constipation (9%) are common ▪ Somnolence (6%) can occur ▪ Compliance is improved with daily dosing
Oxybutynin transdermal 3% gel (pump)	Apply three pumps (84 mg) daily	Same as starting dose	▪ See "General antimuscarinic issues" below this table ▪ Associated with low rates of dry mouth (2 to 12%) and constipation (1%) ▪ Apply to clean, dry, intact skin on abdomen, thighs, or upper arms/shoulders ▪ Keep area dry for at least one hour after application ▪ Do not use same application site more than once in seven days ▪ Application site reaction including irritation and dermatitis (up to 14%)
Oxybutynin transdermal 10% gel sachet (packet)	Apply one sachet (packet) daily	Same as starting dose	
Oxybutynin transdermal 3.9 mg patch	Apply one patch twice per week (ie, once every three to four days)	Do not exceed starting dose	▪ See "General antimuscarinic issues" below this table ▪ Available without a prescription (OTC) in the United States and some other countries ▪ Associated with low rates of dry mouth (10%) and constipation (3%) ▪ Apply under clothing to abdomen, hip, or buttock ▪ Do not use same application site more than once in seven days ▪ Application site pruritus (14 to 17%); local erythema (8%), rash (3%)
Solifenacin 5 and 10 mg tablets	5 mg orally once daily	10 mg orally once daily	▪ See "General antimuscarinic issues" below this table ▪ Dry mouth (11 to 28%) and constipation (5 to 13%) are common ▪ Reduce dose for severe renal impairment or moderate hepatic impairment ▪ Not recommended for severe hepatic impairment ▪ Metabolized in liver by CYP3A4; maximum 5 mg daily with CYP3A4 inhibitors* ▪ Modestly prolongs QTc interval; caution with other QTc prolonging drugs* and in patients with congenital prolonged QT
Tolterodine extended-release 2 and 4 mg tablets	2 mg orally once per day	4 mg orally once per day	▪ See "General antimuscarinic issues" below this table ▪ Dry mouth (23 to 35%) and constipation (6 to 7%) are common ▪ Reduced dose for renal and/or hepatic impairment, not recommended for severe renal or hepatic impairment ▪ Metabolized in liver by CYPs 3A4 and 2D6; maximum 2 mg daily with strong CYP3A4 inhibitors* ▪ Modestly prolongs QTc interval; caution with other QTc prolonging drugs* and in patients with congenital prolonged QT
Tolterodine immediate-release 1 and 2 mg tablets	1 mg orally twice per day	2 mg orally twice per day	
Trospium extended-release 60 mg tablet	60 mg orally once per day	Same as starting dose	▪ See "General antimuscarinic issues" below this table ▪ Need to take on empty stomach or one hour before meal ▪ Dry mouth (9 to 22%) and constipation (9 to 10%) are common ▪ Reduce dose for renal impairment, not recommended for severe renal impairment ▪ Not metabolized by CYP and therefore has a low risk of drug-drug interactions ▪ Avoid alcohol consumption within two hours of using extended-release preparation
Trospium immediate-release 20 mg tablet	20 mg orally once daily	20 mg twice daily	

General antimuscarinic issues:
All antimuscarinics are contraindicated in gastric retention, untreated narrow angle closure glaucoma, and supraventricular tachycardia.
Evidence suggests that cumulative exposure to potent antimuscarinics is associated with increased rates of dementia and Alzheimer disease [1].
All antimuscarinics exert peripheral anticholinergic effects (eg, dry mouth, constipation, tachycardia, palpitations).
All antimuscarinics may have additive side effects with other medications that have strong anticholinergic effects (eg, first-generation H1 antihistamines, muscle relaxants, tricyclic antidepressants, antipsychotics, inhaled anticholinergic bronchodilators).*
Approach to agent selection and dose titration is reviewed in the topic section on pharmacologic therapy of urge incontinence.

CNS: central nervous system; OTC: over-the-counter; CYP: cytochrome P-450 metabolism.
* To check for specific interactions, use the Lexi-Interact program included with UpToDate.

Reference:

1. *Gray SL, Anderson ML, Dublin S, et al. Cumulative use of strong anticholinergics and incident dementia: S prospective cohort study. JAMA 2015; 175:401.*

REFERENCES

- Carnahan R, Johnson T. Making a Bad Diagnosis Worse? Suspect Drug Management of Urinary Incontinence in Persons with Dementia. J Am Geriatr Soc. 2017;65(2):238-240.
- Drennan et al.: Conservative interventions for incontinence in people with dementia or cognitive impairment, living at home: a systematic review. BMC Geriatrics 2012 12:77.
- Gormley EA, Lightner DJ, Faraday M, Vasavada SP. Diagnosis and treatment of overactive bladder (non-neurogenic) in adults: AUA/SUFU guideline amendment. J Urol. 2015;193(5):1572-80.
- Gray SL, Anderson ML, Dublin S, et al. Cumulative use of strong anticholinergics and incident dementia: a prospective cohort study. JAMA Intern Med. 2015;175(3):401-7.
- Gove D, Scerri A, Georges J, et al. Continence care for people with dementia living at home in Europe: a review of literature with a focus on problems and challenges. J Clin Nurs. 2017;26(3-4):356-365.
- Kröger E, Van marum R, Souverein P, Carmichael PH, Egberts T. Treatment with rivastigmine or galantamine and risk of urinary incontinence: results from a Dutch database study. Pharmacoepidemiol Drug Saf. 2015;24(3):276-85.
- Sink KM, Thomas J, Xu H, Craig B, Kritchevsky S, Sands LP. Dual use of bladder anticholinergics and cholinesterase inhibitors: long-term functional and cognitive outcomes. J Am Geriatr Soc. 2008;56(5):847-53.
- Triantafylidis LK, Clemons JS, Peron EP, Roefaro J, Zimmerman KM. Brain Over Bladder: A Systematic Review of Dual Cholinesterase Inhibitor and Urinary Anticholinergic Use. Drugs Aging. 2018;35(1):27-41.
- Vouri SM, Kebodeaux CD, Stranges PM, Teshome BF. Adverse events and treatment discontinuations of antimuscarinics for the treatment of overactive bladder in older adults: A systematic review and meta-analysis. Arch Gerontol Geriatr. 2016;69:77-96.