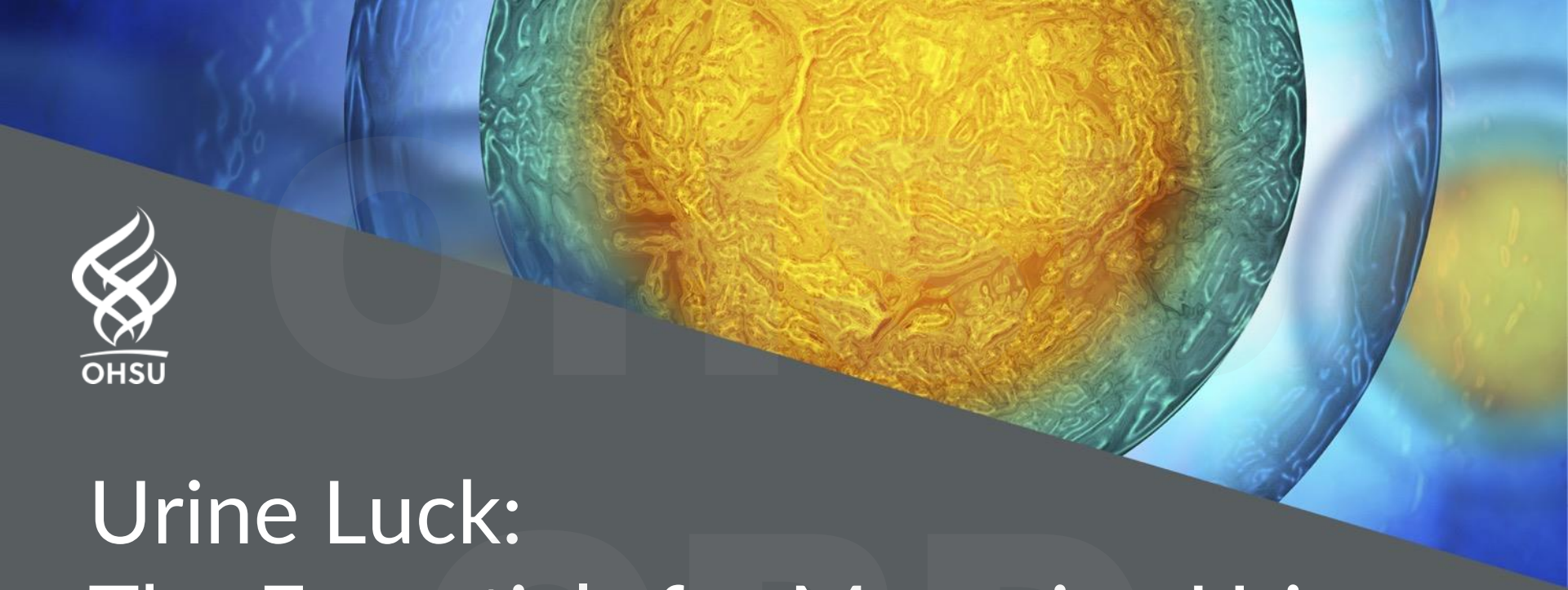

Urine Luck: The Essentials for Managing Urinary Incontinence in Women

DATE: 5/16/2025 PRESENTED BY: Dr. Tom Gregory, MD FACOG and Sarina Pollat, MD Urogynecology Fellow

Contact

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Roadmap

- Describe the etiologies, basic office work-up, initial treatment options for urinary incontinence
- Understand available resources for management

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What are Pelvic Floor Disorders (PFDs)?

- Urinary incontinence / Urinary frequency and urgency/nocturia/ enuresis
- Pelvic organ prolapse
- Accidental bowel leakage/fecal incontinence

Other

- Genitourinary syndrome of menopause
- Recurrent UTIs
- Painful Bladder Syndrome/Interstitial cystitis

What are Pelvic Floor Disorders (PFDs)?

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“normal” vs “common”?

Urinary Incontinence (UI)

So how common is it really?

- UI is one of the **10 most common chronic conditions** in women in the US (more common than hypertension, depression, or diabetes)
- Affects up to 62% of adult women in the US, prevalence increases with age
- Patients prefer that clinicians initiate a discussion about UI
- Routine screening and non-surgical treatment can decrease morbidity and improve QOL

Urinary Incontinence: Etiologies

- Stress – accounts for 45-50% of women with UI
  - Weakened urethral sphincter, decreased pelvic floor support
- Urgency – account for 20% of women with UI
  - Bladder overactivity, increased afferent signaling from bladder
- Mixed (30%)
- Overflow
- Extraurethral

Reversible Causes of Urinary Incontinence

- UTI
- Fistula
- Pregnancy
- Stool impaction
- Drugs (diuretics, etoh, tobacco)
- Increased urine production (hyperglycemia, diabetes insipidus, untreated OSA)
- Impaired ability/willingness to reach toilet

Case 1

- 58 yo with 2 prior vaginal deliveries, T2DM, HTN presenting for healthcare maintenance evaluation
- HPI: No changes to health but “by the way, I’m leaking urine all of the time and it is very bothersome”
- +Frequency and urgency. Leaking on the way to the bathroom, when changing positions, wakes multiple times per night to void. Changing multiple pads per day.

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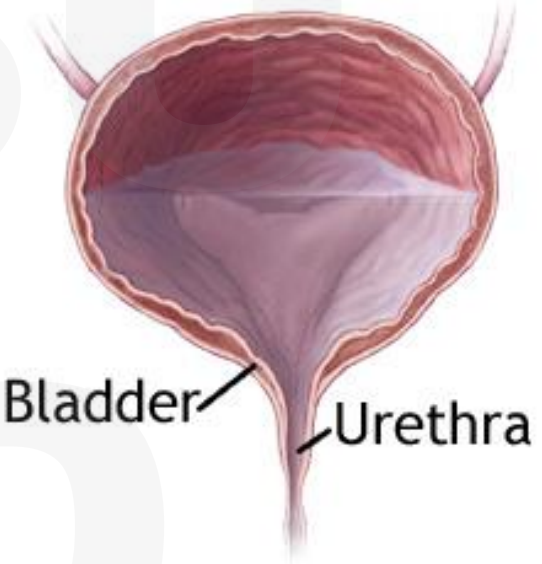
Is this normal??

Urinary Continence

Bladder anatomy

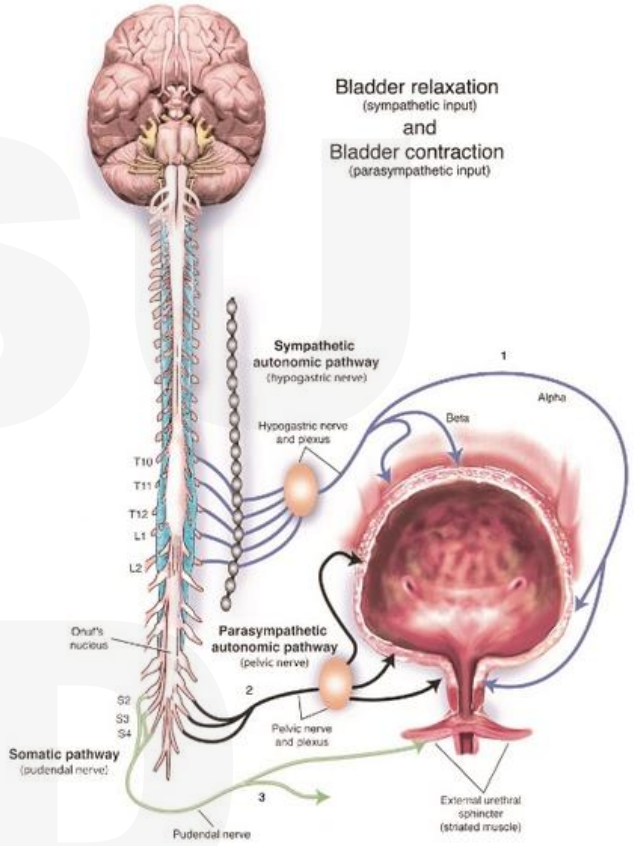
- Hollow, distensible, muscular organ
- Reservoir of urine and organ of excretion



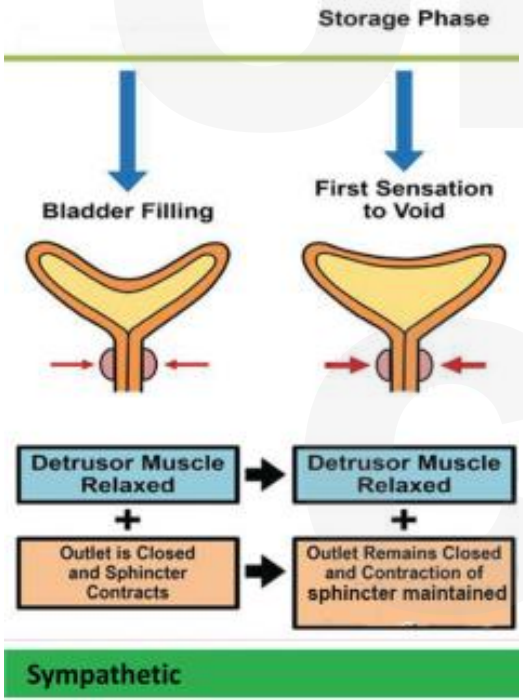
Urinary Continence

- The bladder serves two “simple” primary functions
  - Filling & Storage
  - Voiding

- Regulated by complex interaction of autonomic and central nervous system



Urinary Continence



Cystometry

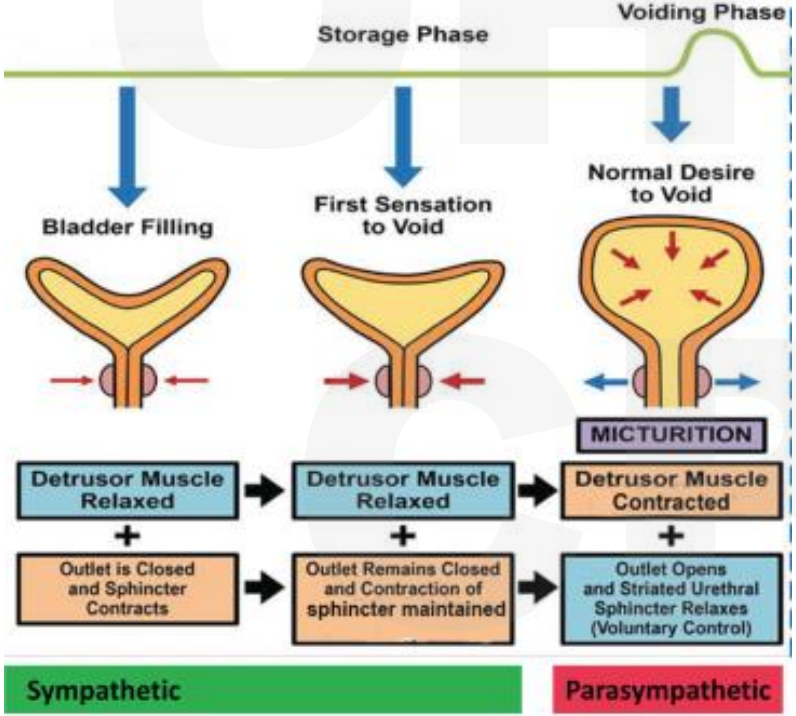
Changes in bladder shape

Detrusor tone

Sphincter tone

Dominant nervous system

Urinary Continence



Cystometry
Changes in bladder shape
Detrusor tone
Sphincter tone
Dominant nervous system

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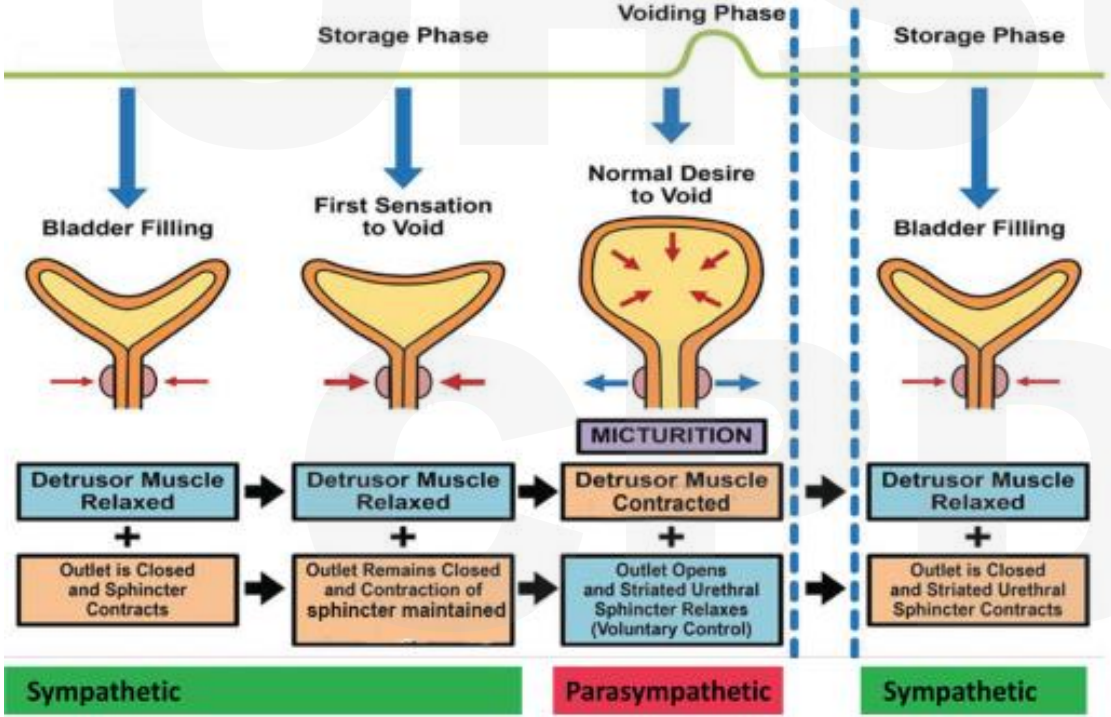
Urinary Continence



Cystometry

Changes in bladder shape

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Sphincter tone

Dominant nervous system

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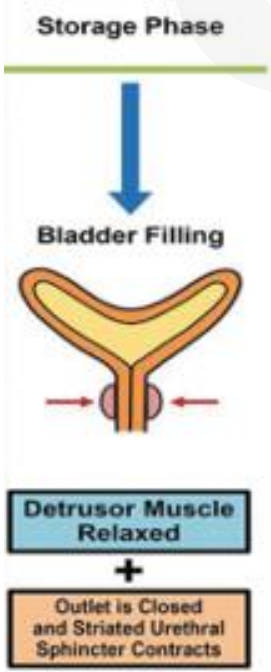
Urinary Incontinence: a Storage Problem



Detrusor tone

Sphincter tone

Abnormal detrusor sensory pathway→ Urgency

Bladder overactivity and hypersensitivity

Increased afferent signaling from bladder urothelium

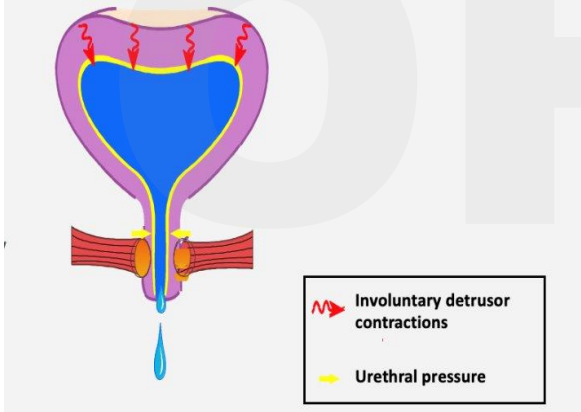
Urethral/pelvic muscle dysfunction → Stress

Insufficient closure of urethra

Decreased pelvic floor support

Decreased ability to contract pelvic floor muscles

Urinary Incontinence: a Storage Problem



<u>Abnormal detrusor sensory pathway→ Urgency</u>

Bladder overactivity and hypersensitivity

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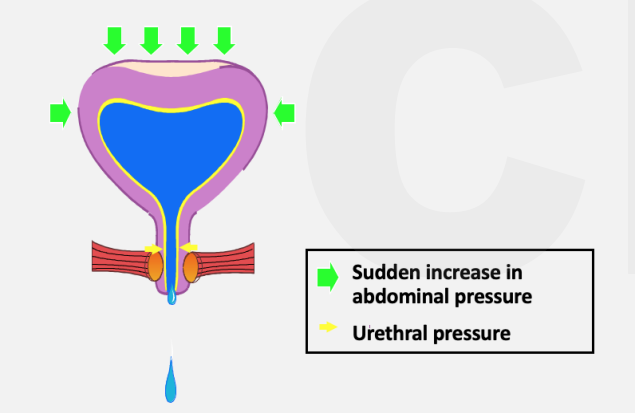

<u>Urethral/pelvic muscle dysfunction → Stress</u>

Insufficient closure of urethra

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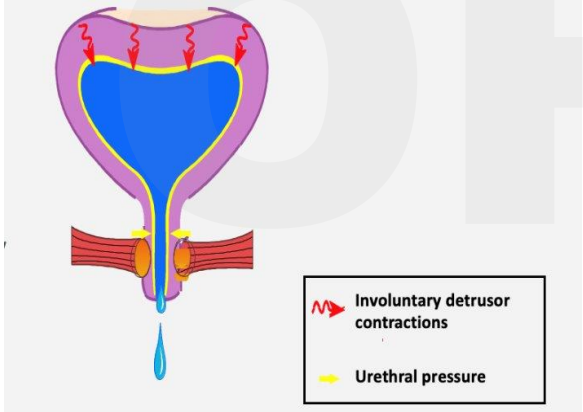
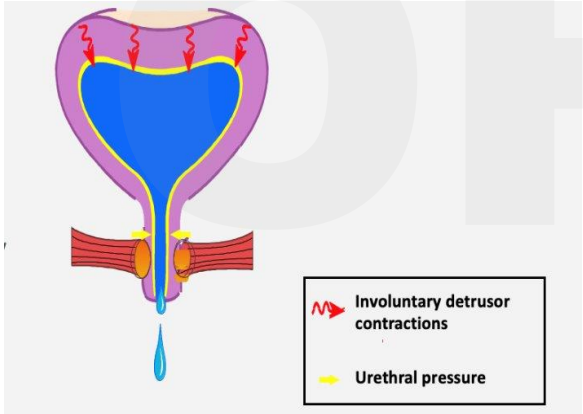
Urinary Incontinence: a Storage Problem



Abnormal detrusor sensory pathway→ Urgency

Urinary Incontinence: a Storage Problem



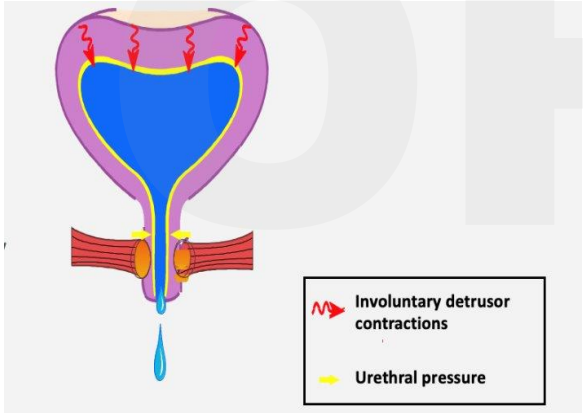
Abnormal detrusor sensory pathway→ Urgency with leakage

Urgency urinary incontinence (UUI)

Involuntary loss of urine associated with sudden, compelling desire to void

"Gotta go, gotta go", running water, keys in the door, cold weather

Urinary Incontinence: a Storage Problem



Abnormal detrusor sensory pathway→ Urgency

with leakage

with or without leakage

Urgency urinary incontinence (UUI)

Involuntary loss of urine associated with sudden, compelling desire to void

"Gotta go, gotta go", running water, keys in the door, cold weather

Overactive bladder (OAB)

Urinary urgency, usually with frequency and nocturia, with or without incontinence, in the absence of infection or other pathology

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Case 1

- 58 yo with 2 prior vaginal deliveries, T2DM, HTN presenting for healthcare maintenance evaluation
- HPI: No changes to health but “by the way, I’m leaking urine all of the time and it is very bothersome”
- +Frequency and urgency. Leaking on the way to the bathroom, when changing positions, wakes multiple times per night to void. Changing multiple pads per day.

What other information do we need?

Diagnosis of UI: patient history

Ask:

- During the last 3 months, have you leaked urine, even a small amount? **If yes**:
- Do you leak urine when you cough, sneeze, laugh?
  - Quantify: always, sometimes, rarely, never
- Do you leak urine when you are on your way to the toilet? Associated with a strong urge to urinate but you can't make it?
  - Quantify: always, sometimes, rarely, never

Evaluate:

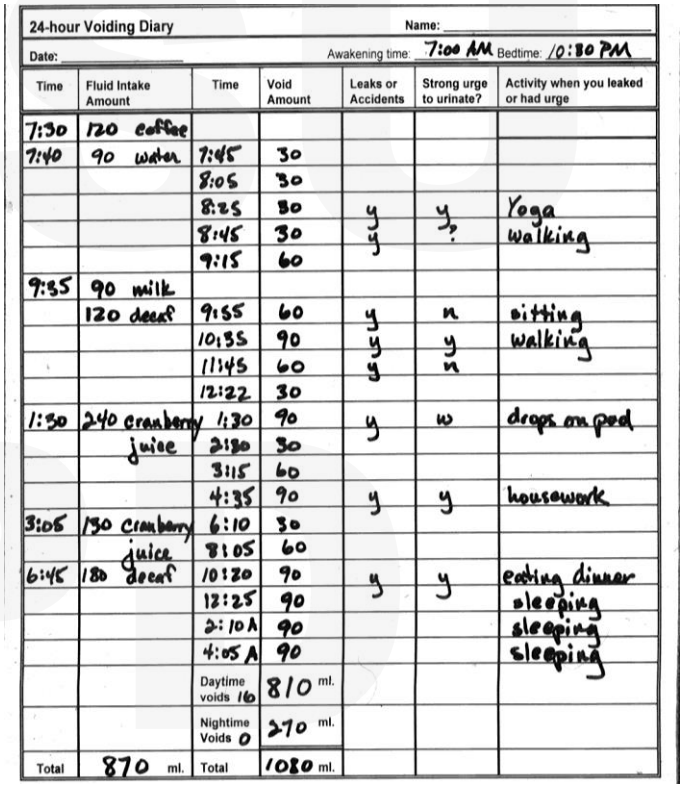
- Level of bother

Patient history

- Assess symptom severity and goals of treatment (very important!)
- Ask about prolapse symptoms
  - Have you noticed or felt a vaginal bulge?
- Identify bladder irritants (tobacco, alcohol, carbonated beverages)
- Focus on medical, neurologic, and genitourinary histories, evaluate functional status, review medications
- **Can consider return visit to address specific symptoms and review voiding diary**

Voiding Diary

- Use the voiding diary
  - What are you drinking?
  - When are you drinking it?
  - How much are you drinking?



24-hour Voiding Diary

Name:

Date:

Awakening time: 7:00 AM Bedtime: 10:30 PM

Time	Fluid Intake Amount	Time	Void Amount	Leaks or Accidents	Strong urge to urinate?	Activity when you leaked or had urge
7:30	120 coffee					
7:40	90 water	7:45	30			
		8:05	30			
		8:25	30	y	y	Yoga
		8:45	30	y	y	walking
		9:15	60			
9:35	90 milk					
	120 decaf	9:55	60	y	n	sitting
		10:35	90	y	y	walking
		11:45	60	y	n	
		12:22	30			
1:30	240 cranberry juice	1:30	90	y	w	drops on pad
		2:30	30			
		3:15	60			
		4:35	90	y	y	housework
3:05	130 cranberry juice	6:10	30			
		8:05	60			
6:45	180 decaf	10:20	90	y	y	eating dinner
		12:25	90			sleeping
		2:10A	90			sleeping
		4:05A	90			sleeping
		Daytime voids 16	810 ml.			
		Nightime Voids 0	270 ml.			
Total	870 ml.	Total	1080 ml.			

Voiding Diary

- Use the voiding diary
  - What are your voiding habits?
  - Urine output
  - Number of incontinence episodes?

24-hour Voiding Diary Name:

Date: Awakening time: 7:15 Bedtime: 9:30

Time	Fluid Intake Amount (oz.)	Time	Void Amount (oz.)	Leaks or Accidents	Strong urge to urinate?	Activity when you leaked or had urge
7:15	240 coffee	7:15	650			
8:00	240 coffee	8:10	350			
8:30	360 coffee	9:50	475	y		sneezed
10:30	480 tea	10:30	450			
12:00	480 water	13:00	500			
		2:00	600	y	n	lifted 20lb bag
3:00 P	360 Swiss Mocha					
3:30	360 Swiss Mocha	3:30	400			
4:10	480 water			y		jogging
		5:30	500			
6:00	360 water					
6:15	240 coffee					
		7:30	400			
8:00	480 water					
		9:30	300			
		12:00 A	500			sleeping
		Daytime voids 10	4825 oz.			
		Nightime Voids 1	500 oz.			
Total	5100 oz.	Total	5325 oz.			

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Physical Exam

- General – mental status, mobility
- Abdominal – masses, suprapubic tenderness
- (Genitourinary – prolapse, atrophy, irritant contact dermatitis, cough stress test)
- Extremities – lower extremity edema, sensory function

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Additional Testing

- Urinalysis
  - Treat symptomatic bacteriuria/acute cystitis
  - Investigate hematuria in the absence of UTI
- Postvoid residual
  - >200 supports overflow incontinence
  - Obtain if sx of incomplete emptying or urinary retention

Case 1

58 yo with 2 prior vaginal deliveries, T2DM (6.6%), HTN (on lisinopril), BMI 44 presenting for healthcare maintenance evaluation .

+Frequency and urgency. Leaking on the way to the bathroom, when changing positions. Very bothersome to her. Denies leaking with coughing, sneezing, laughing. No prolapse.

- Drinking 24 oz iced sugar free Frappuccino, 3 diet sodas, 2 beers

Management?

Management Options

Management should be triaged by UI type and patient goals of care

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Management Options

Management should be triaged by UI type and patient goals of care

Noninvasive options	Stress UI	Urgency UI
Lifestyle modifications	X	X
Pelvic floor physical therapy	X	X
Bladder retraining		X
TTNS/PTNS		X
Pharmacologic therapy		X
Vaginal inserts/pessaries	X	

Management Options

Management should be triaged by UI type and patient goals of care

Noninvasive options	Stress UI	Urgency UI
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Pelvic floor physical therapy	X	X
Bladder retraining		X
TTNS/PTNS		X
Pharmacologic therapy		X
Vaginal inserts/pessaries	X	

****No treatment**

Management Options

Management should be triaged by UI type and patient goals of care

Noninvasive options	Stress UI	Urgency UI
Lifestyle modifications	X	X
Pelvic floor physical therapy	X	X
Bladder retraining		X
TTNS/PTNS		X
Pharmacologic therapy		X
Vaginal inserts/pessaries	X	

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Management Options for Case 1

58 yo with 2 prior vaginal deliveries, T2DM (6.6%), HTN (on lisinopril), BMI 44 presenting for healthcare maintenance evaluation also with urgency urinary incontinence.

- Diabetes management
- Lifestyle/Behavior modifications
- Pelvic floor exercises

Lifestyle and Behavioral Modifications

- Fluid management
  - 50-60 oz is sufficient for most. Let thirst be your guide
  - Fluid restrict prior to bed
- Eliminate/reduce bladder irritants
  - Caffeine (coffee, tea, soda), carbonated beverages, artificial sweeteners, alcoholic beverages, citrus juices
- Weight loss (5-10% reduction in body weight)
- Manage constipation

Pelvic Floor Exercises

- At- home exercises
- Pelvic floor physical therapy referral – provide biofeedback to help patients learn to contract, relax, and coordinate muscles

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Bladder training

- Timed voiding
- Urge suppression techniques

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Case 1 Follow-up Visit

58 yo with 2 prior vaginal deliveries, T2DM (6.6%), HTN (on lisinopril), BMI 44 presenting for follow-up visit for urgency urinary incontinence.

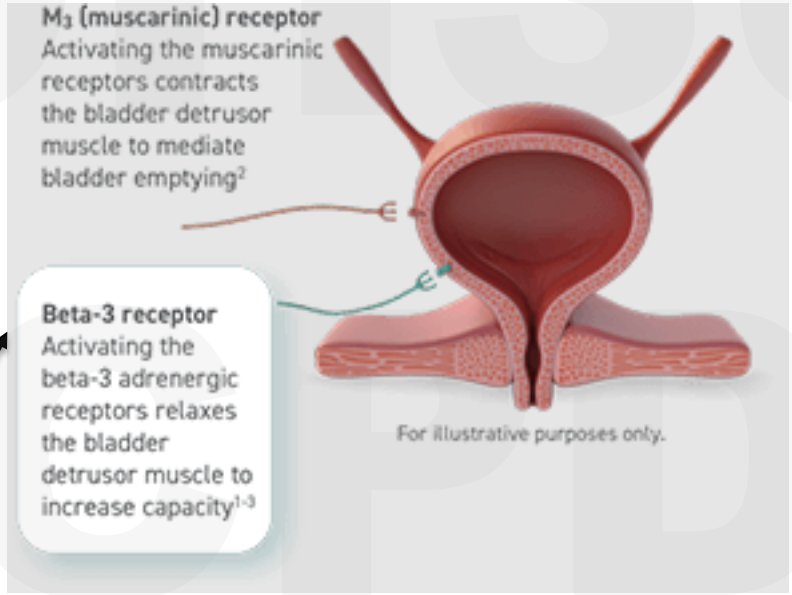
Since her last visit, she has adjusted bladder irritants, tried pelvic floor exercises, but remains bothered by her symptoms.

Management?

Management Options for Case 1

- Pharmacologic therapy

Pharmacologic Therapy



Anticholinergics

Beta 3 agonists

Pharmacologic Therapy

Anticholinergics

Medication	Starting Dose	Maximum Dose
Darifenacin XR (Enablex)	7.5 mg once daily	15 mg once daily
Festerodine (Toviaz)	4 mg once daily	8 mg once daily
Oxybutynin XR (Ditropan XL)	5–10 mg once daily	30 mg once daily
Oxybutynin IR (Ditropan)	5 mg two or three times daily	5 mg four times daily
Oxybutynin transdermal patch (Oxytrol)	1 patch once every 3–4 days	Same as starting dose
Tolterodine XR (Detrol LA)	2 mg once daily	4 mg once daily
Tolterodine IR (Detrol)	1 mg twice daily	2 mg twice daily
Solifenacin (Vesicare)	5 mg once daily	10 mg once daily
Trospium XR (Sanctura XR)	60 mg once daily	Same as starting dose
Trospium IR (Sanctura)	20 mg once daily	20 mg twice daily
Mirabegron (Myrbetriq)	25 mg once daily	50 mg daily
Vibegron (Gemtesa)	75 mg once daily	Same as starting dose

Beta 3 agonists

Pharmacologic Therapy

Medication	Starting Dose	Maximum Dose
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Anticholinergics

Lowest brain penetration

Beta 3 agonists

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Pharmacologic Therapy

Beta 3 Agonists

- Equivalent to anticholinergics without those side effects
- Common side effects are HA, nasal congestion
- Mirabegron can increase BP by 1-10mmHg systolic

Mirabegron (Myrbetriq)	25 mg once daily	50 mg daily
Vibegron (Gemtesa)	75 mg once daily	Same as starting dose

Beta 3 agonists

Anticholinergics and Cognitive Risk

- Studies suggest a 49% increased odds of dementia with anticholinergic exposure of dosages equivalent to 3 years of daily use (Coupland et al. 2019)
- AUA's "Choosing Wisely" campaign states use of anticholinergic medications to treat OAB in women older than 70 years should be avoided

Contraindications for Anticholinergics

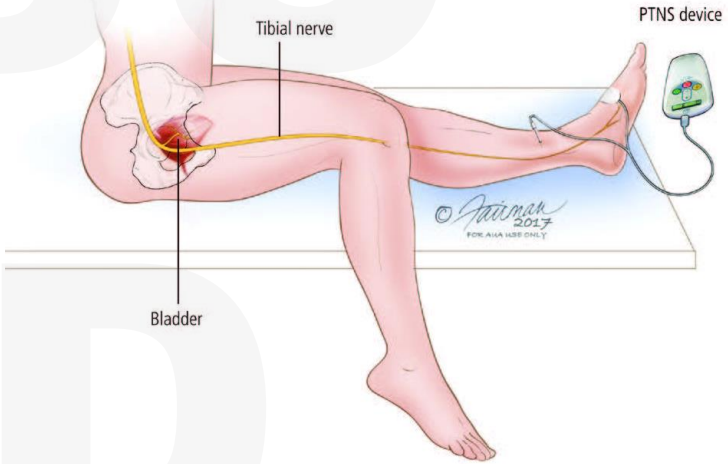
- Urinary retention
- Gastric retention
- Cardiac arrhythmias
- Narrow angle glaucoma

Other Options for Case 1

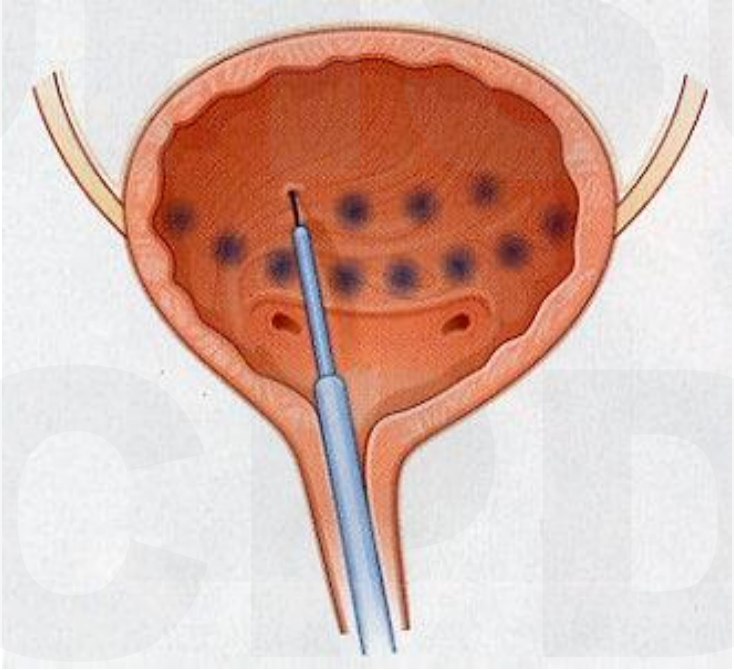
- Intravesical botulinum toxin
- Neuromodulation
  - Tibial nerve stimulation (PTNS/TTNS and implantable TNS)
- Sacral neuromodulation

Tibial Nerve Stimulation (TTNS)

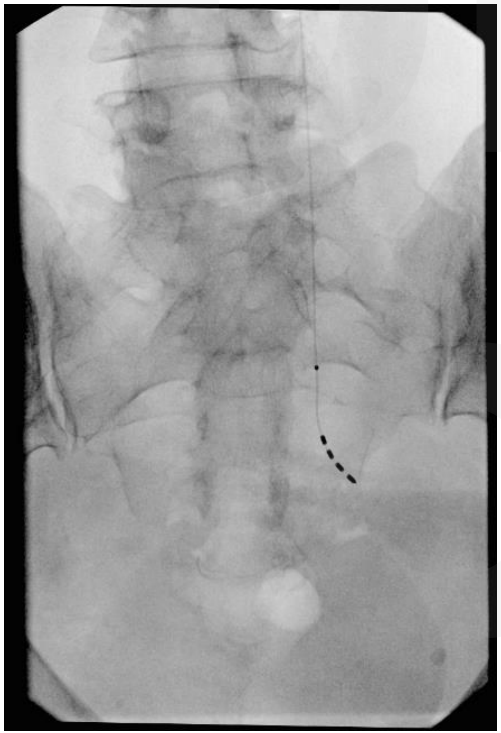
- Tibial nerve originates from the same sacral plexus that gives rise to parasympathetic bladder innervation
- Electrical stimulation of the tibial n. can regulate bladder function and inhibit detrusor overactivity
- RCT comparing PTNS vs anticholinergic found no difference in reduction in frequency of voids, less side effects for PTNS (Etaskin et al, 2012)

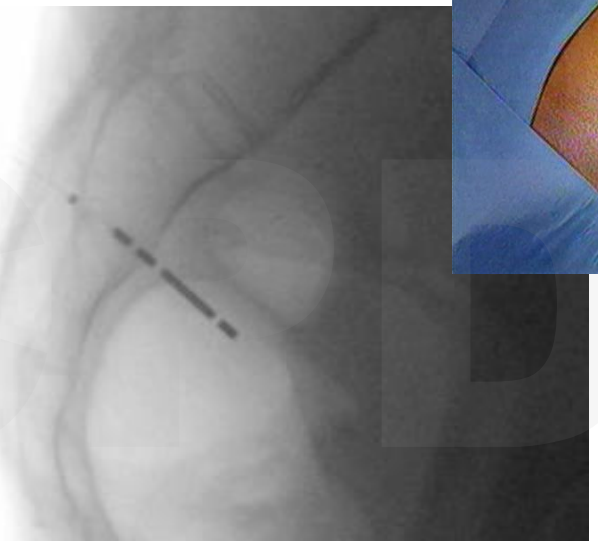


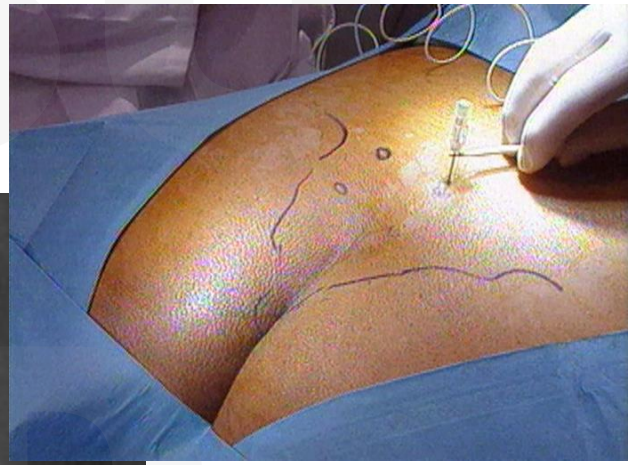
OnabotulinumtoxinA



Sacroneuromodulation







Management Options

Noninvasive options	Stress UI	Urgency UI
Lifestyle modifications	X	X
Pelvic floor physical therapy	X	X
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TTNS/PTNS		X
Pharmacologic therapy		X
Vaginal inserts/pessaries	X	

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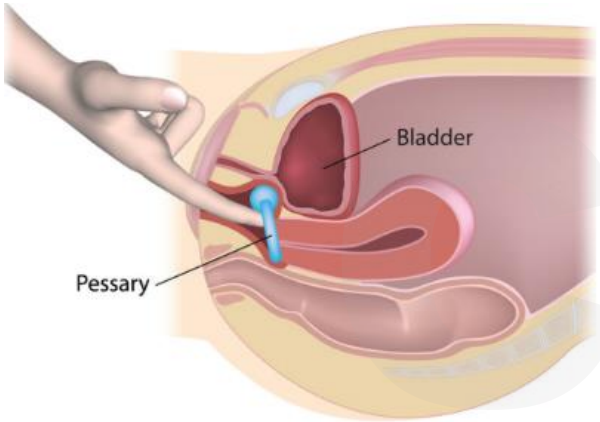
Incontinence Vaginal Devices

For stress urinary incontinence



Advanced Treatment Options

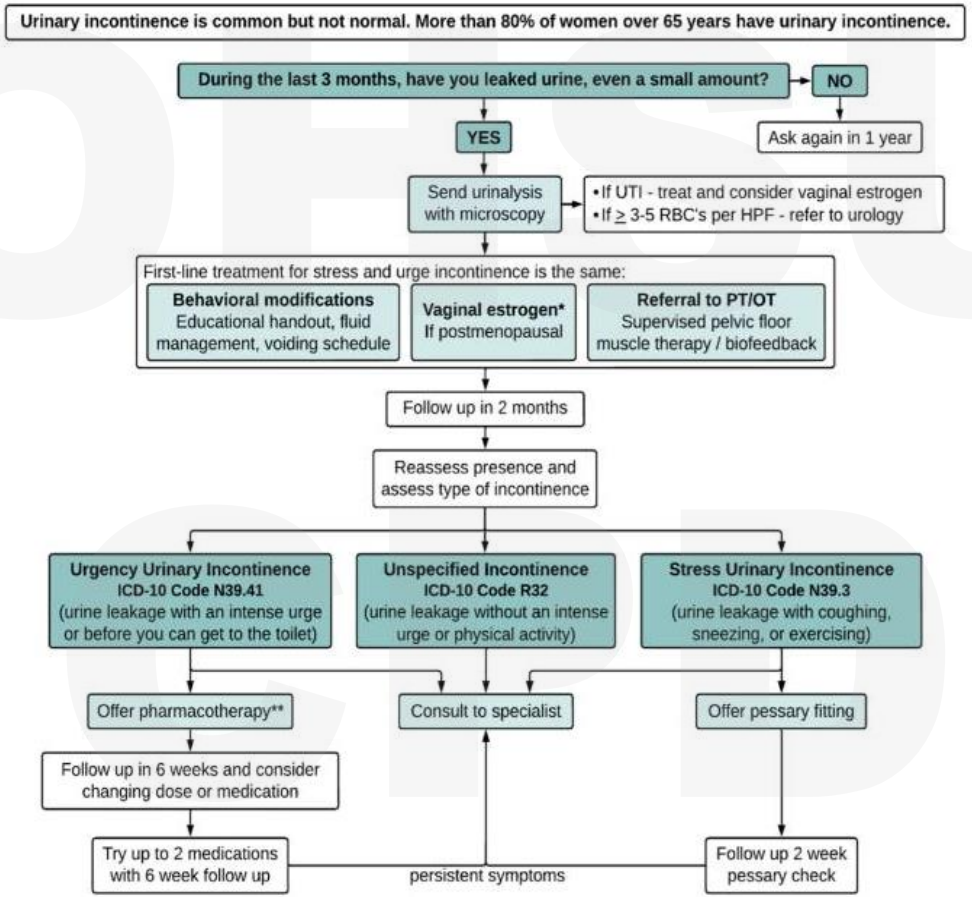
SUI

- Urethral bulking injections
- Surgery
  - Midurethral sling
  - Pubovaginal sling
  - Burch colposuspension

When to Refer?

- Referral to urology or urogynecology
  - Recurrent urinary incontinence
  - Persistent symptoms despite initial therapies
  - Insensible urinary leakage
  - Severe pelvic organ prolapse
  - Prior pelvic surgery
  - Prior pelvic radiation
  - Hematuria
  - Urinary retention
  - Suspected fistula
  - New neurologic symptoms in addition to urinary symptoms

Female Urinary Incontinence in Primary Care



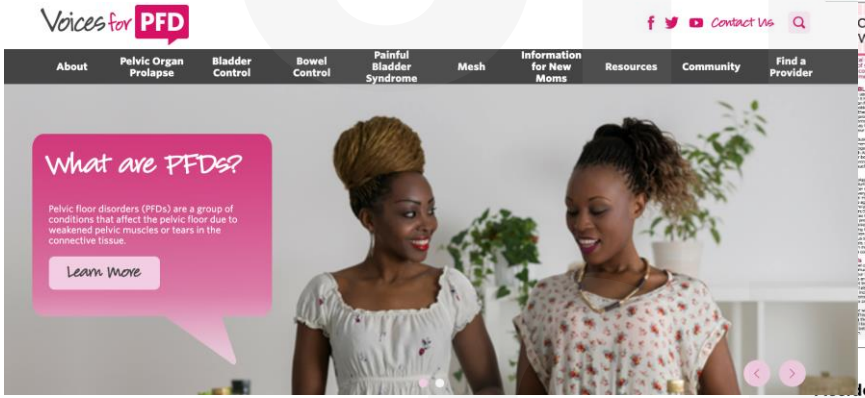
Pearls

Screen: In the last 3 months, have you leaked urine, even a small amount?
Evaluate: history, exam, UA
Diagnose: stress, urgency, mixed
Treat: lifestyle modifications, behavioral treatments, PFPT referral?

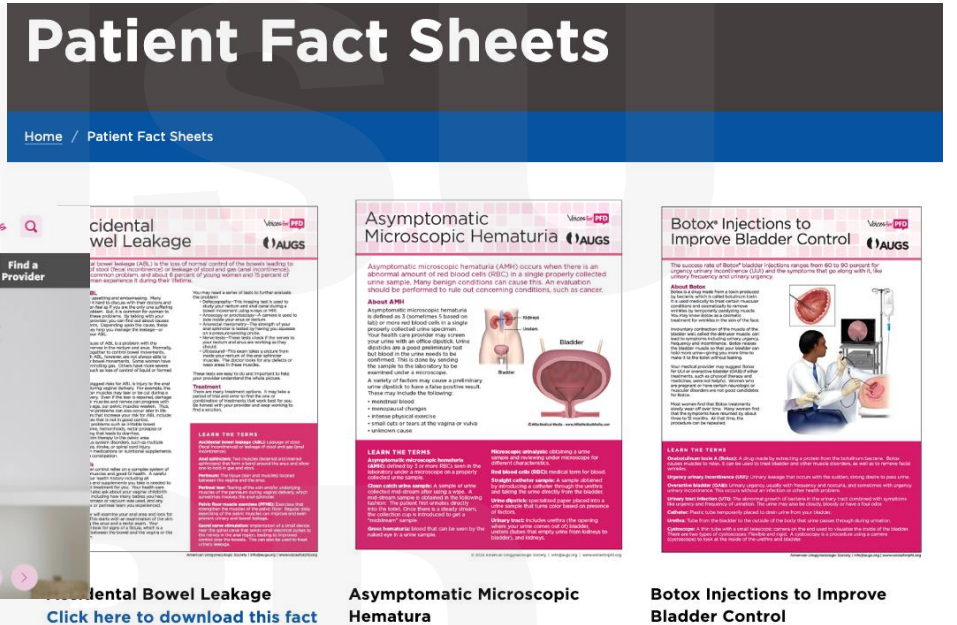
- Stress: vaginal devices
- Urge: medications

Reassess/Refer

Resources



https://www.voicesforpfd.org/



https://www.augs.org/patient-fact-sheets/

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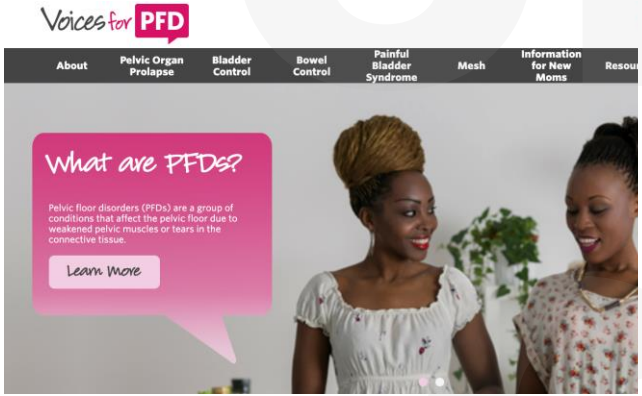
Resources



Voices for PFD

Patient Name:

Instructions:

1. Choose 4 days (entire 24 hours) to complete this record – they do not have to be in a row. Pick days that will be convenient for you to measure every void.
2. Begin recording when you wake up in the morning–continue for a full 24 hours.
3. **Make a separate record for each time you void, leak, or have anything to drink.**
4. Measure voids (using oz measurements).
5. Measure fluid intake in ounces.
6. When recording a leak – please indicate the volume using a scale of 1-3 *(1=drops/damp, 2=wet-soaked, 3=bladder emptied), your activity during the leak, and if you had an urge ("yes" or "no").

DAY 4	Date:				
Time	Amount Voided *(in ozs)*	Leak Volume *(scale of 1-3*)*	Activity during leak	Was there an urge	Fluids intake *(Amount in ounces/type)*

American Urogynecologic Society | 1100 Wayne Ave, Suite 870 | Silver Spring, MD 20910 | P (301) 273-0570
www.voicesforpfd.org | info@augs.org

https://www.voicesforpfd.org/

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Resources – Clinical Trials

REduced-dose on abotuLinumtoxinA for urgency Incontinence among Elder Females (RELIEF)

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OREGON HEALTH & SCIENCE University

Volunteer for research at OHSU and contribute to discoveries that may improve health care for you, your family, and your community!

I'm interested in this study

Share study

Age: 70+

Healthy Volunteers: Yes

Keywords: Leaking urine, Urinary incontinence

Sex: Female

Type: Drug Study

Investigator

Sara Cichowski, M.D., Associate Professor

SM.OB/GYN Urogynecology Division

View profile

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Resources – Clinical Trials

At-home TTNS for OAB in rural women study

PI: Sara Cichowski, MD

CLINICAL TRIAL OPPORTUNITY

Do you experience frequent urination associated with a sudden, strong urge to urinate?

You may be eligible to participate in a research study evaluating a treatment that can be done at home.

People with overactive bladder describe symptoms such as a strong, sudden urge to urinate (pee) often with frequent urination, including at night, and sometimes with involuntary leakage. Stimulation of the tibial nerve in the ankle with a TENS machine can improve bladder activity and reduce these symptoms.

We are doing a study to look at the effectiveness of this home-based treatment for women living in rural areas, without needing to visit a doctor.

You may be eligible if you:

- Are female and 18 years of age or older
- Live in a rural location
- Have symptoms of overactive bladder as described above

What is involved?

Participants will use a TENS device to deliver gentle electrical impulses to the tibial nerve on one ankle for a 30-minute session, three times weekly, for 12 weeks

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For more information, and/or to find out if you qualify for this study, contact the OHSU Women's Health Research Unit at 503 494-3666 or WHRU@ohsu.edu

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References

- Dr. Ian Fields, Dr. Liz Robison for slide content
- “Urinary Incontinence Essentials for Primary Care” presentation by Dr. Catherine Bradley for AUGS
- Patel UJ, Moureau MK, Neuner JM, Brown HW. Screening and Treating Urinary Incontinence in Primary Care: A Missed Opportunity. OBM Geriat. 2023;7(4):252. doi: 10.21926/obm.geriatr.2304252. Epub 2023 Oct 5. PMID: 38567050; PMCID: PMC10986360.


"Whenever somebody tells me 'You go girl'
I generally have to."

Thank You