
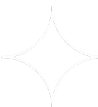




2026	
	<h1 style="text-align: center;">Bladder Matters: Understanding and Managing Urinary Incontinence</h1> <p style="text-align: center;">Taylor Jones, PharmD Candidate 2026 Hallie Keiser, PharmD Candidate 2026</p> <hr style="width: 40%; margin-left: auto; margin-right: 0;"/> <div style="display: flex; justify-content: space-between; align-items: center;">  APPE Block 9 </div>

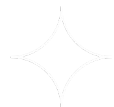
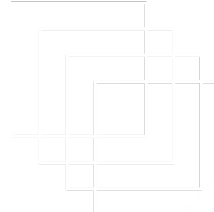

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2026	
	<div style="display: flex; justify-content: space-around; align-items: center;">  <h1 style="font-size: 2em;">TK</h1>  </div> <p>TK is a 72-year old African American female presenting to clinic today for a routine follow-up. She states she “can’t make it to the bathroom in time anymore” and reports sudden urges to urinate followed by involuntary leakage. She notes the symptoms began gradually but have worsened over the past few months. She denies dysuria, hematuria, or fever.</p> <hr style="width: 40%; margin-left: auto; margin-right: 0;"/> <div style="display: flex; justify-content: space-between; align-items: center;">  </div>



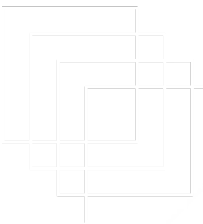
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2026		
<h1>TK</h1>		
<p>PMH:</p> <ul style="list-style-type: none"> • Hypertension • Type 2 diabetes mellitus • Depression • HFpEF • Osteoarthritis • Obesity 	<p>Social History:</p> <ul style="list-style-type: none"> • Lives independently • Drinks 2 cups of coffee every morning • Smokes 1 PPD • Consumes 1-2 glasses of wine nightly 	<p>Current Medications:</p> <ul style="list-style-type: none"> • Furosemide 40mg PO daily • Sertraline 100mg PO daily • Amlodipine 10mg PO daily • Metformin 1000mg PO BID • Diphenhydramine 50mg PO QHS

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2026		
	 <h1>Overview</h1>	
	<p>Urinary incontinence is when the normal relationship between the bladder, urethra, sphincter, and pelvic floor is disrupted, resulting from nerve damage or direct mechanical trauma to the pelvic organs resulting in involuntary loss of urine.</p>	<p>Nearly 53% of women and 5% of men are affected by urinary incontinence in the United states. Prevalence increases substantially in both men and women with increasing age.</p> 
		

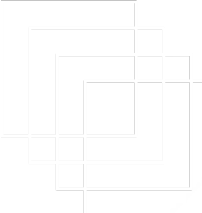

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	 <h1>Types of UI</h1> <ul style="list-style-type: none"> • Stress Urinary Incontinence (SUI) - involuntary loss of urine with effort or physical exertion, sneezing, or coughing • Urgency Urinary Incontinence (UUI) - involuntary loss of urine associated with urgency; a sudden, compelling desire to void that is difficult to defer • Mixed Urinary Incontinence (MUI) - involuntary loss of urine associated with both urgency and physical exertion, sneezing, or coughing  

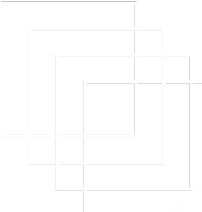

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2026											
<h1>Provoking Factors</h1> <table> <thead> <tr> <th>Health Conditions</th> <th>Nerve Damage</th> <th>Lifestyle Factors</th> <th>Risk Factors Specific to Women</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Advanced age • Overweight/obesity • Diabetes • Kidney stones • Constipation </td> <td> <ul style="list-style-type: none"> • Parkinson's Disease • Multiple Sclerosis • Alzheimer's Disease </td> <td> <ul style="list-style-type: none"> • Consumption of alcohol, caffeine, or carbonated beverages • Consumption of artificial sweeteners, chocolate, or chilli peppers • Physical inactivity • Smoking </td> <td> <ul style="list-style-type: none"> • Pregnancy • Childbirth • Menopause • Pelvic organ prolapse such as cystocele </td> </tr> </tbody> </table>				Health Conditions	Nerve Damage	Lifestyle Factors	Risk Factors Specific to Women	<ul style="list-style-type: none"> • Advanced age • Overweight/obesity • Diabetes • Kidney stones • Constipation 	<ul style="list-style-type: none"> • Parkinson's Disease • Multiple Sclerosis • Alzheimer's Disease 	<ul style="list-style-type: none"> • Consumption of alcohol, caffeine, or carbonated beverages • Consumption of artificial sweeteners, chocolate, or chilli peppers • Physical inactivity • Smoking 	<ul style="list-style-type: none"> • Pregnancy • Childbirth • Menopause • Pelvic organ prolapse such as cystocele
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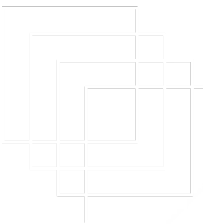

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	<h1>Management Strategies</h1> <p>Anticholinergics</p> <ul style="list-style-type: none"> <li>• Oxybutinin, tolterodine, solifenacin, trospium <li>• Calm an overactive bladder <p>Mirabegron (Myrbetriq)</p> <ul style="list-style-type: none"> <li>• Used to treat urge incontinence <li>• Relaxes the bladder to increase the amount of urine the bladder can hold <li>• Increases the amount of urine released during urination to empty the bladder  

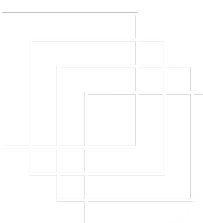

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	<h1>Management Strategies</h1> <p>Alpha Blockers</p> <ul style="list-style-type: none"> <li>• Tamsulosin, alfuzosin, silodosin <li>• Used in men who have urge or overflow incontinence <li>• Relax bladder neck muscles and muscle fibers in the prostate to make it easier to empty the bladder <p>Topical Estrogen</p> <ul style="list-style-type: none"> <li>• Vaginal cream, ring, or patch <li>• Tone and rejuvenate tissues in the urethra and vaginal areas  

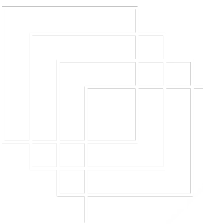

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	<h1 style="text-align: center;">Management Strategies</h1> <p>Non-Pharmalogical</p> <ul style="list-style-type: none"> • Drink more fluids in the morning and afternoon rather than at night • Limit consumption of alcoholic, carbonated, and caffeinated beverages • Bladder training <ul style="list-style-type: none"> ◦ Going to the toilet at set times regardless if there is an urge to urinate • Pelvic floor strengthening through Kegel exercises • Optimize medications to ensure patients are not taking medications able to cause urinary incontinence • Maintain a healthy weight • Tobacco cessation  

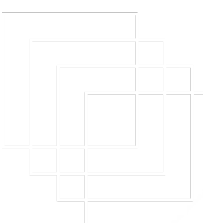
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	<h1 style="text-align: center;">Managing Side Effects</h1> <ul style="list-style-type: none"> • Anticholinergics <ul style="list-style-type: none"> ◦ Dry mouth, constipation, dry eyes • Mirabegron <ul style="list-style-type: none"> ◦ Hypertension, urinary tract infections, headache • Alpha Blockers <ul style="list-style-type: none"> ◦ Dizziness, orthostatic hypotension, headache • Topical Estrogen <ul style="list-style-type: none"> ◦ Burning/irritation to application site  

10

2026	
	<h1 style="text-align: center;">Managing Side Effects</h1> <ul style="list-style-type: none"> • Dose optimization • Switching formulations (extended release anticholinergics cause less dry mouth) • Using additional management strategies (adding MiraLax for constipation management) • Switching to an alternative medication • Patient counseling  <hr style="width: 40%; margin-left: auto; margin-right: 0;"/> 

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2026	
	<h1 style="text-align: center;">Provoking Medications</h1> <p>Diuretics</p> <ul style="list-style-type: none"> • Furosemide, hydrochlorothiazide, bumetanide • Increase urine production <p>Muscle Relaxants and Sedatives</p> <ul style="list-style-type: none"> • Diazepam, lorazepam, chlordiazepoxide • Cause sedation or drowsiness and relax the urethra <p>Narcotics</p> <ul style="list-style-type: none"> • Oxycodone, meperidine, morphine • Cause sedation or drowsiness to result in the bladder relaxing and retaining urine 

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2026	
	<h1 style="text-align: center;">Provoking Medications</h1> <p>Antihistamines</p> <ul style="list-style-type: none"> • Diphenhydramine, chlorpheniramine • Relax the bladder and cause it to retain urine <p>Alpha-Adrenergic Antagonists</p> <ul style="list-style-type: none"> • Terazosin, doxazosin • Relax the muscle at the outlet of the bladder <p>Antidepressants</p> <ul style="list-style-type: none"> • Bupropion, sertraline, fluoxetine, paroxetine, citalopram • Weaken bladder contractions to cause higher post-void residuals


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<h1>TK</h1>	
<p>What medications are provoking urinary incontinence in TK?</p>	
	



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2026	
<h1>TK</h1>	
<p>What are appropriate treatment options for TK's urinary incontinence?</p>	

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	 <p>TK</p> <p>What medication would you choose, and what side effects would you monitor for?</p> <hr/> 

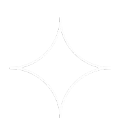

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	 <p>TK</p> <p>What are some non-pharmalogical treatment options to assist with TK's urinary incontinence?</p> <hr/> 

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2026	
	<div style="text-align: center;"></div> <h1 style="text-align: center;">References</h1> <ul style="list-style-type: none"> • Marlee Septak. Are Your Medications Causing Bladder Leaks? Aeroflow Urology. Published August 5, 2025. Available from: https://aeroflowurology.com/blog/are-your-medications-causing-bladder-leaks. • Mayo Clinic. Bladder control: Lifestyle strategies ease problems. Mayo Clinic. Published 2017. Available from: https://www.mayoclinic.org/diseases-conditions/urinary-incontinence/in-depth/bladder-control-problem/art-20046597. • Mayo Clinic. Urinary incontinence - Diagnosis and treatment - Mayo Clinic. Mayoclinic.org. Published February 9, 2023. Available from: https://www.mayoclinic.org/diseases-conditions/urinary-incontinence/diagnosis-treatment/drc-20352814. • Mayo Clinic. Urinary Incontinence - Symptoms and Causes. Mayo Clinic. Published 2023. Available from: https://www.mayoclinic.org/diseases-conditions/urinary-incontinence/symptoms-causes/syc-20352808. <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> <div style="text-align: right;"></div>

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