

# How Urinary Tract Infections Differ in Older Adults

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Urinary tract infections (UTIs) are common in adults 65 and older, mainly the result of age-related factors like malnutrition, poor bladder control, and uncontrolled diabetes. Symptoms can also differ from those in younger people, including atypical signs such as drowsiness, confusion, loss of appetite, and delirium (an often-temporary state of confusion and disorientation).<sup>1</sup>

Because of this, UTIs can easily be misdiagnosed in older adults, particularly those who are weak or in nursing homes, in whom delirium may be mistaken for dementia.<sup>2</sup>

## Causes of UTIs (and Why the Risk Increases With Age)

[Urinary tract infections](#) are among the most common infections seen in medical practices. They commonly occur when bacteria on the skin or rectum enter the [urethra](#) (the tube through which urine exits the body) and migrate to the bladder.<sup>3</sup>

Females are at greater risk than males, in large part because their urethras are shorter and situated closer to the anus.<sup>3</sup>

While UTIs can affect anyone, people who are [immunocompromised](#) or have diabetes or [chronic kidney disease](#) are more vulnerable to infection. These conditions are more common with older age.<sup>4</sup>

## Risk Factors in Older Adults

According to a 2018 study involving over 900,000 older adults, the rate of UTIs in people over age 85 is more than double that of adults age 65 to 74. After age 85, around 74% of men and 85% of women will have been diagnosed with a UTI.<sup>5</sup>

Many factors account for this, including:

- Enlarged prostate<sup>3</sup>
- Exposure to bacteria in skilled nursing facilities<sup>2</sup>
- Functional disability (the inability to care for oneself)<sup>2</sup>
- Multiple health conditions, like diabetes, chronic kidney disease, or [stroke](#)<sup>2</sup>
- A history of UTIs<sup>2</sup>

- Immunosenescence (the aging-related decline of the immune system)<sup>2</sup>
- Impaired cognitive function, including [dementia](#)<sup>4</sup>
- [Loss of bladder](#) or [bowel control](#)<sup>2</sup>
- [Malnutrition](#)<sup>1</sup>
- Physical weakness and impaired mobility<sup>4</sup>
- Use of [urinary catheters](#)<sup>2</sup>

## How UTI Symptoms Differ in Older People

Typical [UTI symptoms](#) include frequent urination, pain or burning with urination, abdominal cramps or pain, and [tenesmus](#) (the urge to pee when the bladder is empty). In severe cases, there may also be fever with chills, nausea, vomiting, and [blood in the urine](#).<sup>3</sup>

Older adults—especially in those who are weak, cognitively impaired, or bedridden—may also experience atypical symptoms not commonly seen in younger people, including:

- An absence of fever<sup>1</sup>
- [Delirium](#)<sup>1</sup>
- Dizziness and falls<sup>4</sup>
- Increased sleepiness<sup>1</sup>
- Loss of appetite<sup>1</sup>
- Sudden bed-wetting<sup>1</sup>
- Sudden fatigue<sup>4</sup>
- Sudden onset of confusion<sup>1</sup>

These atypical symptoms can easily be missed or attributed to other causes, including medication side effects or dementia. Because of this, treatment may be delayed until the person's condition turns critical.<sup>1</sup>

## How Treatment Differs in Older Adults

UTI treatment in older adults is similar to that in younger adults, albeit with some key differences. This may be due drug interactions or contraindications that can occur when taking certain antibiotics with drugs used to treat diabetes or kidney disease.<sup>4</sup>

For instance, antibiotics known as fluoroquinolones are generally avoided in people with advanced chronic kidney disease due to an increased risk of delirium, hypoglycemia (low blood sugar), and [abdominal aortic aneurysm rupture](#).<sup>6</sup>

Similarly, certain antibiotics can interfere with blood sugar control and contribute to the onset of [type 2 diabetes](#).<sup>7</sup>

Because of these concerns, [broad-spectrum antibiotics](#) are avoided by many healthcare providers in favor of single-agent antibiotics.<sup>8</sup>

For an uncomplicated UTI, the choice of oral antibiotics may include:<sup>9,10</sup>

- **Macrobid (nitrofurantoin):** One 100-milligram (mg) oral tablet taken twice daily for 5 days.
- **Bactrim (trimethoprim-sulfamethoxazole):** One double-strength oral tablet taken twice daily for 3 days.
- **Fosfomycin:** A 3,000-mg oral solution taken as a single dose.
- **Blujepa (gepotidacin):** Two 750-mg oral tablets taken twice daily for 5 days.
- **Orlynvah (sulopenem etzadroxil and probenecid):** One oral tablet taken twice daily for 5 days.

Other antibiotics may be chosen for people with indwelling catheters who are more likely to have multidrug-resistant bacteria.<sup>10</sup>

## Getting the Right Diagnosis

UTIs in older adults are often missed because many of the symptoms are nonspecific or are simply dismissed as being "aging-related."<sup>11</sup>

Even if typical symptoms are absent, the main clue that an older adult has a UTI is the sudden or new onset of confusion, bed-wetting, or dementia-like symptoms.<sup>4</sup>

If dementia is pre-existing, a sudden decline in cognitive function accompanied by a sudden loss of appetite or increased sleepiness may be the sign of a UTI.<sup>1</sup>

If a UTI is suspected, the provider will order the following tests to confirm the diagnosis:<sup>10</sup>

- **Urinalysis:** This is the chemical and microscopic examination of a urine sample to check for the presence of white blood cells.
- **Urine culture:** This involves transferring a small amount of urine to a sterile plate to see which type of bacteria grows. This can help select the correct antibiotics.

In those with an uncomplicated UTI, a urine culture may not be necessary. But for those with severe symptoms or recurrent infections, a urine culture is considered essential.<sup>10</sup>

## What Can Happen If a UTI Goes Untreated?

Many of the atypical symptoms of a UTI are caused by a bacterial infection that has spread into the bloodstream, known as [bacteremia](#).<sup>2</sup> Older adults are especially vulnerable because a UTI will often go untreated until the infection is severe.<sup>12</sup>

This can lead to a kidney infection ([pyelonephritis](#)) and severe symptoms such as:<sup>13</sup>

- Cloudy, dark, bloody, or foul-smelling urine
- Dull or sharp stabbing pain in your back, side, or groin
- Fever with chills
- Frequent, painful urination
- Nausea or vomiting

Left untreated, pyelonephritis can lead to a medical emergency known as [urosepsis](#), progressing to [septic shock](#).<sup>14</sup>

## Tips to Help Prevent UTIs

UTIs are common and often difficult to avoid in adults who are frail or bedridden.<sup>15</sup> To reduce the risk:<sup>16</sup>

- **Stay well hydrated:** Older adults are especially prone to dehydration, which can concentrate bacteria in urine. By [keeping well hydrated](#), you can help flush bacteria from the urinary tract.
- **Practice good hygiene:** For females, this includes [wiping from front to back](#) after a bowel movement, which reduces exposure to bacteria from stool. Also, avoid long baths; showers are better at preventing bacteria from entering the urethra through bathwater.
- **Urinate often:** "Holding it in" allows bacteria to multiply in the urine and establish an infection. Doing so can also weaken the bladder, making it increasingly difficult to fully empty.
- **Try vaginal estrogen:** A drop in estrogen levels after menopause can throw off the balance of vaginal bacteria. It can also make tissues around the urethra thinner and more susceptible to infection. A [topical estrogen cream](#) can help prevent this.

- **Wear breathable cotton underwear:** This reduces the heat and moisture buildup around the genitals that promotes bacterial growth. Change your underwear daily and carry an extra pair with you if you are prone to bladder leakage.

If you have a loved one who is bedridden, there are also ways to reduce the UTI risks:<sup>17</sup>

- **Maintain proper sanitation:** This includes changing underwear daily or when soiled, changing wet or soiled bedding immediately, and having someone on hand to assist with regular toileting and bathing.
- **Practice catheter safety:** The genitals and groin should be cleaned twice daily in people with [indwelling catheters](#). Urine should be drained from the collection bag when it is two-thirds full. Strict sanitary practices should be maintained whenever inserting or removing standard catheters.

### Citations

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