

# UTI diagnosis and Spinal Cord Injury – Time for change

Original Article: Urinary Tract Infection Diagnosis Among People with Neurogenic Lower Urinary Tract Dysfunction due to Spinal Cord Injury and Disease: Time for a Change



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## Key points:

- People with spinal cord injuries (SCI) often have neurogenic bladder dysfunction, making it harder to recognize the typical signs of urinary tract infections (UTIs).
- Common UTI symptoms like pain or fever may not appear in people with SCI, or may appear later in the course of infection, making diagnosis more difficult.
- Standard urine cultures often give inaccurate results for people with SCI, missing important bacteria or giving false readings.
- Everyone has bacteria in their urine and people with SCI can have even more bacteria in their urine without it causing an infection. This complicates diagnosis.
- The SCI research team at MedStar National Rehabilitation Hospital in Washington, DC has developed special tools to help doctors understand bladder problems, group symptoms into categories, and make better decisions about treatment, like whether a person needs to seek medical attention for a possible UTI or can manage symptoms on their own.

## Plain language summary:

People with spinal cord injuries often experience problems with bladder function, which is known as neurogenic lower urinary tract dysfunction (NLUTD). One of the most common health issues they face is urinary tract infections (UTIs), which can happen frequently and cause serious health complications. Diagnosing a UTI in people with SCI can be tricky because the usual signs and tests don't always work well. For example, typical symptoms of UTI might be different for someone with a neurogenic bladder. Also, people with SCI often have bacteria in their urine in the absence of an infection, making it difficult to tell if the bacteria are causing any harm.

The tests commonly used to detect UTIs, such as urine cultures, miss many of the bacteria that grow in urine. As a result, it might give inaccurate results, leading to confusion about whether an infection is present and what treatment is needed. Furthermore, the idea that urine is "sterile" (free from bacteria) has been shown

to be false. Research now shows that urine contains its own ecosystem of bacteria, which can be helpful or harmful depending on the situation.

To improve diagnosis and treatment, researchers are exploring new ways to measure symptoms more accurately, better test for inflammation, and better identify the harmful bacteria. One promising area is using tests that can detect bacteria more quickly and accurately. These methods could help doctors decide on the best treatment faster, reducing the overuse of antibiotics, which can contribute to antibiotic resistance.

In the future, diagnosing UTIs in people with spinal cord injuries will likely involve a more balanced approach, considering a wider range of factors like the unique bacteria present in the urine and the person's specific symptoms.

## Keywords and acronyms:

- **Neurogenic Lower Urinary Tract Dysfunction (NLUTD)/ Neurogenic Bladder (NB):** A condition where the nerves that control the bladder are damaged or not working well. This can cause problems with controlling when and how much you urinate.
- **UTI (Urinary Tract Infection)** is an infection that happens when bacteria get into the parts of the body that help make and store urine, like the kidneys, bladder, or urethra

Summary completed: November 10, 2025

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