

# Antibiotic commonly prescribed for bladder infections less effective than others

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Older women with urinary tract infections who are taking the commonly prescribed antibiotic nitrofurantoin are more likely to experience treatment failure, resulting in a second antibiotic prescription or a hospital visit, than if they received another antibiotic, according to research in *CMAJ* (*Canadian Medical Association Journal*).

More than 25% of older adults have low kidney function, and bladder infections are common. Nitrofurantoin is one of the most commonly prescribed antibiotics for bladder and other urinary tract infections, with an estimated 25 million prescriptions worldwide each year. However, there is a concern that less of the drug reaches the urinary space in patients with low kidney function, rendering it unable to work against the bacteria that cause bladder infections. It is recommended that nitrofurantoin be avoided in people with low kidney function, although the evidence for this recommendation is weak and based on small studies.

The researchers conducted a study to understand whether nitrofurantoin is less effective at treating a [bladder infection](#) in [older women](#) with low kidney function than common antibiotics (ciprofloxacin, norfloxacin and trimethoprim-sulfamethoxazole). The study included almost 10 000 older women with low kidney function and over 180 000 women with high kidney function. In both groups, nitrofurantoin was more likely to be unsuccessful at treating the urinary tract infection, resulting in a second antibiotic prescription or a visit to hospital for treatment.

"In our setting, nitrofurantoin was the most commonly prescribed antibiotic for a [urinary tract infection](#) in older women irrespective of their kidney function," states Dr. Amit Garg, a nephrologist in the Department of Medicine, Western University, London, Ontario, and a scientist at the Institute for Clinical Evaluative Sciences, Toronto, Ontario. "These patients had more treatment failures with

nitrofurantoin compared with other antibiotics such as ciprofloxacin. However, this was evident regardless of a patient's level of kidney function."

The authors suggest that, because the failure rate of nitrofurantoin was similar in both groups, physicians should not avoid prescribing it to women simply because they have low kidney function. Rather, the choice of which antibiotic to use in women with low [kidney function](#) should be based on other factors, including local patterns of bacterial resistance.

#### More information:

[www.cmaj.ca/lookup/doi/10.1503/cmaj.150067](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.150067)

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