

# Researchers tell doctors to avoid routine urinary tests for older patients with delirium

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Based on a new study, Johns Hopkins Medicine researchers recommend that doctors avoid routine—and unnecessary—urine testing of older patients with delirium when there are no clinical signs or symptoms of infection. Credit: M.E. Newman, Johns Hopkins Medicine, using public domain images

Based on the results of a new high value health care study, Johns Hopkins Medicine researchers recommend that doctors avoid routine urine testing of older patients with delirium when there are no clinical

signs or symptoms of infection.

"Just because it's an easy test to obtain doesn't mean it's an appropriate test," says study lead author Milad Memari, M.D., senior resident in internal medicine at the Johns Hopkins University School of Medicine. "Our research indicates that patients, who are elderly, delirious and unable to give their medical history, may be more likely to suffer from the consequences of unnecessary testing and treatment. Urine tests are often one of the first that doctors call for in these situations."

The study was published July 26, 2021, in the *Journal of Hospital Medicine*.

In their research, Memari and his colleagues reviewed previous studies by others that evaluated the practice of conducting urine tests in hospitals, specifically those for older people with delirium. From [one of these studies](#), Memari's team learned that 83% of nearly 3,000 patients in hospitals across the nation—including patients age 65 and older—were given antibiotic therapy based on urine cultures positive for bacteria even though the [microbes](#) might in fact be harmless. Another investigation showed that more than a quarter (92 out of 343 patients, or 27%) received [antibiotics](#) when they did not have clinical signs of urinary tract infections, and they had suffered from harmful long-term consequences of these treatments that may have been unnecessary.

"If elderly, delirious patients are reporting symptoms—including pain or burning with urination, increased frequency of urination and pain in the lower abdomen—or exhibit clinical signs including fevers, low blood pressure, elevated heart rate or an elevated white blood cell count, urine testing may be appropriate," Memari says. "If they don't have symptoms or clinical signs consistent with infection, then their doctors should forego urinary testing to avoid complications from unnecessary antibiotic treatment, and as a result, longer hospitalizations, slower

recovery times and poorer outcomes."

Memari adds that a large number of older patients grow bacteria in urine cultures but may not actually have urinary infections. The focus, he says, should be avoiding unnecessary testing to prevent treatment of [bacteria](#) that are a normal, healthy part of a patient's urinary ecosystem. Also, the more a patient is treated for a urinary infection, the more likely that person will develop a resistance to antibiotics.

In turn, Memari says, this makes urinary infections harder to treat in future instances, and has contributed to the public health issue of increased antibiotic resistance in a highly vulnerable population.

"When treating older populations, we have to remember the principle of 'first, do no harm,'" Memari says. "Our team hopes that this review of existing research will get a conversation started in hospitals across the country about curbing unnecessary urine testing to avoid causing long-term harm to, and provide more precise and individualized care for, elderly patients with delirium."

**More information:** *Journal of Hospital Medicine* (2021). [DOI: 10.12788/jhm.3620](#) , [www.journalofhospitalmedicine....-older?channel=27621](#)

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