**Title:** Nitrofurantoin vs Fosfomycin: What is so complicated?

Which is preferred for uncomplicated cystitis?

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**Date:** 11/30/2022

**Objectives:**

1. Define presentation of uncomplicated cystitis and at-risk patient populations
2. Discuss current guidelines and literature for the use of nitrofurantoin and fosfomycin in the setting of uncomplicated cystitis treatment
3. Describe appropriate use of nitrofurantoin and fosfomycin based on clinical setting

Abstract:

Uncomplicated cystitis is defined as an infection of the lower urinary tract typically in non-pregnant women who are otherwise considered healthy. The most common pathogens isolated from a lower urinary tract infection are *E*.*coli* and *K*. *pneumoniae*. Nitrofurantoin monohydrate and fosfomycin are considered first-line treatment in the setting of uncomplicated cystitis according to IDSA guidelines. Nitrofurantoin is considered the preferred treatment of choice due to superior evidence, however emergence of resistance as well as increased prescribing since guidelines have been published has led to a debate when deciding which agent to choose. Cost can also play a large role in the decision-making process. According to current literature, nitrofurantoin has shown superior results in bacteriologic and clinical response. However, fosfomycin may pose benefit in the setting of resistance and ESBL positive urine cultures. Considering specific patient factors such as cost, adherence, clinical setting, kidney function, and uropathogen isolates identified, there may be benefits in choosing either agent.

Assessment Questions:

Which is the most common pathogen(s) seen with lower urinary tract infections? Select all that apply.

1. *P. aeruginosa*
2. *K. pneumoniae*
3. *E. coli*
4. MRSA

Which patient requires treatment for uncomplicated cystitis?

1. 76-year-old female presenting with altered mental status
2. 40-year-old female experiencing urinary frequency, positive dipstick test, and a positive *E*.*coli* urine culture
3. 67-year-old male who has fallen down on the ice on his way to work
4. 31-year-old female at yearly doctor's appointment where a UA was obtained and found to have bacteria, no symptoms were present prior to UA

What is the recommended duration for uncomplicated cystitis when treating with Nitrofurantoin monohydrate

1. 1 day (x1 dose)
2. 10 days
3. 3 days
4. 5 days