

*Asymptomatic bacteriuria is frequently mistaken for a urinary tract infection. It is important to understand the differences in diagnosis and in treatment, to avoid unnecessary use of antibiotics and potential harm.**

What You Should Know

What is a urinary tract infection?

A urinary tract infection is an infection caused by bacteria that involves any part of the urinary system including urethra, bladder, ureters and kidneys.

What are the specific symptoms of a urinary tract infection (UTI)?

- > burning pain with urination (the strongest indication of a UTI)
- > pain in the lower abdomen or back
- > increase in the frequency of urination
- > frequent urges to urinate
- > blood in the urine

These symptoms may also be accompanied by fever.

Is a change in mental status, fatigue, or a fall a symptom of a urinary tract infection?

Urinary tract infection is less likely without specific symptoms. Non-specific symptoms, such as a change in mental status, fatigue, or a fall may be due to a variety of causes, including:

- > pain
- > constipation
- > poor sleep
- > depression
- > dehydration
- > medication side effects

It is important to consider a range of possible causes to prevent missing the real diagnosis.

Causes of Non-specific Symptoms May Be Evaluated by the Following:

- > Monitoring vital signs and symptoms for several days
- > Watching closely for progression of symptoms or change in clinical status
- > Encouraging fluid intake if appropriate
- > Review for alternate causes noted above

**The American Geriatric Society recommends to physicians and patients: "Don't use antimicrobials (antibiotics)...in older adults unless specific urinary tract symptoms are present."*

*Asymptomatic bacteriuria is frequently mistaken for a urinary tract infection. It is important to understand the differences in diagnosis and in treatment, to avoid unnecessary use of antibiotics and potential harm.**

What You Should Know

What is a urinary tract infection?

A urinary tract infection is an infection caused by bacteria that involves any part of the urinary system including urethra, bladder, ureters and kidneys.

What are the specific symptoms of a urinary tract infection (UTI)?

- > burning pain with urination (the strongest indication of a UTI)
- > pain in the lower abdomen or back
- > increase in the frequency of urination
- > frequent urges to urinate
- > blood in the urine

These symptoms may also be accompanied by fever.

Is a change in mental status, fatigue, or a fall a symptom of a urinary tract infection?

Urinary tract infection is less likely without specific symptoms. Non-specific symptoms, such as a change in mental status, fatigue, or a fall may be due to a variety of causes, including:

- > pain
- > constipation
- > poor sleep
- > depression
- > dehydration
- > medication side effects

It is important to consider a range of possible causes to prevent missing the real diagnosis.

Causes of Non-specific Symptoms May Be Evaluated by the Following:

- > Monitoring vital signs and symptoms for several days
- > Watching closely for progression of symptoms or change in clinical status
- > Encouraging fluid intake if appropriate
- > Review for alternate causes noted above

**The American Geriatric Society recommends to physicians and patients: "Don't use antimicrobials (antibiotics)...in older adults unless specific urinary tract symptoms are present."*

How is a urinary tract infection diagnosed and treated?

If a resident is having symptoms of a urinary tract infection, a urine sample should be collected, in a manner to minimize contamination. A urine *analysis* detects abnormalities such as white blood cells in the urine; a urine *culture* identifies the type and amount of bacteria. A diagnosis is made when **both** specific symptoms of a urinary tract infection and a positive culture are present. Urinary tract infections are treated with antibiotics.

What if there are bacteria detected in a urine sample but no symptoms of a urinary tract infection?

Sometimes bacteria can live in the urinary tract and not cause an infection or a problem for the person. This is called asymptomatic bacteriuria and is found in up to 50% of elderly residents. In other words, **up to half of long term care residents who have no symptoms, will have a positive urine culture without a urinary tract infection.**

Research has shown that there is no benefit from giving antibiotics to residents with asymptomatic bacteriuria.

What is the harm in giving antibiotics that may not be needed?

There are a number of reasons why people should only receive antibiotics if an infection is highly suspected or confirmed by a clinician. Some of the most important reasons not to give unnecessary antibiotics include the following:

1. As with many medications, there can be adverse side effects of antibiotics, including nausea and vomiting, rash, or other allergic reactions.
2. Antibiotics can lead to the development of *Clostridium difficile* infections in the bowel, which can cause a severe type of diarrhea with very serious consequences.
3. Unnecessary use of antibiotics can contribute to “antibiotic resistance.” Resistance means antibiotics become less effective against the bacteria they are intended to treat. Resistant organisms may leave you with no effective treatment for future infections.

Additional copies available at

<http://macoalition.org/evaluation-and-treatment-uti-in-elderly.shtml>

Prepared by The Massachusetts Infection Prevention Partnership

How is a urinary tract infection diagnosed and treated?

If a resident is having symptoms of a urinary tract infection, a urine sample should be collected, in a manner to minimize contamination. A urine *analysis* detects abnormalities such as white blood cells in the urine; a urine *culture* identifies the type and amount of bacteria. A diagnosis is made when **both** specific symptoms of a urinary tract infection and a positive culture are present. Urinary tract infections are treated with antibiotics.

What if there are bacteria detected in a urine sample but no symptoms of a urinary tract infection?

Sometimes bacteria can live in the urinary tract and not cause an infection or a problem for the person. This is called asymptomatic bacteriuria and is found in up to 50% of elderly residents. In other words, **up to half of long term care residents who have no symptoms, will have a positive urine culture without a urinary tract infection.**

Research has shown that there is no benefit from giving antibiotics to residents with asymptomatic bacteriuria.

What is the harm in giving antibiotics that may not be needed?

There are a number of reasons why people should only receive antibiotics if an infection is highly suspected or confirmed by a clinician. Some of the most important reasons not to give unnecessary antibiotics include the following:

1. As with many medications, there can be adverse side effects of antibiotics, including nausea and vomiting, rash, or other allergic reactions.
2. Antibiotics can lead to the development of *Clostridium difficile* infections in the bowel, which can cause a severe type of diarrhea with very serious consequences.
3. Unnecessary use of antibiotics can contribute to “antibiotic resistance.” Resistance means antibiotics become less effective against the bacteria they are intended to treat. Resistant organisms may leave you with no effective treatment for future infections.

Additional copies available at

<http://macoalition.org/evaluation-and-treatment-uti-in-elderly.shtml>

Prepared by The Massachusetts Infection Prevention Partnership