



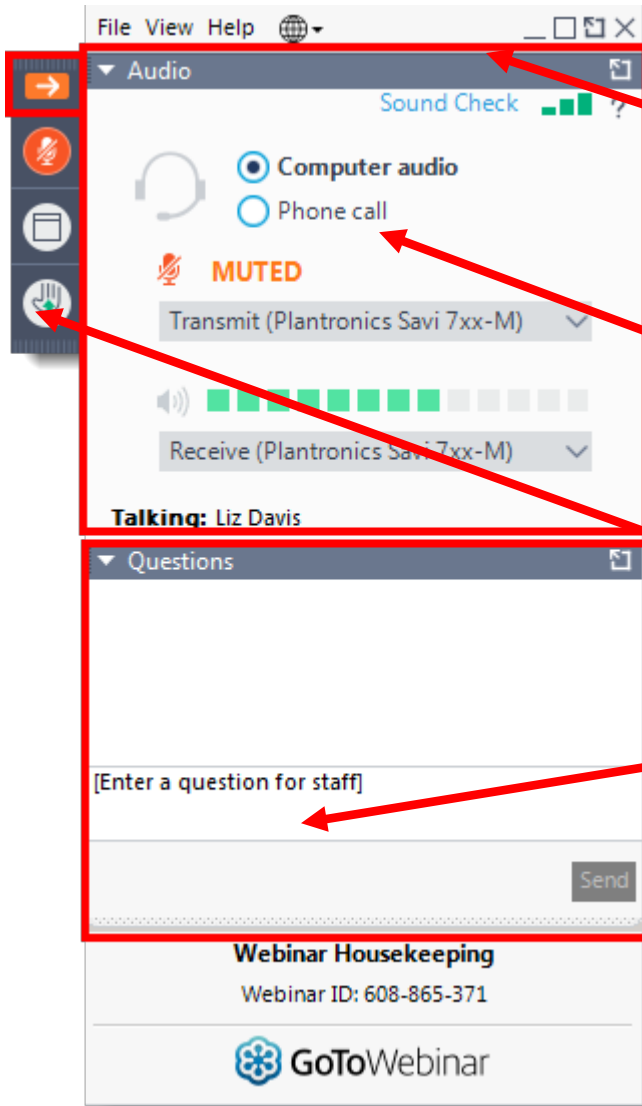
How to Prevent, Identify and Track Infections in Nursing Homes

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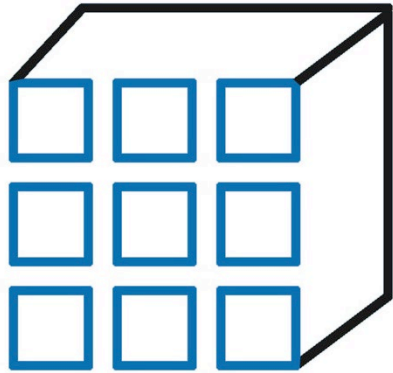
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Disclosures

- Advisory Board with Sepsis Alliance for the Sepsis Coordinator Network
- KOL Advisory Committee with Baxter
- Tennessee Hospital Association Sepsis Consultant
- Consultant with atom Alliance and Qsource
 - Webinar series for Extended Care
- Consultant with Edwards Lifesciences
 - Speakers bureau



Objectives

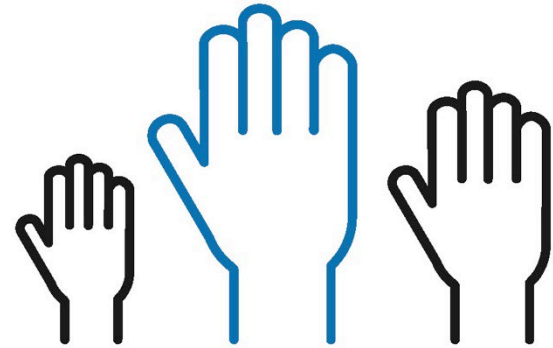


- Discuss how NHSN can help with consistency and benchmarking for your IPCP
- Discuss the McGreer Criteria and how that can be used in your facility

Polling Question

What best describes your facility?

- Acute Care Hospital
- LTACH
- Nursing Home
- Other



Preventing UTIs (No Indwelling Catheter)

1) Ensure adequate fluid intake

- Urine should be light and clear

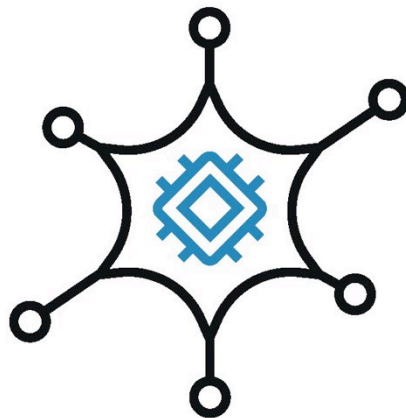
2) Adequate toileting

- Bladder should be emptied every 2-3 hours

3) Cleaning: front to back

4) Manage incontinence with appropriate toileting and products

Strategies to NOT over treat asymptomatic bacteriuria





Background: Antibiotic Use in Nursing Homes

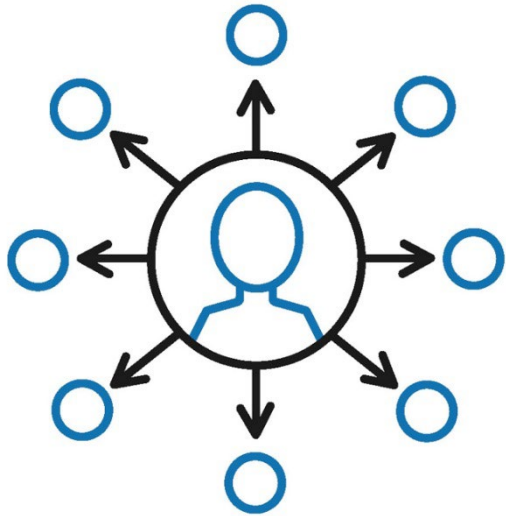
- Between 50% and 70% of nursing home residents will receive at least one course of systemic antimicrobial agent during the calendar year
- 20% to 30% of residents may receive multiple courses during the calendar year
- Frequent use of antibiotics has produced a variety of multidrug-resistant bacteria (e.g., MRSA and VRE)

Antibiotic Use in Nursing Homes for Suspected UTIs

- In a recent study, more than half of the prescriptions of antibiotics for a suspected UTI were for residents who were asymptomatic
- No evidence indicates that antibiotics help with asymptomatic bacteriuria
- There *is* evidence that they can do harm



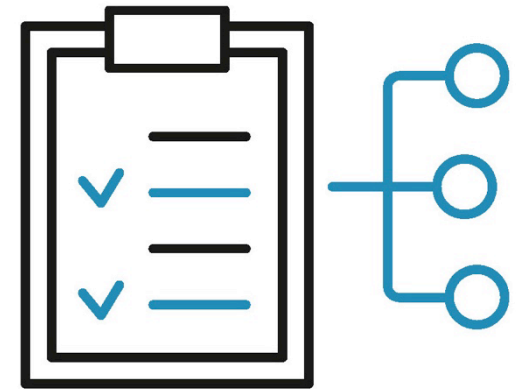
Antibiotic Use in Nursing Homes Creates Risks for Multiple Groups



- The most recent trend in healthcare-associated infections is the growing incidence in the community of drug-resistant microbes. They are a threat to more than those in the nursing home itself
- Bacteria can migrate to caregivers in the nursing home, who then unknowingly share them with family and the community

Guidelines for Antibiotic Use

- The guidelines are based on evidence
- Researchers developed guidelines for a few key infections, including a UTI
- Other researchers independently used these guidelines, tested them, and found that they were effective in reducing the number of antibiotics used



ABCs for Diagnosing UTI

ABCs for Diagnosing Urinary Tract Infection in Long Term Care

Resident Name: _____ Date/Time: _____

Nurse: _____ MD/NP/PA: _____

Diagnosis of Urinary Tract Infection (UTI) in long term care resident requires clinical signs and symptoms of UTI and a positive culture.

Assessment: Clinical Signs and Symptoms of UTI¹

CHECK HERE IF CRITERIA ARE MET FOR SIGNS OR SYMPTOMS

Resident without indwelling catheter*

- Acute dysuria alone OR
- Fever + at least one of the symptoms below (new or increased) OR
- If no fever, at least two of the symptoms below (new or increased)
 - Urgency
 - Frequency
 - Suprapubic pain
 - Gross hematuria
 - Costovertebral angle (CVA) pain or tenderness
 - Urinary incontinence

*Mental status changes alone are not specific enough to identify symptomatic urinary tract infection. See reverse side for alternative causes.

OR

Resident with indwelling catheter

- At least one of the symptoms below (new or increased)
 - Fever
 - Costovertebral angle (CVA) pain or tenderness
 - Rigors (shaking chills)
 - Delirium
 - Flank pain (back, side pain)
 - Pelvic discomfort
 - Acute hematuria
 - Malaise or lethargy with no other cause

Blood Pressure _____ Pulse _____ Temperature _____ Respiratory Rate _____

Fever (oral > 100°F or any site > 2°F above baseline or repeated oral > 99°F / rectal > 99.5°F)

Bacteria (Order urinalysis and culture & sensitivity if above criteria are met)

Collect clean voided specimen if possible; in and out catheter if necessary. For residents with chronic indwelling Foley catheter, change catheter; send urine obtained from new catheter.

Consider CBC, BMP if clinically indicated (e.g., lethargy, fever). The presence of an elevated WBC count suggests infection, with or without a fever.

Urinalysis

Nitrite Positive Negative

Leukocyte esterase Positive Negative

Pyuria > 10 WBC urinalysis

Culture and sensitivity

Positive urine culture:

Clean catch specimen: $\geq 10^5$ cfu/mL with ≤ 2 organisms

Catheterized specimen (straight cath or newly placed indwelling cath): $\geq 10^3$ cfu/mL with ≥ 1 organism

Negative urine culture

ABCs for Diagnosing UTI (continued)

Care Plan

Criteria met for UTI symptoms AND positive urine culture



- Review for treatment with antibiotics
- Monitor vital signs
- Monitor fluid intake and increase if indicated

Criteria not met for UTI symptoms (with or without a positive urine culture)



- Review for alternate diagnosis
- Monitor vital signs and symptoms
- Monitor fluid intake and increase if indicated
- Re-evaluate if above criteria for symptomatic UTI emerge

AT ANY POINT, re-evaluate and review with MD/NP/PA, if symptoms progress or if the resident has any of the following: Fever > 100.5° F, heart rate > 100 or < 50, RR > 28/min or < 10/min, BP < 90 or > 200 systolic, oxygen saturation < 90%, finger stick glucose < 70 or > 300, unable to eat or drink.

Prior to treatment consider review:

- | | | |
|---|-----------------------------|------------------------------|
| Advance directives for limiting treatment (especially antibiotics): | <input type="checkbox"/> NO | <input type="checkbox"/> YES |
| Medication Allergies: | <input type="checkbox"/> NO | <input type="checkbox"/> YES |
| The resident is on warfarin (Coumadin) | <input type="checkbox"/> NO | <input type="checkbox"/> YES |

Possible causes for mental status changes include:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Constipation • Pain • Dehydration • Medication or dose change • Hypoxia | <ul style="list-style-type: none"> • Infections such as pneumonia • Hypo/hyperglycemia • Urinary retention • Environmental triggers |
|---|---|

NOTES

UTI SBAR

UTI SBAR form:

- Is intended to guide communication regarding the potential need for antibiotic use between nursing staff and prescribing clinicians in long-term care facilities, such as nursing homes
- Is based on the Situation, Background, Assessment, and Recommendation form of communication, or SBAR
- Is based on clinical practice guidelines

SBAR Tool Design

S – Situation: A concise statement of the problem (what is going on now)

B – Background: Pertinent and brief information related to the situation (what has happened)

A – Assessment: Analysis and consideration of options (what you found/think is going on)

R – Recommendation: Request/recommend action (what you want done)

Suspected UTI SBAR

Suspected UTI SBAR

[Nursing Home Name] _____
[Street] _____
[City, State, ZIP] _____ Facility Phone/Fax _____
Resident Name _____ Date of Birth _____
Physician/NP/PA _____ Physician/NP/PA Phone/Fax _____
Nurse _____ Date/Time _____
How was information provided to clinician? Phone Fax In Person Other _____

S – Situation (use this information to complete Section A&R)

I am contacting you about a suspected UTI for above resident.

Current Assessment (check all that apply):

- Increased urgency
- Increased frequency
- Hematuria
- Rigors (shaking, chills)
- Delirium (sudden onset of confusion, disorientation, dramatic change in mental status)

Vital Signs: BP _____/_____ Pulse _____ Resp. rate _____ Temp. _____

Resident Complaints (check all that apply):

- Dysuria (painful, burning, difficult urination)
- Suprapubic pain
- Costovertebral tenderness (flank pain/tenderness)

Recent Urinalysis Results (within the last 10 days) If Available:

UA results that were obtained on _____ (date) due to _____ (reason).

The results accompanying this communication are as follows:

B – Background

Indwelling catheter: NO YES

Incontinence: NO YES If yes, is this new/worsening? NO YES

Active diagnoses (especially, bladder, kidney/genitourinary conditions):

Specify: _____

Advance directives for limiting treatment (especially antibiotics): NO YES

Specify: _____

Medication allergies: NO YES

Specify: _____

The resident is on: Warfarin (Coumadin™) NO YES

The resident is diabetic: NO YES

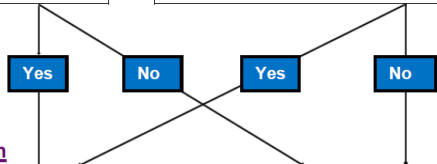


Suspected UTI SBAR (continued)

[Nursing Home Name] _____ Facility Fax # _____
 Resident Name _____ DOB: _____

A – Assessment (check boxes and determine recommendation)

<p>Resident with indwelling catheter:</p> <p><input type="checkbox"/> fever of 100°F (38°C) or repeated temperatures of 99°F (37°C)*</p> <p><input type="checkbox"/> new costovertebral tenderness</p> <p><input type="checkbox"/> rigors</p> <p><input type="checkbox"/> new delirium</p> <p><input type="checkbox"/> hypotension</p> <p>Any one of the above present</p>	<p>Resident without indwelling catheter:</p> <p><input type="checkbox"/> Acute dysuria alone; OR</p> <p><input type="checkbox"/> Single temperature of 100°F (38°C), or repeated temperatures of 99°F (37°C)* AND at least one new or worsening of the following:</p> <table border="0"> <tr> <td><input type="checkbox"/> urgency</td> <td><input type="checkbox"/> suprapubic pain</td> </tr> <tr> <td><input type="checkbox"/> frequency</td> <td><input type="checkbox"/> gross hematuria</td> </tr> <tr> <td><input type="checkbox"/> costovertebral angle tenderness</td> <td><input type="checkbox"/> new/worsening urinary incontinence</td> </tr> </table>	<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain	<input type="checkbox"/> frequency	<input type="checkbox"/> gross hematuria	<input type="checkbox"/> costovertebral angle tenderness	<input type="checkbox"/> new/worsening urinary incontinence
<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain						
<input type="checkbox"/> frequency	<input type="checkbox"/> gross hematuria						
<input type="checkbox"/> costovertebral angle tenderness	<input type="checkbox"/> new/worsening urinary incontinence						



R - Recommendation

<p><input type="checkbox"/> Protocol criteria ARE met.</p> <p>According to our understanding of best practices and our facility protocols the resident may have a urinary tract infection and need a prescription for an antibiotic agent.</p>	<p><input type="checkbox"/> Protocol criteria are NOT met.</p> <p>According to our understanding of best practices and our facility protocols, the information is insufficient to indicate an active urinary tract infection. The resident does NOT need an immediate prescription for an antibiotic, but may need additional observation.</p>
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**Staff:
Please Check
Box for Course
of Action
Recommended**

*For residents who regularly run a lower temperature, use a temperature of 2°F (1°C) above the baseline as a definition of a fever.

Physician/NP/PA Orders

How were orders provided by clinician? Phone Fax In Person Other

Ordered U/A (with C&S if indicated)

Would you like to initiate any of the following?

- Encourage 4 ounces of cranberry juice TID.
 - Record fluid intake
 - Assess vital signs, including temp; every _____ hours for _____ hours
 - Notify Physician/NP/PA if symptoms worsen or if unresolved in _____ hours
 - Other:
 - Initiate the following antibiotics
- Specify: _____
- Other, specify: _____

Physician/NP/PA signature: _____ date/time: _____

Telephone order received by: _____ date/time: _____

Family/POA notified (name): _____ date/time: _____

Polling Question

Does your institution utilize a suspected UTI SBAR?

- Yes
- No



McGreer Criteria

Criteria 1 (Both criteria 1 and 2 must be present)

At least one of the following sign or symptom criteria:

- Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate
- Fever or leukocytosis and at least one of the following:
 - ◆ Acute costovertebral angle pain or tenderness
 - ◆ Suprapubic pain
 - ◆ Gross hematuria
 - ◆ New or marked increase in urgency or frequency

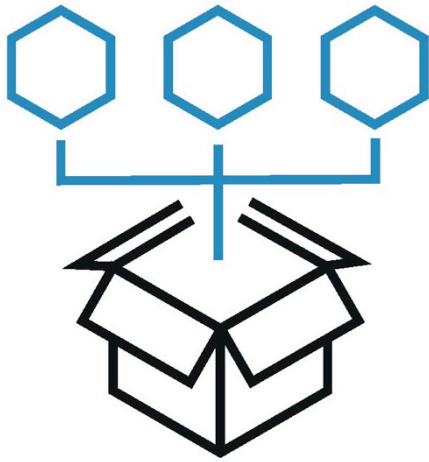
McGreer Criteria (continued)

- In the absence of fever or leukocytosis, then 2 or more of the following:
 - ◆ Suprapubic pain
 - ◆ Gross hematuria
 - ◆ New or marked increase in incontinence
 - ◆ New or marked increase in urgency
 - ◆ New or marked increase in frequency



McGreer Criteria (continued)

Criteria 2



- At least 10(5) cfu/mL of no more than 2 species of microorganisms in a voided urine sample
- At least 10(2) cfu/mL of any number of organisms in a specimen collected by in and out catheter

McGreer Criteria (continued)

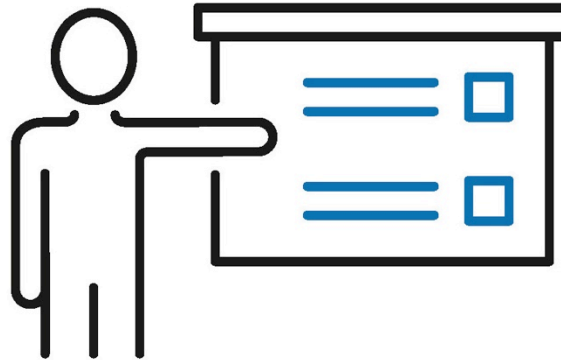
Operational strategies for consideration:

- Educate staff on criteria for urinary tract infections
- Provide training on pericare and catheter care
- Encourage hydration
- Obtain baseline vital signs
- Obtain protocols to notify MD with change in condition
- Review medications
- Perform thorough assessment of urinary incontinence

McGreer Criteria (continued)

Operational strategies for consideration:

- Provide training on pain assessment and management
- Referrals as needed to urology for chronic UTIs





Summary

- UTIs are one of the most common infections in nursing home residents
- Quick removal of urinary catheters when they do not meet insertion criteria is important
- Implement evidence based practices for insertion and care of urinary catheters
- Audit prevention practices
- Do not treat asymptomatic bacteriuria
- Educate patients and families on preventing CAUTIs and UTIs

Current State Assessment Related to UTI/CAUTI Prevention Practices

Prevention Practices	Current Policy in Place	Audit 5 patients to see if compliant with policy
Proper Hand Hygiene		
Without Indwelling Catheter:		
Adequate fluid so urine is light and clear		
Appropriate toileting (emptying bladder every 2-3 hrs)		
With Indwelling Catheter:		
Aseptic technique followed during insertion		
Daily catheter care		
Catheter secured		
Closed system		
No dependent loops		
Catheter bag not on floor		
Appropriate Culturing		

Homework

Perform current state assessment on UTI/CAUTI prevention strategies

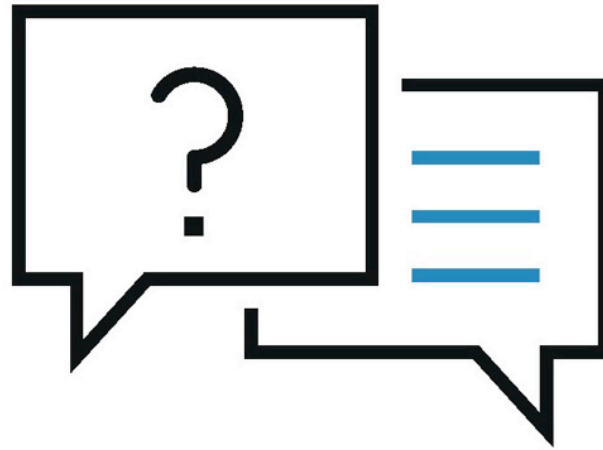


CAUTI Prevention Protocol CRMC Fun Video



<https://www.youtube.com/watch?v=ZtSwd1bFE2g>

Questions?



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