





Nurses Take Antibiotic Stewardship Action Initiative

The Role of The Bedside Nurse in Antibiotic Stewardship



Slide Title and Commentary	Slide Number and Image
<p>The Role of The Bedside Nurse In Antibiotic Stewardship</p> <p>SAY:</p> <p>This presentation will address the role of the bedside nurse in antibiotic stewardship.</p>	<p>Slide 1</p>  <p>The Role Of The Bedside Nurse In Antibiotic Stewardship</p>  <p>1</p>
<p>What is Antibiotic Stewardship?</p> <p>SAY:</p> <p>What is antibiotic stewardship? It has been defined as “Coordinated efforts to ensure that every patient who needs antimicrobial therapy receives the optimal drug, dose, duration and route of administration while minimizing associated adverse events.”</p>	<p>Slide 2</p>  <p>What is Antibiotic Stewardship?</p> <p>Coordinated efforts to ensure that every patient who needs antimicrobial therapy receives the optimal drug, dose, duration and route of administration while minimizing associated adverse events.</p>  <p>2</p>

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The Importance Of Stewarding Antibiotics

SAY:

Research has shown that up to 30% of the antibiotics used in acute care hospitals are inappropriate, and that among adult patients who receive an antibiotic, one in five experience an adverse event. Adverse events include bacteria becoming resistant, “*C. diff*” infections, and kidney failure. So, it is important that antibiotics are used only when needed. All healthcare providers, including nurses can contribute to safe and optimal use of antibiotics.

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The Importance Of Stewarding Antibiotics

- As much as 30% of antibiotics used in acute care hospitals are inappropriate
- One in five adult patients who receive an antibiotic experience an adverse event (e.g., bacteria develop resistance, *C. difficile* infection, kidney failure, liver toxicity)
- Antibiotic resistant infections are associated with greater mortality



The Importance of Stewarding Antibiotics

SAY:

Another important reason for which we need to steward antibiotics is bacterial resistance to antibiotics. When patients develop an infection with a drug-resistant organism, the chance of death rises significantly. In addition, patients with resistant infections remain in the hospital longer than patients with non-resistant infections, and they require more time to recover. Using antibiotics appropriately can help limit the development of resistance as well as occurrences of other adverse events.

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The Importance Of Stewarding Antibiotics

- When a patient develops an infection with a drug-resistant organism, the chance of death increases significantly
- Patients with resistant infections stay in the hospital longer than patients with non-resistant infections and need a longer time to recover



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Nurses Perform Activities On A Daily Basis That Impact Antibiotic Decisions

SAY:

There are several tasks nurses perform regularly that influence antibiotic-related decisions. Nurses administer antibiotics, **collect specimens for bacterial culture or testing**, **obtain and record antibiotic allergy history**, assess for and report antibiotic-associated adverse events, assist with the timing of therapeutic drug monitoring, inform prescribers when patients are able to take oral medications, and educate patients about antibiotics they are receiving. Of these activities, we have focused on the two listed in bold.

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Nurses Perform Activities On A Daily Basis That Impact Antibiotic Decisions

- Administer antibiotics
- **Collect specimens for bacterial culture or testing**
- **Obtain and record the antibiotic allergy history**
- Assess for and report antibiotic-associated adverse events (e.g., rashes)
- Assist with timing of therapeutic drug monitoring
- Inform prescribers when patients are able to take oral medications
- Educate patients about antibiotics they are receiving



The Role Of Nurses In AS

SAY:

The Centers for Disease Control and Prevention and the American Nurses Association have called for improved integration of nurses into AS activities to add to efforts to decrease the inappropriate use of antibiotics in inpatients.

Decision-making algorithms that are easily incorporated into nurses' scope of work can be utilized to improve urine and respiratory culturing practices and to improve penicillin allergy documentation.

Slide 6



The Role Of Nurses In AS

- The Centers for Disease Control and Prevention and the American Nurses Association have called for better integration of nurses into AS activities to augment efforts to reduce inappropriate antibiotic use in inpatients
- Decision algorithms that are easily integrated into nurses' scope of work can be utilized to improve urine and respiratory culturing practices and to improve PCN allergy documentation



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Case Vignette

SAY:

Let's consider a hypothetical case to demonstrate the importance of exercising antibiotic stewardship. A 77 year-old man with a history of benign prostate hyperplasia, hypertension, coronary artery disease status post coronary artery bypass graft presents to the hospital with two days of dizziness after an upper respiratory tract infection. The patient denies having a burning sensation with urination, and his urinary urgency and frequency have not changed since his BPH diagnosis a year ago.

He is afebrile, urinalysis shows 9 WBC along with bacteria, and a urine culture grows over 100,000 *E. coli* with resistance to ampicillin. The patient is started on ciprofloxacin and discharged on ciprofloxacin to complete a 14-day course. A month later, the patient is back on your unit with severe diarrhea. He is diagnosed with "C. diff" colitis and undergoes colectomy; however, the patient dies from complications.

This patient had asymptomatic bacteriuria. This is a major driver of inappropriate antibiotic use in the hospital. *His death was preventable.*

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Case Vignette

- 77 yo man with history of benign prostate hyperplasia (BPH), hypertension, coronary artery disease status post coronary artery bypass graft presents to the hospital with two days of dizziness after an upper respiratory tract infection.
- Patient denies burning sensation with urination, and his urinary urgency and frequency have not changed since his diagnosis of BPH a year ago.
- Vital signs and laboratory data:
 - Afebrile
 - Urinalysis: 9 WBC, positive for bacteria
 - Urine culture >100,000 *E. coli* resistant to ampicillin
- Patient is started on ciprofloxacin and discharged on ciprofloxacin to complete a 14-day course.
- A month later, the patient is back on your unit with severe diarrhea. He is diagnosed with *Clostridioides difficile* colitis and undergoes colectomy; however, the patient dies from complications.

This patient had asymptomatic bacteriuria.
This is a major driver of inappropriate antibiotic use in the hospital.
His death was preventable.



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Tools And Resources To Integrate Nurses In AS Activities

SAY:

To access a toolkit to help you integrate nurses into AS activities that focus on urine and respiratory culturing practices as well as documenting accurate penicillin allergy histories, please click the link on the slide.

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Tools And Resources To Integrate Nurses In AS Activities

- A toolkit to help you integrate nurses into AS activities that focus on urine and respiratory culturing practices and documenting accurate penicillin allergy histories can be found at: <https://www.hopkinsmedicine.org/antimicrobial-stewardship/about/>



References

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References

- Slide 3
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