Proud to be a NURSE ANTIBIOTIC STEWARD

The Role Of The Bedside Nurse In Antibiotic Stewardship

JOHNS HOPKINS MEDICINE

What is Antibiotic Stewardship?

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.

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)

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

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

- 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

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

- 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/

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Slide 3

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Slide 4

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Slide 5

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Slide 6

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