

# Practice Safe Prescribing Techniques

## Did You Know?

### Asymptomatic bacteriuria should not be treated with antibiotics.

- A positive urinalysis for bacteriuria with or without pyuria and positive urine culture from hospitalized patients in the absence of urinary symptoms such as burning or frequent urination should not be treated with antibiotics.
- Treating asymptomatic bacteriuria increases cost burden, risk of *C.difficile* infection and emergence of resistance with no impact on morbidity or mortality.

The Infectious Diseases Society of America (IDSA) *Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults* references exceptions including pregnant patients and patients undergoing prostate surgery or other invasive urological surgery.

### Broad-spectrum antibiotics are unnecessary for mild to moderate skin and soft tissue infections (SSTI).

- Nearly all non-purulent cellulitis is caused by streptococcal species. Recommended antibiotics for the hospitalized patient targeting such infection are penicillin, cefazolin, clindamycin and ceftriaxone.
- For mild purulent SSTI, incision and drainage is sufficient. For moderate purulent SSTI, incision and drainage with culture and sensitivity and empiric therapy with bactrim or doxycycline is recommended.

### Upper respiratory tract infections should not be treated with empiric antibiotics used for Community-Acquired Pneumonia (CAP).

Hospitalized patients are often given antibiotics for pneumonia in absence of clear findings on a chest X-ray and constitutional symptoms of cough or fever. Many of these patients have a viral upper respiratory tract infection that is best managed without antibiotics. Exposing such patients to antibiotics increases cost and risk of antimicrobial resistance, and may lead to poor outcomes.

### Avoid over-treatment for patients diagnosed with CAP.

A five- to seven-day antibiotic course is appropriate for patients with CAP who are improving. Many patients diagnosed with CAP are unnecessarily treated with more prolonged courses. Patients for whom a longer course should be considered are those with extrapulmonary infection (such as endocarditis), organisms resistant to initial therapy or signs of clinical instability.

#### References:

*Infectious Diseases Society of America Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults*, 2005.

*Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America.*

IDSA Choosing Wisely® recommendations.

Mandell LA et al. Infectious Diseases Society of American/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults.

*Clin Infect Dis.* 44(Suppl 2):S27.

# Rethink Your Antibiotic Treatment Time Course

## Rethink: Dose, Duration, Indication...

1

When prescribing an antibiotic, make sure that the order contains dose, duration and indication.

2

Consider using appropriate decision-support tools and hospital policies and guidelines to choose the right antibiotics for the suspected focus of infection.

3

Include laboratory cultures as a routine component of ordering antibiotics.

4

Review antibiotics 24-48 hours after orders are initiated to answer these key questions:

- Does this patient have an infection that will respond to antibiotics?
- Is the patient on the right dose and route of administration? Ensure the dose is appropriate for renal function and suspected infection, and consider switching parenteral antibiotics to oral formulations.
- Can a more targeted antibiotic be used to treat the infection (de-escalate)?
- How long should the patient receive the antibiotic(s)?

5

Review antibiotics at daily multidisciplinary rounds using checklists or other reminders to discuss duration, indication and switching to oral route if appropriate with the care team.

6

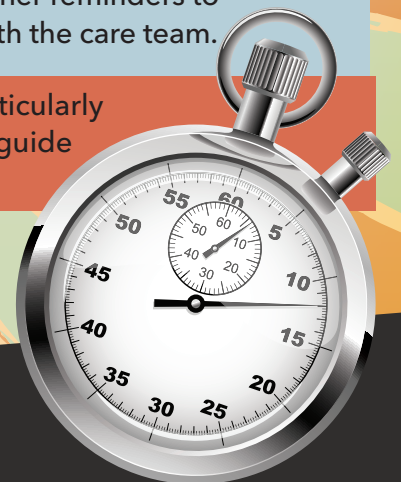
Implement a daily time-out to consider de-escalation of antibiotics, particularly at 24-48 hours or when cultures are available. Use culture data to help guide the appropriate antibiotics.

### References:

<http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html>.

<http://www.cps.ca/documents/position/antimicrobial-stewardship>.

<http://www.dobugsneeddrugs.org/health-care-professionals/antimicrobial-stewardship/>.





# Champion Antimicrobial Stewardship as a Team

## Fight The Resistance Together!

### Key Steps for a Multidisciplinary Antimicrobial Stewardship Team:

- 1** Seek administrative backing and institutional support by articulating the benefits of a successful antimicrobial stewardship program.
- 2** Actively engage all the major stakeholders: infectious disease specialists, hospitalists, clinical pharmacists, lab technicians, infection control, nursing, IT and Quality Improvement.
- 3** Utilize the expertise of clinical pharmacists in antimicrobials as a valuable resource in addition to infectious disease specialists when available.
- 4** Explore educational funding opportunities through national, regional, state or local resources for members of the team.
- 5** Identify measures – baseline measures, process measures and outcome measures – to determine the effectiveness of stewardship interventions.
- 6** Collect and analyze antimicrobial usage data from your institution and observe antimicrobial resistance trends in order to identify opportunities for improvement.
- 7** Present a business plan for personnel reimbursement through highlighting potential cost savings, improved patient outcomes, core measures compliance and anticipated Centers for Medicare & Medicaid Services penalties for hospitals lacking an antimicrobial stewardship program.
- 8** Implement concrete steps to implement an antibiotic time-out policy, develop practices for reviewing antibiotic choices upon patient transfer, revise all Intensive Care Unit antibiotic prescriptions and review broad-spectrum antibiotic selection.
- 9** Organize educational activities for hospital clinicians on antimicrobial stewardship.

#### References:

<http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf>.

*Clinical infectious diseases: An Official Publication of the Infectious Diseases Society of America.* Jan 15 2007;44(2):159-177.

Griffith M, Postelnick M, Scheetz M. Antimicrobial stewardship programs: Methods of operation and suggested outcomes.

*Expert Review of Anti-infective Therapy.* Jan 2012;10(1):63-73.

For Additional References, Please Visit the Website.