



PHARMACY KEY



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IMPLEMENTATION OF ANTI-INFECTIVE ORDER FORMS AT THE UNIVERSITY OF KANSAS HOSPITAL

NEW ANTI-INFECTIVE ORDER FORMS REQUIRED FOR ORDERING ANTI-INFECTIVES AT THE UNIVERSITY OF KANSAS HOSPITAL

Background:

Effective and appropriate use of antibiotics directly affects the quality of care provided to patients. Misuse of these agents has resulted in increased hospital length of stay, healthcare-associated infections and an increase in resistance rates.

In order to promote evidence-based anti-infective usage at the University of Kansas Hospital, the Antibiotic Subcommittee, a subcommittee of the Pharmacy and Therapeutics Committee, has developed an order form as a method of standardizing therapy and educating practitioners on therapeutic guidelines from the Infectious Diseases Society of America (IDSA) and The American Thoracic Society (ATS). Numerous institutions across the nation considered 'best practice' in the area of antibiotic use utilize order forms as means for guiding appropriate therapy. This edition of the Pharmacy Key introducing the Hospital's new Adult Anti-Infective Order Form provides answers to frequently asked questions (FAQ's) and introduces the new process for ordering anti-infectives at The University of Kansas Hospital.

What is the Adult Anti-Infective Order Form?

The Adult Anti-Infective Order Form is a two-page form that will be used to order all oral, parenteral, intrathecal, and inhaled anti-infectives.

- Page 1- Adult Anti-Infective Order Form
- Page 2- Criteria Based Anti-Infective Order Form
See included forms for example.

When will the Adult Anti-Infective Order Form be implemented?

The Adult Anti-Infective Order Form is currently being implemented. The form will soon be available for use on all units and can be ordered via Hospital Materials Management using form number PHAR-1164. **Use of the form may begin now.** During mid-late July, prescribers will be paged reminding them of the need to utilize this form.

When will the use of this form be REQUIRED?

As of August 1, 2005, the use of the Adult Anti-infective Order Form is required to order and continue anti-infective therapy.

Frequently Asked Questions

Where can I find the Adult Anti-Infective Order Form?

- Stocked in patient care areas and clinics
- Web Formulary under 'Physician Order Forms'

Does this form apply to anti-retrovirals?

Yes, include the complete medication order in Section 3 of Page 1. If additional space is needed, multiple copies of the FORM may be used.

Does this form apply to anti-infective topical, otic and ophthalmic products?

No, at this time orders for these agents may be written on the FORM but this is not a requirement.

Is dosing on this form appropriate for all patients?

- No, the dosing listed on the FORM is for non-elderly, non-pregnant adults with normal renal function.
- When choosing an alternative dose, provide the indication as well as the complete medication order in Section 3 of Page 1.

How long do I have to fill out a form if I mistakenly order an anti-infective using a standard Physician's Order Form?

- In order to prevent therapy delays, you MUST fill out a form prior to the 2nd dose.
- During the hours of 2300 and 0700 the following morning, the pharmacy may dispense more than one dose if multiple doses are due before 0800.
- The Supervising Resident, Chief Resident, Fellow and/or Attending Physician will be contacted if the order is not written in time for the next dose due.

Does the FORM need to be used for anti-infective order changes?

- Yes, this form will be used to change an anti-infective medication order.
- Examples of changes include: new orders, one-time only orders, dose or frequency adjustments, dose adjustments for renal or hepatic dysfunction

What if I need to order an "other" regimen instead of the recommended "First Line" or "Alternative" therapies listed for a specific indication?

- To prevent therapy delays, make sure the form is complete and include additional information if necessary. Providing information such as "Documented Pathogen" may support the use of an "other" regimen.
- The Clinical Pharmacist may follow-up to gather more information supporting the use of the "other" regimen.
- You may be asked to provide evidence supporting the use of this therapy to be reviewed by the Antibiotic Subcommittee during ongoing evaluation of the FORM regimens.

What happens if I lack specific information that supports the use of an "other" regimen instead of the recommended "First Line" or "Alternative" therapies listed for a specific indication?

- The Clinical Pharmacist may follow-up to gather more information supporting the use of the "other" regimen
- In the event that the indication for "other" anti-infectives is unclear, the Infectious Diseases Fellow or Medical Director for Antibiotic Management will review the order.
- Upon review of the order and prescriber-provided evidence for treatment choice, there will be a plan for therapy. The Infectious Disease Medical Director will review the case and make the case-specific final decision if necessary.

Is use of the FORM required when antibiotics are used for non-infectious diseases indications (i.e. bowel prep, gastric motility)?

- No, however these orders may be written on the FORM along with the indication in Section 3 of Page 1.
- It is advisable to include the indication when writing these orders on standard Physician's Order Forms to avoid questions.

Frequently Asked Questions (Continued)

Will anti-infective orders included on other pre-printed order forms be processed?

- At this time, anti-infective orders including pre-operative and post-operative orders from pre-printed order forms will be processed.
- The Clinical Pharmacist may follow-up to gather more information if the regimens differ from those listed on the FORM.
- In the event of duplicate orders for the same medication, the Adult Anti-infective Order Form will override anti-infective orders for the same medication printed on pre-printed order forms.
- Anti-infectives administered during hemodialysis while the patient is in the Dialysis Area may be written with dialysis orders.

Does this form apply to pediatrics?

No, a similar pediatric form may be developed in the future. However, the FORM may be used for patients > 17 years old who are treated by the pediatric service.

Can I order anti-infective drug levels on the form?

- Yes, in Section 4: Monitoring on Page 1.
- However, anti-infective drug levels may also be ordered on standard Physician Order Forms.

Can I request the Clinical Pharmacist assist with monitoring anti-infective therapy and making dosage adjustments?

- Yes, by checking the box in Section 4: Monitoring.
- The Pharmacist - Managed Aminoglycoside and Vancomycin Therapy Protocol allows the pharmacists to order applicable drug levels, serum creatinine, and make dosage adjustments if needed.
- Another box requests the pharmacist dose anti-infectives based on renal function.

Individual order forms for amphotericin B lipid complex, linezolid, caspofungin, ciprofloxacin IV, and voriconazole were previously available. Should these forms be used?

No, page 2, Adult Criteria-Based Anti-Infective Order Form, replaces all of these forms with one form.

Who can I contact if I would like to provide feedback about the form?

A link on the Web Formulary is available for submission of comments and/or suggestions for improvement.



[Formulary.Ink](#)

What happens if I choose not to adhere to the anti-infectives order form?

- The Anti-infective Order Form is approved and strongly supported by the Pharmacy & Therapeutics Committee and the Executive Committee of the Medical Staff.
- In the event that a prescriber chooses not to adhere to this policy, it will be addressed through the notification of appropriate levels of oversight including: involved member of the House Staff, the Attending Physician, the Chair of the Department/Medical Service, Residency Program Director and Graduate Medical Education Office and Chief of Staff.

How will the form be evaluated and updated?

- The Antibiotic Subcommittee will use the form to evaluate trends in anti-infective use.
- The Subcommittee will provide reports to the Pharmacy & Therapeutics Committee and Executive Committee of the Medical Staff on use of the form and therapeutic regimens outlined on the form.
- Initially, the form will be evaluated and updated, if necessary, every 2 months to incorporate feedback and ensure appropriate therapeutic selections.

Useful Resources:

- The University of Kansas Hospital's Antibiotic Use Guide
 - KU Web Formulary
- <http://www.formularyproductions.com/kumc/>



[Formulary.Ink](#)

Anti-Infective Form Reference List:

Mandell LA, Bartlett JG, Dowell SF, et al. Update of practice guidelines for the management of community-acquired pneumonia in immunocompetent adults. Infectious Disease Society of America. *Clin Infect Dis.* 2003; 37:1405-1433.

Neiderman MS, Mandell LA, Anzueto A, et al. Guidelines for the management of adults with community-acquired pneumonia. American Thoracic Society. *Am J Respir Crit Care Med.* 2001; 163:1730.

Marik PE. Aspiration pneumonitis and aspiration pneumonia. *N Engl J Med.* 344 (9):665-671.

Solomkin JS, Mazuski JE, Baron, EJ, et al. Guidelines for the selection of anti-infective agents for complicated intra-abdominal infections. *Clin Infect Dis.* 2003; 37:997-1005

Swartz MN. Clinical Practice. Cellulitis. *N Engl J Med.* 2004; 350:904-912

Lipsky BA, Berendt, AR, Deery, HG, et al. Diagnosis and treatment of diabetic foot infections. *Clin Infect Dis.* 2004; 39:885-910.

Tambyah PA, Maki, DG. The relationship between pyuria and infection in patients with indwelling urinary catheters. *Arch Intern Med* 2000; 160: 673-77.

Tunkel AR, Hartman, BJ, Kaplan, SL, et al. Practice guidelines for the management of bacterial meningitis. *Clin Infect Dis.* 2004; 39:1267-84.

Bayer AS, Bolger AF, Taubert KA, et.al. Diagnosis and management of infective endocarditis and its complications. *Circulation.* 1998; 98:2936-2948.

Mermel LA, Farr BM, Sherertz RJ, et al. Guidelines on the management of intravascular catheter-related infections. *Clin Infect Dis.* 2001; 32:1249-1272.

Pappas PG, Rex, JH, Sobel, JD, et al. Guidelines for treatment of candidiasis. *Clin Infect Dis.* 2004; 38:161-89.

Safdar N, Handelsman J, Maki DG, et al. Does combination antimicrobial therapy reduce mortality in gram-negative bacteremia? a meta analysis. *Lancet Infec Dis.* 2004; 4:519-527.