

ANTIBIOTIC STEWARDSHIP: OPTIMIZING ANTIBIOTIC USE IN AN ERA OF INCREASING RESISTANCE AND RISING COSTS

Supplement to the *Journal of Hospital Medicine*

RELEASE DATE: January 15, 2011 EXPIRATION DATE: January 31, 2012

Estimated time to complete the activity: 1 hour 45 minutes
Jointly sponsored by Postgraduate Institute for Medicine
and Global Education Exchange, Inc
This activity is supported by an educational grant from
Merck & Co., Inc.

Program Description

With antimicrobial resistance on the rise and very few new pharmaceutical agents in development, a well-managed antimicrobial stewardship program in the hospital becomes the first-line defense against the emergence of resistance and provides not only a cost-containment measure but also ensures the continued efficacy of available antimicrobials. A successful stewardship program knows and understands the local epidemiology and utilizes a multidisciplinary strategy to ensure the selection of an appropriate antibiotic at the right dose for the right duration. In addition, stewardship in the community-based parenteral anti-infective therapy (CoPAT) program provides an opportunity for an integrated patient-centric model of care as well as continuity of care when patients transition from inpatient to outpatient setting.

Learning Objectives

- Explain the impact of multidisciplinary antimicrobial stewardship programs on the emergence and transmission of antimicrobial-resistant microorganisms
- Identify potential challenges and controversies related to the implementation of antimicrobial stewardship programs in health systems
- Use pharmacokinetic and pharmacodynamic data to facilitate appropriate antimicrobial use
- Describe the role of CoPAT in an integrated patient-centric model of antimicrobial stewardship and pharmaco-epidemiology
- Illustrate how a CoPAT model of care can be used to mitigate complications and prevent emergency room visits and readmissions

Target Audience

This activity has been designed to meet the educational needs of hospitalists and other healthcare providers involved in the treatment of patients with infectious diseases.

Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Postgraduate Institute for Medicine (PIM) and Global Education Exchange, Inc. (GLOBEX). PIM is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation

Postgraduate Institute for Medicine designates this educational activity for a maximum of 1.75 *AMA PRA Category 1 Credit(s)*TM. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Faculty

James Pile, MD [Chairman]

Director, Division of Hospital Medicine
Case Western Reserve University at MetroHealth Medical Center
Cleveland, Ohio

Steven M. Gordon, MD

Chairman, Department of Infectious Disease
Cleveland Clinic, Cleveland, Ohio

Nabin Shrestha, MD

Department of Infectious Disease
Cleveland Clinic, Cleveland, Ohio

Susan J. Rehm, MD

Vice Chair, Department of Infectious Disease
Cleveland Clinic, Cleveland, Ohio

Thomas Lodise, PharmD

Associate Professor, Albany College of Pharmacy
Albany, New York

Jill Butterfield, PharmD

Albany College of Pharmacy
Albany, New York

Arjun Srinivasan, MD

Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention
Atlanta, Georgia

Christopher A. Ohl, MD

Associate Professor
Internal Medicine-Infectious Diseases
Wake Forest University, Baptist Medical Center,
Winston-Salem, North Carolina

Vera P. Luther, MD,
 Assistant Professor of Medicine
 Section of Infectious Diseases and Department of Internal Medicine
 Wake Forest University School of Medicine
 Winston-Salem, North Carolina

Disclosure of Conflicts of Interest

The Postgraduate Institute for Medicine (PIM) assesses conflict of interest with its instructors, planners, managers and other individuals who are in a position to control the content of CME activities. All relevant conflicts of interest that are identified are thoroughly vetted by PIM for fair balance, scientific objectivity of studies utilized in this activity, and patient care recommendations. PIM is committed to providing its learners with high quality CME activities and related materials that promote improvements or quality in healthcare and not a specific proprietary business interest of a commercial interest.

The faculty reported the following financial relationships or relationships to products or devices they or their spouse/life partner have with commercial interests related to the content of this CME activity:

Name of Faculty or Presenter	Reported Financial Relationship
James Pile, MD	<i>Consulting Fees:</i> Pfizer <i>CME Symposia:</i> URL Pharma <i>Honorarium:</i> Merck & Co.
Steven M. Gordon, MD	<i>Honorarium:</i> Merck & Co.
Thomas Lodise, PharmD	<i>Consulting Fees:</i> Astellas Pharma, Cubist Pharmaceuticals, Forest Laboratories, Merck & Co. Inc., Pfizer <i>Grants:</i> Astellas Pharma, Cubist Pharmaceuticals, Merck & Co. Inc., Pfizer <i>Speaker's Bureau:</i> Astellas Pharma, Cubist <i>Honorarium:</i> Merck & Co.
Jill Butterfield, PharmD	No real or apparent conflicts of interest to report
Nabin Shrestha, MD	No real or apparent conflicts of interest to report
Susan J. Rehm, MD	No real or apparent conflicts of interest to report
Arjun Srinivasan, MD	No real or apparent conflicts of interest to report
Christopher A. Ohl, MD	<i>Consulting Fees:</i> CDC, Cubist, FDA, Ortho-McNeil, Pfizer, USDA <i>Speaker's Bureau:</i> CDC, Cubist, FDA, Ortho-McNeil, Pfizer, USDA <i>Honorarium:</i> Merck & Co.
Vera P. Luther, MD	No real or apparent conflicts of interest to report

Name of Editor	Reported Financial Relationship
Daniel Brotman, MD, FHM	Honorarium from Wiley-Blackwell for service as the Supplement Editor
Thomas Baudendistel, MD	Honorarium from Wiley-Blackwell for service as the CME Editor

The planners and managers reported the following financial relationships or relationships to products or devices they or their spouse/life partner have with commercial interests related to the content of this CME activity:

Name of Planner or Manager	Reported Financial Relationship
Meri D. Pozo, PhD	No real or apparent conflicts of interest to report
Jan Hixon, RN, BSN, MSN	No real or apparent conflicts of interest to report
Trace Hutchison, PharmD	No real or apparent conflicts of interest to report
Julia Kimball, RN, BSN	No real or apparent conflicts of interest to report
Samantha Mattiucci, PharmD	No real or apparent conflicts of interest to report
Jan Schultz, RN, MSN, CCMEP	No real or apparent conflicts of interest to report
Patricia Staples, MSN, NP-C, CCRN	No real or apparent conflicts of interest to report

Disclosure of Unlabeled Use

This educational activity may contain discussion of published and/or investigational uses of agents that are not indicated by the FDA. Postgraduate Institute for Medicine (PIM), Global Education Exchange, Inc. (GLOBEX) and Merck & Co., Inc. do not recommend the use of any agent outside of the labeled indications.

The opinions expressed in the educational activity are those of the faculty and do not necessarily represent the views of PIM, GLOBEX and Merck & Co., Inc. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications, and warnings.

Method of Participation:

There are no fees for participating and receiving CME credit for this activity. During the period January 15, 2011 through January 31, 2012, participants must read the learning objectives and faculty disclosures and study the educational activity.

PIM supports Green CME by offering your Request for Credit online. If you wish to receive acknowledgment for completing this activity, please complete the post-test and evaluation on www.cmeuniversity.com. On the navigation menu, click on "Find Post-test/Evaluation by Course" and search by course **ID 6903**. Upon registering and successfully completing the post-test with a score of 70% or better and the activity evaluation, your certificate will be made available immediately. Processing credit requests online will reduce the amount of paper used by nearly 100,000 sheets per year.

Media:

Journal supplement

Disclaimer

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patient's conditions and possible contraindications on dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities.