

HOSPITAL PHYSICIAN®

CRITICAL CARE MEDICINE BOARD REVIEW MANUAL

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Antibiotic Usage in the Intensive Care Unit

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I. INTRODUCTION

This article examines problems and trends regarding antibiotic usage, nosocomial infection, and the emergence of antibiotic-resistant pathogens in the intensive care unit (ICU). Considerations in the selection of empiric therapy when the organism has yet to be identified and selection of appropriate pathogen-specific therapy are discussed.

Because of the serious health problems in critically ill patients, many physicians take a “better safe than sorry” attitude, prescribing antibiotics empirically when a new fever develops in a critically ill patient. Although we believe it is always better to err on the side of safety, the benefits of empiricism should be weighed against the risk in every patient, and empiric treatment should not be undertaken reflexively. Not every fever

is infectious. Empiricism and overuse of antibiotics have contributed to the rise of antibiotic-resistant organisms.

The general characteristics of major antibiotics are listed in **Table 1**. Empiric antibiotic regimens for several clinical scenarios are listed in **Table 2**.

II. EVALUATION OF NEW FEVER IN CRITICALLY ILL PATIENTS

The National Institutes of Health recently published practice guidelines for evaluating a new fever in critically ill adult patients.¹ These guidelines emphasize the importance of a careful clinical assessment, including a detailed physical examination. The clinical assessment should focus on in-hospital exposures and medical interventions.

Any wound site or catheter site (intravascular,