

SECTION 2

CLINICAL SYNDROMES: COMMUNITY-ACQUIRED INFECTIONS

153 Pneumonia

Lionel A. Mandell, Richard G. Wunderink

DEFINITION

Pneumonia is an infection of the pulmonary parenchyma. Despite being the cause of significant morbidity and mortality, pneumonia is often misdiagnosed, mistreated, and underestimated. In the past, pneumonia was typically classified as community-acquired (CAP), hospital-acquired (HAP), or ventilator-associated (VAP). Over the past two decades, however, some persons presenting with onset of pneumonia as outpatients have been found to be infected with the multidrug-resistant (MDR) pathogens previously associated with HAP. Factors responsible for this phenomenon include the development and widespread use of potent oral antibiotics, earlier transfer of patients out of acute-care hospitals to their homes or various lower-acuity facilities, increased use of outpatient IV antibiotic therapy, general aging of the

population, and more extensive immunomodulatory therapies. The potential involvement of these MDR pathogens has led to a designation for a new category of pneumonia—*health care-associated pneumonia* (HCAP)—that is distinct from CAP. Conditions associated with HCAP and the likely pathogens are listed in [Table 153-1](#).

Although the new classification system has been helpful in designing empirical antibiotic strategies, it is not without its disadvantages. Not all MDR pathogens are associated with all risk factors (Table 153-1). Moreover, HCAP is a distillation of multiple risk factors, and each patient must be considered individually. For example, the risk of infection with MDR pathogens for a nursing home resident who has dementia but can independently dress, ambulate, and eat is quite different from the risk for a patient who is in a chronic vegetative state with a tracheostomy and a percutaneous feeding tube in place. In addition, risk factors for MDR infection do not preclude the development of pneumonia caused by the usual CAP pathogens.

This chapter deals with pneumonia in patients who are not considered to be immunocompromised. **Pneumonia in severely immunocompromised patients, some of whom overlap with the groups**

TABLE 153-1 CLINICAL CONDITIONS ASSOCIATED WITH AND LIKELY PATHOGENS IN HEALTH CARE–ASSOCIATED PNEUMONIA

Condition	Pathogen			
	MRSA	<i>Pseudomonas aeruginosa</i>	<i>Acinetobacter</i> spp.	MDR Enterobacteriaceae
Hospitalization for ≥ 48 h	√	√	√	√
Hospitalization for ≥ 2 days in prior 3 months	√	√	√	√
Nursing home or extended-care-facility residence	√	√	√	√
Antibiotic therapy in preceding 3 months		√		√
Chronic dialysis	√			
Home infusion therapy	√			
Home wound care	√			
Family member with MDR infection	√			√

Abbreviations: MDR, multidrug-resistant; MRSA, methicillin-resistant *Staphylococcus aureus*.