

Antibiotic Resistance Ongoing Evolution and Consequences

Objectives

- Outline the evolution of antimicrobial resistance (AMR) including the “bullet-and-target” explanation of basic mechanisms
- Identify factors that promote and sustain development of antimicrobial (AMR) and multidrug resistance (MDR)
- Describe drug classes of concern to which resistance can emerge and list the current most antibiotic resistant bacteria in the U.S. as well as the multidrug resistant bacteria recognized globally in the community
- Discuss multidrug resistance and compare differences between nosocomial, community-associated and health care-associated infections
- Recognize the issues and challenges raised by antibiotics and agriculture
- Summarize the societal impact of antibiotic resistance
- Explain the changes in provider behavior and public culture necessary to address overall community antibiotic exposure

Content Outline

- A. Antimicrobial Resistance Overview
 1. Evolution
 2. Factors promoting antimicrobial resistance
 3. Drug classes of antibiotic-resistance bacteria
 4. Societal burden of overall antimicrobial resistance
- B. Multidrug-Resistance
 1. Categories based on associations with onset
 2. MDR bacteria transitioning from nosocomial to community
- C. Approaches to Prevent Antimicrobial and Multidrug Resistance

Reading Material Resources

Module WB2317: Antibiotic Resistance Ongoing Evolution and Consequences is based on the resources listed below. A copy of each resource is included with the module.

Overview, The Ongoing Threat of Antimicrobial Resistance, Watkins, et al., *Infec Dis Clin N Amer* 34 (2020), 649-658

Multidrug-Resistant Bacteria in the Community An Update, Duin DV and Paterson DL, *Infec Dis Clin N America* 34 (2020), 709-722