

Bacterial Antibiotic Resistance: The Most Critical Pathogens.

Antibiotics have made it possible to treat bacterial infections such as meningitis and bacteraemia that, prior to their introduction, were untreatable and consequently fatal. Unfortunately, in recent decades overuse and misuse of antibiotics as well as social and economic factors have accelerated the spread of antibiotic-resistant bacteria, making drug treatment ineffective. Currently, at least 700,000 people worldwide die each year due to antimicrobial resistance (AMR). Without new and better treatments, the World Health Organization (WHO) predicts that this number could rise to 10 million by 2050, highlighting a health concern not of secondary importance. In February 2017, in light of increasing antibiotic resistance, the WHO published a list of pathogens that includes the pathogens designated by the acronym ESKAPE (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Enterobacter species*) to which were given the highest "priority status" since they represent the great threat to humans. Understanding the resistance mechanisms of these bacteria is a key step in the development of new antimicrobial drugs to tackle drug-resistant bacteria. In this review, both the mode of action and the mechanisms of resistance of commonly used antimicrobials will be examined. It also discusses the current state of AMR in the most critical resistant bacteria as determined by the WHO's global priority pathogens list.

1- What has made it possible to treat bacterial infections such as meningitis and bacteraemia? a) Social and economic factors b) Overuse and misuse of antibiotics c) Introduction of antibiotics d) WHO's global priority pathogens list 2- How many people worldwide currently die each year due to antimicrobial resistance (AMR)? a) 100,000 b) 500,000 c) 700,000 d) 1 million 3- What acronym represents the pathogens designated as the highest "priority status" by the WHO? a) AMR b) ESBL c) ESKAPE d) WHO 4- What is a key step in the development of new antimicrobial drugs to tackle drug-resistant bacteria? a) Understanding resistance mechanisms b) Increasing antibiotic usage c) Social and economic factors d) Misusing antibiotics	5- Which of the following is NOT part of the ESKAPE pathogens? a) <i>Staphylococcus aureus</i> b) <i>Acinetobacter baumannii</i> c) <i>Clostridium difficile</i> d) <i>Klebsiella pneumoniae</i> 6- What does AMR stand for? a) Antibiotic Misuse and Resistance b) Antimicrobial Resistance c) Antibiotic Misuse Report d) Antimicrobial Regulation 7- What is the predicted number of deaths by 2050 due to antimicrobial resistance (AMR), according to the WHO? a) 1 million b) 5 million c) 7 million d) 10 million 8- What will be examined in the review mentioned in the text? a) Social and economic factors contributing to AMR b) Mode of action of commonly used antimicrobials c) Side effects of antibiotics d) History of antibiotic discovery
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Match each term with its correct definition:

1. Antimicrobial resistance (AMR): 2. Mode of action: 3. Priority status: 4. Drug-resistant bacteria:	A. The specific way in which a drug interacts with its target to produce its therapeutic effect B. Bacteria that have developed the ability to survive and multiply in the presence of antimicrobial drugs C. The ability of microorganisms to resist the effects of antimicrobial drugs D. A designation indicating significance or urgency in terms of public health concern
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