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Nota di contenuto	Chapter1: Introduction : Coordinated Global Action is Needed to Combat Antimicrobial Resistance -- Part I: Examples of Resistance -- Chapter2: Antimicrobial Resistance Among Streptococcus pneumoniae -- Chapter3: Emergence of MRSA in the Community -- Chapter4: Resistance of Gram-negative Bacilli to Antimicrobials -- Chapter5: Drug Resistance in Tuberculosis -- Chapter6: Anaerobic Bacteria: Antimicrobial Susceptibility Testing and Resistance Patterns -- Chapter7: Clinical Significance and Biologic Basis of HIV Drug Resistance -- Chapter8: Resistance of Herpesviruses to Antiviral Agents -- Chapter9: Heteroresistance: A Harbinger of Future Resistance -- Part II: Biology of Resistance -- Chapter10: Epidemiology of Bacterial Resistance -- Chapter11: Transmissible Antibiotic Resistance -- Chapter12: Antibiotics and Resistance in the Environment -- Chapter13: Phenotypic Tolerance and Bacterial Persistence -- Chapter14: Staphylococcus aureus Adaptation During Infection --

Chapter15: Bacterial Signal Transduction Systems in Antimicrobial Resistance -- Chapter16: Fluoroquinolone Interactions with Bacterial Type II Topoisomerases and Target-mediated Drug Resistance -- Part III: Finding New Antimicrobials -- Chapter17: Natural Products in Antibiotic Discovery -- Chapter18: The New vs. Old Target Debate For Drug Discovery -- Chapter19: Non-quinolone Topoisomerase Inhibitors -- Chapter20: Antimicrobial-Mediated Bacterial Suicide -- Chapter21: PK/PD-based Prediction of “Anti-mutant” Antibiotic Exposures Using In Vitro Dynamic Models -- Part IV: Bringing Compounds to Market -- Chapter22: The Role of Pharmacometrics in the Development of Antimicrobial Agents -- Chapter23: New Regulatory Pathways for Antibacterial Drugs -- Chapter24: Economic Incentives for Antibacterial Drug Development: Alternative Market Structures to Promote Innovation.

Sommario/riassunto

Antimicrobial resistance is now a general problem. Many of us have elderly relatives who died from a drug-resistant infection, and some of us have suffered from a resistant urinary infection that likely came from intestinal bacteria following antibiotic consumption. Antimicrobial Resistance in the 21st Century provides a broad introduction to the subject in which the situation with problematic pathogens is detailed, the biology of resistance is described, and gaining approval for new antibiotics is discussed. Some topics are immediately practical, such as watching for resistant pathogen sub-populations in cultures taken from patients; other topics point to future research efforts that may lead to new antimicrobials and ways to stimulate the action of existing ones. Overall, Antimicrobial Resistance in the 21st Century provides an update for physicians, serves as a starting point for graduate students interested in solving the resistance problem, and may serve as a text for a course on resistance. Lay readers familiar with microbiology will gain an appreciation for a medical issue that promises to be one of the most important of our time. Ignatius Fong, Department of Medicine, University of Toronto Series Editor – Emerging Infectious Diseases of the 21st Century David Shlaes, Founder, Anti-Infectives Consulting Editor – Antimicrobial Agents and Chemotherapy Karl Drlica, The Public Health Research Institute, New Jersey Medical School, Rutgers, The State University of New Jersey.