

MRSA

Current Perspectives

Edited by: **Ad C. Fluit and Franz-Josef Schmitz**

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Since their discovery in the 1960s, methicillin-resistant *S. aureus* (MRSA) strains continue to present unique challenges to clinicians, microbiologists, and the molecular biologists around the world. These organisms are typically resistant to several other antimicrobial agents, including aminoglycosides, chloramphenicol, clindamycin, fluoroquinolones and macrolides and are susceptible only to vancomycin. In fact there is increasing evidence that this susceptibility will soon disappear.

In this book, internationally renowned authors comprehensively review all aspects of MRSA research. Topics covered include strategies for the detection and typing of MRSA strains, epidemiological characterisation, molecular evolution of MRSA, vancomycin resistant *S. aureus*, mechanisms of methicillin resistance, virulence mechanisms in MRSA pathogenesis, recommended treatment of MRSA infections and options for the prevention and control of MRSA infections.

An essential text for all scientists and clinicians with an interest in the *Staphylococcus aureus* or antibiotic resistance.

Chapter 1. Introduction. *Barry D. Cookson, Franz-Josef Schmitz, and Ad C. Fluit*

Chapter 2. Detection of MRSA. *Derek Brown and Barry D. Cookson*

Chapter 3. Mechanisms of Methicillin Resistance. *Susanne Rohrer, Markus Bischoff, Jutta Rossi, and Brigitte Berger-Bächi*

Chapter 4. MRSA Resistance Mechanisms and Surveillance Data for Non-beta-lactams and Non-glycopeptides. *Ian Morrissey and David J. Farrell*

Chapter 5. Molecular Approaches for the Epidemiological Characterization of *Staphylococcus aureus* strains. *Willem B. van Leeuwen*

Chapter 6. The Molecular Evolution of Methicillin-Resistant *Staphylococcus aureus*. *J. Ross Fitzgerald and James M. Musser*

Chapter 7. Population Structure of MRSA. *Ad C. Fluit and Franz-Josef Schmitz*

Chapter 8. Vancomycin-Resistant *Staphylococcus aureus*. *Longzhu Cui and Keiichi Hiramatsu*

Chapter 9. Virulence Mechanisms in MRSA Pathogenesis. *Jesse S. Wright III and Richard P. Novick*

Chapter 10. Small Colony Variants - Another Mechanism by Which *Staphylococcus aureus* Can Evade the Immune response and Antimicrobial Therapy. *Christof von Eiff, and Karsten Becker*

Chapter 11. Treatment of MRSA Infections. *Debby Ben-David and Ethan Rubinstein*

Chapter 12. Prevention and Control of Methicillin-Resistant *Staphylococcus aureus* (MRSA). *Uwe Frank*

Chapter 13. Concluding Remarks. *Ad C. Fluit and Franz-Josef Schmitz*

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