

TABLE OF CONTENTS

Resistant Gram-Positive Infections I	1
Resistant Gram-Positive Infections I Panel	3

Staphylococcus aureus

By Evan J. Zasowski, Pharm.D., MPH, BCPS, BCIDP

Introduction	7
Diagnostic Tests to Detect Antibiotic Resistance in <i>Staphylococcus aureus</i>	7
Infections Commonly Associated with <i>Staphylococcus aureus</i> and MRSA	9
Bone/Joint Infections	11
Pneumonia	13
Bloodstream Infections	15
Infective Endocarditis	17
Conclusion	18
References	18
Self-Assessment Questions	22

Enterococcus

By Nicholas S. Britt, Pharm.D., MS, BCPS, BCIDP

Introduction	27
Treatments for Enterococcal Infections	31
Vancomycin-Resistant <i>Enterococcus</i>	35
References	41
Self-Assessment Questions	46

Resistant Gram-Positive Infections II	51
Resistant Gram-Positive Infections II Panel	53

Streptococcus pneumoniae

By Rebekah H. Wrenn, Pharm.D., BCIDP

Introduction	57
Mechanisms of <i>S. pneumoniae</i> Drug Resistance	61
Risk Factors for Drug-Resistant <i>S. pneumoniae</i>	63
Antibiotic Options for Drug-Resistant <i>S. pneumoniae</i> on the Basis of Infection Site	63
Prevention of <i>S. pneumoniae</i> Resistance	67
Conclusion	69
References	69
Self-Assessment Questions	73

Clostridioides difficile

By Christopher A. Gentry, Pharm.D., BCPS

Introduction	77
Epidemiology of CDI	77
Diagnosis of CDI	79
Stewardship Opportunities and Challenges in CDI Management	79
Drug Characteristics	81
Prevention of CDI	87
Conclusion	87
References	88
Self-Assessment Questions	92

Resistant Gram-Positive Infections III	97
Resistant Gram-Positive Infections III Panel	99

Rapid Diagnostic Testing and Antimicrobial Stewardship

By Maya Beganovic, Pharm.D., MPH, BCIDP; and Eric Wenzler, Pharm.D., BCPS, BCIDP, AAHIVP

Introduction	103
Rapid Diagnostic Tests	105
Role of ASPs in Implementing RDT	109
Implementation	114
Novel Tools and Pipeline RDTs	115
Limitations of RDTs	116
Conclusion	117
References	117
Self-Assessment Questions	122

PK/PD of Gram-Positive Agents

By Jill M. Cowper, Pharm.D., BCIDP

Introduction	127
Basic Principles	128
PK/PD Optimization of Agents Used for Gram-Positive Infections	129
Applying PK/PD of Gram-Positive Agents in Antimicrobial Stewardship	146
Conclusion	146
References	150
Self-Assessment Questions	160

Resistant Gram-Positive Infections IV	165
Resistant Gram-Positive Infections IV Panel	167

Interactive Case: Combination Antibiotics for *Staphylococcus aureus*

By Anthony M. Casapao, Pharm.D., MPH

Interactive Case: Combination Antibiotics for <i>Staphylococcus aureus</i>	171
Hyperlink to activity	172
References	172
Self-Assessment Questions	177

Interactive Case: *Clostridioides difficile* Infection Diagnostics

By Brian M. Hoff, Pharm.D., BCIDP, BCPS

<i>Clostridioides difficile</i> Infection Diagnostics	181
Hyperlink to activity	182
References	182
Self-Assessment Questions	184