# TABLE OF CONTENTS

**CHAPTER 1: INTRODUCTION 10**
- About the Fifth Edition 10
- About Tuberculosis 12
- Innovations in Tuberculosis Care in the Last Decade 13
- The Role of the Bureau of Tuberculosis Control in Tuberculosis Care and Prevention in New York City 15

**CHAPTER 2: DIAGNOSIS AND TREATMENT OF LATENT TUBERCULOSIS INFECTION 18**
- Priority Populations for Tuberculosis Infection Screening and Evaluation 19
- Tests for Tuberculosis Infection 19
- Testing Among Priority Populations and Special Considerations 28
- Medical Evaluation 31
- Classification of the Patient and Implications for Clinical Follow-Up 32
- Treatment Of Latent Tuberculosis Infection 35
- Clinical Monitoring During Latent Tuberculosis Infection Treatment 43
- Special Considerations For Latent Tuberculosis Infection Diagnosis And Treatment During Pregnancy 46
- Special Considerations for Diagnosis and Treatment of Latent Tuberculosis Infection in Infant and Child Contacts 49
- Special Considerations for Contacts of Persons with Multidrug-Resistant Tuberculosis 51
- Special Considerations for Treatment Options of Persons with Radiographic Evidence of Old, Healed Tuberculosis 52
- Case Management of Patients with Latent Tuberculosis Infection 54
- Discharge of the Patient from Clinic 55
- Re-Treatment of Latent Tuberculosis Infection 55

**CHAPTER 3: DIAGNOSIS OF TUBERCULOSIS DISEASE IN ADULTS 62**
- Diagnosis of Active Tuberculosis Disease 63
- Evaluation of Extrapulmonary Tuberculosis Disease 71

**CHAPTER 4: LABORATORY TESTING FOR TUBERCULOSIS 79**
- General Information About Laboratory Tests for New York City Specimens 79
- Tests for Tuberculosis Disease 82
- Testing for Drug Susceptibility and Prediction of Drug Resistance 85
- Genotyping 91
- False-Positive Investigation 92
- Other Laboratory Testing 93

**CHAPTER 5: TREATMENT OF DRUG-SUSCEPTIBLE TUBERCULOSIS DISEASE IN ADULTS 96**
- Treatment Regimens and Dosages for Pulmonary Tuberculosis Disease 97
- Treatment of Extrapulmonary Tuberculosis Disease 101
- Use of Pyridoxine (Vitamin B6) in Tuberculosis Treatment 103
- Determination of Treatment Completion 103
# TABLE OF CONTENTS

Treatment of Coexisting Tuberculosis Disease and Human Immunodeficiency Virus 106  
Treatment of Coexisting Tuberculosis and Nontuberculous Mycobacteria 111  
Treatment Regimens for Pregnant Patients 111  
Treatment Regimens for Patients with Chronic Renal Failure 112  
Treatment Regimens for Patients with Liver Disease 113  
Drug Interactions 114  

## CHAPTER 6: TREATMENT OF DRUG-RESISTANT TUBERCULOSIS DISEASE IN ADULTS 117  
Principles of Treating Drug-Resistant Tuberculosis Disease 118  
Specific Medications Used to Treat Drug-Resistant Tuberculosis 121  
Suggested Regimens for Specific Drug Resistance Patterns 127  
Treatment Regimens for Multidrug-Resistant Tuberculosis 131  
Principles of Monitoring Drug-Resistant Tuberculosis Disease 134  
QTc Prolongation 134  
Surgery for Pulmonary Tuberculosis Disease 135  
Shorter Regimens for Multidrug-Resistant Tuberculosis 136  
Post-Treatment Evaluation 137  

## CHAPTER 7: DIAGNOSIS AND TREATMENT OF PEDIATRIC TUBERCULOSIS DISEASE 141  
Characteristics of Pediatric Tuberculosis Disease 142  
Medical Evaluation 142  
Lumbar Puncture 145  
Congenital and Neonatal Tuberculosis Disease 146  
Treatment of Pediatric Tuberculosis Disease 148  
Adverse Events in Children 152  

## CHAPTER 8: CLINICAL MONITORING AND FOLLOW-UP FOR TUBERCULOSIS TREATMENT 154  
Monthly Clinical Monitoring 155  
Management of Adverse Reactions 160  
Drug Desensitization 172  
Paradoxical Reactions/Immune Reconstitution Inflammatory Syndrome 172  
Reporting Adverse Events 173  
Re-Classification of Patients Being Evaluated for Tuberculosis Disease 174  
Monitoring Serum Drug Levels 175  
Late Complications of Treated Pulmonary Tuberculosis Disease 176  

## CHAPTER 9: TUBERCULOSIS REPORTING AND SURVEILLANCE 180  
Tuberculosis Reporting 181  
Surveillance 184
# TABLE OF CONTENTS

## CHAPTER 10: CASE MANAGEMENT FOR PATIENTS WITH TUBERCULOSIS 188
- Case Management Activities 189
- Directly Observed Therapy 194
- Addressing Non-Adherence 195
- Ensuring Effective Case Management 201

## CHAPTER 11: CONTACT INVESTIGATION 206
- Contact Investigation Activities 206
- Source Case Investigations 221
- Addressing Non-Adherence 222

## CHAPTER 12: TUBERCULOSIS GENOTYPING AND CLUSTER INVESTIGATION 224
- Tuberculosis Genotyping 224
- Tuberculosis Genotype Review And Cluster Detection 225
- Cluster Prioritization 226
- Cluster Investigation 227
- Tuberculosis Outbreaks 230
- Initiating Public Health Action 230

## CHAPTER 13: INFECTION CONTROL 233
- General Principles of Infection Control 233
- Hierarchy of Infection Control Measures 234
- Tuberculosis Infection Control in Healthcare Facilities 238
- Infection Control Measures in the Community 241
- Discontinuation of Infection Control Measures 243
- Regulatory Controls for Infectious Non-Adherent Patients 245
- Special Considerations for Pregnancy and Peripartum Infection Control 245
- Bureau of Tuberculosis Control Infection Control Plan 246

## CHAPTER 14: OUTREACH AND EDUCATION 249
- Planning Framework for Education, Training, and Outreach 253

## CHAPTER 15: TUBERCULOSIS EVALUATION FOR NEW ARRIVALS AND STATUS ADJUSTERS 258
- New Arrival Medical Screening for Tuberculosis 259
- Bureau of Tuberculosis Control New Arrival Activities 261
- Status Adjuster Medical Screening for Tuberculosis 263

## CHAPTER 16: PROGRAM EVALUATION AND RESEARCH 267
- Data Sources and Routine Analysis 267
- Program Evaluation 268
- Research 271
# TABLE OF CONTENTS

## CHAPTER 17: LAWS GOVERNING TUBERCULOSIS IN NEW YORK CITY 274

- Confidentiality and Disclosure of Patient Information 275
- Reporting Requirements 281
- Microbiology and Pathology Laboratories: Testing and Reporting 285
- Veterinarian and Animal Care Institutions: Reporting Animals Infected with Tuberculosis 287
- Investigation, Isolation, Exclusion Requirements, and Enforcement Mechanisms for Non-Adherent Patients 289
- Schools, Childcare Services, and Other Children’s Facilities 293
- Payment for Tuberculosis Services 295

## APPENDICES 297

- Appendix A: International Classification of Tuberculosis 298
- Appendix B: Tuberculosis Risk Assessment Tool 299
- Appendix C: Administering the Tuberculin Skin Test 300
- Appendix D: The Use of Bacille Calmette-Guérin Vaccine 302
- Appendix E: Instructions for Performing Sputum Induction 304
- Appendix F: Potential Drug Interactions with Isoniazid and Rifamycin Medications 308
- Appendix G: Dosages, Adverse Reactions, and Monitoring for First-Line Medications Used to Treat Tuberculosis 310
- Appendix H: Dosages, Adverse Reactions, and Monitoring for Additional Medications Used to Treat Tuberculosis 312
- Appendix I: The Use of Anti-Tuberculosis Drugs and Pregnancy, Breastfeeding, Tuberculosis Meningitis, and Renal and Hepatic Failure1 315
- Appendix J: Recommendations for Patients to Assist with Taking Tuberculosis Medications 317
- Appendix K: Procedures for Therapeutic Drug Monitoring 318
- Appendix L: Initial Patient Interview Topics 321
- Appendix M: Directly Observed Therapy Agreement Form 322
- Appendix N: Home Isolation Agreement 324
- Appendix O: Instructions for Patients with Potentially Infectious TB 325
- Appendix P: Information for Persons who Live with Patients with TB 326
- Appendix Q: New York City Health Department Universal Reporting Form 327
- Appendix R: Report of Patient Services Form 331
- Appendix S: Hospital Discharge Approval Form 332