CASE 1: A 14-year-old girl presented with a 2-day history of fever, sore throat, and a red left eye. ........................................ 7

CASE 2: A 21-year-old male college student presented with fever, sore throat, severe fatigue, and difficulty in swallowing. ............... 11

CASE 3: A 6-year-old girl presented with a high fever, an itchy throat, and difficulty swallowing. ........................................ 15

CASE 4: A 9-year-old girl presented with low-grade fever, sore throat, and malaise for 2 days. ........................................ 19

CASE 5: A 7-year-old girl presented with fever, headache, earache, and swelling and tenderness at the parotid and submaxillary areas. ........................................ 23

CASE 6: A 16-month-old boy presented with runny nose, hoarseness, barking cough, and low-grade fever. ........................................ 25

CASE 7: A 2-month-old girl with no history of immunization turned blue after a series of coughing spells. ........................................ 29

CASE 8: A 64-year-old man with COPD presented with a low-grade fever, productive cough of yellow-green sputum, and worsening shortness of breath. ........................................ 31

CASE 9: A 67-year-old man presented with abrupt onset of shaking chills, high fever, chest pain, and a productive cough. ........................................ 35

CASE 10: A 66-year-old homeless alcoholic man presented with a cough, fever, night sweats, and chest pain. ........................................ 41

CASE 11: A 21-year-old woman developed fever, headache, and a gradually progressive dry cough. ........................................ 45

CASE 12: A 41-year-old man was admitted with a 3-day history of high fever and cough. ........................................ 49

CASE 13: A 71-year-old man developed fever, chills, muscle aches, cough, and prostration. ........................................ 53

CASE 14: A 5-month-old girl was brought to the clinic with a 2-day history of cough and respiratory difficulty. ........................................ 57

CASE 15: A 32-year-old woman presented with a cough, night sweats, and a 15-lb weight loss. ........................................ 61

CASE 16: A 29-year-old woman developed fever, chills, and bloody cough after chemotherapy for leukemia. ........................................ 65

CASE 17: Five workers between the ages of 29 and 48 years presented with a 1-week history of fever, chills, night sweats, cough, and weight loss. ........................................ 69

CASE 18: A 38-year-old man presented with a 2-week history of fever, productive cough, right-sided pleuritic chest pain, a 12-lb weight loss, and a painful lesion on his left arm. ........................................ 73

CASE 19: A 35-year-old man was admitted with a 3-week history of fever, night sweats, headache, joint pains, and a dry cough. ........................................ 75
Case 20: A 44-year-old man presented with a 3-month history of intermittent fever, chills, and a cough productive of green sputum. ........... 79

Case 21: A 20-year-old man presented with a 3-week history of moderate fever, cough, shortness of breath, weight loss, and anorexia. ........... 83

Case 22: A 23-year-old man with AIDS was admitted for fever, nonproductive cough, and progressive shortness of breath. ..................... 87

Case 23: An 18-year-old woman with cystic fibrosis presented with a worsening chronic cough productive of greenish sputum. ............... 91

Case 24: A 62-year-old man was admitted with fever, shortness of breath, productive cough, and chest pain. He also complained of thick, yellowish discharge in his eyes. ........... 95

SECTION II
Urogenital Tract Infections .................................. 99

Case 25: A 24-year-old sexually active woman had a 1-day history of urgency and burning pain on urination. ......................... 103

Case 26: A 31-year-old woman presented with low-grade fever, malaise, and a rash. She had a history of painless ulcers on the vulva. ............... 107

Case 27: A 26-year-old man was concerned about the painful, itchy sores on the shaft of the penis. ........................................ 111

Case 28: A 23-year-old woman presented with a few small, raised lesions on the cervix but was otherwise asymptomatic. .......... 115

Case 29: An 18-year-old sexually active man presented with a 48-hour history of painful urination and a yellowish penile discharge. .... 119

Case 30: A 27-year-old woman presented with lower abdominal pain, vaginal discharge, and dysuria for 1 week. .................. 123

Case 31: A 26-year-old woman came to a clinic complaining of a profuse yellow, foamy vaginal discharge with foul odor. ........ 127

Case 32: A 21-year-old woman complained of bothersome vulvar itching and thick, whitish vaginal discharge. .................. 131

Case 33: A 27-year-old man presented with fever, headache, sore throat, malaise, and a rash. ........................................ 135

SECTION III
Gastrointestinal Tract Infections and Liver Diseases .................. 141

Case 34: A 20-year-old man was brought for evaluation of severe abdominal cramping, diarrhea, and bloody bowel movements. ........ 147

Case 35: Six individuals presented with a low-grade fever, abdominal cramps, vomiting, and diarrhea. ...................... 151

Case 36: A 41-year-old man was brought with a 3-day history of shaking chills, high fever, headache, abdominal pain, and generalized weakness. .......... 155

Case 37: A 71-year-old man had an acute onset of fever, crampy abdominal pain, and diarrhea. .............................. 159

Case 38: A 75-year-old man had severe abdominal cramps and watery diarrhea that became bloody. ......................... 163

Case 39: A 31-year-old man presented with sudden severe, watery diarrhea after returning to the United States from Bangladesh. ........ 167

Case 40: Twenty-four people had nausea, vomiting, and crampy abdominal pain within 3 hours after eating a meal at an office party. .... 171

Case 41: A 3-month-old female infant was brought with a 5-day history of decreased activity, decreased oral intake, upper airway congestion, and general irritability. .......... 175

Case 42: A 67-year-old man presented with frequent diarrhea after treatment for nosocomial pneumonia. .................. 179
Case 43: A 9-month-old baby girl was brought with a 2-day history of vomiting, watery diarrhea, and fever. .................................................. 183

Case 44: Within 48 hours of a college football game, 158 students presented with nausea, vomiting, and diarrhea. .................................................. 187

Case 45: A 54-year-old woman presented with worsening abdominal pain and occasional heartburn. .................................................. 191

Case 46: A 36-year-old man experienced intermittent diarrhea, with blood and mucus, and tenesmus after a trip to India. .................................................. 195

Case 47: A 25-year-old man presented with nausea, flatulence, lack of appetite, and watery foul-smelling diarrhea. .................................................. 199

Case 48: A 35-year-old man with AIDS presented with low-grade fever, nausea, anorexia, and several weeks of watery diarrhea. .................................................. 203

Case 49: A 3-year-old girl experienced a 3-week history of nausea, poor appetite, abdominal pain, and a 2-day history of no bowel movements. .................................................. 207

Case 50: A 42-year-old man experienced 3 weeks of worsening diarrhea, abdominal pain, and fevers, and 2 weeks of an itchy rash. .................................................. 211

Case 51: A 49-year-old woman from Argentina experienced high fever and chills, jaundice, and upper abdominal pain for 3 days. .................................................. 215

Case 52: A 41-year-old man from Kenya presented with a 4-month history of worsening abdominal pain, diarrhea, nausea, and vomiting with blood. .................................................. 219

Case 53: A 23-year-old man presented with a 5-day history of fever, jaundice, nausea, and vomiting. .................................................. 223

Case 54: A 27-year-old woman and IV drug user complained of fevers, chills, headache, malaise, anorexia, and abdominal pain. .................................................. 227

Case 55: A 48-year-old man was asymptomatic at physical exam, but routine chemistry panel showed elevated transaminases. .................................................. 231

SECTION IV
Nervous System Infections .................................................. 235

Case 56: A 20-year-old male college student was brought to an ER with a 12-hour history of high fever, chills, and severe headache. .................................................. 241

Case 57: A 3 week-old baby boy was brought to the ER with a 24-hour history of fever, poor feeding, irritability, and a seizure. .................................................. 245

Case 58: A 64-year-old woman with a history of rheumatoid arthritis presented to the emergency department with 5 days of fever, headache, and confusion. .................................................. 249

Case 59: In a rural county in the Midwest, 29 people had a rapid onset of fever, headache, stiff neck, and photophobia. .................................................. 253

Case 60: A 61-year-old homeless man had fever, malaise, worsening headache, nausea, vomiting, and diarrhea for the past 3 days in July. .................................................. 257

Case 61: A 56-year-old man was brought to the ER for fevers, headache, left-sided weakness, and a seizure. .................................................. 261

Case 62: A 45-year-old homosexual man was brought to the ER for fever, severe headache, nausea, vomiting, and mental status changes. .................................................. 263

Case 63: A 30-year-old woman was brought to the ER for severe headache, nausea, vomiting, and seizures. .................................................. 267

Case 64: A 28-year-old man was brought to the ER for severe headaches and two generalized seizures. .................................................. 271

Case 65: A 31-year-old man was brought to the ER for fever, muscle pains, vomiting, and visual hallucinations. .................................................. 275
Case 66: A 9-day-old female newborn had a 10-hour history of inability to nurse and difficulty in opening her jaw. .......................... 279

SECTION V
Skin, Wound, and Multisystem Infections .......................... 283

Case 67: An 18-year-old male college student developed fever, chills, and pain while walking. He had boils on his left leg and fever. .......................... 287

Case 68: A 24-year-old man developed severe pain and swelling in his left thigh. He was unable to walk without assistance and developed a high fever. .......................... 293

Case 69: A 66-year-old man developed local edema and brownish discharge 2 days after surgery for colon carcinoma. .......................... 297

Case 70: A 27-year-old man had high, spiking fevers, severe diffuse pain over the lower abdomen, and loss of appetite. .......................... 301

Case 71: An 8-year-old white boy was brought to the dermatology clinic for raised lesions on his head. .......................... 305

Case 72: A 58-year-old man presented with a 3-week history of progressive, mildly painful skin lesions on his left arm. .......................... 309

Case 73: Six unvaccinated college students became sick with fever, cough, conjunctivitis, coryza, and a rash while in India. .......................... 313

Case 74: A 3-year-old unvaccinated boy developed a low-grade fever, swollen lymph nodes, and a rash. .......................... 317

Case 75: A 55-year-old woman experienced burning and pain over her left forearm. Several vesicles developed in a band-like distribution on her arm. .......................... 321

Case 76: A 62-year-old man with a history of a heart murmur developed low-grade fevers, night sweats, and fatigue. .......................... 325

Case 77: A 36-year-old man with AML was brought to the hospital for high fever, dry cough, and worsening shortness of breath for a week. .......................... 329

Case 78: A 63-year-old white man came to the ER for fever, headache, generalized myalgia, arthralgias, and a rash under the armpit. .......................... 333

Case 79: A 9-year-old boy, a new immigrant from West Africa, developed intense chills and daily high fever for 4 days. .......................... 337

Case 80: On a hot summer day, a 23-year-old man was brought to the ER for fever, severe headache, and spotted rash. .......................... 341

Case 81: A 35-year-old man developed high fever, myalgias, and severe headache after a boating trip. .......................... 345

Case 82: A 55-year-old woman developed high fever, chills, and pain in the axilla after having been bitten by her cat. .......................... 347

SECTION VI
Bioterrorism Agents and Emerging Infections .......................... 349

Case 83: A 63-year-old man developed nausea, vomiting, and confusion. .......................... 355

Case 84: A 24-year-old man complained of a chickenpox-like rash after he had fever, severe headache, and back pain. .......................... 359

Case 85: An 18-year-old man was taken to the ER for fever, weakness, pain in his left groin, and small rashes on his leg. .......................... 363

Case 86: A 38-year-old man had an 8-week history of fevers, headache, sweats, a 30-lb weight loss, and pain in his joints and lower back. .......................... 367

Case 87: A 51-year-old man developed fever, headache, muscle aches, and an ulcer a week after skinning and tanning a rabbit. .......................... 371
Case 88: In early summer, a 42-year-old man was admitted with a 1-week history of fever, muscle aches, and malaise. .................. 375

Case 89: In August, a 69-year-old diabetic woman developed fever, headache, vomiting, weakness, and confusion. .................. 379

Case 90: A 46-year-old man had a 6-month history of increasing forgetfulness, depression, and personality changes. .................. 383

Case 91: A 44-year-old female nursing aide attending a patient with severe respiratory illness had complaints of fever, cough, myalgias, and mild shortness of breath. .................. 387

Appendix A: Pathogenic Viruses: Concepts
Michael Gale, Jr, PhD .................. 390

Appendix B: Pathogenic Bacteria: Concepts
Kevin McIver, PhD .................. 401

Appendix C: Pathogenic Fungi and Parasites: Concepts .................. 418

Appendix D: Diagnostic Methods: Concepts
Dominick Cavuoti, DO .................. 433

Appendix E: Antimicrobial Therapy .................. 451

Appendix F: Practice Questions and Answers .................. 462

Appendix G: Microbes/Diseases .................. 514

Index .................. 517