

## CHAPTER 21 INFECTIONS OF THE RESPIRATORY SYSTEM

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### RESPIRATORY SYSTEM

- ◆ The respiratory system is the most accessible system in the body and is therefore a major portal of entry for pathogens
- ◆ The upper respiratory tract is continuously exposed to pathogens, whereas the lower respiratory tract is essentially sterile
- ◆ Many infections of the lower respiratory tract result in pneumonia

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### RESPIRATORY SYSTEM

- ◆ The respiratory system is also a good portal of exit, and so it is easy for a pathogen to use this system to spread infections from person to person
- ◆ Fungal infections of the respiratory system are usually restricted to individuals who are immunocompromised

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### INFECTIONS OF THE UPPER RESPIRATORY TRACT

- ◆ Bacterial infections of the upper respiratory tract can involve otitis media, mastoiditis, sinusitis, and pharyngitis
- ◆ Viral infections of the upper respiratory tract include the common cold (rhinovirus) and parainfluenza
- ◆ There are no specific treatments for viral infections of the upper respiratory tract

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### BACTERIAL INFECTIONS OF THE LOWER RESPIRATORY TRACT

- ◆ Bacterial infections of the lower respiratory tract include both nosocomial and community-acquired bacterial pneumonia
- ◆ *Chlamydomphila* and *Mycoplasma* can also cause pneumonia

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### BACTERIAL INFECTIONS OF THE LOWER RESPIRATORY TRACT

- ◆ Tuberculosis is a serious lower respiratory tract infection caused by *Mycobacterium tuberculosis*, an organism that is becoming more resistant to antibiotic treatment
- ◆ Pertussis (whooping cough), inhalation anthrax, legionellosis, Q fever, and psittacosis are serious infections of the lower respiratory tract

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### **VIRAL INFECTIONS OF THE LOWER RESPIRATORY TRACT**

- ◆ Influenza and RSV cause the most common viral infections of the lower respiratory tract
- ◆ They are serious infection in themselves and also make the patient more susceptible to secondary bacterial infections

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### **VIRAL INFECTIONS OF THE LOWER RESPIRATORY TRACT**

- ◆ There are vaccines and antiviral therapies for influenza though they are of limited effectiveness
- ◆ There is no vaccine or specific treatment for RSV
- ◆ HPS is an emerging infectious disease

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### **FUNGAL INFECTIONS OF THE RESPIRATORY SYSTEM**

- ◆ The adaptive immune response usually keeps fungal infections under control
- ◆ Fungal infections of the respiratory tract are usually opportunistic infections seen in immunocompromised individuals

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### **FUNGAL INFECTIONS OF THE RESPIRATORY SYSTEM**

- ◆ Once developed, fungal infections of the respiratory tract can be serious and treatment options are limited
- ◆ Fungal infections of the respiratory tract include *Pneumocystis* pneumonia, histoplasmosis, coccidioidomycosis, and aspergillosis

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