LEARNING OBJECTIVES

After completing this chapter, you will be able to:

- Define and spell the word parts used to create terms for the respiratory system.
- Break down and define common medical terms used for symptoms, diseases, disorders, procedures, treatments, and devices associated with the respiratory system.
- Build medical terms from the word parts associated with the respiratory system.
- Pronounce and spell common medical terms associated with the respiratory system.
CHAPTER 9
The Respiratory System

Worksheet 1

Phonetic Spelling Challenge
Spell the medical term correctly in the space provided.

1. at eh LEK tah siss
2. kroop
3. NOO moh THOH raks
4. too BER kyoo LOH siss
5. loh BEK toh mee
6. rye NYE tiss
7. PLOO ral eh FYOO zhun
8. ep ih glah TYE tiss
9. SISS tik fye BROH siss
10. brong KYE tiss
11. LAIR in JYE tiss
12. em fih SEE mah
13. PULL mon air ee EM boh lizm
14. koh RYE zah
15. em fih SEE mah
16. ah KAP nee ah
17. high pahk SEE mee ah
18. noo moh KOH nee OH siss
19. ass pih RAY shun
20. aw skull TAY shun
Spelling Challenge
These terms are spelled incorrectly. Spell each term correctly in the space provided.

1. Respiration ____________________________
2. Dysfonia ____________________________
3. Kine-Strokes respiration ____________________________
4. Hyperpnia ____________________________
5. Laringospasm ____________________________
6. Asma ____________________________
7. Emfisema ____________________________
8. Bronkitis ____________________________
9. Appnea ____________________________
10. Bronchiactasis ____________________________
11. Tuberculossis ____________________________
12. Addenoiectomy ____________________________
13. Bronkoscopie ____________________________
14. Nebulyzer ____________________________
15. Mechanecal ventelation ____________________________

Abbreviation Matchup
Select and match the correct abbreviation to the definition.

_____ 1. pulmonary embolism a. TB
_____ 2. cystic fibrosis b. AFB
_____ 3. chest x-ray c. NRDS
_____ 4. cardiopulmonary resuscitation d. PE
_____ 5. tuberculosis e. CPR
_____ 6. acid-fast bacilli f. ABGs
_____ 7. neonatal respiratory distress g. CXR
_____ 8. upper respiratory infection h. COPD
_____ 9. arterial blood gases i. URI
_____ 10. chronic obstructive pulmonary disease j. CF
True/False

Mark each statement as true (T) or false (F).

_____ 1. A reduced breathing rhythm that fails to meet the body's gas exchange demands is called hyperventilation.

_____ 2. Abnormally shallow breathing is called hypopnea.

_____ 3. A nosebleed is clinically called hemoptysis.

_____ 4. A narrowing of the airway by the contraction of smooth muscles in the walls of the tiny tubes within the lungs known as bronchioles is called bradypnea.

_____ 5. The common term for atelectasis is collapsed lung.

_____ 6. Another name for pertussis is whooping cough.

_____ 7. A blood clot that moves along with the bloodstream is called an embolism.

_____ 8. A respiratory disease that is characterized by atelectasis known as respiratory distress syndrome.

_____ 9. Effusion refers to the leakage of fluid.

_____ 10. A fungal infection of the upper respiratory tract, which often spreads to the lungs and other organs, is called coryza.

Fill in the Blank

Fill in the blank with the correct medical term from this chapter.

11. Bronchogenic carcinoma is the most common form of ____________________________.

12. This hereditary lung disease strikes 1 in roughly 2,500 children and is commonly fatal due to lung destruction before the age of 30 years. ____________________________

13. The symptoms of this lung disease arise when the alveoli lose their elasticity, causing them to burst, which reduces the efficiency of gas exchange. ____________________________

14. Inflammation of the nose and pharynx is called ____________________________.

15. The most common cause of adenocarcinoma of the lung is ____________________________.

16. In the disease ____________________________ ____________________________, fluid leakage occurs into the pleural cavity.

17. Inflammation of the pleural membranes is called ____________________________.

18. Inflammation of the lungs caused by the chronic inhalation of fine particles is called ____________________________.
19. An inflammatory condition of the lungs that is independent of a particular cause is called ________________.

20. A(n) ________________ is the abnormal presence of air or gas within the pleural cavity.

Short Answer
Write the definition for each of the following terms.

21. Pneumonia _____________________________________________________________

22. Pyothorax _____________________________________________________________

23. Tracheitis _____________________________________________________________

24. Adenoidectomy _____________________________________________________________

25. Aspiration _____________________________________________________________

Word Search
Fill in the blank with the correct medical term from this chapter, then find the words in the word search puzzle that follows.

1. Inflammation of one or more tonsils is called ____________________________.

2. A therapeutic drug that inhibits the effects of histamines is called a(n) ________________.

3. A surgical incision into the chest wall is called a(n) ____________________________.

4. A simple skin test to determine the presence of a tuberculosis infection is called a(n) TB ________________ test.

5. Surgical repair of the nose is called ____________________________.

6. A physician specializing in the treatment of diseases affecting the lower respiratory tract, particularly the lungs, is called a(n) ____________________________ specialist.

7. Surgical puncture into the thoracic cavity to aspirate fluid is called a(n) ____________________________.

8. Surgical removal of a single lobe of a lung is sometimes required as a treatment for lung cancer, if the tumor is isolated to one lobe. The procedure is called a(n) ________________.

9. An acute infectious disease characterized by inflammation of the larynx, trachea, and bronchi that produces spasmodic coughing is called ____________________________.
10. A severe hereditary disease characterized by excess mucus production in the respiratory tract, digestive tract, and elsewhere is called cystic __________________________.

11. An aggressive form of cancer arising from cells within the bronchi is known as __________________________ carcinoma.

12. A condition of the lungs that is characterized by widespread narrowing of the bronchioles and formation of mucus plugs is known as __________________________.

13. Inflammation of the epiglottis is called __________________________.

14. The symptom of coughing up and spitting out blood is called __________________________.
Dictation Report

Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

Understanding the (1) __________________________ system is essential for any doctor. A doctor who specializes in diagnosing and treating disease of the respiratory system is sometimes called a(n) (2) __________________________. Working with the pulmonary specialist is the doctor who diagnoses and treats disease of the pharynx, called the (3) __________________________.

If cancer is diagnosed, the patient is likely to be referred to a doctor called a(n) (4) __________________________. The medical specialist who delivers breathing treatments is called a(n) (5) __________________________.

A patient with a respiratory problem might have something as minor and simple as the common cold or (6) __________________________, or something as serious and complex as (7) __________________________. When a section of the respiratory tract becomes inflamed or infected, the condition is named after the part that is affected. For example, if a patient has (8) __________________________, he has an inflammation of the bronchi. If a patient has (9) __________________________, she has an inflammation of the larynx. If a patient has (10) __________________________, he has an inflammation of the epiglottis. (11) __________________________ is inflammation of the nose and pharynx.

Infections of the respiratory system can happen to anyone, from the very young to the very old. A viral infectious disease that is relatively common among infants and young children that produces a characteristic hoarse cough is commonly known as (12) __________________________. Some children are born with (13) __________________________, which is a hereditary disorder. Many children used to die of (14) __________________________, or whooping cough,
before a vaccination was developed. Smoking causes many respiratory diseases, including (15) __________________ of the lung and (16) ___________________. Older adults can suffer from (17) __________________ and (18) ___________________.

Many surgical procedures are performed on the respiratory structures, including (19) __________________, (20) __________________, and (21) __________________. Many treatments are conducted on patients with respiratory problems to diagnose and treat patients and to help them breathe better. These include (22) __________________, (23) __________________, (24) __________________, and (25) __________________.

It is important to maintain good respiratory health throughout your lifetime to avoid problems. It is wise to learn (26) __________________, for those you love and care for. If you have (27) __________________, be sure to monitor your breathing regularly with a(n) (28) __________________, and use a(n) (29) __________________ as ordered by your physician. (30) __________________ can be helpful when you have a cold. Above all, to maintain good respiratory health, don’t smoke.
Word Surgery

Read the Medical Word. Break down the medical word into its word parts, and give the meaning of each word part. Then give the definition of the medical word.

1. Bronchoscopy
   Definition: __________________________________________________________
   Combining form and definition: _______________________________________
   Suffix and definition: ________________________________________________

2. Tachypnea
   Definition: __________________________________________________________
   Prefix and definition: ________________________________________________
   Suffix and definition: ________________________________________________

3. Euphonia
   Definition: __________________________________________________________
   Prefix and definition: ________________________________________________
   Combining form and definition: _______________________________________
   Suffix and definition: ________________________________________________

4. Rhinorrhea
   Definition: __________________________________________________________
   Combining form and definition: _______________________________________
   Suffix and definition: ________________________________________________

5. Thoracocentesis
   Definition: __________________________________________________________
   Combining form and definition: _______________________________________
   Suffix and definition: ________________________________________________

6. Hypercapnea
   Definition: __________________________________________________________
   Prefix and definition: ________________________________________________
   Combining form and definition: _______________________________________
   Suffix and definition: ________________________________________________
7. Hypoxemia
   Definition: ____________________________________________________________
   Prefix and definition: __________________________________________________
   Combining form and definition: __________________________________________
   Suffix and definition: __________________________________________________

8. Laryngectomy
   Definition: ____________________________________________________________
   Combining form and definition: _________________________________________
   Suffix and definition: __________________________________________________

9. Spirometer
   Definition: ____________________________________________________________
   Combining form and definition: _________________________________________
   Suffix and definition: __________________________________________________

10. Atelectasis
    Definition: ____________________________________________________________
    Prefix and definition: _________________________________________________
    Suffix and definition: _________________________________________________

11. Hemoptysis
    Definition: ____________________________________________________________
    Combining form and definition: _________________________________________
    Suffix and definition: _________________________________________________

12. Tracheostenosis
    Definition: ____________________________________________________________
    Combining form and definition: _________________________________________
    Suffix and definition: _________________________________________________

13. Epiglottitis
    Definition: ____________________________________________________________
    Prefix and definition: _________________________________________________
    Combining form and definition: _________________________________________
    Suffix and definition: _________________________________________________
Case Study

Fill in the blank with the correct medical term from this chapter.

Robert is seen in the emergency room with elevated temperature, difficult breathing, and cough productive of greenish sputum. These symptoms started earlier in the day. He had previously had symptoms of sore throat, runny nose, and low-grade temperature. In the emergency room the physician assistant examines the patient and finds him to have rapid breathing, elevated temperature, and a low oxygen level. The lungs are examined with a stethoscope by a process that is called auscultation. The findings showed inflammation and infection of the soft tissues of the lung. A radiology study, called a chest x-ray, is performed that confirms the findings on auscultation. This group of symptoms, signs, and studies resulted in the diagnosis of pneumonia.

What is the appropriate medical terminology for:

1. Difficult breathing __________________________
2. Elevated temperature _________________________
3. Sore and inflamed throat _______________________
4. Rapid breathing ______________________________
5. Low oxygen level _____________________________
Medical Report Analysis

Consider the following excerpt from a clinician’s notes following completion of a respiratory examination. For the highlighted terms or word parts, provide the meaning.

Patient is a 6-year-old male presenting to an urgent care facility for difficulty breathing. Parent indicates the patient has had persistent cold type symptoms for more than one week. Last night the child was noted to have a violent cough and difficulty sleeping. This prompted today’s visit. The child was noted to be tachypneic (A) ______________________ and dyspneic (B) ________________________. Abnormal breath sounds and high-pitched cough accompanied by fever are suggestive of laryngeotracheobronchitis (C) ________________________.

The child was given an injection to manage the viral infection. However, due to the child being unimmunized, a chest x-ray was ordered and showed evidence of active pneumonitis (D) ________________________ suggestive of tuberculosis (E) ________________________.

Antibiotic therapy was begun immediately and will be maintained over the next six months.
CHAPTER 9
The Respiratory System
Worksheet 6

Which Term Does Not Belong?
Circle the term that is not related to the other terms. Then explain why the term does not belong with the others.

1. Prefixes
   a. an-
   b. brady-
   c. dys-
   d. hypo-
   e. pnea-
   Why does it not belong? _____________________________________________________________

2. Signs and symptoms
   a. alveoli
   b. bradypnea
   c. dysphonia
   d. hemoptysis
   e. hypoxemia
   Why does it not belong? _____________________________________________________________

3. Root words
   a. hyper
   b. myc
   c. pneum
   d. py
   e. rhin
   Why does it not belong? _____________________________________________________________

4. Diseases and conditions
   a. asthma
   b. emphysema
   c. legionellosis
   d. nasopharyngitis
   e. pneumonectomy
   Why does it not belong? _____________________________________________________________
5. Treatments and procedures
   a. adenoidectomy
   b. bronchoscopy
   c. laryngitis
   d. pleurocentesis
   e. tracheostomy

   Why does it not belong? __________________________________________________________
CHAPTER 9
The Respiratory System

Worksheet 7

Labeling
Label the diagram below.

Normal bronchiole

Constricted bronchiole
# CHAPTER 9
The Respiratory System

## Worksheet 8

### Key Terms Double Check

Remember that the chapter’s key terms appeared alphabetically throughout this chapter. This exercise helps you to check your knowledge and review for tests.

1. First, fill in the missing word in the definitions for the chapter’s key terms.
2. Then, check your answers using the answer key.
3. If you got the answer right, put a checkmark in the right column.
4. If your answer was incorrect, go back to the frame number provided and review the content.

Use the checklist to study the terms you don’t know until you’re confident you know them all.

<table>
<thead>
<tr>
<th>Key Term</th>
<th>Frame</th>
<th>Definition</th>
<th>Know It?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. acapnia</td>
<td>9.8</td>
<td>the _______________ of carbon dioxide</td>
<td></td>
</tr>
<tr>
<td>2. acid-fast bacilli smear</td>
<td>9.68</td>
<td>a clinical test performed on sputum to identify presence of bacteria that react to acid; used to confirm a diagnosis of _______________</td>
<td></td>
</tr>
<tr>
<td>3. adenoidectomy</td>
<td>9.69</td>
<td>the surgical removal of a chronically inflamed _______________ (pharynge tonsil)</td>
<td></td>
</tr>
<tr>
<td>4. anoxia</td>
<td>9.9</td>
<td>the absence of _______________</td>
<td></td>
</tr>
<tr>
<td>5. antihistamine</td>
<td>9.70</td>
<td>a therapeutic drug that inhibits the effects of _______________</td>
<td></td>
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<tr>
<td>6. aphonia</td>
<td>9.10</td>
<td>the absence of _______________</td>
<td></td>
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<tr>
<td>7. apnea</td>
<td>9.11</td>
<td>a longer-than- _______________ pause between breaths</td>
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<tr>
<td>8. arterial blood gases</td>
<td>9.71</td>
<td>a clinical test to identify levels of oxygen and _______________ in arterial blood</td>
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<tr>
<td>9. asphyxia</td>
<td>9.31</td>
<td>_______________ of respiratory ventilation, or suffocation</td>
<td></td>
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<tr>
<td>10. aspiration</td>
<td>9.72</td>
<td>a procedure that removes fluid, air, or foreign bodies with _______________</td>
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<tr>
<td>Key Term</td>
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<td>Know It?</td>
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<tr>
<td>11. asthma</td>
<td>9.32</td>
<td>a condition characterized by widespread _______________ of the bronchioles and formation of mucous plugs</td>
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<tr>
<td>12. atelectasis</td>
<td>9.33</td>
<td>a condition in which trauma or disease causes the _______________ to collapse and prevents air from entering</td>
<td></td>
</tr>
<tr>
<td>13. auscultation</td>
<td>9.73</td>
<td>a procedure that listens to _______________ within the body, often with the aid of a stethoscope</td>
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<tr>
<td>14. bradypnea</td>
<td>9.12</td>
<td>the abnormal _______________ of the breathing rhythm</td>
<td></td>
</tr>
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<td>15. bronchiectasis</td>
<td>9.34</td>
<td>the abnormal _______________ of the bronchi</td>
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<tr>
<td>16. bronchitis</td>
<td>9.35</td>
<td>_______________ of the bronchi</td>
<td></td>
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<tr>
<td>17. bronchodilation</td>
<td>9.74</td>
<td>a procedure that uses a bronchodilating agent to _______________ the smooth muscles of the airways to stop bronchial constriction</td>
<td></td>
</tr>
<tr>
<td>18. bronchogenic carcinoma</td>
<td>9.36</td>
<td>an aggressive form of _______________ arising from cells of the bronchi</td>
<td></td>
</tr>
<tr>
<td>19. bronchography</td>
<td>9.75</td>
<td>a procedure that uses _______________ imaging of the bronchi</td>
<td></td>
</tr>
<tr>
<td>20. bronchopneumonia</td>
<td>9.37</td>
<td>an acute inflammatory disease that involves the bronchioles and alveoli; also called _______________ pneumonia</td>
<td></td>
</tr>
<tr>
<td>21. bronchoscopy</td>
<td>9.76</td>
<td>the evaluation of the bronchi using a flexible fiberoptic tube with a small lens and eyepiece for _______________ on a computer monitor</td>
<td></td>
</tr>
<tr>
<td>22. bronchospasm</td>
<td>9.13</td>
<td>a narrowing of the airway caused by the _______________ of smooth muscles in the bronchioles within the lungs</td>
<td></td>
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<tr>
<td>23. chest CT scan</td>
<td>9.77</td>
<td>diagnostic imaging of the chest by _______________ (CT)</td>
<td></td>
</tr>
<tr>
<td>24. chest x-ray</td>
<td>9.78</td>
<td>x-ray image of the thoracic cavity that is used to diagnose tuberculosis, tumors, and other lung conditions; also called chest</td>
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<td>Key Term</td>
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<td>25. Cheyne-Stokes respiration</td>
<td>9.14</td>
<td>a sign characterized by a repeated pattern of distressed ________________ with a gradual increase of deep breathing, followed by shallow breathing, and apnea</td>
<td></td>
</tr>
<tr>
<td>26. chronic obstructive pulmonary disease</td>
<td>9.38</td>
<td>the ________________ of air flow to and from the lungs that may be a consequence of the conditions of chronic bronchitis and emphysema appearing simultaneously</td>
<td></td>
</tr>
<tr>
<td>27. coccidioidomycosis</td>
<td>9.39</td>
<td>a(n) ________________ infection of the upper respiratory tract; caused by <em>Coccidioides immitis</em></td>
<td></td>
</tr>
<tr>
<td>28. coryza</td>
<td>9.40</td>
<td>an infection of the ________________ respiratory tract that causes local inflammation and a runny nose; also called rhinitis</td>
<td></td>
</tr>
<tr>
<td>29. CPAP</td>
<td>9.79</td>
<td>a device that is used to ________________ breathing during sleep as a treatment for sleep apnea</td>
<td></td>
</tr>
<tr>
<td>30. croup</td>
<td>9.41</td>
<td>a viral infectious disease that produces a characteristic hoarse ________________ that resembles the bark of a dog due to swelling of the larynx</td>
<td></td>
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<tr>
<td>31. cystic fibrosis</td>
<td>9.42</td>
<td>a severe hereditary disease characterized by excess ________________ production in the respiratory tract, digestive tract, and elsewhere in the body</td>
<td></td>
</tr>
<tr>
<td>32. dysphonia</td>
<td>9.15</td>
<td>a symptom of a hoarse ________________</td>
<td></td>
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<tr>
<td>33. dyspnea</td>
<td>9.16</td>
<td>a symptom of difficult ________________</td>
<td></td>
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<tr>
<td>34. ear, nose, and throat specialist</td>
<td>9.80</td>
<td>a physician who specializes in treatment of upper ________________ tract disease; also called an otolaryngologist</td>
<td></td>
</tr>
<tr>
<td>35. emphysema</td>
<td>9.43</td>
<td>a(n) ________________ lung disease characterized by dyspnea, chronic cough, formation of a barrel chest, and a gradual deterioration caused by chronic hypoxemia and hypercapnia</td>
<td></td>
</tr>
<tr>
<td>36. endotracheal intubation</td>
<td>9.81</td>
<td>the insertion of a noncollapsible breathing tube into the ________________ through the nose or mouth</td>
<td></td>
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<tr>
<td>37. epiglottitis</td>
<td>9.44</td>
<td>________________ of the epiglottis</td>
<td></td>
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<tr>
<td>38. epistaxis</td>
<td>9.17</td>
<td>a clinical synonym for a(n) ________________</td>
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<td>Key Term</td>
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<td>Definition</td>
<td>Know It?</td>
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<td>39. expectorant</td>
<td>9.82</td>
<td>a drug that breaks up mucus and promotes the coughing reflex to __________ the mucus</td>
<td></td>
</tr>
<tr>
<td>40. hemoptysis</td>
<td>9.18</td>
<td>coughing up and spitting out ___________________________________________</td>
<td></td>
</tr>
<tr>
<td>41. hemothorax</td>
<td>9.19</td>
<td>pooling of blood within the __________ cavity surrounding the lungs</td>
<td></td>
</tr>
<tr>
<td>42. hypercapnia</td>
<td>9.20</td>
<td>__________ levels of carbon dioxide in the blood</td>
<td></td>
</tr>
<tr>
<td>43. hyperpnea</td>
<td>9.21</td>
<td>abnormally __________ breathing or an abnormally high rate of breathing common among people with emphysema</td>
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</tr>
<tr>
<td>44. hyperventilation</td>
<td>9.21</td>
<td>abnormally __________ breathing</td>
<td></td>
</tr>
<tr>
<td>45. hypopnea</td>
<td>9.22</td>
<td>abnormally __________ breathing</td>
<td></td>
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<tr>
<td>46. hypoventilation</td>
<td>9.23</td>
<td>a reduced breathing rhythm that fails to meet the body’s __________ exchange demands</td>
<td></td>
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<tr>
<td>47. hypoxemia</td>
<td>9.24</td>
<td>abnormally __________ levels of oxygen in the blood</td>
<td></td>
</tr>
<tr>
<td>48. hypoxia</td>
<td>9.24</td>
<td>abnormally low levels of oxygen throughout the __________________________</td>
<td></td>
</tr>
<tr>
<td>49. incentive spirometry</td>
<td>9.83</td>
<td>a postoperative breathing therapy that uses a portable spirometer to improve lung __________ after an operation</td>
<td></td>
</tr>
<tr>
<td>50. laryngectomy</td>
<td>9.84</td>
<td>the surgical __________ of the larynx, a treatment for laryngeal cancer</td>
<td></td>
</tr>
<tr>
<td>51. laryngitis</td>
<td>9.45</td>
<td>__________ of the larynx</td>
<td></td>
</tr>
<tr>
<td>52. laryngoscopy</td>
<td>9.85</td>
<td>the diagnostic procedure that uses a modified endoscope called a(n) __________ to view the larynx</td>
<td></td>
</tr>
<tr>
<td>53. laryngospasm</td>
<td>9.25</td>
<td>the closure of the glottis due to muscular __________ of the throat</td>
<td></td>
</tr>
<tr>
<td>54. laryngotraceotomy</td>
<td>9.86</td>
<td>the surgical __________ into the larynx and trachea performed to provide a secondary opening for breathing, allowing air to bypass the upper respiratory tract</td>
<td></td>
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<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<tr>
<td>55. legionellosis</td>
<td>9.46</td>
<td>a form of __________________ caused by the <em>Legionella pneumophila</em> bacterium; also called Legionnaires’ disease</td>
<td>□</td>
</tr>
<tr>
<td>56. lobectomy</td>
<td>9.87</td>
<td>the surgical removal of a single __________________ of a lung</td>
<td>□</td>
</tr>
<tr>
<td>57. lung cancer</td>
<td>9.47</td>
<td>a cancer that arises from the soft tissues of the lung; also called __________________ of the lung</td>
<td>□</td>
</tr>
<tr>
<td>58. mechanical ventilation</td>
<td>9.88</td>
<td>a medical treatment that provides supplemental oxygen to patients in __________________ distress with a ventilator</td>
<td>□</td>
</tr>
<tr>
<td>59. nasopharyngitis</td>
<td>9.48</td>
<td>inflammation of the _______________ and pharynx</td>
<td>□</td>
</tr>
<tr>
<td>60. nebulizer</td>
<td>9.89</td>
<td>a device that converts a liquid medication into a(n) _______________ and delivers it to the lungs through deep inhalation</td>
<td>□</td>
</tr>
<tr>
<td>61. orthopnea</td>
<td>9.26</td>
<td>a condition of limited ability to _______________ when lying down</td>
<td>□</td>
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<td>62. oximetry</td>
<td>9.90</td>
<td>a procedure that measures _______________ levels in the blood using an oximeter</td>
<td>□</td>
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<td>63. paroxysm</td>
<td>9.27</td>
<td>a sudden onset of symptomatic sharp pain or a(n) _______________</td>
<td>□</td>
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<tr>
<td>64. pertussis</td>
<td>9.49</td>
<td>an acute infectious disease characterized by inflammation of the larynx, trachea, and bronchi that produces spasmodic _______________</td>
<td>□</td>
</tr>
<tr>
<td>65. pharyngitis</td>
<td>9.50</td>
<td>inflammation of the _______________</td>
<td>□</td>
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<tr>
<td>66. pleural effusion</td>
<td>9.51</td>
<td>a disease in which _______________ leaks into the pleural cavity due to injury or infection of the pleural membranes</td>
<td>□</td>
</tr>
<tr>
<td>67. pleuritis</td>
<td>9.52</td>
<td>__________________ of the pleural membranes; also called pleurisy</td>
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<td>68. pleurocentesis</td>
<td>9.91</td>
<td>the surgical _______________ and aspiration of fluid from the pleural cavity</td>
<td>□</td>
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<tr>
<td>69. pneumoconiosis</td>
<td>9.53</td>
<td>inflammation of the lungs caused by chronic inhalation of fine particles (the term literally means “condition of _______________ lungs”)</td>
<td>□</td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>70. pneumonectomy</td>
<td>9.92</td>
<td>the surgical removal of a(n) _______________; also called pneumectomy</td>
<td>□</td>
</tr>
<tr>
<td>71. pneumonia</td>
<td>9.54</td>
<td>inflammation of soft lung tissue caused by bacterial, ________________, or fungal pathogens that results in the formation of an exudate (fluid) within alveoli</td>
<td>□</td>
</tr>
<tr>
<td>72. pneumonitis</td>
<td>9.55</td>
<td>an inflammatory condition of the lungs that is independent of a particular ________________</td>
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<tr>
<td>73. pneumothorax</td>
<td>9.56</td>
<td>the abnormal presence of ________________ or gas within the pleural cavity</td>
<td>□</td>
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<tr>
<td>74. pulmonary angiography</td>
<td>9.93</td>
<td>a diagnostic procedure that evaluates the blood ________________ of the lungs</td>
<td>□</td>
</tr>
<tr>
<td>75. pulmonary edema</td>
<td>9.57</td>
<td>an accumulation of fluid within the tiny air sacs within the lungs (alveoli) as response to infection or ________________</td>
<td>□</td>
</tr>
<tr>
<td>76. pulmonary embolism</td>
<td>9.58</td>
<td>a blockage in the pulmonary circulation due to a mobile blood ________________</td>
<td>□</td>
</tr>
<tr>
<td>77. pulmonary function tests</td>
<td>9.94</td>
<td>a series of diagnostic tests that determine the cause of lung disease by evaluating lung ________________ through spirometry</td>
<td>□</td>
</tr>
<tr>
<td>78. pulmonologist</td>
<td>9.95</td>
<td>a physician who specializes in treatment of diseases that affect the lower ________________ tract</td>
<td>□</td>
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<tr>
<td>79. pyothorax</td>
<td>9.59</td>
<td>the presence of ________________ in the pleural cavity; also called empyema</td>
<td>□</td>
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<tr>
<td>80. respiratory distress syndrome</td>
<td>9.60</td>
<td>a respiratory disease characterized by rapid respiratory failure; one form affects newborns, another affects ________________</td>
<td>□</td>
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<tr>
<td>81. resuscitation</td>
<td>9.96</td>
<td>an emergency procedure used to restore ________________; the most common form is cardiopulmonary resuscitation</td>
<td>□</td>
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<td>82. rhinitis</td>
<td>9.61</td>
<td>inflammation of the mucous membrane lining the ________________ cavity</td>
<td>□</td>
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<td>83. rhinoplasty</td>
<td>9.97</td>
<td>the surgical ________________ of the nose</td>
<td>□</td>
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<td>84. severe acute respiratory syndrome</td>
<td>9.62</td>
<td>a severe, rapid-onset ________________ infection that causes lung inflammation, alveolar damage, and atelectasis</td>
<td>□</td>
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<tr>
<td>85. sinusitis</td>
<td>9.63</td>
<td>________________ of the mucous membranes of the nasal cavity and paranasal sinuses</td>
<td>□</td>
</tr>
<tr>
<td>Key Term</td>
<td>Frame</td>
<td>Definition</td>
<td>Know It?</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
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<td>9.28</td>
<td>the expectorated matter that is coughed out from the _______________</td>
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<td>87. tachypnea</td>
<td>9.29</td>
<td>_______________ breathing</td>
<td></td>
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<tr>
<td>88. TB skin test</td>
<td>9.98</td>
<td>a simple skin test used to determine the presence of a(n) _______________ infection; also called PPD skin test and Mantoux skin test</td>
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<td>89. thoracalgia</td>
<td>9.30</td>
<td>a symptom of _______________ in the chest region</td>
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<tr>
<td>90. thoracentesis</td>
<td>9.99</td>
<td>a surgical puncture using a needle and syringe into the thoracic cavity to aspirate pleural _______________ for diagnosis or treatment; also called thoracocentesis or pleurocentesis</td>
<td></td>
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<tr>
<td>91. thoracostomy</td>
<td>9.100</td>
<td>the surgical creation of a(n) _______________ into the chest cavity, usually for insertion of a drainage or air tube</td>
<td></td>
</tr>
<tr>
<td>92. thoracotomy</td>
<td>9.101</td>
<td>the surgical _______________ into the chest wall</td>
<td></td>
</tr>
<tr>
<td>93. tonsillitis</td>
<td>9.64</td>
<td>_______________ of one or more tonsils</td>
<td></td>
</tr>
<tr>
<td>94. tracheitis</td>
<td>9.65</td>
<td>inflammation of the _______________</td>
<td></td>
</tr>
<tr>
<td>95. tracheoplasty</td>
<td>9.102</td>
<td>the surgical _______________ of the trachea</td>
<td></td>
</tr>
<tr>
<td>96. tracheostenosis</td>
<td>9.65</td>
<td>the _______________ of the trachea due to inflammation</td>
<td></td>
</tr>
<tr>
<td>97. tracheostomy</td>
<td>9.103</td>
<td>the surgical creation of a(n) _______________ into the trachea, usually for insertion of a breathing tube</td>
<td></td>
</tr>
<tr>
<td>98. tracheotomy</td>
<td>9.104</td>
<td>the _______________ incision into the trachea</td>
<td></td>
</tr>
<tr>
<td>99. tuberculosis</td>
<td>9.66</td>
<td>the _______________ of the lungs by <em>Mycobacterium tuberculosis</em> bacterium</td>
<td></td>
</tr>
<tr>
<td>100. upper respiratory infection</td>
<td>9.67</td>
<td>a generalized infection of the upper respiratory tract (_______________ cavity, pharynx, and larynx)</td>
<td></td>
</tr>
<tr>
<td>101. ventilation-perfusion</td>
<td>9.105</td>
<td>a diagnostic tool that uses _______________ medicine, or radioactive material, to evaluate pulmonary function</td>
<td></td>
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CHAPTER 9
The Respiratory System

Worksheet 9

Crossword Puzzle

Directed: Fill in the crossword puzzle with the words missing from the sentences below. Match the number of the sentence to the boxes placed across or down the grid. If filled out correctly, the words will fit neatly into the puzzle.

ACROSS
1 An acute inflammatory disease involving the bronchioles and the alveoli is called ___________.
3 A drug that breaks up mucus and promotes the coughing reflex to expel the mucus is called a(n) ___________.
6 A narrowing of the airway caused by the contraction of smooth muscles in the walls of the tiny tubes known as bronchioles within the lungs is called ___________.
8 The ___________ system brings oxygen into the bloodstream, through which it is transported to all body cells.
9 Inflammation of the lungs, when caused by the chronic inhalation of fine particles, is called ___________.
10 A pharyngeal tonsil is called a(n) ___________.

DOWN
2 A condition of the lungs that is characterized by widespread narrowing of the bronchioles and formation of mucous plugs is known as ___________.
4 A blood clot that moves along with the bloodstream is called a(n) ___________.
5 Inflammation of the epiglottis is called ___________.
7 Abnormally low levels of oxygen in the blood is a sign of a respiratory deficiency called ___________.

[Crossword puzzle grid]

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## Phonetic Spelling Challenge

1. Atelectasis  
2. Croup  
3. Pneumothorax  
4. Tuberculosis  
5. Lobectomy  
6. Rhinitis  
7. Pleural effusion  
8. Epiglottitis  
9. Cystic fibrosis  
10. Bronchitis

11. Laryngitis  
12. Emphysema  
13. Pulmonary embolism  
14. Coryza  
15. Emphysema  
16. Acapnia  
17. Hypoxemia  
18. Pneumoconiosis  
19. Aspiration  
20. Auscultation

## Spelling Challenge

1. Respiration  
2. Dysphonia  
3. Cheyne-Stokes respiration  
4. Hyperpnea  
5. Laryngospasm  
6. Asthma  
7. Emphysema  
8. Bronchitis  
9. Apnea  
10. Bronchiectasis  
11. Tuberculosis  
12. Adenoidectomy  
13. Bronchoscopy  
14. Nebulizer  
15. Mechanical ventilation

## Abbreviation Matchup

1. PE  
2. CF  
3. CXR  
4. CPR  
5. TB  
6. AFB  
7. NRDS  
8. URI  
9. ABGs  
10. COPD

## True/False

1. F  
2. T  
3. F  
4. F  
5. T  
6. T  
7. T  
8. T  
9. T  
10. F
Fill in the Blank

11. lung cancer
12. cystic fibrosis
13. emphysema
14. nasopharyngitis
15. chronic exposure to tobacco smoke
16. pleural effusion
17. pleuritis
18. pneumoconiosis
19. pneumonitis
20. pneumothorax

Short Answer

21. Inflammation of soft lung tissue (excluding the bronchi) that results in the formation of an exudate within alveoli.
22. The presence of pus in the pleural cavity
23. Inflammation of the trachea
24. Surgical removal of the adenoids
25. The removal of fluid, air, or foreign bodies with suction
Word Search

1. tonsillitis
2. antihistamine
3. thoracotomy
4. skin
5. rhinoplasty
6. pulmonary
7. thoracocentesis
8. lobectomy
9. pertussis
10. fibrosis
11. bronchogenic
12. asthma
13. epiglottitis
14. hemoptysis
CHAPTER 9
The Respiratory System
Worksheet 2 Answers

Dictation Report
Write each numbered term as you hear it, spelling each term correctly. This exercise will help you learn to hear, comprehend, visualize, and spell the new medical terms accurately.

Understanding the (1) respiratory system is essential for any doctor. A doctor who specializes in diagnosing and treating disease of the respiratory system is sometimes called a (2) pulmonary specialist. Working with the pulmonary specialist is the doctor who diagnoses and treats disease of the pharynx, called the (3) ear, nose, and throat specialist, or ENT. If cancer is diagnosed, the patient is likely to be referred to a doctor called an (4) oncologist. The medical specialist who delivers breathing treatments is called a (5) respiratory therapist.

A patient with a respiratory problem might have something as minor and simple as the common cold or (6) upper respiratory infection, or URI, or something as serious and complex as (7) emphysema. When a section of the respiratory tract becomes inflamed or infected, the condition is named after the part that is affected. For example, if a patient has (8) bronchitis, he has an inflammation of the bronchi. If a patient has (9) laryngitis, she has an inflammation of the larynx. If a patient has (10) epiglottitis, he has an inflammation of the epiglottis. (11) Nasopharyngitis is inflammation of the nose and pharynx.

Infections of the respiratory system can happen to anyone, from the very young to the very old. A viral infectious disease that is relatively common among infants and young children and produces a characteristic hoarse cough is commonly known as (12) croup. Some children are born with (13) cystic fibrosis, which is a hereditary disorder. Many children used to die of (14) pertussis, or whooping cough, before a vaccination was developed. Smoking causes many respiratory diseases, including (15) adenocarcinoma of the lung and (16) pneumonia. Older adults can suffer from (17) pneumonitis and (18) pulmonary edema.
Many surgical procedures are performed on the respiratory structures, including (19) adenoidectomy, (20) laryngectomy, and (21) laryngotraechotomy. Many treatments are conducted on patients with respiratory problems to diagnose and treat patients and to help them breathe better. These include (22) aspirations, (23) chest x-rays, (24) bronchoscopy, and (25) bronchodilation.

It is important to maintain good respiratory health throughout your lifetime to avoid problems. It is wise to learn (26) cardiopulmonary resuscitation, or CPR, for those you love and care for. If you have (27) asthma, be sure to monitor your breathing regularly with a (28) spirometer, and use a (29) nebulizer as ordered by your physician. (30) Expectorants can be helpful when you have a cold. Above all, to maintain good respiratory health, don’t smoke.
CHAPTER 9
The Respiratory System
Worksheet 3 Answers

Word Surgery

1. Bronchoscopy
   Definition: Visual examination of the bronchi
   Combining form and definition: bronch/o, bronchus
   Suffix and definition: -scopy, process of viewing

2. Tachypnea
   Definition: Rapid breathing
   Prefix and definition: tachy-, rapid, fast
   Suffix and definition: -pnea, breath

3. Euphonia
   Definition: Normal speech or vocal sound
   Prefix and definition: eu-, good or normal
   Combining form and definition: phon/o, sound or speech
   Suffix and definition: -ia, condition

4. Rhinorrhea
   Definition: Runny nose
   Combining form and definition: rhin/o, nose
   Suffix and definition: -rrhea, discharge

5. Thoracocentesis
   Definition: Surgical puncture of the chest to draw off fluids or air
   Combining form and definition: thorac/o, chest
   Suffix and definition: -centesis, surgical puncture

6. Hypercapnea
   Definition: Elevated carbon dioxide levels
   Prefix and definition: hyper-, excessive, abnormally high, above
   Combining form and definition: capn/o, carbon dioxide
   Suffix and definition: -ia, condition

7. Hypoxemia
   Definition: Deficient oxygen in the blood
   Prefix and definition: hypo-, deficient, abnormally low, below
   Combining form and definition: ox/i, oxygen
   Suffix and definition: -emia, pertaining to blood

8. Laryngectomy
   Definition: Surgical removal of the larynx
   Combining form and definition: laryng/o, larynx
   Suffix and definition: -ectomy, surgical removal

9. Spirometer
   Definition: Measuring air flow
   Combining form and definition: spir/o, air or gas
   Suffix and definition: -meter, to measure
10. Atelectasis
   Definition: Incomplete dilation of the air sacs
   Prefix and definition: atel-, incomplete
   Suffix and definition: -ectasis, dilation

11. Hemoptysis
    Definition: Coughing up blood
    Combining form and definition: hem/o, blood
    Suffix and definition: -ptysis, to cough up

12. Tracheostenosis
    Definition: Narrowing of the trachea or windpipe
    Combining form and definition: trache/o, trachea; sten/o, narrowing
    Suffix and definition: -osis, condition

13. Epiglottitis
    Definition: Inflammation of the epiglottis
    Prefix and definition: epi-, above
    Combining form and definition: glott/o, glottis or vocal cords
    Suffix and definition: -itis, inflammation
Case Study
1. dyspnea
2. febrile
3. pharyngitis
4. tachypnea
5. hypoxia
CHAPTER 9
The Respiratory System

Worksheet 5 Answers

Medical Report Analysis

A. Rapid breathing
B. Difficulty breathing
C. Inflammation of the voicebox, windpipe, and bronchi
D. Inflammation of the lungs
E. Infectious disease that attacks the lungs and other body tissues
Which Term Does Not Belong?

1. E -pnea is a suffix meaning breathing rather than a prefix.
2. A Alveoli are the air sacs of the lung rather than a sign or symptom.
3. A Hyper- is a prefix rather than a word root.
4. E Pneumonectomy is a surgical procedure rather than a disease or condition.
5. C Laryngitis is a disease rather than a treatment or procedure.
CHAPTER 9
The Respiratory System

Worksheet 7 Answers

Labeling

Normal bronchiole

Constricted bronchiole

- Smooth muscle
- Mucous membrane
- Excessive mucus secretion
- Swollen mucous membrane
- Contracted smooth muscle
CHAPTER 9
The Respiratory System
Worksheet 8 Answers

Key Terms Double Check
1. absence
2. TB (or tuberculosis)
3. adenoid
4. oxygen
5. histamines
6. sound or voice
7. normal
8. carbon dioxide
9. absence
10. suction
11. inflammation
12. alveoli
13. sounds
14. slowing
15. dilation
16. inflammation
17. relax
18. cancer
19. x-ray
20. lobar
21. viewing
22. contraction
23. computed tomography
24. radiograph
25. breathing
26. obstruction
27. fungal
28. upper
29. regulate
30. cough
31. mucus
32. voice
33. breathing
34. respiratory
35. chronic
36. trachea
37. inflammation
38. nosebleed
39. expel
40. blood
41. pleural
42. excessive
43. deep
44. rapid
45. shallow
46. gas
47. low
48. body
49. expansion
50. removal
51. inflammation
52. laryngoscope
53. contractions
54. incision
55. pneumonia
56. lobe
57. adenocarcinoma
58. respiratory
59. nose
60. mist
61. breathe
62. oxygen
63. convulsion
64. coughing
65. pharynx
66. fluid
67. inflammation
68. puncture
69. dusty
70. lung
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CHAPTER 9
The Respiratory System
Worksheet 9 Answers

Crossword Puzzle

Solution:

\[
\begin{array}{cccccccccccc}
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\text{S} & \\
\text{E} & \text{X} & \text{P} & \text{E} & \text{C} & \text{T} & \text{O} & \text{R} & \text{A} & \text{T} & \text{T} & \\
\text{M} & \text{E} & \text{H} & \\
\text{B} & \text{R} & \text{O} & \text{N} & \text{C} & \text{H} & \text{O} & \text{S} & \text{P} & \text{A} & \text{S} & \text{M} & \\
\text{O} & \text{I} & \text{A} & \\
\text{H} & \text{L} & \text{G} & \\
\text{Y} & \text{U} & \text{L} & \\
\text{P} & \text{S} & \text{O} & \\
\text{O} & \text{R} & \text{E} & \text{S} & \text{P} & \text{I} & \text{R} & \text{A} & \text{T} & \text{O} & \text{R} & \text{Y} & \\
\text{X} & \text{T} & \\
\text{P} & \text{N} & \text{E} & \text{U} & \text{M} & \text{O} & \text{C} & \text{N} & \text{I} & \text{O} & \text{S} & \text{S} & \text{I} & \\
\text{M} & \text{T} & \\
\text{I} & \text{I} & \\
\text{A} & \text{D} & \text{E} & \text{N} & \text{O} & \text{I} & \text{D} & \text{S} & \\
\end{array}
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