

# Pulmonary Auscultation: Review Questions

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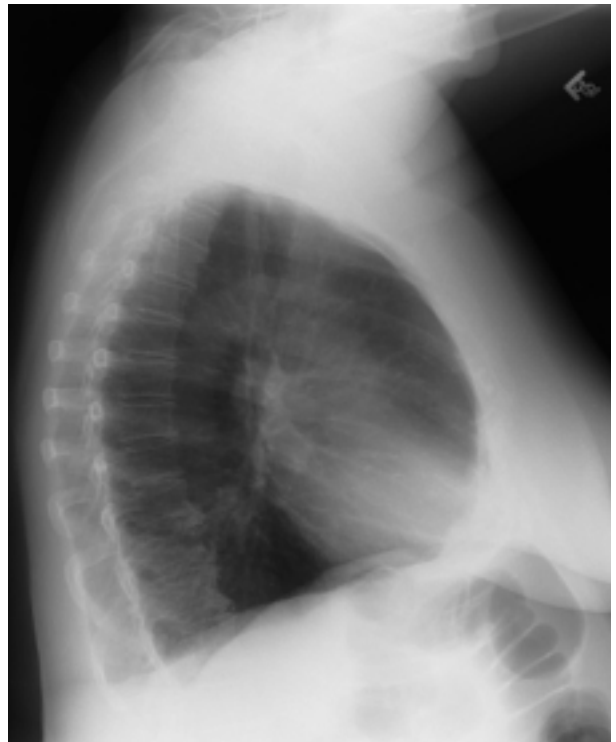
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The questions below are based on the article “Pulmonary Auscultation,” which begins on [page 22](#) of this issue. The response options for each question are presented immediately below. Each question may have more than 1 correct answer. For each case study, select the appropriate auscultatory finding(s). Each option may be used once, more than once, or not at all.

- A) Absent breath sounds
  - B) Bronchial breath sounds
  - C) Diminished breath sounds
  - D) Egophony
  - E) Inspiratory crackles
  - F) Rhonchi
  - G) Vesicular breath sounds
  - H) Wheezes
1. A 40-year-old man goes to his physician because of a 3-day history of shaking chills, fever, and cough productive of rust-colored sputum. A chest radiograph is shown ([Figure 1](#)). What is (are) the most likely auscultatory finding(s)?
2. A 50-year-old man reports a 3-month history of worsening dyspnea. He has smoked a pack of cigarettes daily for the past 30 years. A chest radiograph is shown ([Figure 2](#)). What is (are) the most likely auscultatory finding(s)?



**Figure 1.** Chest radiograph showing lobar pneumonia.



**Figure 2.** Lateral chest radiograph showing severe emphysema. Note the descended diaphragms.

See [page 64](#) for answers and explanations.

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3. A 60-year-old man is hospitalized because of a 2-day history of dyspnea. A chest radiograph obtained in the emergency department is shown (Figure 3). What is (are) the most likely auscultatory finding(s)?



Figure 3. Chest radiograph showing pulmonary edema.

5. A 60-year-old man presents with worsening dyspnea for the past month. A chest radiograph is obtained (Figure 5). What is (are) the most likely auscultatory finding(s)?



Figure 5. Chest radiograph showing left pleural effusion.

4. A 70-year-old woman reports having progressive dyspnea over the past few months. A chest radiograph is shown (Figure 4). What is (are) the most likely auscultatory finding(s)?



Figure 4. Chest radiograph showing pulmonary fibrosis.

6. A 60-year-old woman reports acute onset of dyspnea after undergoing thoracentesis. A chest radiograph is shown (Figure 6). What is (are) the most likely auscultatory finding(s)?



Figure 6. Chest radiograph showing left pneumothorax.

## Answers to Review Questions

Answers to the review questions asked on pages 41 & 42 and explanations supporting them. The article on pulmonary auscultation begins on page 22.

- (B) Bronchial breath sounds; (D) Egophony; (E) Inspiratory crackles.** The diagnosis in the first case is lobar pneumonia. Classic auscultatory findings in this disease include bronchial breath sounds, egophony, bronchophony, pectoriloquy, and inspiratory crackles. The findings associated with lobar consolidation are summarized in Table 3 of the article, on page 25.
- (C) Diminished breath sounds.** The diagnosis in the second case is emphysema. There is considerable overlap between emphysema, asthma, and chronic bronchitis. In fact, the term chronic obstructive pulmonary disease can denote either a combination of all 3 diseases or 1 disease alone. In cases of emphysema, the predominant auscultatory finding is diminished vesicular breath sounds. If asthma were the diagnosis, then wheezing would be the most likely auscultatory finding; if chronic bronchitis were the diagnosis, then rhonchi would be the most likely auscultatory finding.
- (E) Inspiratory crackles; also (H) Wheezes.** The diagnosis in the third case is congestive heart failure, in which the most common auscultatory finding is crackles. Other findings such as wheezes are sometimes present but are much less common. Fine crackles usually are present in cases of mild pulmonary edema, and coarse crackles are present in cases of moderate to severe pulmonary edema.
- (E) Inspiratory crackles.** The diagnosis in the fourth case is pulmonary fibrosis. The most common auscultatory finding in patients with this disease is fine late inspiratory crackles, usually heard at the bases of the lungs.
- (C) Diminished breath sounds; also (B) Bronchial breath sounds and (D) Egophony.** The diagnosis in the fifth case is left pleural effusion. The most common auscultatory finding in cases of left pleural effusion is diminished breath sounds over the left lower hemithorax. Bronchial breath sounds and egophony may also be heard just above the pleural effusion. The absence of egophony excludes consolidation.
- (A) Absent breath sounds.** The diagnosis in the sixth case is pneumothorax. The most likely auscultatory finding in this patient with a pneumothorax on the left side is absent breath sounds on the left.

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