



## Pulmonary, Respiratory, and Blood Gas Terminology Quiz

by Laura King, MA, ELS

**Directions:** Edit the following sentences based on your understanding of [section 15.16](#) (and associated references) of the [AMA Manual of Style](#).

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1. Patients were assigned to undergo intubation with 1 of 2 high-volume, low-pressure ET tubes, which were similar except for a silver coating on the experimental tube.

**ANSWER:**

Patients were assigned to undergo intubation with 1 of 2 high-volume, low-pressure endotracheal tubes, which were similar except for a silver coating on the experimental tube.

*Editor's Note:* ET should be expanded as endotracheal at first mention (§[15.16.3](#), Mechanical Ventilation, pp 774-775 in print).

2. Blood that leaves the lungs without being fully equilibrated with alveolar oxygen will contribute to a deviation from the optimal pulmonary partial pressure of oxygen, alveolar (PaO<sub>2</sub>), and, therefore, the optimal partial pressure of oxygen, mixed venous (PvO<sub>2</sub>).

**ANSWER:**

Blood that leaves the lungs without being fully equilibrated with alveolar oxygen will contribute to a deviation from the optimal pulmonary partial pressure of oxygen, alveolar (PAO<sub>2</sub>), and, therefore, the optimal partial pressure of oxygen, mixed venous (P $\bar{V}$ O<sub>2</sub>).

*Editor's Note:* The correct abbreviation for pulmonary partial pressure of oxygen, alveolar, is PAO<sub>2</sub> (PaO<sub>2</sub> is partial pressure of oxygen, arterial). The correct abbreviation for optimal partial pressure of oxygen, mixed venous, is PvO<sub>2</sub> (§[15.16.1](#), Symbols, pp 771-774 in print).

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3. Arterial blood gas measurements with 100% fraction of inspired oxygen were as follows: pH, 7.08; PCO<sub>2</sub>, 21.7; and PO<sub>2</sub>, 197.5.

### **ANSWER:**

Arterial blood gas measurements with 100% fraction of inspired oxygen were as follows: pH, 7.08; PCO<sub>2</sub>, 21.7 mm Hg; and PO<sub>2</sub>, 197.5 mm Hg.

*Editor's Note: The abbreviations pH, PCO<sub>2</sub>, and PO<sub>2</sub> may be used without expansion (§14.11, Clinical, Technical, and Other Common Terms, pp 501-519 in print) but units of measure (either mm Hg or kPa) must be used with the numbers (§15.16.1, Symbols, pp 771-774 in print).*

4. After the patients had been ventilated for 8 weeks, most had regained lung function.

### **ANSWER:**

After the patients had undergone ventilation for 8 weeks, most had regained lung function.

*Editor's Note: Back-formation is the creation of a new word in the mistaken belief that it was the source of an existing word. In medical language, some back-formations have achieved acceptance, such as ambulate, diagnose, and dialyze, whereas others, such as adhere, cyanose, and diurese, have not (§11.3, Back-formations, p 407 in print). Although ventilate can be found in medical dictionaries, phrases such as “the patient was ventilated” create images of a patient filled with holes. As stated in AMA Manual of Style Word Corner entry on “Ventilate or Ventilation,” “writers and editors should take care to ensure that [such back-formations] are not used in ways that are vague, depersonalizing, or unintentionally comical” ([http://www.amamanualofstyle.com/oso/private/content/jama/subonly/wordofthemonth\\_jan10.html](http://www.amamanualofstyle.com/oso/private/content/jama/subonly/wordofthemonth_jan10.html)).*



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## LEARNING RESOURCES

5. Static pulmonary compliance corrected for patient weight increased from a median of 0.16 to 0.27 mL/cm of water/kg during the study period.

### **ANSWER:**

Static pulmonary compliance corrected for patient weight increased from a median of 0.16 to 0.27 mL/cm H<sub>2</sub>O/kg during the study period.

*Editor's Note: The correct abbreviation for centimeters of water is cm H<sub>2</sub>O (§14.12, Units of Measure, pp 519-525 in print). In addition, complex rates involve division of a rate by another unit. Complex rates that are used frequently are conventionally indicated by 2 slashes in the same expression, eg, "The dose was 25 mg/kg/d." (§21.6, Expressing Multiplication and Division, pp 910-911 in print).*

6. For severity based on percentages of predicted forced expiratory volume in 1 second (FEV<sub>1</sub>), predicted forced expiratory flow (FEF), and midexpiratory phase (FEF<sub>25%-75%</sub>), the percentages were 89.8%, 86.4%, and 63.5% for mild asthma; 9.3%, 10.2%, and 18.6% for moderate asthma; and 0.9%, 3.4%, and 17.8% for severe asthma, respectively.

### **ANSWER:**

For severity based on percentages of predicted forced expiratory volume in 1 second (FEV<sub>1</sub>); predicted forced expiratory flow (FEF); and FEF, midexpiratory phase (FEF<sub>25%-75%</sub>), the percentages were 89.8%, 86.4%, and 63.5% for mild asthma; 9.3%, 10.2%, and 18.6% for moderate asthma; and 0.9%, 3.4%, and 17.8% for severe asthma, respectively.

*Editor's Note: The correct abbreviation for forced expiratory volume in 1 second is FEV<sub>1</sub>. The correct expansion for midexpiratory phase is FEF, midexpiratory phase (if this had been the first mention of FEF, the abbreviation would have been expanded as forced expiratory flow, midexpiratory phase). The correct abbreviation for FEF, midexpiratory phase, is FEF<sub>25%-75%</sub> (§15.16.2, Abbreviations, p 774 in print).*



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7. The forced expiratory volume in 1 second ( $FEV_1$ ) and  $FEV_1$  to forced vital capacity (FVC) ratio were measured at the third or fourth examination, and neither  $FEV_1$  (odds ratio [OR], 0.82; 95% confidence interval [CI], 0.58-1.15;  $P = .25$ ) nor  $FEV_1/FVC$  ratio (OR, 0.92; 95% CI, 0.76-1.12;  $P = .43$ ) was found to be associated with age-related macular degeneration

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*Editor's Note: Although a forward slash may be used to express a ratio (eg, the male/female [M/F] ratio was 2/1), the AMA Manual of Style recommends use of a colon to express ratios involving numbers or abbreviations (the Apo B:Apo A-I ratio was 2:1) and the word to to express ratios involving words (the male to female ratio) (§8.4.5, In Ratios, p 354 in print).*

8. Ventilation perfusion ratio ( $\mathring{V}:\mathring{Q}$ ) and computed tomographic pulmonary angiography are widely used imaging procedures for the evaluation of patients with suspected pulmonary embolism.

### **ANSWER:**

Ventilation perfusion ratio ( $\mathring{V}:\mathring{Q}$ ) and computed tomographic pulmonary angiography are widely used imaging procedures for the evaluation of patients with suspected pulmonary embolism.

*Editor's Note: Although the AMA Manual of Style recommends use of a colon to express ratios involving numbers or abbreviations (the Apo B:Apo A-I ratio was 2:1) and the word to to express ratios involving words (the male to female ratio) (§8.4.5, In Ratios, p 354 in print), some terms have been standardized with the virgule (slash) (eg,  $\mathring{V}/\mathring{Q}$  and  $\mathring{V}A/\mathring{Q}$ ) (§15.16.1, Symbols, pp 771-774 in print).*



## LEARNING RESOURCES

9. This study examined the cardiopulmonary effects of 15 mm Hg of intra-abdominal pressure in the presence and absence of 10 mm Hg of positive end-expiratory pressure (PEEP).

**ANSWER:**

This study examined the cardiopulmonary effects of 15 mm Hg of intra-abdominal pressure in the presence and absence of 10 cm H<sub>2</sub>O of positive end-expiratory pressure (PEEP).

*Editor's Note: Positive end-expiratory pressure (PEEP) is measured in centimeters of water (§15.16.3, Mechanical Ventilation, p 774 in print).*

10. Exhaled dead-space volume dilutes the total amount of carbon dioxide (CO<sub>2</sub>) in exhaled breaths relative to PaCO<sub>2</sub>.

**ANSWER:**

Exhaled dead-space volume dilutes the total amount of carbon dioxide (CO<sub>2</sub>) in exhaled breaths relative to PaCO<sub>2</sub>.

*Editor's Note: When used as the last element of a symbol, gas abbreviations are set in small capitals (PaCO<sub>2</sub>); however, when gas abbreviations are used on their own, large capitals are used (CO<sub>2</sub>). Also note that PaCO<sub>2</sub> may be given without expansion at first mention (§15.16.1, Symbols, pp 771-774 in print).*

11. The study measured the diffusing capacity of carbon monoxide (DLCO) in 159 patients after treatment with oral corticosteroids for 2 years.

**ANSWER:**

The study measured the diffusing capacity of carbon monoxide (DLCO) in 159 patients after treatment with oral corticosteroids for 2 years.

*Editor's Note: Modifiers (eg, L for lung) and gas abbreviations (eg, CO for carbon monoxide) are set as small capitals (§15.16.1, Symbols, pp 771-774 in print).*



## LEARNING RESOURCES

12. Spirometry and lung volumes were determined and muscle strength was assessed by measuring maximum oxygen consumption ( $\dot{V}O_{2\max}$ ), maximum inspiratory pressure ( $PI_{\max}$ ), and maximum expiratory pressure ( $PE_{\max}$ ).

**ANSWER:**

Spirometry and lung volumes were determined and muscle strength was assessed by measuring maximum oxygen consumption ( $\dot{V}O_{2\max}$ ), maximum inspiratory pressure ( $PI_{\max}$ ), and maximum expiratory pressure ( $PE_{\max}$ ).

*Editor's Note: Lowercase-letter modifiers (eg, max for maximum) are not set subscript (§15.16.1, Symbols, pp 771-774 in print).*



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