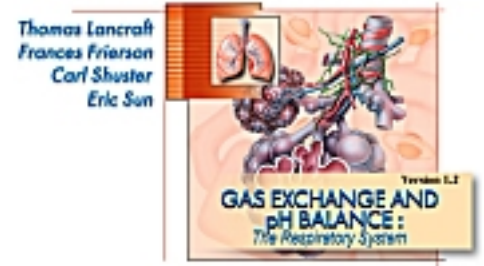


# Regulation of Ventilation

## Directions:

- a. Click the "Contents" button,
- b. Open the *Respiratory System* File,
- c. Click *Animations*,
- d. Click *Regulation of Ventilation*



## Introduction

1. Describe normal ventilation as a continuous cycle of inspiration and expiration.

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## Basic Rhythm

2. Explain the role of the *inspiratory and expiratory areas* of the brain.

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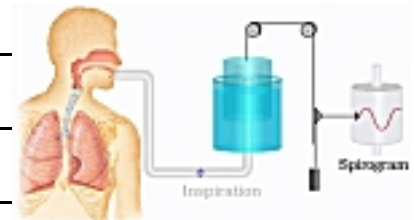
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3. What is a *spirogram*?

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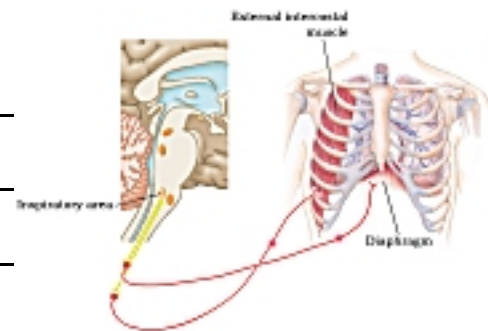


4. Describe the role of the *inspiratory area* of the brain.

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5. Explain the role of the *expiratory area*.

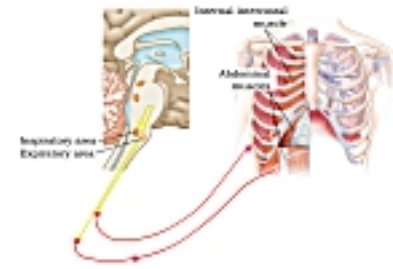
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**Control of Ventilation Rate by Other Brain Centers**

6. Describe how the pons modifies ventilation rate.

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7. Describe how the *hypothalamus* contributes to ventilation regulation.

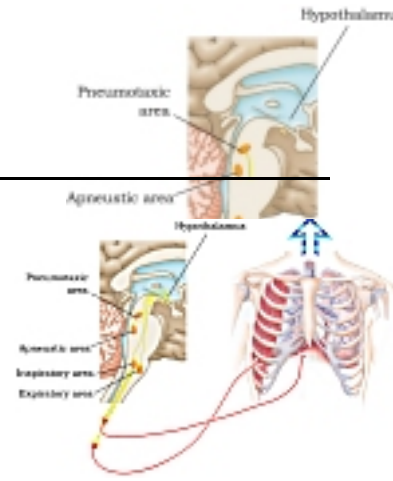
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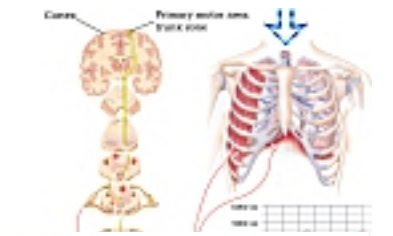


8. Describe how the *cerebral cortex* supplies a limited level of respiratory control.

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**Effects of Blood Chemistry**

9. What is function of *chemoreceptors* in the central and peripheral nervous systems.

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10. a. Describe the respiratory response to *increasing CO<sub>2</sub> and H<sup>+</sup>* as detected by chemoreceptors.

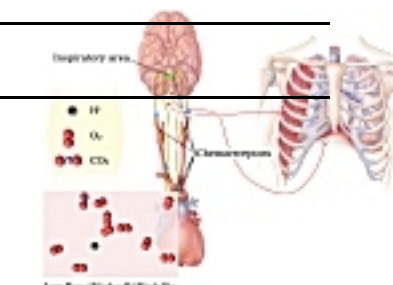
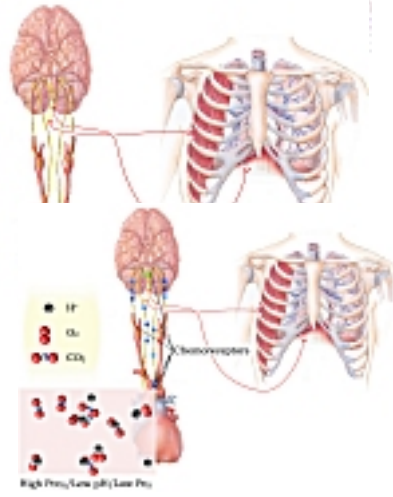
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b. Define *hyperventilation* \_\_\_\_\_

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c. How do these adjustments contribute to homeostasis? \_\_\_\_\_

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11. a. Describe the respiratory response to *decreasing*  $CO_2$  and  $H^+$  as detected by chemoreceptors.

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b. Define *hypoventilation*. \_\_\_\_\_

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c. How do these adjustments contribute to homeostasis? \_\_\_\_\_

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