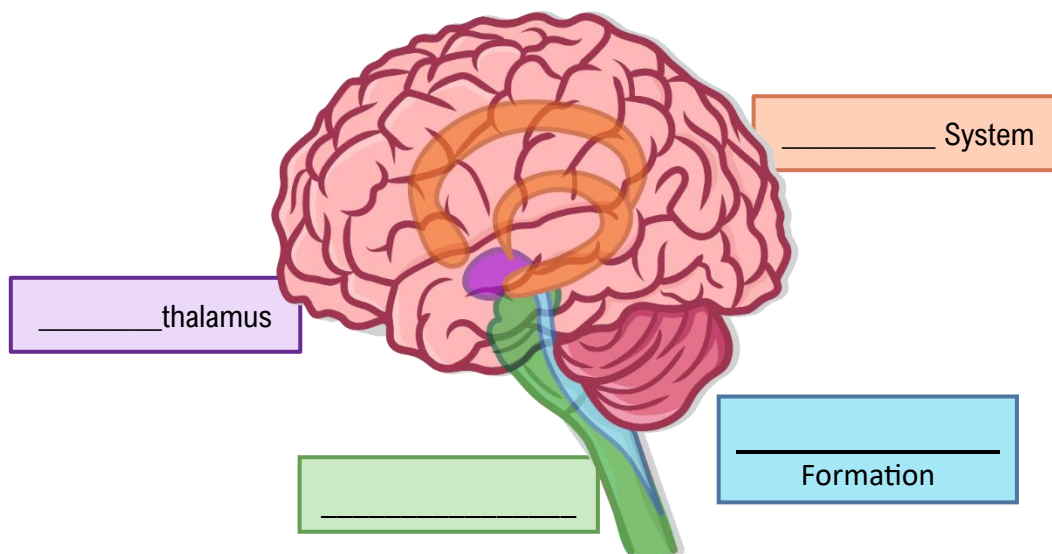


## TOPIC: CONTROL OF THE ANS

### Review of Relevant Brain Anatomy

- Recall the following brain structures:

Structure	Function
Hypothalamus	_____ of autonomic functions (ex: heart rate, blood pressure, arousal, digestion). <ul style="list-style-type: none"><li>Anterior hypothalamus – directs parasympathetic activity.</li><li>Posterior hypothalamus – directs _____ activity.</li></ul>
Brainstem	Relay center for communication between brain and body. Contains _____ that control autonomic functions.
Reticular Formation	A functional system - regulates skeletal and visceral muscle activity. Has _____ influence on autonomic functions.
Limbic System	Processing and interpretation of _____ stimuli; located in the cerebrum.



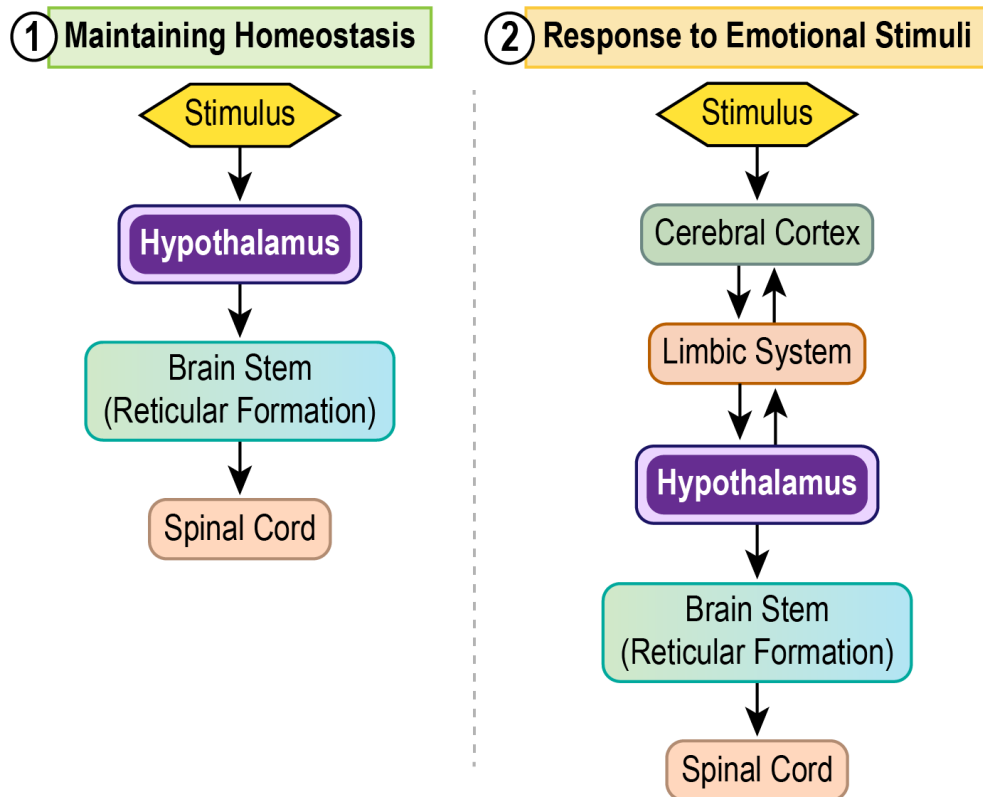
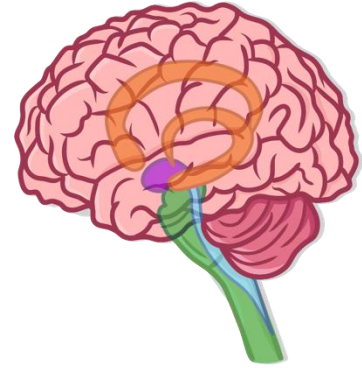
**EXAMPLE:** A lesion on the anterior hypothalamus would have the *most* effect on the \_\_\_\_\_ division of the autonomic nervous system.

- Sympathetic.
- Parasympathetic.
- Somatic.
- Involuntary.

## TOPIC: CONTROL OF THE ANS

### Levels of Control in the ANS

- The **hypothalamus** is the \_\_\_\_\_ integration center of the ANS.
- The ANS primarily operates in \_\_\_\_\_ ways:
  1. Maintaining \_\_\_\_\_.
  2. Responding to emotionally \_\_\_\_\_ or stressful events.
- These two functions involve *slightly* different pathways:



**EXAMPLE:** The \_\_\_\_\_ acts as an integration center between areas of the brain that govern emotion and regions of the brain that control visceral functions.

- |                         |                   |
|-------------------------|-------------------|
| a) Hippocampus.         | c) Hypothalamus.  |
| b) Reticular formation. | d) Limbic system. |

**PRACTICE:** Which of the following brain regions is NOT involved in maintaining routine, homeostatic activity?

- |                             |                           |
|-----------------------------|---------------------------|
| a) The hypothalamus.        | c) The brainstem.         |
| b) The reticular formation. | d) The prefrontal cortex. |