

I. peripheral nervous system - "away from center"; includes everything but brain and spinal cord

A. somatic division - "body" - nerve fibers connecting to muscles, senses

B. autonomic division (ANS) - "self rule" - regulates vital functions: heart rate, breathing, digestion, etc.

1. sympathetic branch ("with feeling") - excited states; energy-consuming; arousal: mobilizes for emergency (speeds heart and lungs, inhibits digestion and sex, etc.)
2. parasympathetic branch ("goes with the sympathetic") - vegetative states; energy-conserving or storing; calm: maintains normal functioning (slows heart and lungs, etc.)

II. central nervous system (CNS) - "center"; includes brain and spinal cord

A. spinal cord

B. brain

1. hindbrain - low-decerebrate cat (transected just above hindbrain) can move but not act

- a. medulla oblongata ("oblong marrow")
- b. pons ("bridge")
- c. cerebellum ("little brain")

2. midbrain - high-decerebrate cat (transected just above midbrain) can act, but without regard to environment, without purpose

- a. *tectum* ("roof")
  1. superior colliculus ("upper hills")
  2. *inferior colliculus* ("lower hills")
- b. *tegmentum* ("floor")
  1. substantia nigra ("black substance")
  2. *red nucleus*

3. forebrain (or cerebrum, "brain") - cerebral hemispheres connected by corpus callosum

- a. thalamus ("inner chamber")
- b. hypothalamus ("below the inner chamber")
- c. basal ganglia
  1. *caudate nucleus* ("tail-shaped")
  2. *lentiform nucleus* ("bean-shaped")
    - a. *putamen* ("shell")
    - b. *globus pallidus* ("pale globe")

d. limbic ("border") system - limbic cat (transected just above limbic system) acts normal, with purpose -- but is clumsy

1. amygdala ("almond")
2. hippocampus ("seahorse")

e. cortex ("bark or skin") or neocortex ("new bark or skin")

1. frontal lobe
2. parietal lobe
3. occipital lobe
4. temporal lobe