Physiology 67

Emotion

Phineas Gage
Emotion its all in your head

- James-Lange theory of emotions
  emotions are results of cognitive responses to information from the body

Cannon Bard Theory of Emotion

- Three ways to cut a cat
Lets focus on one emotion
Perhaps one in which we can draw parallels between animal and human studies

Temporal lobe studies on Monkeys

What are you afraid of?
Fear conditioning using an auditory stimulus

Manipulating the conditioned pathway

Where does the auditory pathway project to?
The Amygdala

- Lateral Nucleus
- Amygdala
- Central Nucleus

Freezing, escape, defensive attack, autonomic changes

interferes with most fear responses

- Lateral Nucleus
- Amygdala

- Neurological and behavioral changes associated with amygdala function:
  - Sympathetic activation
  - Increased heart rate, blood pressure
  - Activation of the stress response
  - Increased cortisol and ACTH release
  - Facial expressions of fear

Behavioral tests or signs of fear or anxiety:
- Freezing, conflict, GSR, social interaction
- MAM rats, prefrontal cortex

Increased stress and cortisol release
This is all fine in lab rats but humans are not rats

Urback-Wiethe disease

Evidence that the Amygdala is involved in fear in Humans
Hippocampus anatomy

Memory and Fear pathways are not static; they interact and can loop.

Phobias, Panic disorders