

---

BIOL 206 Human Anatomy & Physiology I • Lab 12 • Fall 2020  
**The Physiology of Reflexes - ACTIVITY**

Name: Amy Helms

---

## STRECH REFLEX

1. When you tapped on the patellar ligament, which muscle(s) contracted?  
The quadriceps are contracting
2. Describe the signal pathway. What was the receptor? Where did the signal go and through how many synapses? What was the response?  
Sends a signal to the afferent neuron to the spinal cord, thus causing the efferent neuron to respond with a signal to the quadriceps which then contracted. This involves one synapse.
3. When the subject was adding numbers, was the response more or less vigorous? Why do you think that was the case?  
Less vigorous because the brain had to think and deal with information coming in.
4. When the subject was performing the Jendrassik maneuver, was the response more or less vigorous? Why do you think that was the case?  
Less vigorous may be due to the patient knew what was coming so the brain blocked the signal

## The Plantar Reflex

1. Did the subject have a normal response or a Babinski sign?  
yes
2. If you were working as an EMT, and arrived at a scene with an unconscious subject, and your plantar reflex test resulted in a Babinski sign, what could that indicate?  
It could indicate some type of brain or nerve damage has occurred.

---

## The Pupillary Reflex

- Fill in the table of pupil measurements for your subject. Remember that you shined the light in their left eye.

	left pupil diameter (mm)	right pupil diameter (mm)
dark room	0.9	0.9
light in left eye	0.5	0.5
stroke or pinch back of left neck	0.9	0.9

- What was the *direct pupillary response* to light? What was the *consensual pupillary response* to light?  
Yes, the pupil retracted
- What was the pupillary response to the neck stroking or pinching? Why was it different than the light?  
There was no response to this action.
- What is the function of the pupillary response?  
To allow less light into the eye
- In your own words, why does stimulating the left eye often trigger a response in the right eye?  
Because the brain believes light is coming into both eyes at the same time because the nerves/neurons interlink.

### Reaction Times

- Fill out the table below for the reaction times for each different test. You may use inches, cm, or whatever units were marked on your test stick. Just be consistent. If the subject was unable to grab the stick fast enough in part 4 (word association), just put “null” in each box. Calculate the average (mean) for each row.

	trial 1	trial 2	trial 3	trial 4	trial 5	average
part 1 (no words)	109	210	160	210	150	167.8
part 2 (trigger word)	135	190	210	160	180	175

part 3 (trigger word with distractor words)	pass	pass	pass	pass	fail	pass
part 4 (word association)	fail	fail	fail	fail	fail	fail

2. Compare part 2 to part 1, did having a trigger word before each drop help (speed up) the subject react more quickly?

It dropped the subject reaction

3. Compare part 3 to parts 2 and 1. Did having distractor words speed up or slow down reaction times? Why do you think that is?

Slow down the reaction ( I think) do the fact the subject had to think before catching

4. Compare part 4 with the other parts. Did playing the word association game speed up or slow down reaction times? Why do you think that is?

Slow down, it was very difficult for the subject they did not catch any.

5. If slamming on the brakes while driving is a learned reaction, what affect could playing a word association game have on a driver's reaction time? What about other activities that might require brain focus?

It would definitely impact the driver's reaction time. Things that could require brain focus is having a conversation or texting.