

SPINAL CORD REFLEXES

DATA REPORT

Student's Name: _____
 Lab Section: _____
 Date: _____

Subject Profile

Subject's Name: _____
 Gender: Male / Female Age: _____ Height: _____ Weight: _____

I. Data Tables—Spinal Cord Reflex measurements

A. Complete Table 20.3 with reaction time (latent period) data for each recording and complete the required calculations. Reaction time is measured from onset of hammer strike to onset of EMG activity.

Table 20.3

Trial #	1 Delta T					
	Knee Jerk	Jendrassik maneuver	Mental Math Distraction	Flexor Withdrawal	Voluntary Knee Jerk	Ankle Jerk
1	msec	msec	msec	msec	msec	msec
2	msec	msec	msec	msec	msec	msec
3	msec	msec	msec	msec	msec	msec
4	msec	msec	msec	msec	msec	msec
5	msec	msec	msec	msec	msec	msec
Average						
	msec	msec	msec	msec	msec	msec

B. Complete Table 20.4 with Strike Force and Response Amplitude data for each recording and complete the required calculations. Use the result to calculate the relationship between strike force and EMG amplitude.

Table 20.4

Measure	Trial #	Knee Jerk	Jendrassik maneuver	Mental Math Distraction	Flexor Withdrawal	Voluntary Knee Jerk	Ankle Jerk
1 Max	1	Volts	Volts	Volts	Volts	Volts	Volts
	2	Volts	Volts	Volts	Volts	Volts	Volts
	3	Volts	Volts	Volts	Volts	Volts	Volts
	4	Volts	Volts	Volts	Volts	Volts	Volts
	5	Volts	Volts	Volts	Volts	Volts	Volts
Calculated Average							
2 Max	1	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
	2	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
	3	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
	4	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
	5	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
Calculated Average							

II. Questions

1. What is the physiological meaning of the term “reflex”?

2. List the anatomical components of a reflex pathway in correct sequence from beginning to end.

3. What is the difference between an ipsilateral reflex and a contralateral reflex?

4. Define “reciprocal inhibition” and explain its importance.

5. The stronger the percussion hammer taps on the patellar tendon, the greater the reflex contraction of the quadriceps femoris. Explain.

6. The Jendrassik maneuver may exaggerate spinal reflexes such as the patellar reflex. Explain.

7. When a physician elicits the patellar reflex, what physiological activities are being examined? List four. (Hint: think of the function of each component of the reflex pathway).

8. Briefly explain the function of the supraspinal descending inhibitory motor pathways.

9. There are two pathways by which the Jendrassik maneuver facilitates alpha motor neuron output. Describe one.

III. OPTIONAL Active Learning Portion

A. *Hypothesis*

B. *Materials*

C. *Method*

D. *Set Up*

E. *Experimental Results*
