

## Lab 9 – Reflexes, General Senses, Taste, and Olfaction

I. **Spinal Reflexes** - Read pages 247-248. What is a reflex? What is a reflex arc? What are the five components of the reflex arc? Be able to label Figure 22.1. What is the difference between polysynaptic and monosynaptic reflex arcs? Why is reflex testing important?

Test the following reflexes on your lab partner! Be able to answer the questions in the activity. Read the introductory paragraphs for each test. Make sure you know if the reflex is a spinal or a cranial reflex.

*Stretch reflexes* (read about this type of reflex on p. 249)

a. patellar reflex - p. 249, activity 1; steps 1-4

Achilles - p. 250, activity 1; step 6

*Superficial Cord Reflexes* (read about this type on p. 251)

Plantar Reflex and Babinski's Sign - p. 251, activity 3

*Corneal Reflex* (read about this on p. 251)

corneal reflex - p. 251, activity 4

II. **General Senses** - record data for class discussion. – Exercise 23

What are the general senses? Where are the general sense receptors distributed?

a. *Sensory Receptors*— describe the structure of a general sensory receptor. (p. 257)

Two examples of cutaneous receptors are on view as demo slides. (Activity 1, p.258)

Pacinian Corpuscle – Function? p.258.

Meissner's Corpuscles. Function? p.258

Which regions in the skin contain the two types of receptors?

b. *Touch Receptors* - Two-Point discrimination test (p. 260) – what does this test measure? You will be testing the body areas suggested in your lab book (Activity 3, p. 260). First make a prediction about which areas will have the greatest density of touch receptors. What can you consult to make your predictions? Using the calipers provided, perform the two-point discrimination test on these areas. Record your data on the board.

c. *Tactile localization*- (Activity 4, p.260). Which area do you predict will have the smallest error of localization?

d. *Adaptation of touch receptors* – What is the phenomenon of adaptation? Perform Activity 5, p. 261.

e. *Adaptation of temperature receptors*- use water baths for hot water, cold water, and room temperature. (Activity 6, p. 262)

*f. Referred pain* – What is referred pain? Complete Activity 7, p.262.

III. **Taste and Olfaction – Special Senses**

*a. Anatomy of taste buds.* Where are taste buds found? Examine the demo of the tongue cross section (p.290). Look for taste buds, and structures in Figure 26.2. Be able to label all structures in Fig. 26.2.

*b. Plotting taste bud distribution.* Activity 4, p. 291. Complete activity 4 to make a taste map of your partner's tongue. Draw your maps in your lab book and on a separate sheet of paper to turn in.

*c. Anatomy of olfactory epithelium.* Where exactly do you find olfactory epithelium? Examine the demo slide of olfactory epithelium (Fig.. 26.1)

*e. Olfaction testing,* p. 293. Complete activities 6 and 7 on p. 293. (these activities will be modified slightly).