

Name _____ Lab (Circle One) T W Group # ____

Date ____/____/99 Total ____/5

Results Section for EXPERIMENT 2B: Physiology of the Neurogenic Heart

1. The normal heart rate* was _____ contractions/min. The amplitude (peak height) was _____ mm (0.5 points).

*Hint: To obtain the heart rate, convert your paperspeed into mm/min. Now count the number of contractions that occur during a given distance (in mm). Multiply these two values together.

2. After acetylcholine application, the heart rate was _____ contractions/min and the amplitude was _____ mm. When the acetylcholine was washed off, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

How do these results with acetylcholine compare with typical results for the myogenic heart (Consult Prosser and Brown handout)?

3. After epinephrine application, the heart rate was _____ contractions/min and the amplitude was _____ mm. When the epinephrine was washed off, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

How do these results with epinephrine compare with typical results for the myogenic heart (Consult Prosser and Brown handout)?

4. After acetylcholine application, the heart rate was _____ contractions/min and the amplitude was _____ cm. When the atropine was added, the heart rate was _____ contractions/min and the amplitude was _____ mm. When these drugs were washed off, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

How do these results with acetylcholine in combination with atropine compare with typical results for the myogenic heart? What is the mechanism of the atropine action (Consult Prosser and Brown handout)?

5. When Ca^{2+} -free Van Harreveld's buffer was added, the heart rate was _____ contractions/ min and the amplitude was _____ mm. When normal Van Harreveld's buffer was returned, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

Does this response support the Prosser and Brown handout? What is known about the role of Ca^{2+} in neurogenic heart contraction?

6. When K^{+} -free Van Harreveld's buffer was added, the heart rate was _____ contractions/ min and the amplitude was _____ mm. When normal Van Harreveld's buffer was returned, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

Does this response support the Prosser and Brown handout? What is known about the role of K^{+} in neurogenic heart contraction?

7. When acetic acid Van Harreveld's buffer was added, the heart rate was _____ contractions/ min and the amplitude was _____ mm. When normal Van Harreveld's buffer was returned, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

From this response, what might be concluded about the role of protons (H^{+}) in neurogenic heart contraction?

8. When Na^{+} -free Van Harreveld's buffer was added, the heart rate was _____ contractions/ min and the amplitude was _____ mm. When normal Van Harreveld's buffer was returned, the heart rate was reestablished at _____ contractions/min and the amplitude was _____ mm (0.5 points).

Does this response support the Prosser and Brown handout? What is known about the role of Na^{+} in neurogenic heart contraction?

9. Attach a Xeroxed copy of your physiograph recordings for each parameter in the study. Clearly label each treatment on the physiograph paper (1 point).

