Biology 121
Fall 2005

Lab 10 - Vision, Hearing, and Equilibrium

Vision

1**. Anatomy of the Human Eye**: Figures 24.1, 24.2, 24.3, and 24.4. Be able to recognize and label the important structures in these figures. You are responsible for all the eye muscles in 24.2. Practice labeling with review figure on p. 622.

2. **Eye tests**: Do the following eye tests with your partner. Both partners must experience being the test subject and the recorder.

Blind Spot – Activity 5, p. 271
After Image - p. 271-72; Activity 6
Near Point Accommodation – p.272; Activity 7
What is **accommodation? Myopia? Hyperopia? Astigmatism?**
Visual Acuity (what is it?) - Snellen Chart: p. 273; Activity 8. What do the numbers mean?
Astigmatism - p. 274; Activity 9
Color Blindness – p. 274; Activity 10
Binocular Vision Test p. 274-75; Activity 11

Compare your results for these tests with those of your partner and other students.

3. **Eye Dissection** - dissect cow's eye, 1/every 2 people. p. 270-71 in the lab book. Identify the following parts:
cornea, sclera, optic nerve roots, vitreous humor, retina, lens, choroids, tapetum lucidum, pupil, ciliary body

Hearing and Equilibrium

1. **Anatomy of the Human Ear** - Using the ear model, locate all structures described in Figures 25.1 and 25.2. Be sure to read the descriptions of these structures in the lab book. View demo slides of cochlea - organ of Corti (p.280-81; Figures 25.3, and 25.4).

2. **Otoscopic Examination of the Ear** -Examine the Otoscope used in ear examinations. Review handout for examination technique.

3. Be able to **label** structures in Figure 25.1, 25.2, 25.3, 25.4 and 25.7.

4. Examine the demo of the **crista ampullaris** (p.284-85; Fig. 24.7) What role does it play in equilibrium?

5. **Weber** test for conductive and perceptive deafness - conduct this test on your lab partner using tuning forks (p. 283; Activity 4).

6. **Rinne** test for comparing bone and air conduction hearing -conduct this test with your partner. (p. 283; Activity 4)

7. **Barany** and **Romberg Test** test for proprioreceptive pathways - p. 286-287; Activity 7.

Be sure that you understand the purpose of each of these tests and what they measure.

8. You are done!

Its been a fun semester!

Dr. Baker will be glad to see you in BIO 122 in the Spring!

COMING ATTRACTIONS in BIO 122:

do it yourself urinalysis
lung function testing
EKG testing and evaluation
complete blood counts and hematocrit
learn how to spell sphygmomanometer
(and how to use one!)
visit to the Emory cadaver lab!