

### Lab 10: Recording ECG

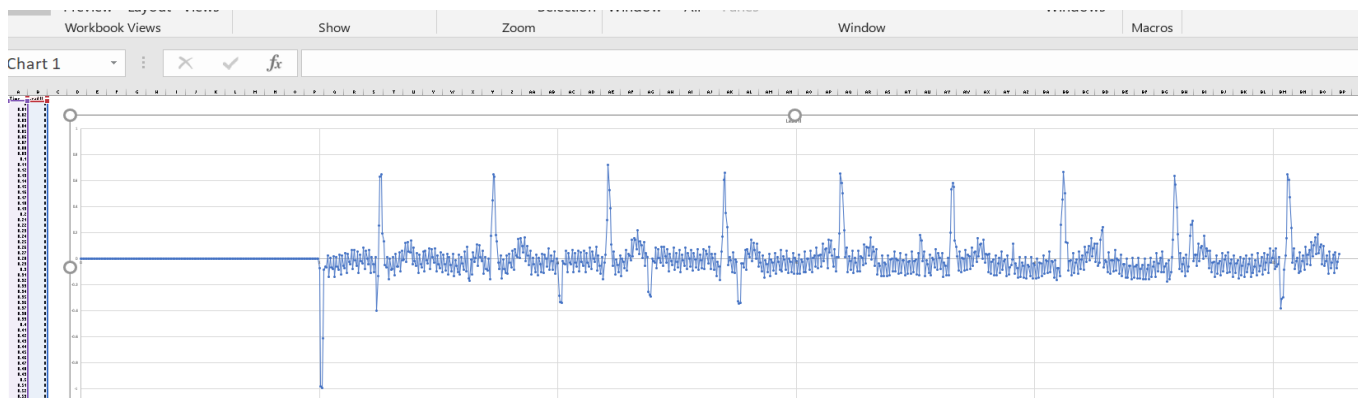
**Purpose:** Electrocardiography is the study of the electrical activity of the heart. Cardiac muscle cells are the sources of this electrical activity. Electrocardiograms are graphical records that measure the change in the electrical activity of our hearts. In today's lab, me and my partners will measure the electrical activity of our hearts.

**Procedure:**

1. First, make sure the IWX/214 unit is plugged in and that the IWX/214 unit is connected to the laptop by USB cable. Insert the connectors on the red, black, and green electrode lead wires into the color coded matching sockets on the ECG cable. Once everything is connected, turn on the laptop and turn on the IWX/214 unit. Once the unit is on, the red indicator light on the Iworx unit should light up.
2. Open the Labscribe3 program located on the desktop. As soon as the program opens, you should see a window pop up that says "Hardware found IWX214:200824," click "OK".
3. In the row that says "File Edit View Tools Settings Advanced External Device Help ", click on the settings tab. In the drop down window there is a tab called " Human Heart". Click it and that should lead you to a tab called " ECG HeartSounds." Click on it.
4. Remove the disposable ECG electrodes from its envelope and snap the lead wires onto the electrodes while the electrodes are still on the plastic shield. Use an alcohol swab to clean a region of skin on the subject's right wrist, and the inside of both ankles.
5. Apply the black electrode to the cleaned area of the right wrist. Repeat Steps 5 and 6 for the inside of the left ankle and the inside of the right ankle. Set up so that the following is arranged: the black lead is attached to the right wrist,the red lead is connected to the left ankle,the green lead is connected to the right ankle.
6. Instruct the subject to sit quietly with their hands in their lap. If the subject moves, the ECG trace will move off the top or bottom of the screen. Click on the Record button, located on the upper right side of the LabScribe Main window. The signal should begin scrolling across the screen.

7. When you have a suitable trace, type <Subject's Name> Lead II in the Mark box to the right of the Mark button. Press the Enter key on the keyboard after the recording has started to attach the comment to the data.
8. Record for approximately one minute and then click Stop to halt recording. You should be able to identify the five ECG waves (P, Q, R, S and T). Notice that every cycle is similar but not identical, and the distances between the QRS complexes may alter slightly.

### Results:



**Discussion:** The EKG records the electrical signals of the heart. It is a painless procedure to detect abnormalities of the heart.

**Conclusion:** To be able to identify and explain each component of the EKG. Also, be able to identify all the instruments used to measure the electrical signals of the heart and to know when there is an abnormality.