

Lab 10-Electrocardiography

Bio125

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Purpose

The purpose for this activity was to measure the electrical activity of the heart, and to be able to identify each segment of it. P, Q, R, S, and T waves were clearly displayed through the EKG recording.

Procedures

Before you turn anything on, be sure the IWX/214 unit is plugged in, and that the IWX/214 unit is connected to the laptop by USB cable.

Once everything is connected, FIRST turn on the laptop and allow it to fully boot up before you turn on the IWX/214 unit. Once the Iworx unit is on, the red indicator light on the Iworx unit should light up and you may hear the USB chime from the laptop if the laptop does not default to mute.

Open the LabScribe3 program by clicking on the LabScribe3 icon on the desktop. As soon as the program opens, you should see a window pop-up that says "Hardware found IWX214:2008-1-24," click "OK."

In the second from the top row (the row that says "File Edit View Tools Settings Advanced External Devices Help"), click on the "Settings" tab. About one third of the way down the drop-down window should be a tab called "Human Heart." Click on that tab and that should lead you to a tab called "ECG-Heart Sounds"

Remove the disposable ECG electrodes from its envelope and snap the lead wires to the electrodes while the electrodes are still on the plastic shield. Instruct the subject to remove all jewelry from their wrists and ankles. Use an alcohol swab to clean the region of skin on the subject's right wrist, and the inside of both ankles.

Apply the black (-1) electrode to the scrubbed area on the right wrist. Repeat Steps 5 and 6 for the inside of the left ankle and the inside of the right ankle, so that the following Lead II is arranged.

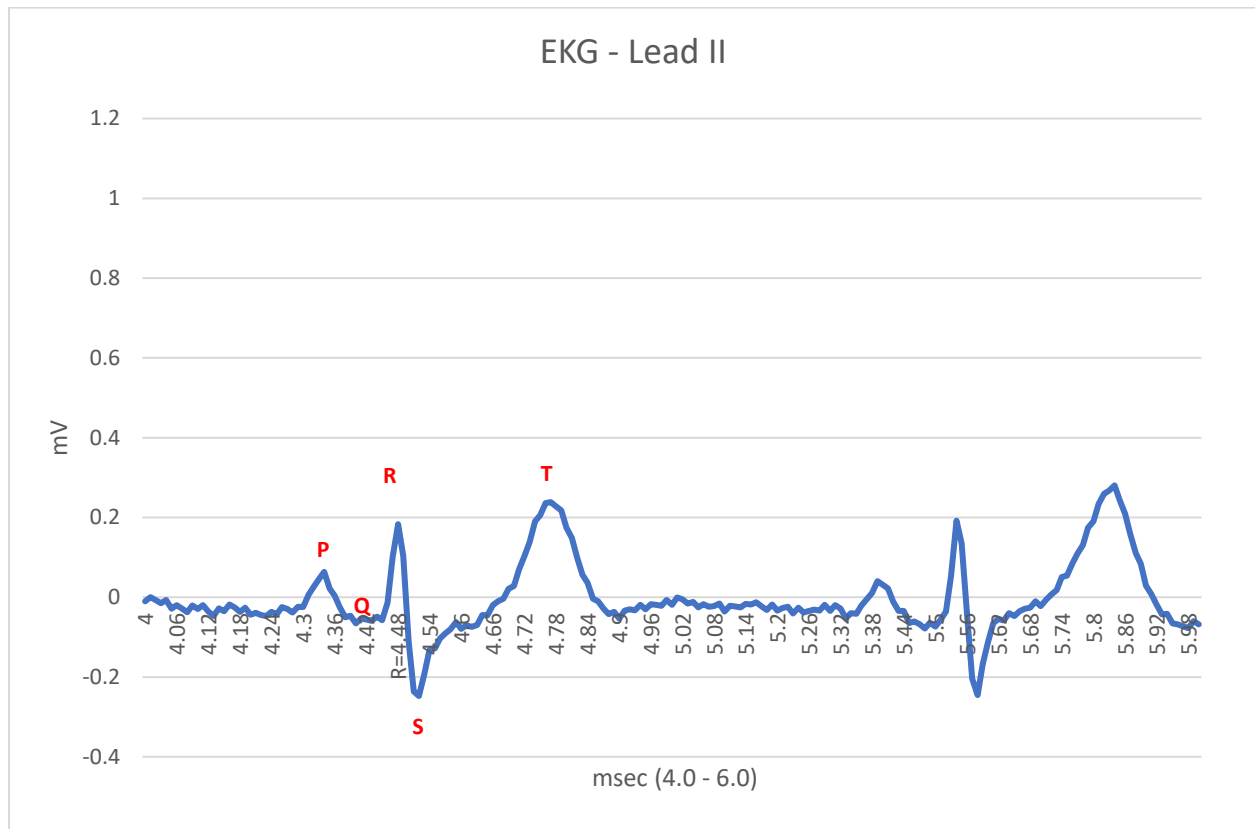
the black (-1) lead is attached to the right wrist, the red (+1) lead is connected to the left ankle, the green (Cor ground) lead is connected to the right ankle.

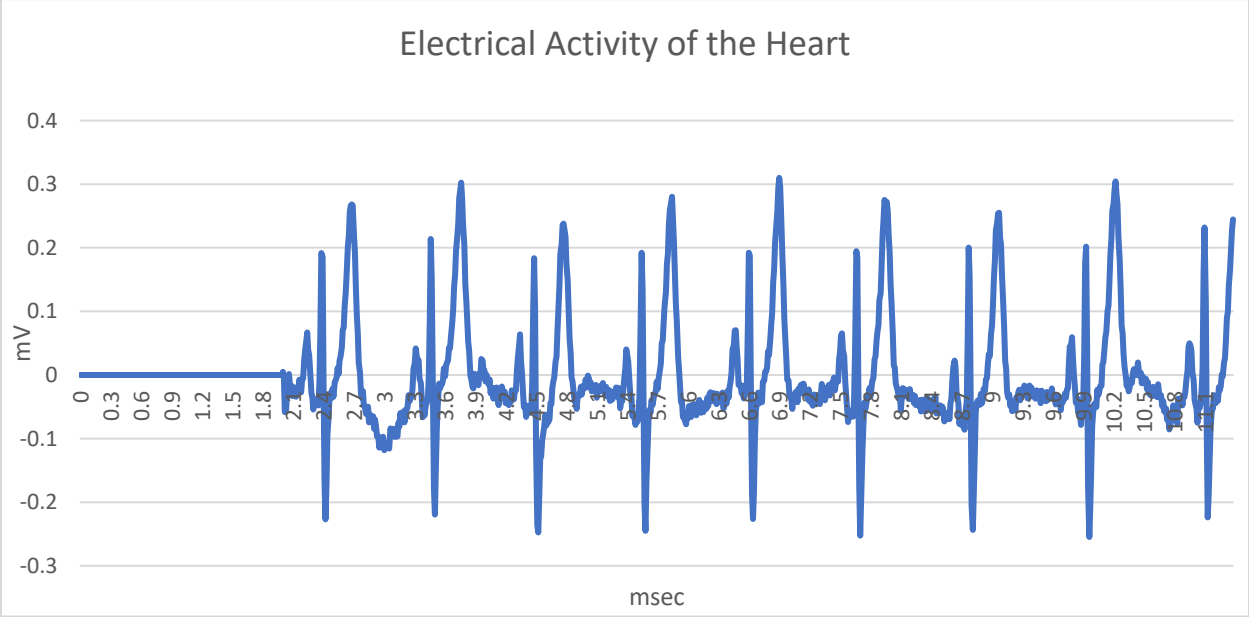
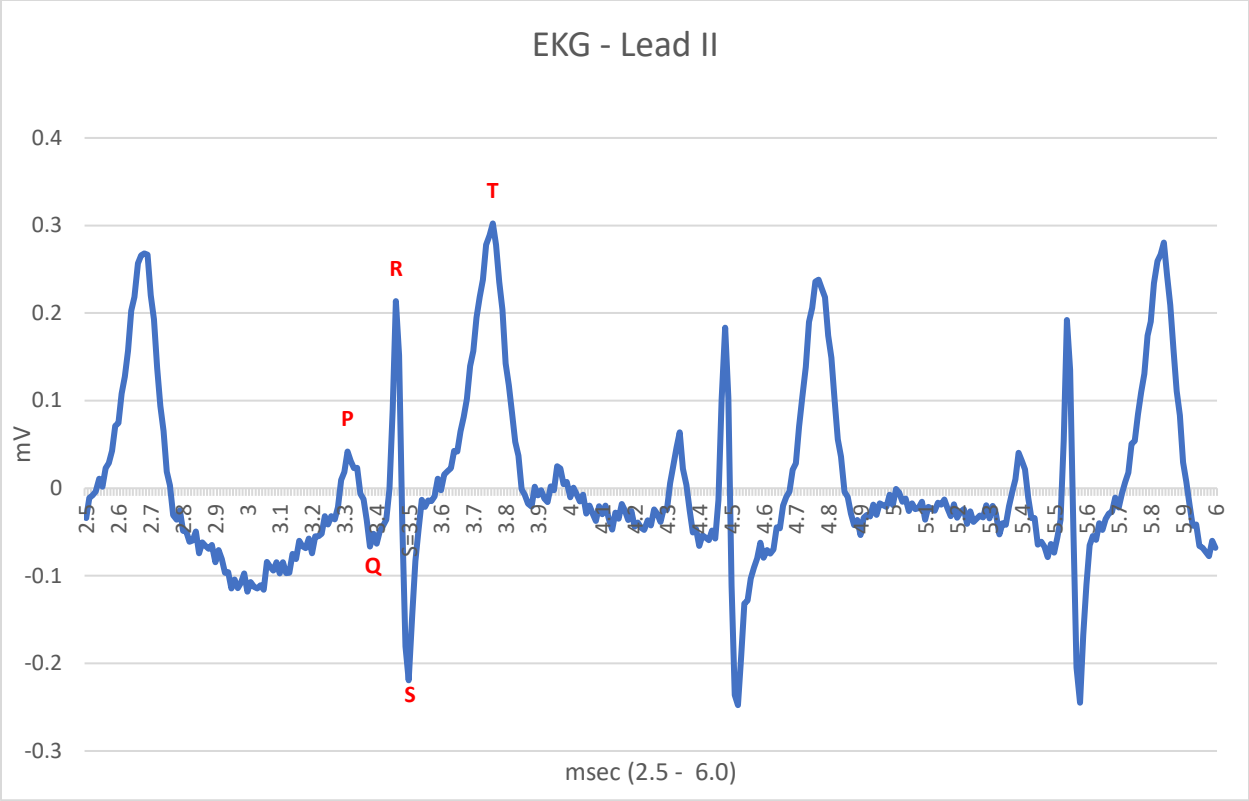
Instruct the subject to sit quietly with their hands in their lap.

Click on the Record button, located on the upper right side of the Lab Scribe Main window.

Record for approximately one minute and then click Stop to halt recording. Label one set of 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

While doing this activity, I noticed that my EKG was not so clear in terms of the different waves and how they were supposed to look. The T wave looked somehow different since it was taller than the R wave. It might have happened because I moved while performing the activity.

Conclusion

Through this activity I was able to learn how an electrocardiograph works, how precise it is, and how to get the results. I was also able to record an electrocardiograph of my lab partner so, while doing that, it gave me insight on how those in this profession might conduct these tests.

[Bio125/LAB10New.ipynb at main · RosalbaN/Bio125 \(github.com\)](#)