

Name _____
PID (Last 4) _____
Section _____

Lab 8: EKG/ECG, Blood Pressure, and Auscultation

Part I: Electrocardiogram

1. Select one person from each lab group that will be participating in having an electrocardiogram read. Be sure to consider this person's ability to perform exercise and/ or physical activity.
2. Snap three (3) electrode cables on the electrode adhesive pads, and stick them on the subjects trunk as stated in the following mnemonic:
 - ✓ "White is always right, and smoke is always over fire"
 - This implies that the white electrode is placed below the right clavicle. The black electrode goes below the left clavicle, and the red electrode goes below the black electrode (just under the patients lower left rib).
3. At this point, a rhythm should be detected.
4. Encourage the subject to remain calm while the rhythm is being taken. To do this, simply wait until a rhythm is stabilized and press the button on the left marked "print." Allow approximately six (6) seconds for the strip to print. To halt printing, press "print" a second time, and remove the strip.
5. When analyzing a strip, the very first step is to assess the following aspects: (Y or N) **(0.1 POINTS each)**
 - ____ Are all waves present?
 - ____ Are all waves upright (not inverted)?
 - ____ Are all intervals within normal range?
 - ____ Is the S-T segment depressed?
 - ____ Does the P-R interval exceed 0.20 seconds?
 - ____ Is the QRS complex wide?
 - ____ Is the heart rate within normal range?
 - ____ Are any artifacts present (extra waves)?




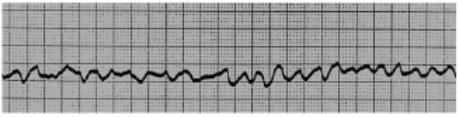
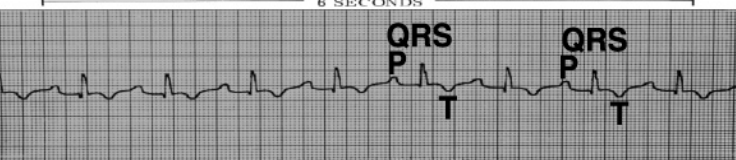
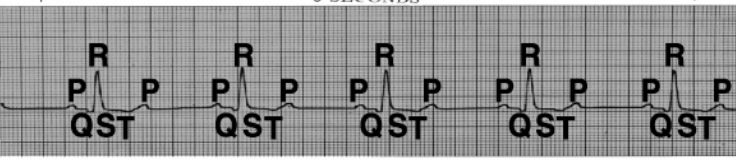

6. Have the subject to perform at least 10 minutes of aerobic exercise, and get a new EKG printout while pulse/HR is still high. Describe the differences between the first and second printout (**0.5 POINTS**).

Answer the following questions based on the EKG readings below:

Which of these rhythms merit getting shocked? (**0.25 POINTS**)

Which of these rhythms do NOT merit getting shocked? Why? (**0.5 POINTS**)

True or false: When a patient is displaying asystole/ flat line, you must shock them. (**0.25 POINTS**)

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Part II: Blood Pressure

Materials: Sphygmomanometer, stethoscope

1. Have a lab partner relax his/ her arm palm up either on a table or on their lap.
2. Carefully place the blood pressure cuff around their upper arm being careful not to apply it too tight so as to cut off blood flow.
3. To properly align the cuff, palpate the brachial artery which lies in the antecubital fossa (the side opposite the elbow), just to the right of the biceps tendon. Once this pulse has been found, align the arrow found on the cuff with the artery you just palpated.
4. Now, make sure the valve is turned all the way clockwise, and begin to inflate the cuff until the pulse is no longer felt.
5. At this point, apply the large diaphragm of the stethoscope to where the arrow is pointing (where you just felt the pulse), and carefully open the valve to slowly release the air.
6. As this takes place, you will be auscultating the sounds of Korotkoff. The very first sound of Korotkoff represents the systolic blood pressure. A sequence of “thumps” will be heard, and they will gradually disappear. The very last “thump” you hear is your diastolic blood pressure.
7. These findings will now be reported as follows:

Blood Pressure = $\frac{\text{Systolic}}{\text{Diastolic}}$

At times, a scene can be considerably noisy and hearing the sounds of Korotkoff will be virtually impossible. In this case, repeat steps 1-4 as outlined above. Instead of using a stethoscope, palpate the radial pulse. Inflate the pressure cuff until the the radial pulse cannot be felt then deflate the cuff until it "returns". The pressure at which the pulse returns is your systolic blood pressure.

This is recorded in the medical file as "systolic/P", indicating that the blood pressure was taken using the **palpation technique**.

It should be noted that this method is not quite as accurate as the standard method.

Try measuring BP using the standard method and the palpation method. Repeat each method three times to check your accuracy, then compare readings to the digital reading. **(0.25 POINTS each)**

Run 1: ____ / ____ Run 2: ____ / ____ Run 3: ____ / ____

Run 1: ____ / P Run 2 ____ / P Run 3: ____ / P

Compare your runs of blood pressure with the automatic digital blood pressure machine. Blood pressure machine: ____ / ____ **(0.2 POINTS)**

Part III: Auscultation

Find a lab partner with no history of mechanical heart defects, and listen to his/her heart by placing the large diaphragm just to their left (your right) of the mediastinum.

Can you hear the Lub and the Dub? _____ **(0.5 POINTS)**

Do you hear any additional sounds/murmurs? _____ **(0.5 POINTS)**

It takes a lot of practice to identify a murmur. If anyone in the class has one try to listen to them for practice =)

Did you get to do this? _____

If so, could you detect the murmur? _____