EKG and Blood Pressure
Disclaimer:

- Research purposes only
- Not for clinical use

Should any concerns arise contact a licensed nurse or physician.
Blood Pressure

Korotkoff Technique

- Brachial artery occluded by cuff placed around upper arm.
- Inflate to above systolic
- Gradually deflate cuff – sounds can be detected by a stethoscope held over artery just below cuff.
Blood Pressure

Sounds classified in 5 phases:

- Phase 1 – appearance of clear tapping sounds corresponding the appearance of a palpable pulse
- Phase 2 – sounds become softer and longer
- Phase 3 – sounds become crisper and louder
- Phase 4 – sounds become muffled and softer
- Phase 5 – sounds disappear completely
Blood Pressure

Measured Blood Pressure

- Systolic = the first sound you hear
- Diastolic = the last sound you hear
Blood Pressure

- **Ideal** – 120/80

- **Need further attention** – Systolic BP greater than 180 or less than 90, diastolic BP greater than 90 or less than 50
Blood Pressure

Ensure proper size cuff is used

• Too small will give falsely elevated reading
• Too large will give falsely lowered reading

Arm circumference 22-26 cm – small adult cuff
Arm circumference 27-34 cm – adult cuff
Arm circumference 35-44 cm – large adult cuff
Arm circumference 45-52 cm – adult thigh cuff
Blood Pressure

Bottom of the cuff should be 2-3 cm above the elbow
Blood Pressure

- Remember to check blood pressure after patient has rested for 3-5 minutes or per protocol

- Patient may be either in a seated or supine position
Blood Pressure

Factors that can effect blood pressure include:

- Room temperature
- Exercise
- Alcohol or nicotine consumption
- Positioning of the arm
- Muscle tension
- Bladder distension
- Talking
- Background noise
Electrocardiography (ECG or EKG*) is the process of recording the electrical activity of the heart over a period of time using electrodes placed on a patient's body. These electrodes detect the tiny electrical changes on the skin that arise from the heart muscle depolarizing during each heartbeat.
EKG

12 Lead EKG

- **Ten** electrodes are placed on the patient's limbs and on the surface of the chest.
- The overall magnitude of the heart's electrical potential is then measured from twelve different angles ("leads") and is recorded over a period of time (usually 10 seconds).
EKG

Electrocardiography

Intervention

QRS Complex

ECG of a heart in normal sinus rhythm.
EKG Preparation

Skin prep is important

- Make sure skin is dry
- Shave or clip chest hair (or part)
- Gently abrade dead skin
Electrode Placement

Clavicle

Rib 2
Rib 3
Rib 4
Rib 5
Rib 6
Rib 7
Rib 8
Rib 9
Rib 10

V1, V2, V3, V4, V5, V6