12 LEAD ECG PLACEMENT

PREPARATION

- Explain the procedure to the patient.
- Ensure the patient's privacy. If needed place a sheet or towel over the breasts.
- Cleanse & prep the skin at placement locations. For lotions, sweat, or oily skin use dry gauze and rub site vigorously, do not use alcohol. If excessive hair, shave the hair from placement locations.

LIMB LEADS

- Limb leads should be placed on the extremities (if possible).
- Do not place over bony areas, open sores or broken skin.

CHEST LEADS (PRECORDIAL LEADS)

- V_1 – 4th intercostal space to the right (patient's right) of the sternum. To find 4th intercostal space palpate directly under the clavicle for the first intercostal space. Palpate down to the 4th intercostal space.
- V_2 – place directly across from V_1 at the 4th intercostal space on the left side of the sternum (Patient's left).

   With female patients V_3 through V_6 should be placed <u>UNDER</u> the breast.

- Skip V_3 and go to V_4 placement. V_4 placement is at the 5th intercostal space in line with the mid-clavicle. Do not use the nipple as a landmark. When obtaining a right sided ECG, simply move only V_4 to the same landmarks but on the right side of the chest wall, this lead now becomes V_4R.
- Now place V_3 in a straight line between V_2 and V_4 directly over the 5th rib.
- Skip V_5 and go to V_6 placement. Place V_6 at the 5th intercostal space mid axillary.
- Now place V_5 in a straight line between V_4 and V_6 at the 5th intercostal space.

OBTAINING ECG

- Instruct the patient to not move, and to breathe normally.
- Finally, ensure the patient is fully relaxed without any muscle tension or tremors while obtaining the ECG. Muscle tension and movement will create excessive artifact on the ECG tracing.

Mid Clavical Line

Angle of Louis

Anterior Axillary Line

Mid Axillary Line

V4R V1 V2 V3 V5 V6

−120° −90° −60°
aVR −150° aVL
−30°
180° 0° I
+150° +30°
III +120° +60° II
aVF +90°