OVERVIEW:
12 lead ECG allows rapid assessment of the cardiac complaint patient. Although 12 lead ECG is relatively accurate, always treat the patient, not the monitor. **Application of 12 lead monitoring leads is a simple task, which can be performed by any provider. However, only those at the Paramedic level may interpret & treat the findings obtained.** The reading of 12 lead ECG’s is a complex process and will not be covered in this document.

INDICATIONS:
- Conscious, stable patients with suspected AMI (e.g., chest pain, pressure, or palpitations of presumed cardiac etiology; Shortness of breath with presumed cardiac etiology; CHF patients)
- As a tool to assist in the assessment of patients without chest pain or discomfort where AMI is suspected.
- As an additional assessment tool in potentially cardiac clinical situations (e.g., determination of SVT vs. rapid A-Fib; syncope/near syncope of suspected cardiac etiology; sudden onset of profound weakness; epigastric discomfort; hyperglycemia in diabetic patients; diaphoresis inconsistent with environment and etc).

CONTRAINDICATIONS:
- None

PROCEDURE:
- Place the 4 limb leads on extremities
  - **Right arm/white** - Right mid-clavicular line below clavicle or above wrist
  - **Left arm/black** - Left mid-clavicular line below clavicle or above wrist
  - **Left leg/red** – Left mid-clavicular line between 6th and 7th intercostal space, or ankle, or thigh
  - **Right leg/green** – Right mid-clavicular line between 6th and 7th intercostal space, or ankle, or thigh
- Place the 6 precordial leads
  - **V1** - 4th intercostal space to the right of the sternum. To locate, place finger at the manubrium notch move finger slowly down about 1½” until you feel the Angle of Louis, move laterally into the second intercostals space. Move finger down two more intercostal spaces to the 4th intercostal space
  - **V2** - 4th intercostal space to the left of the sternum
  - **V3** - Midway between V2 and V4
  - **V4** - On the mid-clavicular line at the 5th intercostal space
  - **V5** - On the anterior axillary line at the 5th intercostal space
  - **V6** - On the mid-axillary line at the 5th intercostal space
CONSIDERATIONS:

- Providers below the level of Paramedic should report the ‘computer’ interpretation to the responding Paramedic resource.
- V1 is the most important lead to place correctly due to it being the reference point for locating the remaining V leads.
- Do not delay transport of critical or unstable patients to perform a 12-Lead.
- On female patients, always place leads V3-V6 under the breast rather than on it.
- A normal ECG does not definitively rule out an AMI.
- Whenever possible attempt to obtain 12-Lead with patient in supine position.
- Shave and clean the skin prior to placing leads if possible.
- Leave the electrodes in place for the hospital staff to verify position and reuse if necessary.
- Approx area of heart by contiguous lead: