

ECG Monitoring 12/15 Lead Placement Resources

ECG Monitoring / 12-Lead

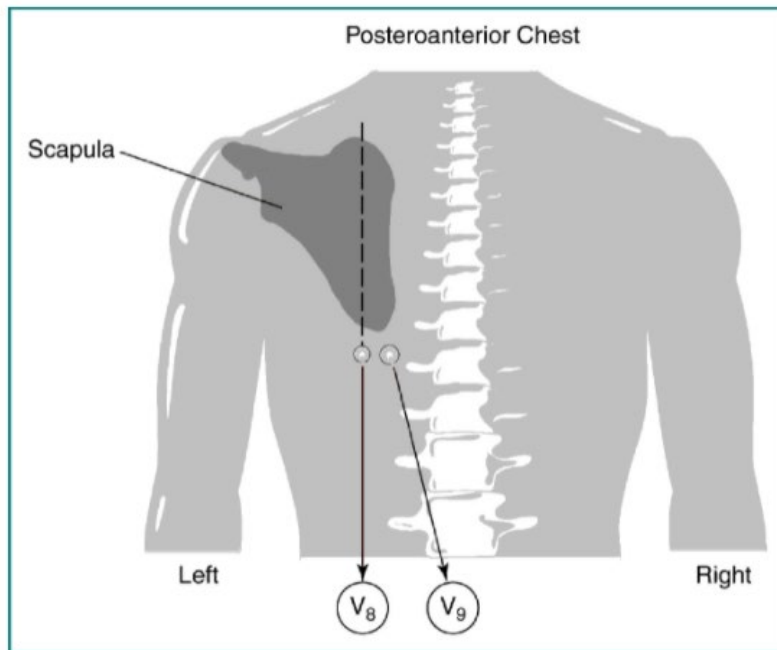
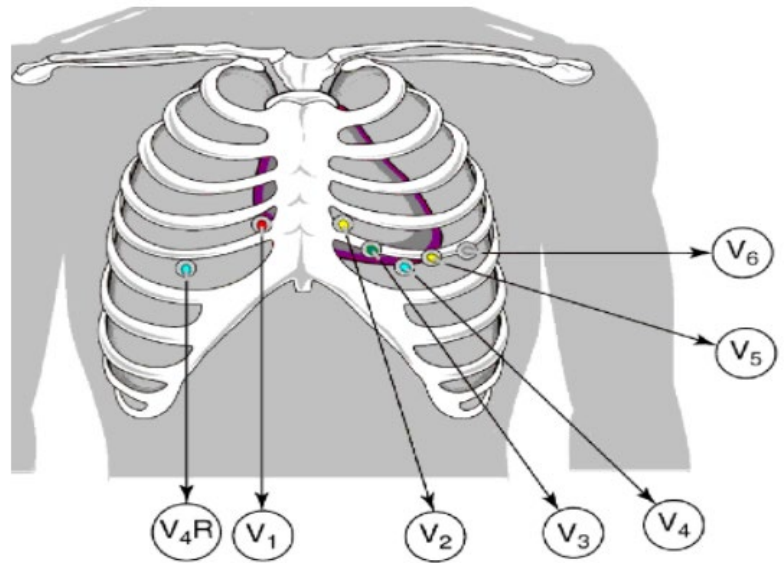
- A prehospital 12-lead ECG may be initiated and performed on scene but should not extend scene time; total scene time should not exceed 20 minutes
- Enter the patient's name and date of birth for all 12-leads (day 2 – month 3 – year 4) on the cardiac monitor (if the day is a single digit, do not preface with a zero i.e. if DOB is September 3, 1940, enter 3-sep-1940)
- ST-segment elevation in the following leads may be indicative of injury in the corresponding area: II, III, and AVF Inferior
 - I, V5, V6, and AVL Lateral
 - V1 and V2 Septal
 - V3 and V4 Anterior
 - V7, V8, and V9 Posterior
 - V3R – V6R Right Ventricular
- Measure ST-segment changes 0.04 seconds (1 small box) after the J point (i.e. the end of the QRS complex and start of the ST-segment)
- Certain conditions can produce ST-segment elevation which can mimic an AMI (i.e. intracranial hemorrhage, pericarditis, hypothermia, benign early repolarization); however, these are diagnoses of exclusion and any ECG with ST-segment elevation must be transmitted and OLMC is required
- When the patient's condition suggests an AMI and the ECG identifies significant ST-segment elevation (i.e. 1 mm or greater in two or more contiguous leads, new left bundle branch block), the STEMI Protocol must be followed

When in doubt regarding ECG interpretation, contact OLMC and transmit the 12-lead ECG where available

12/15-lead Placement and Acquisition

- Leads can be placed anywhere on limb (not trunk) but avoid bone
- Chest lead placement must be consistent
- In female patients place chest leads under the breast tissue
- Never use nipples as a reference point for locating electrodes on men or women as locations vary
- Be sure to prep the skin first by a brisk rub with a 4x4 – this will result in an ECG with less artifact
- Lie patient flat if possible to obtain the ECG

V1 - 4th intercostal space - Right of sternum
 V2 - 4th intercostal space - Left of Sternum
 V3 - 5th intercostal space - Between V2 and V4
 V4 - 5th intercostal space - Left midclavicular line
 V5 - 5th intercostal space - Left anterior axillary line
 V6 - 5th intercostal space - Left midaxillary line
 V4R - 5th intercostal space - Right midclavicular line



- Acquire standard 12 lead ECG
- Remove leads V4, V5, V6
- V4 to V4R on corresponding R anterior chest
- V5 to V8 at 5th intercostal space posterior left back midscapular line
- V6 to V9 at 5th intercostal space posterior left back, paraspinal line (next to spine) next to V8
- Run another 12 lead. Relabel V4 to V4R, V5 to V8 and V6 to V9