AACN PracticeAlert™

Dysrhythmia Monitoring

Expected Practice:

- ☑ Select the best monitoring leads for dysrhythmia identification (display two leads when possible).
  - Lead V_1 to diagnose wide QRS complex.
  - Lead II to diagnose atrial activity and measure heart rate.
- ☑ Proper electrode placement is required for accurate diagnosis (Figure 1).
- ☑ Prepare the patient's skin before attaching ECG electrodes.
- ☑ Measure QT interval and calculate QTc using a consistent lead if high risk for Torsades de Pointes.

Scope and Impact of the Problem:

- Studies show that nurses often monitor in a single lead regardless of diagnosis.[1-2]
- Failure to properly prep skin prior to electrode placement may cause inappropriate monitoring alarms.[3-4]
- When an electrode is misplaced by as little as 1 intercostal space, QRS morphology can change and misdiagnosis may occur (i.e., ventricular tachycardia [VT] may be misidentified as supraventricular tachycardia [SVT] or vise versa).[5]

Supporting Evidence:

- V_1 is the lead of choice to diagnose wide QRS complexes (VT vs. SVT with aberrant conduction; left vs. right BBB). A 5 lead monitoring system is required to monitor V leads. MCL_1 may differ in QRS morphology as compared to V^1 and should be used only when a 5 lead monitoring system is unavailable.[6-10] (Level V)
- When V_1 electrode placement is not possible, V_6 may be used. [7,11] (Level IV)
- Electrode site preparation includes clipping excessive hair and cleansing oily skin with alcohol.[3-4] (Level IV)
- QTc >0.50 sec (500 ms) is dangerously prolonged and associated with risk for Torsades de Pointes. The QT interval should be corrected for heart rate (QTc) and monitored with any of the following:[9-10,12-15] (Level IV)
  - Antidysrhythmic, antibiotic, antipsychotic, and other drugs that prolong QTc
  - Severe bradycardia
  - Hypokalemia or hypomagnesemia
  - Any drug overdose
- Perform an atrial electrogram (AEG) in cardiac surgical patients with atrial epicardial wires to assist in identifying atrial activity.[16-17] (Level V)

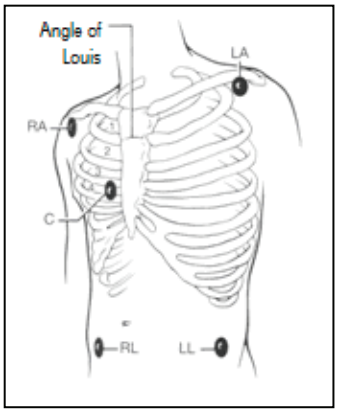

Figure 1

Pediatric Specific

Abnormal prolongation: QTc >0.40 sec ± 10%. Pediatric limits are age specific and shorter than adult ranges.[18]

Actions for Nursing Practice:

- Ensure that your organization has written policies and procedures related to cardiac monitoring.
- Provide appropriate ECG education for staff.
- Develop proficiency standards for all staff involved with ECG monitoring to ensure accurate and effective monitoring.

- Consider conducting an audit to assess:
  - Electrode placement
  - Lead selection

Need More Information or Help?

1. Audit tool for measuring compliance with lead selection and lead placement available at www.aacn.org
2. Talk with a clinical practice specialist for additional information / assistance (www.aacn.org/prninfo).

AACN Grading Level of Evidence

Level I:	Manufacturer's recommendations only
Level II:	Theory based, no research data to support recommendations: Recommendations from expert consensus group may exist
Level III:	Laboratory data, no clinical data to support recommendations
Level IV:	Limited clinical studies to support recommendations
Level V:	Clinical studies in more than one or two patient populations and situations to support recommendations
Level VI:	Clinical studies in a variety of patient populations and situations to support recommendations.

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