[3089] Nurses Ability to Identify Location of Acute ST Elevation Myocardial Infarction on the 12-Lead Electrocardiogram Can be Improved by Using a Simple and Easy to Learn Tool

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Background: Treatment decisions for acute myocardial infarction (MI) rely on rapid and accurate interpretation of the 12-lead electrocardiogram (ECG). Nurses working in acute care settings play a crucial role in communicating ECG findings. Location of acute MI often influences treatment options and helps identify lead specific bedside ECG monitoring for coronary vessel patency and recurrent ischemia. Purpose: The purpose of this prospective study was to determine if a nurse's ability to identify acute MI location improved by using an easy to learn tool (MI Rule ®) designed for rapid interpretation of 12-lead ECGs for ST elevation MI. Methods: A pre-test, post-test study design was used. Nurses working in the emergency department (ED), coronary care unit (CCU) or progressive care unit (PCU) were asked to evaluate six 12-lead ECGs for the presence and location of ST elevation. The nurses were then given five minutes of educational instruction about how to use the MI Rule ® tool and then asked to evaluate the same six ECGs. Three of the six ECGs showed ST elevation MI. Results: A total of 75 nurses participated, 20 (27%) from the ED, 19 (25%) from the CCU, and 36 (48%) from PCU, with 8 ($\pm$ 8) years experience. The table below shows the pre- and post-test results.

Location of MI Pattern	Correct		P-Value
n = 75	Pre-Test	Post-Test	McNemar test
Septal, Anterior, Lateral	7 (9%)	35 (47%)	0.001
Inferior, Lateral	16 (21%)	35 (47%)	0.001
Septal, Anterior, Lateral, Inferior	5 (7%)	15 (20%)	0.002

Conclusions: The MI Rule ® tool used in this study improved nurses' ability to identify acute MI location. While there was significant improvement in location identification, our results show that more than half of the nurses were unable to identify acute MI location even using the tool. Implications: These data show that educational needs exist with regards to nurses' ability to correctly identify acute MI location. In order to maximize quality bedside ECG monitoring for acute ischemia, nurses must posses the ability to identify and communicate ECG findings. Further study is needed to evaluate the usefulness of this tool in actual clinical practice.

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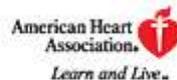
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