Paramedic student accuracy at ECG interpretation

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It is critical for patients that paramedics to be able to correctly interpret and identify ECG rhythms. Management and treatment of several heart-related conditions is dependent on the paramedics’ ability to recognize rhythms. Studies show that only 39% of paramedics are able to correctly identify a STEMI. Identification accuracy was shown to improve through further education. Students utilizing further ECG teaching methods scored higher compared to students taught normally.

Quantitative analysis study will be undertaken to examine students’ ECG interpretation abilities. The rhythms listed below were selected for their importance in a prehospital setting:

1. Bigeminy PVC
2. Ventricular Fibrillation
3. Atrial Fibrillation
4. Sinus Bradycardia
5. Atrial Flutter
6. Sinus Tachycardia
7. Wolff-Parkinson-White Syndrome
8. Second Degree Heart Block Type II
9. Ventricular Tachycardia
10. Third Degree Heart Block

No difference between 1st and 2nd year students except in “Confidence before” ($p = 0.003$). Certain rhythms (i.e. Sinus Tach, Brady, V-tach) were as expected with high accuracy rates and low mean interpretation times. V-Fib had an accuracy score of 49% (35/72) contrary to our expectations. 33% (24/72) of the population scored ≥70% which was considered a pass. Limitations of this study were a relatively small sample size of 73.

ECG recognition starts in the classroom in the paramedic program, so a strong foundation must be built in this setting. We suggest more time and different methods of teaching in order to improve accuracy as well as students to independently study more. It is important that this is researched further.

References