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A Module Based Method of Teaching a Novel Approach to Electrocardiogram Interpretation

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Purpose:

The traditional approach to 12-lead electrocardiogram interpretation has limitations in the ED setting because it is tedious and does not emphasize pattern recognition for potentially fatal conditions that ED physicians must recognize. Additionally, while lecture-based learning is necessary, learning modules can help learners gain a better understanding of the material. The purpose of this study was to create and implement a self-paced learning module that teaches a novel way of ECG interpretation through the following steps: is it sinus? is it wide? is there ischemia? and does this herald sudden death?

Methods:
The objective endpoint of this study was to determine if the novel method of interpretation increases accuracy and efficiency of ECG interpretation in ED residents. Pre and post module ECG interpretation tests were used to determine the efficacy of the module. The subjective endpoint was to determine if learners were satisfied with the novel approach and the module-based learning style which was achieved by surveys.

Results and Conclusion:
The online learning module was shown to significantly increase accuracy of ECG interpretation. The post-test data showed there was a 21.8% increase in the median percent correct after the module ($t= 5.48$, $p < 0.0001$). The surveys demonstrated that after the module residents incorporated the novel approach and would use the module as a resource in the future. This study adds to the body of evidence that a novel approach and learning modules can be an effective tool for EM resident education.