

ECG interpretation by Junior doctors – are we playing safe?

Samuel Meilak, Daniele Lauretta Agius, Alexander Grima, Melanie Burg, Oscar Aquilina

Introduction:

Over a century after the first strip was recorded, the electrocardiogram (ECG) remains an essential tool in the cardiovascular assessment of patients, in both acute and chronic scenarios. It's interpretation, however, remains subject to the doctor's competence and confidence. Adequate training in ECG interpretation and subsequent medical management are crucial, and doctor's skills should be re-assessed to ensure patient's safety.

Aim:

The aim of this audit was to assess the ability of foundation doctors to interpret ECGs and manage patients accordingly in a safe manner and with confidence.

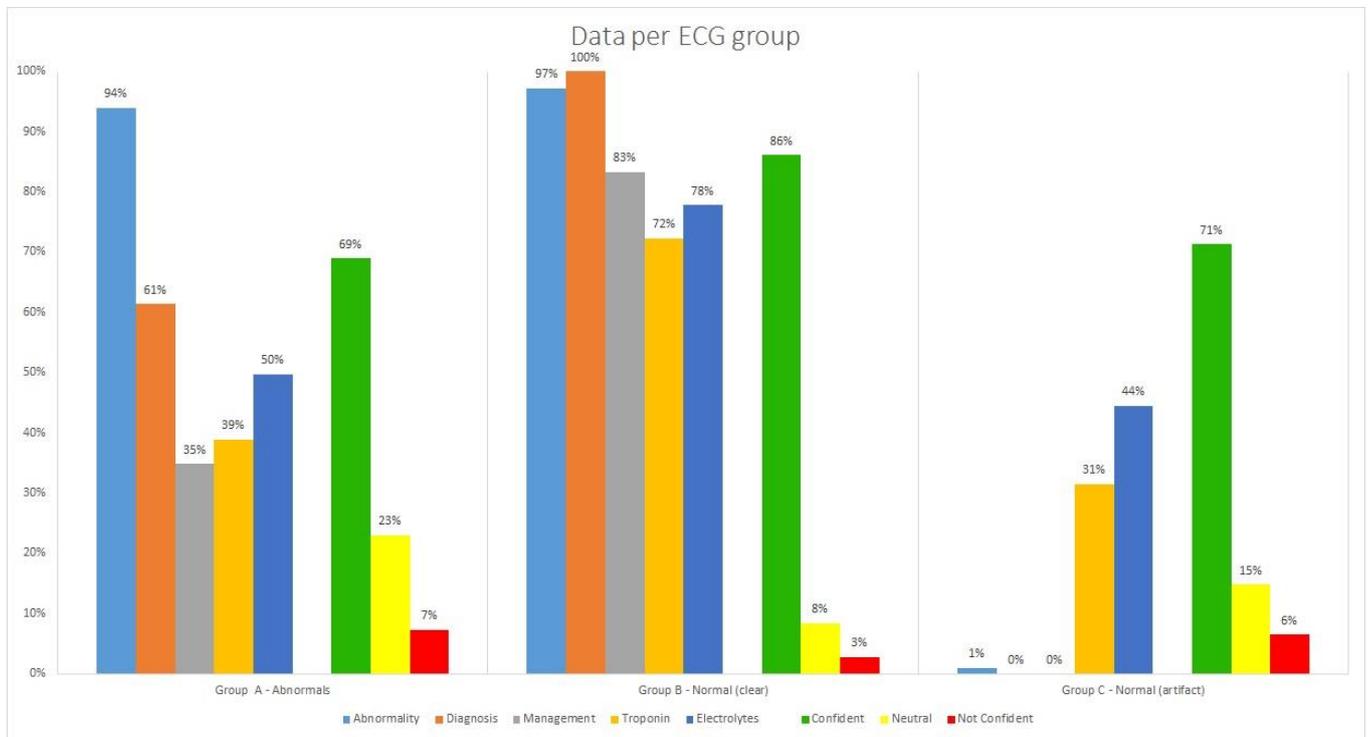
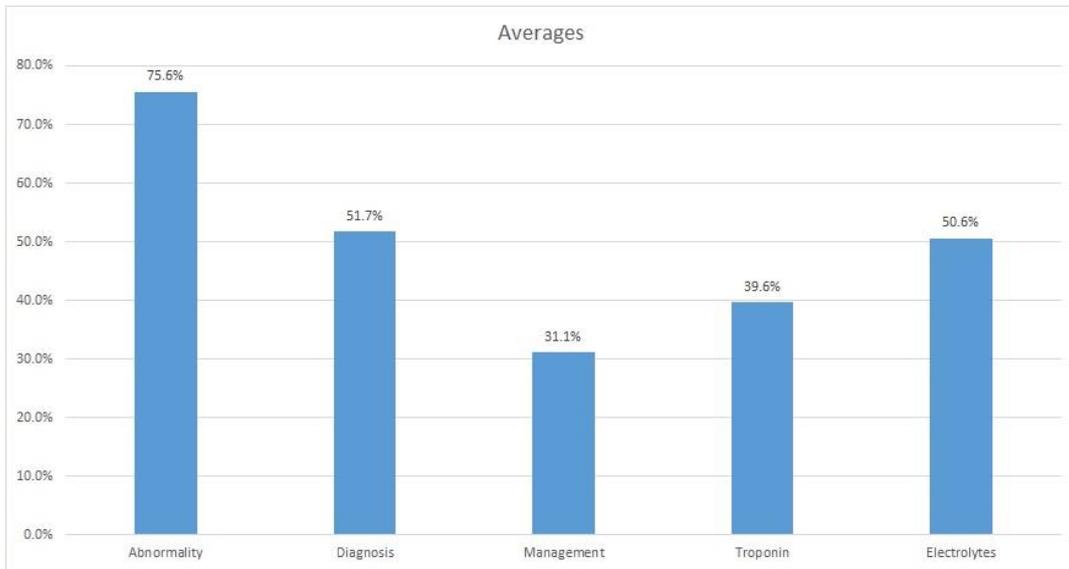
Methodology:

A total of 15 ECGs were selected, covering a spectrum of arrhythmias, artefacts and normal rhythms. For each ECG, foundation doctors were asked the diagnosis, how confident they were about their answer, and a number of multiple-choice questions regarding management, troponin and electrolytes.

Results:

Data was collected from 36 housemen [*however we plan on having a larger cohort of data by the date of the MCS conference*]. Whilst 75% indicated correctly whether an ECG was abnormal or not, only ½ of the diagnoses were correct. Management strategy was even poorer with just 31% being accurate, with troponin and electrolytes being taken when and if indicated in 4 and 5 out of every 10 cases respectively. The worse outcome was observed for normal ECGs with artefact, in which none of the doctors was able to correctly identify the diagnosis, and therefore the subsequent management strategy.

In contrast, almost two-thirds of responders were confident about their diagnoses, with less than admitting to 7% feeling unconfident.



Limitations:

The audit assesses the knowledge and decision making skills of doctors in a controlled environment but not in the real-life situation.

Conclusion:

Foundation doctors need more training in the interpretation of electrocardiograms and subsequent management. The ability to distinguish artefacts from true abnormalities was found to be strongly lacking. Furthermore, it is important that junior doctors recognise their limitations and are not over confident, as this may compromise patients' safety. We suggest that these issues are addressed by providing a more structured and intensive teaching both at medical school as well as during foundation years.