key points

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The ECG is invaluable in the assessment and management of the acutely unwell patient. It is easy to perform, reproducible, cheap and when combined with patients' symptoms is highly specific for time critical conditions such as myocardial infarction. ECG interpretation is an essential skill in the management of the acutely unwell patient and in addition to history taking and physical examination has been shown to have a significant effect on referral patterns to cardiologists.

One of the basic initial steps in ECG interpretation is assessment for the presence of artefact which if present can dramatically influence the diagnosis. The most common sources of artefact are tremor e.g. in Parkinson's disease, loose skin electrodes and electromagnetic interference from other medical devices and mobile phones. The Medicines and Healthcare products Regulatory Agency in the UK advises that mobile phones should be kept at least one metre away from equipment that is sensitive to electromagnetic interference.

The possibility that artefact is the cause of the ECG appearance should always be considered if bizarre ECG changes are present particularly in an asymptomatic patient. The ECG should always be interpreted in the context of the patient's condition. If artefact is thought to be the cause of the ECG appearance, then any contributory factors present should be corrected and the ECG should be repeated before invasive investigations are undertaken or treatment is administered.