EFFECT OF AN ELECTRONIC ORDERING SYSTEM ON ADHERENCE TO AMERICAN COLLEGE OF CARDIOLOGY GUIDELINES FOR CARDIAC MONITORING

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Background: Telemetry monitoring is often over-utilized in the inpatient setting. This has led to overcrowding of telemetry beds, increased wait times in the emergency room, and inefficient allocation of hospital resources. ACC guidelines exist to guide appropriate utilization of cardiac monitoring. We sought to investigate the effect of the institution of an electronic ordering system (EOS) on adherence to guideline-based telemetry usage.

Methods: Telemetry bed utilization was followed prospectively before and after institution of the EOS. Patient records were reviewed and assessed for indication for telemetry monitoring at admission and at 48 hours, as well as telemetry events. The online order form was based on the ACC guidelines for in-hospital cardiac monitoring. The EOS mandates physicians to check the specific indication for monitoring. Initial telemetry order expires after 48 hours and if continued monitoring is necessary, it must be reordered.

Results: 196 patients prior to EOS and 156 patients following institution of EOS were assessed. Prior to EOS, 65.3% of patients placed on telemetry met guidelines for monitoring. Institution of EOS resulted in a significant improvement in compliance to 80.8% (p<0.001). However, at 48 hours, compliance dropped with EOS from 31.3% to 12.9% (p<0.001). All dysrhythmias observed occurred in patients who met guidelines for monitoring. There were no clinically significant events on patients who did not meet guidelines for telemetry monitoring.

Discussion: The institution of an EOS significantly improved compliance with ACC guidelines for cardiac monitoring at the time of admission. However, compliance worsened after the initial 48 hours, which may have been due to the ease of online reordering with our EOS. Telemetry events were only observed in patients who met criteria for monitoring. EOS can be a useful tool to improve adherence to guideline-based utilization of hospital resources.