

## 7. THE IMPACT OF AN ELECTRONIC REMINDER ON THE ADMINISTRATION OF PREOPERATIVE PROPHYLACTIC ANTIBIOTICS

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**Introduction:** One of the cornerstones of prevention of surgical site infection is the timely administration of appropriate preoperative prophylactic antibiotics (PA). Computerized systems have been used to facilitate this process by automatic preoperative antibiotic prescription (1), computerized feedback to anesthesiologists (2) and electronic reminders within the anesthesia information management system (AIMS) (3). All of these studies demonstrated improvement in the timely administration of PA. We report on our experience following the introduction of an electronic reminder into the AIMS.

**Methods:** Following IRB approval, we reviewed the timing of administration of PA in cardiac, vascular and orthopedic cases before and after the introduction of an electronic reminder into the AIMS. The reminder appeared at the outset of anesthesia and again when the induction of anesthesia was completed. PA administration was appropriate if given within an hour of incision, inappropriate if it was given either more than 1 h before surgery or after skin incision and missing if antibiotics were not administered. Chi square was used,  $P < 0.05$  was considered statistically significant.

**Results:** We evaluated 1,342 cases of which 494 were before the introduction of the electronic reminder and 848 afterwards. Overall appropriate PA did not change. The rate of appropriate PA increased for Orthopedic ( $P = 0.02$ ) and vascular ( $P = 0.008$ ) patients but decreased for cardiac ( $P = 0.043$ ). The introduction of the electronic reminder led to the PA being administered too early in cardiac surgery patients.

**Discussion:** A single electronic reminder did not improve the overall rate of appropriate PA in a mixed surgical site infection is the timely administration of appropriate preoperative prophylactic antibiotics (PA). Computerized systems have been used to facilitate this process by automatic preoperative antibiotic prescription (1), computerized feedback to anesthesiologists (2) and electronic reminders within the anesthesia information management system (AIMS) (3). All of these studies demonstrated improvement in the timely administration of PA. We report on our experience following the introduction of an electronic reminder into the AIMS.

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