The Perioperative Handoff Protocol: Impact on Defects and Provider Satisfaction
Johns Hopkins School of Medicine

Program/Project Description.
Patient handoffs represent high-risk encounters ripe for breakdowns in communication and teamwork. The Joint Commission on Accreditation of Healthcare Organizations acknowledges this concern and recommends a standardized approach for conducting patient handoffs. Perioperative handoffs between operating rooms (ORs) and ICUs are particularly challenging given patients’ evolving post-procedural physiology, their physical transport through the hospital, and the triad transfer of personnel, information, and medical technology. The goals of this project are to create a standardized approach in conducting perioperative handoffs and to reduce handoff-related adverse patient events.

Process.
With the collaboration of the departments of Anesthesiology and Critical Care Medicine, Surgery, Nursing, Medicine, and the Center for Innovation in Quality Patient Care, a new perioperative handoff protocol was developed and pilot-tested at the Johns Hopkins Hospital Cardiac Surgical ICU in April 2007. The protocol was then refined and implemented in the adult Perianesthesia Care Units (PACU), starting in January 2010. We present here our findings from the PACU intervention.

Solution.
The perioperative handoff protocol introduced a standardized, step-wise process that mandated the presence of a core handoff team consisting of an anesthesia and surgical provider, receiving PACU nurse, and, whenever possible, an OR nurse at the bedside for the transfer of patient care using discipline-specific checklists to guide information exchange. A total of 103 handoffs were observed (53 pre-intervention and 50 post-intervention) to evaluate the impact of the new protocol on patient care.

Key measures of the study were average number of defects (includes both missed information and technical transfer issues) per handoff, handoff personnel satisfaction scores, and the total handoff time. Defects were determined through direct real-time observation of handoffs, and satisfaction scores were assessed via post-handoff personnel surveys.

Measurable Outcomes.
The average number of defects per handoff was reduced by 80% (p<0.01) after protocol implementation. Both the mean number of missed information items from surgery and anesthesia reports and the technical defects per handoff were significantly reduced. Delivery of a verbal report by surgeons increased from 20% to 100%. Satisfaction with handoff varied among the handoff team members in the pre-implementation period. At baseline, PACU nurses (receiving team members) were less satisfied than the anesthesiologists (sending team members). Post-implementation, satisfaction ratings were comparable among all the disciplines.

Sustainability.
We created a paper-based perioperative handoff event report form and distributed it to the PACU. The event report form recorded handoff-related incidents and allowed for continuous progress monitoring and process improvement. In addition, the Perioperative Handoff Sustainability Team Meetings were held quarterly between the handoff leadership team and representative ICU/PACU staff members. During the periodic Sustainability Meetings, the handoff leadership team and ICU/PACU staff exchanged lessons on protocol rollout and strategies to sustain the implemented solutions.

Role of Collaboration and Leadership.
The multidisciplinary handoff protocol was developed and refined by the joint efforts of the departments of Anesthesiology and Critical Care Medicine, Surgery, Nursing, Medicine, and the Center for Innovation in Quality Patient Care at the Johns Hopkins School of Medicine. The perioperative handoff protocol implementation has been associated with improved information sharing, reduced handoff defects, and improved satisfaction among handoff receivers and shows promise as a national model for conducting patient transfers.

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