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Debriefing: the forgotten phase of the surgical safety checklist

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ABSTRACT

Background: The debriefing phase of the surgical safety checklist (SSC) provides the operative team an opportunity to share pertinent intraoperative information and communicate postoperative plans. Prior quality improvement initiatives at our institution focused on the preincision phase of the SSC; however, the debriefing phase has not been evaluated. We aimed to assess adherence to the debrief checklist at our institution and identify areas for improvement.

Materials and methods: An observational study was conducted from 2014 to 2016 with a convenience sample of pediatric surgery cases at an academic children's hospital over 8-wk periods annually to evaluate the debriefing checklist across 14 subspecialties. Intraoperative team members' adherence to eight prespecified checkpoints was assessed. Descriptive statistics, Pearson's chi square, Kruskal–Wallis rank test, and Cohen's kappa for interrater reliability were used ($P < 0.05$ was significant).

Results: A total of 603 cases were observed (2014 $n = 191$; 2015 $n = 195$; 2016 $n = 217$). The debriefing checklist was conducted in 90.6%, 90.3%, and 94.9% of observed cases each year respectively with the median number of checklist items completed relatively unchanged (8, 7, and 7, range 0-8). However, the checklist was only fully completed in 55%, 48%, and 50% of cases over the study period ($P = 0.001$) with no debriefing at all in approximately 9% of cases in 2014 and 2015 *versus* 5% in 2016 ($P < 0.001$). Interrater reliability annually was >0.65.

Conclusions: Despite slight increases annually in overall compliance to the debriefing checklist, only half of all checklists were completed in full. Future efforts to augment

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adherence are needed and will include interventions targeting the debriefing phase and increasing operating room efficiency.

Introduction

Medical errors have been identified as the third leading cause of death in the United States with as much as 40% of adverse events occurring in the operating room (OR).[1,2] The surgical safety checklist (SSC) is a three-phase patient safety tool promoted by the World Health Organization to improve communication among surgical providers, prevent adverse events, and reduce morbidity and mortality.[3] However, recently published data have questioned the effectiveness of SSCs in modern hospitals.[4] One potential reason could be the rare incidence of measured outcomes as well as the multifactorial nature of medical errors. Demonstrating SSC effectiveness has been particularly difficult in pediatric surgery where morbidity and mortality is relatively infrequent.

Observational data from our pediatric ORs over the last 5 y has shown that adopting a stakeholder-driven approach and engaging all OR personnel (including surgeons, anesthesiologists, nurses, and technical staff) in multifaceted interventions can significantly increase preincision SSC adherence. Through an iterative process, we demonstrated significant improvement in preincision checklist adherence from 30% of all checkpoints completed in 2011 to a sustained adherence of over 95% in recent years.[5]

The debriefing phase of the SSC occurs in the OR with the anesthesia provider, surgeon, scrub technologist, and circulating nurse. It provides the operative team an opportunity to review pertinent intraoperative events and findings as well as communicate postoperative plans. Using a standardized approach provides an efficient instrument to transfer pertinent information among the intraoperative team. In addition, use of a checklist has the potential to improve patient safety as the patient transitions to the next phase of treatment by ensuring all members of the team are cognizant of vital intraoperative events.

Unlike the preincision phase, the debriefing phase has not previously been studied at our institution. In addition, there is little information in the literature about performance of the debriefing phase of the SSC. The primary objective for this study was to evaluate overall adherence to the debriefing checklist at our institution.

Methods

A prospective observational study was conducted at Children's Memorial Hermann Hospital (CMHH) between June 2014 and August 2016 to evaluate performance of the debriefing phase of the SSC. CMHH is a 234-bed academic children's hospital within the tertiary Memorial Hermann Hospital-Texas Medical Center which offers pediatric surgical services in 14 subspecialties. In 2009, a standard SSC was implemented at our institution. Subsequent evaluation revealed poor compliance to the preincision checklist.[6] To address this issue, a rigorous and iterative stakeholder approach was used for the development and implementation of a pediatric-specific SSC at our institution in 2011; this was previously detailed by *Putnam et al*.[5] The debriefing SSC occurs before the attending surgeon leaves the OR and may occur while the surgeon is closing the incision. It is led by the circulating nurse with input from the anesthesia provider, surgeon, and scrub technologist and can be completed in <1 min. A hard copy of the checklist is used as a guide.

Execution of the debriefing checklist was monitored on a convenience sample of nonemergent, pediatric surgery procedures taking place on weekdays in the OR during three independent 8-wk periods. Student observers, trained by members of the OR Safety Council (K.T., K.P.L., L.R.P., K.T.A., and M.B.K.), used a standardized form to assess adherence to eight prespecified checkpoints in the debrief checklist (Table 1). OR staff are aware that observers are assessing checklist performance but are only familiar with preincision checklist compliance audits, not debriefing. A checkpoint was deemed completed if verbally stated and discussed by appropriate members of the intraoperative team. Even if an item was not relevant to a particular case, for example, no specimen or no wound in endoscopy cases, the checkpoint was adhered to if the item was stated ("no specimen" or "no wound"). Students received the daily surgery schedule and observed as many cases as possible throughout the day.

Table 1 – Participants in the debriefing phase of the SSC and their roles.

Participants	Checkpoint
Circulating nurse, surgeon	Confirm surgical procedure and site
Circulating nurse, surgeon	Confirm specimen identified and labeled
Circulating nurse, surgeon, anesthesia provider	Discuss blood loss and transfusions
Circulating nurse, surgeon	Discuss surgical wound class
Circulating nurse, surgeon, anesthesia provider, surgical technologist	Confirm needle and instrument counts correct
Circulating nurse, surgeon, anesthesia provider, surgical technologist	Discuss equipment problems
Circulating nurse, surgeon, anesthesia provider	Discuss intraoperative concerns/events
Circulating nurse, surgeon, anesthesia provider	Discuss postoperative plans

All checkpoints performed before patient leaves OR.