ENGAGE WITH QUALITY IMPROVEMENT AND PATIENT SAFETY (E-QIPS)

Standardization of Surgical Technician Handoffs Using a Visual Cognitive Aid

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American Urological Association

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QUALITY OR SAFETY PROBLEM

Handoffs in our operating rooms (ORs) during staff changes are not standardized, and information transferred is variable. This leads to poor communication between the operative team and potential patient safety events.

BACKGROUND

A frontline stakeholder approached our OR quality improvement (QI) team with concern over inconsistencies within handoffs at the surgical technician (ST) level. Direct observation of ST handoffs for lunches and call shifts revealed drastic variation in communication with the operating surgeon as well as information exchange.

Literature has established the importance of standardized communication in healthcare settings. This is most often utilized during patient handoffs. Standardized handoffs have been established for nursing between shifts as well as for trainees.[1-4] Further, this has been demonstrated to be beneficial amongst anesthesia providers in the preoperative, intraoperative, and postoperative settings.[5-7] The benefit of a standardized communication tool in these settings revealed improved communication of critical information, decreased patient safety events, and even improved efficiency in patient transfers.[1,3,6-8]

Preliminary data was assessed and condensed after evaluation of 23 handoffs to reveal dramatic variation in information shared during current handoffs, including the occurrence of ST handoffs in only 82% of observed cases, and only 61% of these handoffs being announced to the entire room. Using lean methodology, all frontline stakeholders were engaged with the OR QI team to determine a specific aim for the project, which involved standardizing ST communication at staff changes. Stakeholders then agreed upon information they felt was critical to share with the incoming ST, and a visual cognitive aid was created to facilitate the standardized handoffs.

PROJECT OBJECTIVES

The objective of the Surgical Intraoperative Handoff Initiative was to improve the exchange of critical information during handoffs between STs at staff changes to prevent potential patient safety events.

The aims of this project are as follows:
- Identify the current state of ST handoffs
- Determine what information classifies as critical knowledge during ST handoffs
- Collaborate with frontline stakeholders and the OR QI team to develop a standardized communication tool
- Create a reliable auditing system to assess for improved transfer of information

INTERVENTION

We evaluated 23 handoffs, identifying significant variation in ST handoffs depending on procedure, staff member, and service line involved, including failure of handoff between technicians nearly 1 out of 6 times. After engaging all STs in the operating rooms, a list of critical details was created to facilitate information transfer during handoff with domains regarding sponges, sharps, hidden items, replaced items, instruments, implants, medications, procedure overview, and specimens. These were used to create an acronym, SHRIMPS, which was made into a visual cognitive aid and posted in all ORs (Figure 1).

The first Plan-Do-Study-Act (PDSA) cycle involved using this tool amongst STs during handoffs in general surgery, urology, and neurosurgery cases. While there was a 100% accuracy and completion rate in

handoff of information during this initial PDSA cycle, we did discover that in some of the rooms, there was difficulty seeing the visual cognitive aid posted.

A second PDSA cycle was initiated after adjustment of location of the tool, and the Surgical Intraoperative Handoff Initiative was rolled out to all service lines.

OR Technician Report Tool

S – Sharps, sponges, other countable items *on the field* (clips, vessel loops, shods, etc.)

H – Hidden or held items (dressings, extra suction tubing, etc. under basins or instrument trays; items in room, not yet opened)

R – Replaced, added, or changed countable items (suture, instruments, etc.)

I – Instruments & implants (anticipated instrument needs during break, what is on Mayo, are implants open)

M – Medications (injectables) (how much medication has been used, what is drawn up)

P – Procedure overview (point in the procedure, upcoming steps, do you need anatomy orientation?)

S – Specimens (specimen on field or if coming out during break)

Figure 1: SHRIMPS visual cognitive aid.

MEASURES OF SUCCESS

Metrics of success included engagement with and use of the standardized handoff tool. Each ST handoff was audited by the room circulator, assessing success rates of addressing each piece of information within SHRIMPS agreed upon by STs during handoffs.

OUTCOMES

Following the implementation of SHRIMPS as the standardized handoff tool, a total of 43 ST handoffs were evaluated over both PDSA cycles. 100% of staff changes between surgical technicians involved a handoff, which was a 17% increase from prior. These handoffs were announced to the room 98% of the time, up from 61% prior to implementation. All components of SHRIMPS were discussed in each handoff, as applicable, 98-100% of the time post-implementation (Figure 2).
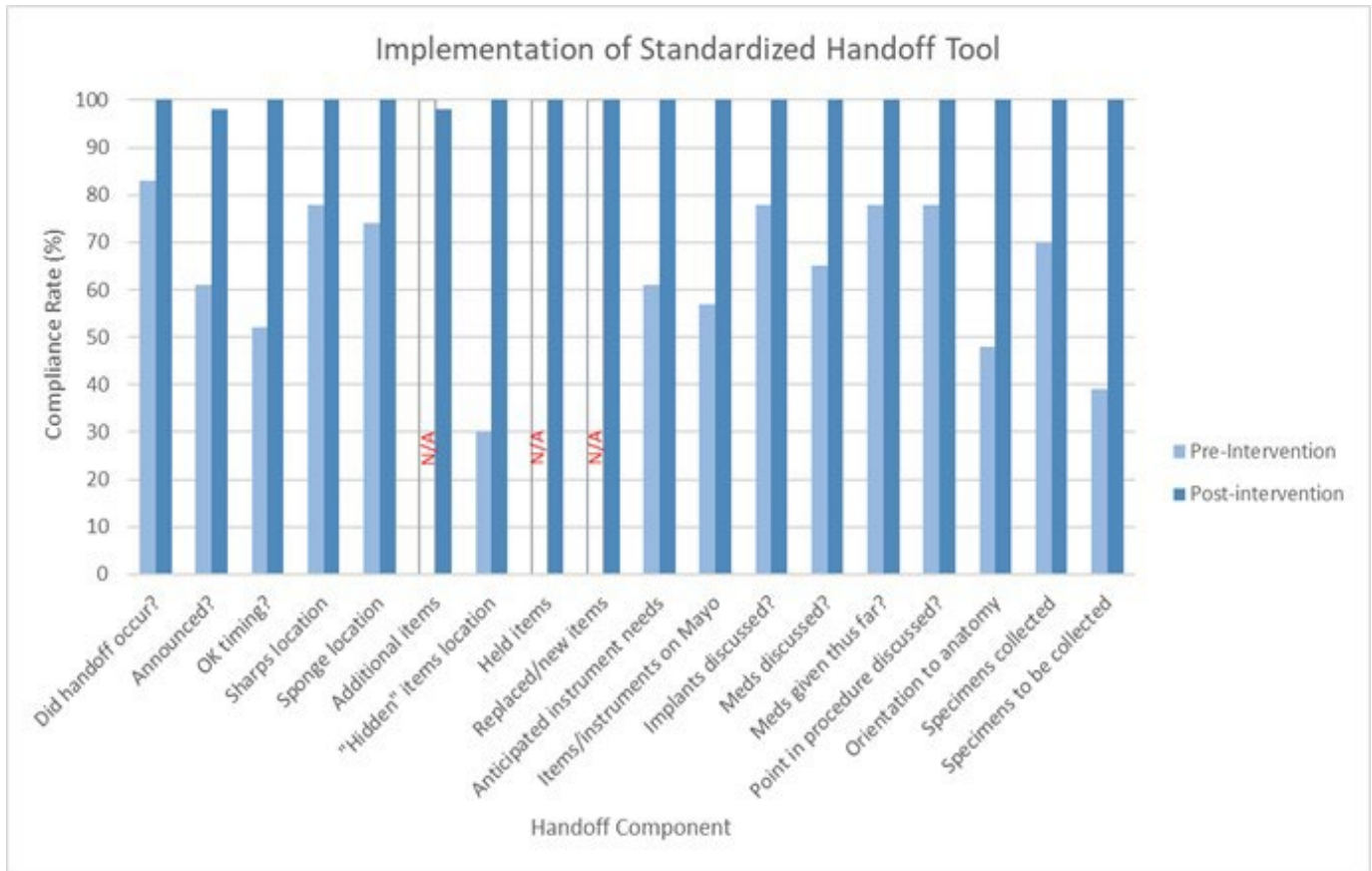
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Figure 2: Compliance rate for each component of SHRIMPS handoff

POTENTIAL IMPACT AND SCALABILITY

a. Standardized handoffs take an average of 77 seconds with transfer of important pieces of information to facilitate the flow of a case and potentially avoid detrimental complications.
b. The entire operating room is aware when a handoff occurs, ensuring improved communication between both technicians and the entire operating room team.
c. Currently, we are discussing implementing a standardized handoff tool for circulators. Standardized handoffs could be implemented in ORs nationwide to facilitate communication and avoid patient safety events.

SUSTAINING THE CHANGES

The transition to standardized ST handoffs is sustained by regular auditing. Initially, ST handoff was audited by the QI team and trained circulators in each case. Results were reviewed weekly to ensure no changes and further PDSA cycles were required with ongoing success for 3 months. This is being transitioned to spot auditing to ensure continued compliance.

ADDITIONAL RESOURCES

Engaging frontline and topline stakeholders has been key in the success of this project. Frontline stakeholders were both heard and consulted in the creation of the standard for this handoff, and as a result, they became invested in positive outcomes.

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KEY SUMMARY

   a. Standardized communication in the operating room is key for staff comfortability
   b. Post-implementation, there was a 17% increase in handoffs completed, and 98-100% of critical information was communicated during each of the 43 observed handoffs
   c. There is minimal change in operating room flow during standardized handoffs

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