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

The Time Out Engagement and Standardization Initiative
QUALITY OR SAFETY PROBLEM

The world health organization implemented a surgical safety checklist in 2008 in response to adverse events in the operating room, which is now termed the surgical time out (TO). While the benefits of the TO both as a patient safety tool and as a mediator of culture change, have become apparent, implementation across operating rooms both nationally and internationally has been fraught with difficulty. We hypothesize application of the LEAN principle of standardization to the TO in order to make the TO an active process rather than a passive process will result in improved compliance and engagement of the surgical team.

BACKGROUND

Prior to the intervention, engagement varied with nurse participating in 100% compared to anesthesia provider or surgeon participating in 18%. No TO included all 15 elements and only 13% of elements were standardized across TOs. Overall, 40% of the elements were discussed in 80% of TOs. Ideal practice would engage all members of the surgical team including nursing staff, anesthesia providers, and the operating surgeon. Additionally, all TOs would include the same elements for every patient, to ensure no critical discussion lapses prior to surgical incision.

Barriers to implementation include lack of surgeon engagement, perceived delay in care, increased workload, and a culture of hierarchy. 1, 2, 3, 4, 5 Given these barriers, studies have identified areas of drift and poor adherence to the surgical time out. 6, 7, 8 Given these barriers, TO implementation has potential areas for improvement including compliance, standardization, engagement, and effectiveness. 1, 9, 10, 11 Quality improvement initiatives based on these pillars of implementation have shown success to improve a subset of these barriers.

LEAN production methodology in healthcare has been used as a framework for quality improvement project development and implementation strategies. Key principles of LEAN production include continuous improvement and standardization. Standardization in the operating room is known to improve communication, efficiency, and reduce serious safety events. Using LEAN to standardizing the time out contents and interaction provides an opportunity for standardized engagement with the TO.

PROJECT OBJECTIVES

The objective of this initiative was to increase engagement and standardization of the surgical time out.

The aims of this project are as follows:

1. Define the standard content required for every surgical time out
2. Devise a format for the time out, to promote engagement from all team members
3. Create a reliable auditing system for long term sustainability.
INTERVENTION

The intervention involved creation of a standardized time out checklist, through collaboration with nursing, anesthesia, and surgeon faculty. This check list captured 15 content elements identified as the necessary components of a time out. Next, an interactive time out model was created where team members from nursing, anesthesiology, and surgery would be required to participate in the time out. Elements of the time out were assigned to the appropriate service line, as they pertain to their specific role in the operating room.

A visual time out board was drafted with three columns, each denoting the responsibility of a service to a section of questions pertaining to the time out (Figure 1). The intervention included both posting the time out board template and encouraging all responsible staff members to write on the time out board prior to the formal time out. Therefore, educational campaigns to anesthesiology providers, operating room nursing staff, surgeons, and residents commenced regarding using the time out board.

To identify best practices, a focus group of operating room team members was held to create a standardized operating procedure (SOP) regarding utilization of the time out board. The SOP flowed as follows. 1. A member of each team would fill out their respective columns prior to anesthesia induction. 2. At the timeout, each member would read their column in order from left to right.

Figure 1:

MEASURES OF SUCCESS

Metrics of success included engagement and adherence to the standardized content. Therefore, time outs were audited and scored based on staff participation and how many of the 15 elements were discussed during the time out.
OUTCOMES

Post-implementation of TOES, nursing, anesthesia, and surgeon participated in 100% of TOs. The 15 standardized elements of the TO were discussed 90% of the time (Figure 2). Voice of the customer audits revealed widespread acceptance of the active TO (Table 1).

Figure 2: Percentage each element was discussed pre and post intervention.

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Procedure</th>
<th>Location</th>
<th>COVID Status</th>
<th>Allergies</th>
<th>Pt. Of Mofi</th>
<th>DVT Prophylaxis</th>
<th>Expected Spontaneous</th>
<th>TPA Scren</th>
<th>Anesthetic Concerns</th>
<th>Positioning Concerns</th>
<th>Waring Concern</th>
<th>Anesthesia Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
<td>Post Interv</td>
<td>Pre Interv</td>
</tr>
</tbody>
</table>

Table 1

<table>
<thead>
<tr>
<th>Nursing</th>
<th>Anesthesia Provider</th>
<th>Surgeon</th>
</tr>
</thead>
<tbody>
<tr>
<td>“There is more conversation regarding the patient from all team members”</td>
<td>“We were able to identify a misaligned plan regarding pre-operative antibiotics before the patient was asleep”</td>
<td>“The interactive time out increases communication between the operating surgeon and everyone else in the room”</td>
</tr>
<tr>
<td></td>
<td>“I like it, it gives me a chance to review patient cardiac history with the team”</td>
<td>“It gives me a designated time to review critical steps with the anesthesia provider”</td>
</tr>
</tbody>
</table>

POTENTIAL IMPACT AND SCALABILITY

Locally, the standardized visual time out board has been utilized in three operating rooms, with good success. Successful adoption of this practice requires adequate buy in from all three participating services and accountability between them. This intervention can be scaled to improve practice nationally to encourage engagement and transform the time out into an active conversation between surgical staff, and ensure all necessary elements are discussed for every patient procedure.
SUSTAINING THE CHANGES

This change is sustained due to regular auditing. Initially, TOs were audited daily to identify barriers to successful implementation. After 2 weeks, spot audits were employed for 2-3 procedures weekly. An perioperative staff member was trained in auditing procedures, and results were reviewed weekly to determine if implementation changes needed to be made. This auditing structure has led to 4 months of sustainment to date.

KEY SUMMARY

a. Transitioning the time out from a passive to an active process, through team engagement, enhances fidelity and compliance with the surgical time out.

b. Standardization of the time out ensures critical content elements are discussed at every time out, for every patient procedure in the operating room setting.

c. Using LEAN methodologies, specifically standardization, visual management, and auditing, implementation of the TOES initiative is achievable and sustainable within the operating room.

PROJECT LEAD CONTACT INFORMATION

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REFERENCES


