Expedition: Improving Safety and Reliability for Surgical Procedures

By William Berry, MD, MPA, MPH, FACS

February 6, 2014

Expedition Coordinator

Sarah Konstantino, Project Assistant, Institute for Healthcare Improvement (IHI), assists in programming activities for expeditions, as well as maintaining Passport memberships, mentor hospital relations and collaboratives. Sarah is currently in the Co-Operative Education Program at Northeastern University in Boston, MA, where she majors in Business Administration with a concentration in Management and Health Science. She enjoys cooking, traveling, and fitness.
WebEx Quick Reference

- Welcome to today’s session!
- Please use Chat to “All Participants” for questions
- For technology issues only, please Chat to “Host”
- WebEx Technical Support: 866-569-3239
- Dial-in Info: Communicate / Join Teleconference (in menu)

When Chatting…

Please send your message to All Participants
Let’s Practice Using “Chat”

Please take a moment to chat in your organization name and the number of people on the call with you.

Ex. “Institute for Healthcare Improvement – 2”

Expedition Director

Kathy D. Duncan, RN, Faculty, Institute for Healthcare Improvement (IHI), oversees multiple areas of content and is the clinical lead for IHI’s National Learning Network. Ms. Duncan also directs content development and provides spread expertise for IHI’s Project JOINTS as well as additional content direction for the Hospital Portfolio, directs a number of virtual learning webinar series, and manages IHI’s work in rural settings. Previously, she co-led the 5 Million Lives Campaign National Field Team and was faculty for the Improving Outcomes for High Risk and Critically Ill Patients Innovation Community. In addition to her leadership on the field team during the Campaign, Ms. Duncan was the content lead for several interventions in IHI’s 100,000 Lives and 5 Million Lives Campaigns. She also serves as a member of the Scientific Advisory Board for the American Heart Association’s Get with the Guidelines Resuscitation, NQF’s Coordination of Care Advisory Panel and NDNQI’s Pressure Ulcer Advisory Committee. Prior to joining IHI, Ms. Duncan led initiatives to decrease ICU mortality and morbidity as the Director of Critical Care for a large community hospital.
Expedition Objectives

By the end of this Expedition, participants will be able to:

- Identify specific opportunities to improve safety and reliability during the patient’s surgical experience
- Improve reliability of key processes identified during each step of the surgical suite
- Identify and test strategies to decrease risk of surgical site infection
- Describe strategies to identify failures during the surgical process

Today’s Agenda

- Assignment #5
- Perioperative Processes
- Q&A – SAVE all questions for the end
Assignment from Session 5

- Observe 3 cases and complete the observation tool
- Observe before the induction of anesthesia, before skin incision, and before the patient leaves the room

Even if you didn’t use the observation tool you can still answer the poll questions
Now For a Poll…

Please take a minute to answer our poll questions. The poll will be starting in a few moments.

Before Skin Incision Did the Following Elements Get Discussed When the Entire Team Was Present?

- Surgeon shared the operative plan
  - Yes in all of the cases
  - Only in some of the cases
  - In none of the cases

- Anesthesia plan (including airway or other concerns)?
  - Yes in all of the cases
  - Only in some of the cases
  - In none of the cases

- Concerns from the nursing team
  - Yes in all of the cases
  - Only in some of the cases
  - In none of the cases
Now For a Poll…

Please take a minute to answer our poll questions. The poll will be starting in a few moments.

Before the Patient Left the Room Did the Team Discuss the Following?

- Specimen Labeling:
  - Yes, in all of the cases that it was applicable
  - Only in some of the cases that it was applicable
  - In none of the cases that it was applicable

- Equipment problems or issues that needed to be addressed:
  - Yes in all of the cases
  - Only in some of the cases
  - In none of the cases

- Key concerns for recovery and post-op management:
  - Yes in all of the cases
  - Only in some of the cases
  - In none of the cases
Discussion Topics

- Debriefing for every patient
- Creating a system for using information captured in the debriefing
- Standardizing handoffs
The Debriefing Is a Discussion Where All Team Members:

- Reflect and discuss what happened during the procedure
  - Make a plan for the recovery of the patient
  - Equipment problems encountered
  - Improvements that could have made the procedure safer and/or more efficient (+/Δ)

---

### Before Patient Leaves Room

Nurse reviews with Team:
- Instrument, sponge and needle counts are correct
- Name of the procedure performed
- Specimen labeling
  - Read back specimen labeling including patient’s name

### Debriefing

Entire Surgical Team Discusses:
- Equipment problems that need to be addressed
- Key concerns for patient recovery and management
- What could have been done to make this case safer or more efficient
Benefits of Debriefing

- The team can get on the same page about what was done and what needs to happen
- Gives the team an opportunity to talk about what happened in the case and how the next case can be done better
- Increases buy-in with physicians
- Fixes problems that persist in the OR

How Often the Debriefing Is Performed

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Proportion of operations with attempts at World Health Organization time-out and sign-out in 294 operations at five hospital sites</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site A</td>
<td>Site B</td>
</tr>
<tr>
<td>Time-out attempted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective orthopaedics</td>
<td>92 of 101 (91.1)</td>
<td>11 of 26 (42)</td>
</tr>
<tr>
<td>Trauma orthopaedics</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>–</td>
<td>15 of 21 (71)</td>
</tr>
<tr>
<td>Plastic surgery</td>
<td>19 of 22 (86)</td>
<td>–</td>
</tr>
<tr>
<td>Total per site</td>
<td>111 of 123 (89.8)</td>
<td>26 of 47 (55)</td>
</tr>
<tr>
<td>Sign-out attempted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective orthopaedics</td>
<td>4 of 101 (4.0)</td>
<td>2 of 26 (8)</td>
</tr>
<tr>
<td>Trauma orthopaedics</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>–</td>
<td>0 of 21 (0)</td>
</tr>
<tr>
<td>Plastic surgery</td>
<td>0 of 22 (0)</td>
<td>–</td>
</tr>
<tr>
<td>Total per site</td>
<td>4 of 123 (3.3)</td>
<td>2 of 47 (4)</td>
</tr>
</tbody>
</table>

Values in parentheses are percentages.

Even Then it Is Not Perfect

All information communicated
\( n = 20 \) (77%)

Sign-out performed
\( n = 26 \) (8.8%)

All team present
\( n = 18 \) (69%)

Sign-out not performed
\( n = 268 \) (91.2%)

Active participation
\( n = 20 \) (77%)

Why Is This So Hard?

- No clear place to stop
- Entire team is busy
- Surgeon may leave the room (especially in academic medical centers)

The problem is the workflow

Possible Solutions

- Trigger the debriefing on something that happens during every single case
  - After sponge counts
  - When the surgeon takes his/her gloves off
  - When the surgeon tries to go through the door in the room

Creating A System For Using Information Captured In The Debriefing

- Create a way to collect identified problems or other important information
- Designate someone in the facility to monitor and fix problems identified
- Update those who reported problems about steps taken to fix them
- Publicize what is captured and when it is fixed
Use The Back of The Paper Copy of The Checklist to Capture Information

Lessons Learned & Opportunities

Brief Team & Managers

Learn, Teach, Act...
Action Items, Assigned To, Due Date, Logged

For Surgical Brief
Limit 140 Characters

You Know The System Is Working If...

- The number of incidences reported increases
- The severity of the incidences falls
- Your surgeons are happier
Build A Standardized Handoff Into Your Debriefing

- Written set of questions that are completed that goes with the patient
- Have accepting nursing staff come to the OR to help prepare and transfer very sick patients

Take Home Messages

- You can get a lot out of debriefing, including happier surgeons
- It is hard to trigger
  - Needs to be part of the work flow
- You can build a standardized handoff into your debriefing
## How Far We Have Come Together

| Safer Surgery From Start To Finish | Tony DiGirola, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient focused care center</td>
<td>UPMC in Pittsburgh</td>
</tr>
<tr>
<td>Using performance and process improvement tools that improve outcomes, safety and experiences while reducing costs</td>
<td></td>
</tr>
</tbody>
</table>

| Pre-Operative Processes | Thomas Varghese, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong for Surgery Program</td>
<td>University of Washington</td>
</tr>
<tr>
<td>Engaging patients long before scheduled surgery</td>
<td></td>
</tr>
</tbody>
</table>

| Innovative Hip and Knee Surgery | Deborah Yokoe, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Op screening/decolonization process</td>
<td>Brigham and Women’s Hospital</td>
</tr>
<tr>
<td>Pre-Op process for CHG bathing</td>
<td></td>
</tr>
</tbody>
</table>

| Pre-Operative Processes Post-Admission | Gerald Healy, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardize patient experience immediate pre-op</td>
<td>Harvard University Medical School</td>
</tr>
</tbody>
</table>
| BIDMC team discusses best practices | Sheila Barnett MD  
| Beth Israel Deaconess Medical Center |

| Perioperative Processes | William Berry, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Surgical Safety Checklist as a teamwork and communication tool</td>
<td>Harvard School of Public Health</td>
</tr>
<tr>
<td>Engaging surgical team members in safety</td>
<td></td>
</tr>
</tbody>
</table>

| Post-Operative Processes | William Berry, MD  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Debriefing for every patient</td>
<td>Harvard School of Public Health</td>
</tr>
<tr>
<td>Standardizing handoffs</td>
<td></td>
</tr>
</tbody>
</table>

## Questions?

- **Raise your hand**
- **Use the chat**
End of Program Logistics

- Please take our survey about the program here: https://www.surveymonkey.com/s/B6JWW8H

- We will be sending out a follow-up email with today’s recording
  - Included will be instructions for getting your CME credits