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Patient Safety Tip of the Week

January 30, 2024

Is Your Surgical Safety Checklist Working?

Our February 2024 What's New in the Patient Safety World "Both Sides of the Black Box" discusses some surprising resistance to adoption of video recording in the OR. Our March 17, 2020 Patient Safety Tip of the Week "Video Recording in the OR" highlights the many potential uses of such video recording to improve patient safety. Perhaps the greatest impact of video recording in the OR is to evaluate how well the surgical timeouts are being handled. Virtually all hospitals perform surgical timeouts, usually with the WHO Surgical Safety Checklist or equivalent. But there is a big difference between having a formal timeout protocol and checklist and actually using it in the intended fashion. We often see these performed in a perfunctory manner.

The first 3 columns listed below recommended use of video recording as one means of improving compliance with surgical timeouts or elements of a safe surgery checklist. In fact, Overdyk et al. (Overdyk 2016) demonstrated that real-time feedback from video recording conferred a 3.37-fold increased odds of time-out compliance versus no feedback, and 2.75-fold and 2.4-fold increased odds of compliance with the sign-in and sign-out components of the WHO surgical safety checklist, respectively. It also led to some improvements in efficiency (shorter OR turnaround times for scheduled cases).

Several recent articles discuss the "fidelity" of surgical safety checklist implementation. Moyal-Smith et al. (Moyal-Smith 2023) created CheckPOINT, (Checklist Performance Observation for Improvement), a simple tool to assess Surgical Safety Checklist implementation fidelity, and to test its reliability using video simulations, and usability in clinical practice. They note barriers to implementing the Surgical Safety Checklist, including team culture, resistance from surgical team members, clinical workflows, and checklist design. The CheckPOINT tool evaluates not only adherence to the Surgical Safety Checklist (which could mean simply checking the boxes) but also the quality of checklist delivery, and participant responsiveness, which is the degree of user engagement and enthusiasm for the checklist. The four main items in CheckPOINT are:

- Checklist Adherence
- Communication Effectiveness

- Attitude
- Engagement

Each item is rated on a 7-point scale and includes specific questions used to come to those ratings.

In field testing, CheckPOINT proved easy to use and had good inter-rater reliability.It requires minimal training and can be used to evaluate how surgical teams use the Surgical Safety Checklist. The authors conclude that the CheckPOINT tool offers organizations a low-resource tool that can be used to identify areas on which to focus efforts to improve communication, teamwork and, ultimately, patient safety.

An accompanying editorial, Gillespie and Ziemba (Gillespie 2024) stress the need for observational tools like CheckPOINT offer a more comprehensive assessment of the "fidelity" of Surgical Safety Checklist.use, team communication, and team performance. They note that tools such as the CheckPOINT are ideally suited for gathering information following the first introduction of an surgical safety checklist or following changes to an established process. That can help staff identify areas where the "fidelity" of implementation may not be as successful or robust, allowing focus on strategies for improvement.

Etheridge et al. (Etheridge 2024) lamented that not all implementation efforts have produced positive results, pointing to a mandate-driven initiative in Ontario,Canada. They note the crucial point is that meaningful improvements in surgical safety require effective implementation of the Surgical Safety Checklist.

So, they developed a **reimplementation** package and undertook reimplementation of the Surgical Safety Checklist at two large academic medical centers in Singapore. Implementation outcomes included both penetration and fidelity. The primary effectiveness outcome was team performance, as assessed by trained observers using the Oxford Non-Technical Skills (NOTECH) system before and after reimplementation.

They used the Exploration, Preparation, Implementation, Sustainment framework and best practices from implementation science and human factors engineering were combined to redesign the checklist.

Penetration of the checklist was excellent both before and after the reimplementation, but there were significant improvements in all measures of fidelity after reimplementation. Significant improvements were noted in 9 of 12 composite areas on culture of safety surveys. Moreover, preliminary results on run charts suggested reductions in patient safety events, mortality, and serious complications.

The authors conclude that this is the strongest and most direct evidence to date that effective Surgical Safety Checklist use requires careful attention to the principles of implementation science.

How do you evaluate the "fidelity" of your Surgical Safety Checklist or equivalent performance? Use of some of the tools in these articles may help you get a better feel for true effectiveness rather than just "checking all the boxes". And, "If at first you don't succeed….", maybe it's time to undertake a reimplementation.

Some of our previous columns discussing video recording:

September 23, 2008 "Checklists and Wrong Site Surgery"
December 6, 2010 "More Tips to Prevent Wrong-Site Surgery"
November 2011 "Restricted Housestaff Work Hours and Patient Handoffs"
March 2012 "Smile...You're on Candid Camera!"
August 27, 2013 "Lessons on Wrong-Site Surgery"
March 17, 2015 "Distractions in the OR"
November 24, 2015 "Door Opening and Foot Traffic in the OR"
March 2019 "Another Use for Video Recording"
March 17, 2020 "Video Recording in the OR"
June 2023 "WSJ on Video Recording in the OR"
February 2024 "Both Sides of the Black Box"

Some of our prior columns related to wrong-site surgery:

September 23, 2008	"Checklists and Wrong Site Surgery"
June 5, 2007	"Patient Safety in Ambulatory Surgery"
July 2007	"Pennsylvania PSA: Preventing Wrong-Site Surgery"
March 11, 2008	"Lessons from Ophthalmology"
July 1, 2008	"WHO's New Surgical Safety Checklist"
January 20, 2009	"The WHO Surgical Safety Checklist Delivers the Outcomes"
September 14, 2010	"Wrong-Site Craniotomy: Lessons Learned"
November 25, 2008	"Wrong-Site Neurosurgery"
January 19, 2010	"Timeouts and Safe Surgery"
June 8, 2010	"Surgical Safety Checklist for Cataract Surgery"
December 6, 2010	"More Tips to Prevent Wrong-Site Surgery"
June 6, 2011	"Timeouts Outside the OR"
August 2011	"New Wrong-Site Surgery Resources"
December 2011	"Novel Technique to Prevent Wrong Level Spine Surgery"
October 30, 2012	"Surgical Scheduling Errors"
January 2013	"How Frequent are Surgical Never Events?"
January 1, 2013	"Don't Throw Away Those View Boxes Yet"
August 27, 2013	"Lessons on Wrong-Site Surgery"
September 10, 2013	"Informed Consent and Wrong-Site Surgery"
July 2014	"Wrong-Sided Thoracenteses"
March 15, 2016	"Dental Patient Safety"
May 17, 2016	"Patient Safety Issues in Cataract Surgery"
July 19, 2016	"Infants and Wrong Site Surgery"
September 13, 2016	"Vanderbilt's Electronic Procedural Timeout"

May 2017	"Another Success for the Safe Surgery Checklist"
May 2, 2017	"Anatomy of a Wrong Procedure"
June 2017	"Another Way to Verify Checklist Compliance"
March 26, 2019	"Patient Misidentification"
May 14, 2019	"Wrong-Site Surgery and Difficult-to-Mark Sites"
May 2020	"Poor Timeout Compliance: Ring a Bell?"
September 14, 2021	"Wrong Eye Injections"
October 5, 2021	"Wrong Side Again"
November 9, 2021	"Ensuring Safe Site Surgery"
February 15, 2022	"Wrong-Side Chest Tubes"
May 2022	"PPSA: Updated Wrong-Site Surgery Recommendations"
June 13, 2023	"Preventing Wrong-Site Surgery"
November 2023	"Importance of Timeouts Outside the OR"

References:

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