

Implementation of a Safe Surgical Checklist

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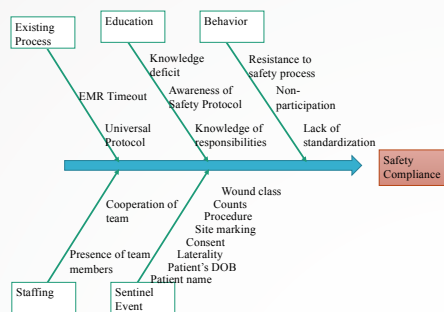
Abstract

Lack of standardization in the perioperative area leads to variations in practice that can cause preventable errors. In a 200-bed hospital in Northern California with eleven operating rooms performing approximately 11,000 procedures a year, there was an increase incidence in sentinel events such as wrong site surgery (n=1), wrong patient surgery (n=1), and retained foreign body (n=5). Safety checks observed in the operating room (OR) were performed differently among each surgical team and sometimes did not occur at all. Through the use of a Surgical Safety Checklist (SSC), efforts were aimed to standardize safety practices in the OR. The goal was to ensure 90% adherence to the requirements on the SSC based on observational assessment of the process within four months of implementation. Weekly observational audits were conducted over a four-month period to examine the adherence to each checklist component. The mean overall compliance increased in all three phases: Sign In (63% to 70%), Time Out (60% to 73%), and Sign Out (85% to 100%). Seventeen good catches were identified in Patient Safety Reports that were identified in the following phases: Sign In (n=2), Time Out (n=9), and Sign Out (n=6) phase. The use of the SSC encouraged a standardized approach to enhance multidisciplinary teamwork and communication by ensuring the completion of critical tasks which lead to early recognition of "near misses".

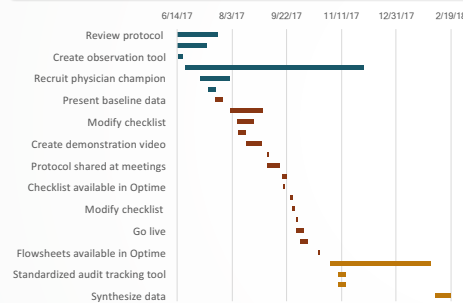
Methods

- ❖ Weekly audits conducted over a four month period in a hospital based in Northern California
- ❖ Specialties included general, orthopedic, and vascular surgery
- ❖ Data collection: Circulating nurses completed the audit form for random cases to assess the adequate completion of the Sign In, Time Out, and Sign Out

Cause and Effect Diagram



Timeline



Safety Checklist Tool

UNIVERSAL PROTOCOL SAFETY CHECKLIST FOR SURGICAL AND NON-SURGICAL INVASIVE PROCEDURES

1. ANESTHESIA SIGN IN / REGIONAL BLOCK TIME OUT:

(If Anesthesia not involved, proceed to Step 2)
Perform PRIOR to induction of anesthesia
Anesthesia Lead with R.N.
Patient to be involved when possible
Patient I.D. (2 identifiers)
Procedure, site & side, surgeon/proceduralist initials verified
Allergies / Sensitivities NKDA
For Regional Block:
Sites being performed and purpose
Circled B for anesthetic block visible/verified

Signature RN/MD/IA, certified personnel Date Time

2. TIME OUT

Immediately PRIOR to procedure start
Surgeon/Proceduralist LED with R.N./Procedural Team
Patient to be involved when possible
Correct Patient I.D. (2 identifiers)
Correct Procedure with Consent
Correct Site and Side
Surgeon/Proceduralist initials verified on patient or body diagram
Correct Patient Position
Allergies/Sensitivities
Antibiotics administered, as ordered
Relevant labs, Blood Products available
Imaging directed and verified
Required Implant(s), Special Equipment, Unique Patient Needs
Appropriate VTE Prophylaxis, as indicated
Specimen(s) Instructions given
Potential Fire Hazard(s)
Confirm agreement with Time Out

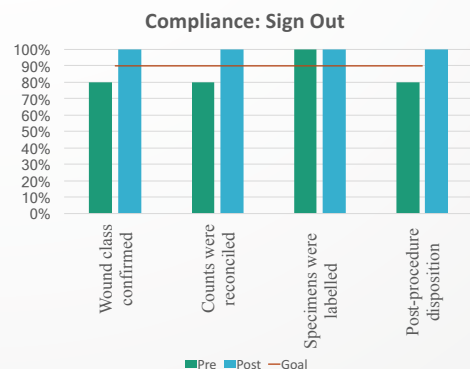
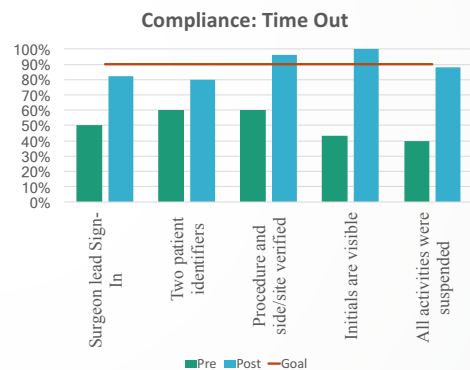
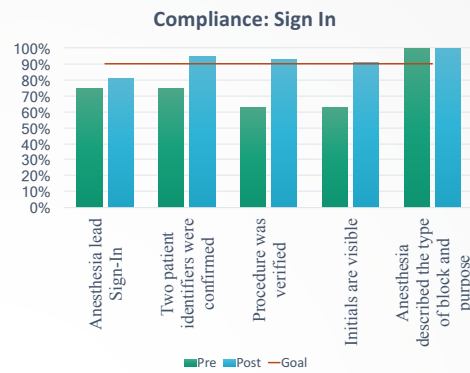
TIME OUT #1 Primary Procedure (✓ or N/A)
TIME OUT #2 As Necessary (✓ or N/A)

3. SIGN OUT

Prior to surgeon/proceduralist and patient leave procedural room
R.N. LED with Procedural Team
 Instrument/implant/loop count reconciled N/A
 Specimen(s) verified and labelled correctly N/A
 Procedure performed and Wound Class confirmed N/A
 Post-Procedure Disposition/Recovery Concerns

Signature MCRN, or Licensed Personnel Date/Time

Results



Mean Adherence	Sign In N(%)	Time Out N(%)	Sign Out N(%)
Pre	8 (63%)	10 (60%)	5 (85%)
Post	73 (70%)	73 (73%)	34 (100%)

Near-Miss Events

Post Intervention			
Phase	Category	Criteria	N=17
Sign In	Wrong site	Wrong site written on consent form	2
		Wrong site written on consent form	2
Time Out	Wrong site	Wrong site written on consent form	2
		Site was not marked	1
		Site was not visible after draping	1
Wrong procedure	Time Out differed from procedure on consent (i.e. laparoscopic rather than open)	Procedure stated in Time Out differed from procedure on consent	1
		Consent was not received for a scheduled surgery	1
Other	Consent that was not signed	Consent was not received for a scheduled surgery	1
		Consent that was not signed	1
Sign Out	Specimen	Labeled incorrectly	3
		Wrong instructions for specimen handling	1
Count	Incorrect count		3

Conclusion

The mean overall compliance increased in all three phases: Sign In (63% to 70%), Time Out (60% to 73%), and Sign Out (85% to 100%). Implementation of the checklist resulted in numerous good catches and has the potential for cost savings. The use of the checklist has the potential to decrease surgical errors and improve patient outcomes as a result of a standardized process.

References

Cabral, R. A., Egenberger, T., Keller, K., Gallison, B. S., & Newman, D. (2016). Use of a surgical safety checklist to improve team communication. *AORN Journal*, 104(3), 206-216. doi:10.1016/j.aorn.2016.06.019

Mayer, E. K., Sevdalis, N., Rout, S., Caris, J., Russ, S., Mansell, J., ... & Moorthy, K. (2016). Surgical checklist implementation project: The impact of variable WHO checklist compliance on risk-adjusted clinical outcomes after national implementation longitudinal study. *Annals of surgery*, 263(1), 58-63. doi:10.1097/SLA.0000000000001185

Sentilhoer, G., Moshacher, N., Karina, L., Kober, B., Jantscher, L., Berghold, A., & Kamolz, L. P. (2015). Implementation of a surgical safety checklist: Interventions to optimize the process and hints to increase compliance. *Plus ONE*, 10(2), 1-14. doi:10.1371/journal.pone.0116926

Singer, S. J., Molina, G., Li, Z., Jiang, W., Nurudeen, S., Kite, J. G., & ... Berry, W. R. (2016). Relationship between operating room teamwork, contextual factors, and safety checklist performance. *Journal of the American College of Surgeons*, 223(4), 568-580-e2. doi:10.1016/j.jamcollsurg.2016.07.006

Zingiryan, A., Paruch, J. L., Osler, J. M., & Hyman, N. H. (2017). Implementation of the surgical safety checklist at a tertiary academic center: Impact on safety culture and patient outcomes. *The American Journal of Surgery*, 214(2), 193-197.