REDUCING HUMAN ERROR IN THE OPERATING ROOM

Placing Patient Safety First with Crew Resource Management

SHERIDAN LEADERSHIP BRIEF

ANESTHESIOLOGY  EMERGENCY  NEONATOLOGY  RADIOLOGY

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EVERY YEAR, AN ESTIMATED 15 MILLION AMERICANS SUFFER MEDICAL HARM in hospitals costing the health care system $17.1 billion annually.¹

What is the most common cause of these errors?
Poor communication and miscommunication among health care workers.²

Hospitals have a vested interest in improving the communications among operating room (OR) staff; unfortunately, admonitions and behavioral sanctions are seldom effective to reduce OR-related errors and the facility’s concomitant malpractice risk.

Other high-risk industries, such as aviation, nuclear power, and the military also rely on strong communication to avoid human error and disasters; these industries have worked to dramatically decrease the chances of such human errors by instituting Crew Resource Management (CRM) into their daily workflow. With miscommunication significantly contributing to the volume of preventable medical errors, some hospitals have begun to tap into CRM training in recent years and document its positive effects on reducing both surgical mortality and OR delays.³,⁴,⁵ At its core, CRM is a mindset and cultural shift that makes safety the top priority. It is a method that teaches and reinforces continuous improvement through communication, collaboration, teamwork, and process standardization.

This leadership brief will provide a description of CRM best practices and how they can be implemented in the operating room to improve safety, communication and costs. It also will showcase the CRM successes experienced by hospitals and health systems around the nation.
NOT Just Another Management Solution

ALL TOO OFTEN, THE SPIRIT OF TEAMWORK AND collaboration is not present in a typical operating room setting due to an uneven power dichotomy. CRM, however, empowers each team member in the operating room to identify and communicate potential patient harm and contribute equally to the solution. For example, an OR staff member at any level can voice his or her concern by calling a “time out” to immediately pause the surgery in order to discuss the concern or safety issue.6

For many hospital systems, such as Sheridan’s partner Memorial Healthcare System in Florida, the hospital executives and physician department chairs played a key role in embracing and introducing CRM to the operating room. Since buy-in from hospital leaders and physicians was priority, Memorial’s team worked to implement the key elements of CRM and position patient safety at the forefront of everyone’s job.

Elements of CRM:

- Pre-procedure briefings
- Recognition and verbalization of safety-related red flags
- Mandatory “time outs”
- Collaborative creation of standards, procedures, and protocols
- Empowerment of all team members
- Immediate post-operative debriefs
- Culture of continuous improvement

SPOTLIGHT

The OR Team Debriefing

The OR team debriefing is a very fast post-operative meeting with all members from a surgery present. The lead surgeon calls for input and, with an intentional twist on convention, the least senior member of the team is invited to speak first. The questions to be addressed during the debriefing are:

- What went well?
- What needs improvement? (in terms of systems, supplies, staffing, and communications issues)
- How can these improvements happen?

The practice of debriefing provides an opportunity for all involved to identify what went right and what aspects could have been improved with the intent to hardwire teamwork behaviors and open communication into the daily standard of care.
Overcoming Roadblocks & Resistance

**AN INITIAL CONCERN OF SURGEONS AND ANESTHESIOLOGISTS IS THAT DEBRIEFING WILL ADD TIME**
in the operating room at the end of each surgery. In a study of more than 37,000 cases in a large medical
center, it was found that debriefing took an average of 2.5 minutes to complete, yet this time was recouped
in the areas of surgery preparation and performance. Hospitals such as Memorial found that **debriefing
actually makes surgeries more efficient and takes less time overall** because less time is spent leaving
the sterile field to acquire additional instruments or to assemble equipment.

Achieving egalitarianism in the operating suite also has proved challenging for hospitals. Typical operating room settings have an uneven power structure in which the surgeon is in charge and the medical staff is there to support the surgeon’s role. However, this “one-sided approach discounts the insights and wisdom of others in the room” and is against CRM principles. Hospital management’s commitment to the quick resolution of problems and sticking to the processes standardized by CRM will break down these traditional roles and mindsets that are detrimental to patient health and safety.

“**We recognized that one of the reasons we couldn’t make any progress was that the environment for communication and teamwork was so poor in the operating room that no one could agree on anything, and nobody could work collaboratively.**”

— Dr. David Pitcher, University of New Mexico’s Health Sciences Center’s Chief Medical Officer

Safety Success & Staff Satisfaction

**IMPROVEMENTS TO QUALITY**
of patient care and safety have been proven time and time again through the use of CRM.

After implementing CRM in the operating room, the University of New Mexico (UNM) Health Sciences Center* is now a top place to work in the Albuquerque health care community, according to its chief medical officer, David Pitcher, MD, as reported in Healthcare Finance News. Internally, different areas and departments are “begging to be next, because they’ve seen such positive results from the operating room… [through] word of mouth.”

*UNM is not a Sheridan Healthcare client.
Other hospitals across the nation using CRM have reported:

- Reduction in untoward outcomes and sentinel events
- Discovery of errors that previously would have gone unrecognized
- Prevention of potential medication errors
- Reduction of serious safety events
- Reduction in the three-year Mortality Index

A year after implementing CRM, safety culture surveys conducted by Memorial Healthcare also showed that overall perceptions of patient safety in its operating room increased 41.4 percent\(^2\) and that physician satisfaction increased significantly in every category, including perception of overall quality (nearly 14 percent increase), place to practice (5.5 percent increase), patient safety (over 7 percent increase), and teamwork including collaboration and communication with nursing (over 4 percent increase).\(^3\) “Communication openness” increased in one Memorial hospital operating room by 48.1 percent and at another hospital operating room by 40.5 percent.\(^4\)

**Economic Benefits**

**THERE ALSO ARE ECONOMIC BENEFITS, BOTH SHORT TERM** and long term, for hospitals using CRM ranging from reduced legal costs, labor cost savings, lower turnover and recruiting costs, and increased surgical volume.

For one hospital, the project saved $1.2 million annually in legal costs by eliminating sentinel events in the operating room.\(^5\)

Cost savings related to staff and RN turnover also have been realized. At one facility, Intensive Care Units reduced RN turnover costs by $187,000 annually and Surgical Services reduced RN turnover costs by $345,000 annually because the hospital’s atmosphere changed from one known for mistreatment of nurses by physicians to one of a great place to work due to CRM.\(^6\)

> I’m not a finance person. It’s hard for me to fully quantify what that translates to in dollars, but I do know that the dollars saved from avoiding harmful events is not insignificant in terms of risk pay out. It’s also not insignificant in terms of the dollars saved from a staffing point of view, and also it’s not insignificant in terms of the increased revenue we see through increased surgical volume…

— Dr. David Pitcher, University of New Mexico’s Health Sciences Center’s Chief Medical Officer\(^7\)
Through CRM, the UNM Health Sciences Center is now able to keep all 16 of its operating rooms open and fully staffed, instead of only 11 or 12 operating rooms at a time. The health system was able to discontinue using traveler nurses, a cost savings of $1.84 million annually or $5.52 million over three years for surgical services, and eliminate overtime pay of full-time staff. Having all operating rooms open also removed surgical bottlenecks, resulting in an increased surgical volume of 8% the first year and 6% the second year following CRM implementation.

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Proven to Reduce Human Error

**MISTAKES ARE HUMAN NATURE. BUT THE LARGER MISTAKE FOR HOSPITALS AND HEALTH CARE systems is not using proven methods to reduce human error and increase patient safety in their operating rooms. NASA, commercial aviation, the military and other high-risk industries implement CRM because numerous team members contribute to a particular activity’s success and this one activity can become disastrous very quickly. Parallels exist in health care, especially during surgery.**

Is CRM right for your hospital? Ask yourself these questions.

- Is patient safety at the core of your hospital’s mission, or should it be?
- Would you like to reduce mistakes in the operating room?
- Would you like to prevent harm to patients?
- Do you want to reduce sentinel events?
- Are communication, teamwork, and collaboration among surgical teams and hospital staff important to patient outcomes?
- Would you like to provide a safe environment for patients?
- Would you like to increase patient satisfaction?
- Would you like to increase employee satisfaction and reduce turnover?
- Would you like to reduce costs without decreasing staff?
- Would you like to increase surgical revenue?
STAGES TO SUCCESS

Successfully Implement Crew Resource Management

STAGE 1: Commit to Patient Safety

Commitment to patient safety sets the tone for hospital conduct – from the CEO and department chiefs, to the anesthesiologists and surgeons, to the RNs and support staff. The first step is to commit to the goal and the process. It is the commitment of the entire medical staff, surgeons and hospital administration that allows for the prevention of medical errors, and it is this collective commitment that helps team members overcome any skepticism or resistance to the CRM process.

STAGE 2: Observe & Standardize

A key aspect of CRM is to train all staff members to speak up in the name of patient safety – to recognize and verbalize red flags. All members of the staff have “an important voice in ensuring a safe outcome for the patient by voicing his or her concern” without repercussions.20

Train your team to understand why communication is critical to the functionality of their specialty and the ultimate outcome of patient health, how each team member fits into the equation, what's expected of them, and what impact it will have on the day-to-day environment in which they work.

STAGE 3: Reinforce & Maintain

The CRM process is a cultural shift that will take time to become second nature to physicians and staff.

Memorial Regional developed posters, signs, and helpful guides to clearly communicate the CRM procedures and processes. Reminders and visual cues “force everyone to stop what they're doing and pay attention to the plan,” explained Dr. Joseph Loskove, chief of anesthesia at Memorial Healthcare System.21

As new physicians and employees are added to the teams, each should be CRM trained just as thoroughly as during the initial introduction of the overall process. If your hospital system has “travelers” to multiple operating room sites, appoint the Chief of Anesthesia to be responsible for its consistent use.
Getting Started

To discuss how our performance-driven solutions can help increase efficiency and communication in your operating room, contact us at THOUGHTLEADERSHIP@SHCR.COM or 855.252.2969.

REFERENCES:

7. Zuckerman, S.
8. Zuckerman, S.
9. Zuckerman, S.
11. Bouchard, S.
12. Dunn, L.
13. Loskove, Joseph, M.D. Chief of Anesthesiology. Memorial Regional Hospital, Hollywood, Florida.
14. Dunn, L.
15. Doss, R. Personal communication, November 1, 2013.
16. Doss, R.
17. Bouchard, S.
18. Doss, R.
19. Doss, R.
20. Dunn, L.
21. Dunn, L.

About Sheridan Healthcare

SHERIDAN IS ONE OF THE LEADING PROVIDERS OF HEALTHCARE SOLUTIONS FOR ANESTHESIOLOGY AND OTHER SPECIALTIES to physicians, hospitals and outpatient centers. Physician led and managed, Sheridan provides comprehensive clinical and management solutions for anesthesia outsourcing and other specialty areas, including emergency medicine, neonatology and radiology. Our dedication to collaboration, leadership and quality provides our hospitals and patients with the care they deserve.

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