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## **Shreveport: A Success Story Creating a Culture of Safety at the Overton Brooks VA Medical Center**

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At the Overton Brooks VA Medical Center<sup>1</sup> we have made a concerted effort over the past year to not just improve, but excel at being a safe and high-quality surgical service. As a result, we have made tremendous strides in changing the culture of our surgical service. A year ago, we embarked on this journey, starting with a Clinical Team Training (CTT)<sup>2</sup> session led by Douglas Paull, M.D., director of NCPS' patient safety curriculum and medical simulation program.

"The Overton Brooks surgical service story demonstrates that patient safety can serve as a rallying theme to provide joy, meaning and success in our daily work in caring for Veterans," said Dr. Paull. "The story has heroes, including transformational leaders and staff who embraced change and implemented a new framework, Crew Resource Management – CRM – to improve teamwork and communication, staff morale, and patient outcomes."

We came full circle when our second CTT session was held with Dr. Paull, June 18, 2014. Using both observational and survey data, via the Kirkpatrick Learning Model,<sup>3</sup> we found that over the course of this past year our surgical service team members have significantly improved our communication skills, applying CRM<sup>4,5</sup> principles and techniques to our daily work in the OR, as noted by Dr. Paull. Using a multi-pronged approach, we have implemented pre-procedure briefings, time-outs, post-procedure briefings, OR to PACU hand-offs (using a standardized template) and integrated situational awareness strategies/countermeasures into our culture.

During the initial training one year ago, we learned about CRM, which is a set of training procedures used in critical work environments where human error can have devastating effects. Because human beings are fallible, it is inevitable that mistakes will be made. The goal of CRM training is to overcome the fallibility of human teams, by implementing such things as situational strategies, pre-procedural briefings and post-procedural debriefings in the OR.

CRM-based training has been used in high-risk fields, such as aviation to make air travel safer, fire fighter training, and the Navy and Marine Corps for maritime safety. In the field of

health care, the OR is truly a place where a culture of safety and team communication is critically important.

When Dr. Paull and his team returned to teach another round of training courses in CTT, our workshops involved real problems that surgical services face daily across the country. One focused on identifying the obstacles and challenges to starting operations on time.

We used a "Fishbone" flow diagram to identify factors at the patient, personnel, process and organizational level. Everyone on the surgical service actively participated and were thoroughly engaged in the workshop, including but not limited to surgeons, scrub technicians, environmental management service staff, nursing staff, anesthesiologists and equipment sterilization staff.

The integration of CRM-based changes into our culture has been extremely fruitful, and we will retain the lessons learned as we continue to push ourselves to be even better.

At the time of our second training session:

- 65 percent of our surgical service felt comfortable speaking up with concerns in their work area
- 70 percent of our surgical service self-identified as "apprentice/practitioners" or "experts in the crew resource management experience"

The majority of those in our surgical service felt that as a result of simulation scenarios held during the training sessions, they are more likely to conduct a checklist-guided briefing prior to an invasive procedure; also, when faced with a future challenge in patient care, the majority felt that they would be likely to use teamwork and communication strategies practiced in the simulation scenarios.

Scenarios practice included managing an unexpected air embolism, preventing an operating room fire, and averting a wrong site surgery. We used techniques such as the "3-Ws," "4-Step Tool" and the "1-2-3 Rule"<sup>5</sup> to learn effective communication, interaction and decision making. These techniques allow all surgical service team members to engage, speak up and bring critical information to the attention of the surgeons,

## Managing Fatigue

By Helen J.A. Fuller, Ph.D., patient safety fellow, National Center for Patient Safety, and Mari-Kay Haubert, R.N., B.S.N., PACU educator, VA Ann Arbor Healthcare System

In late 2011, the Joint Commission issued a Sentinel Event Alert on health care worker fatigue and patient safety. A substantial number of studies have indicated that extended work hours for health care workers contribute to high levels of worker fatigue, which result in an increased risk of adverse events and reduced productivity.<sup>1-5</sup> In addition to compromising patient safety, worker fatigue increases risk to workers' personal safety and contributes to a decline in their well-being.

Impacts of fatigue include:

- Lapses in attention and difficulty remaining focused
- Compromised problem solving and slowed information processing
- Memory lapses
- Diminished reaction time
- Irritability
- Reduced motivation
- Indifference
- Loss of empathy

Three core physiological factors contribute to fatigue: cumulative sleep loss, continuous hours of wakefulness, and circadian time of day. Health care workers may be more affected than workers in other occupations because of their tendencies to work longer shifts and at times when people are normally sleeping (e.g., nightshift).

In response to the Sentinel Event Alert, the VA Ann Arbor Healthcare System convened a taskforce to address the issue of worker fatigue. The group developed an educational campaign that included a PowerPoint presentation, information handouts, and posters located at nursing stations.

Here is a summary of information and recommendations offered to health care workers:

### Promoting sleep

- Most people need between seven to nine hours per day, preferably obtained in a single block.<sup>6</sup>
- Make your bedroom as dark as possible and keep the temperature comfortably cool.<sup>7</sup>
- Keep a regular bedtime and wind down before bedtime.<sup>7</sup>
- Avoid heavy meals, caffeine, alcohol, and exercise shortly before bedtime.<sup>7</sup>

### Countermeasures for fatigue<sup>7</sup>

- Use caffeine strategically. Caffeine takes 15-20 minutes to take effect and can last for three to four hours.
- Drink plenty of fluids. Dehydration slows you down and makes you feel sluggish.
- Eat a balanced diet.
- Exercise regularly.

### Scheduling

- Plan one to two full days of rest after working five consecutive eight-hour days or four consecutive 10-hour shifts. Consider two days of rest after three consecutive 12-hour shifts.<sup>8</sup>
- According to the American Nurses Association, individual nurses have an ethical obligation to NOT work when fatigued.<sup>9</sup>

Research studies have clearly shown that napping improves alertness and performance when a worker is fatigued.<sup>10</sup> The Ann Arbor facility committee recommended napping before work for workers who felt fatigued, but decided not to attempt to introduce an at-work nap program due to space and culture concerns.

### Fatigue Task Force Team Members

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## Improving Communications at the Memphis VA Medical Center

By Susan V. Calhoun M.D., M.B.A., chief, Anesthesiology Service, and chair, OR Improvement Committee; and Clara Herr R.N., Ph.D., performance improvement and systems redesign specialist, Quality Management Service, Memphis VA Medical Center

The Memphis VA Medical Center<sup>1</sup> OR Improvement Committee was commissioned in January 2013 and charged to improve first case starts and reduce turnover times in the operating room. This multidisciplinary group, consisting of representatives from anesthesiology, OR nursing, surgery, sterile processing services, and quality management quickly determined that ineffective, siloed communication was a tremendous barrier to improved efficiency, and more importantly, to safe delivery of care to surgical patients.

As a result, the committee applied and was accepted for the National Center for Patient Safety's Clinical Team Training (CTT).<sup>2</sup> The year-long team training was initiated on-site at the Memphis VA Medical Center in February 2014. The initial training was presented to an overflow crowd of nurses, physicians, students and ancillary personnel by NCPS Director Robin Hemphill, M.D., and members of her staff. The feedback from this event was extremely positive and galvanized participants to think about ways to be more effective team members.

"We're excited to be in Memphis. The energy and the desire to improve is palpable," said Gary Sculli, R.N., M.S.N., A.T.P., director of the NCPS CTT program. "While the delivery of CTT creates excitement and motivation, sustaining that over time is always a challenge. The leaders in the OR in Memphis understand this and have been committed to transforming CTT strategies into better, more safe, and higher functioning teams. And this makes a difference where it truly counts – in the care of Veterans."

The CTT program required that the OR committee select a safety-related project. The project's progress would be monitored with regularly scheduled group phone calls with an assigned NCPS specialist over a 12-month period. The OR committee selected hand-offs between levels of care when transporting post-surgical patients from the OR to SICU or PACU.

This project was selected for several reasons. Many believe that post-op patient care hand-off is between the circulating R.N. in the OR and the ICU or PACU R.N. In actuality, the hand-off of post-surgical patient care is from the

anesthesia provider to the post-op R.N. in ICU or PACU. The committee recognized a need for a focused and consistent method for relaying the correct hand-off information directly between the responsible individuals.

A CTT subcommittee was formed that included representatives from anesthesiology, SICU nursing, PACU nursing, OR nursing and quality management. As an added bonus, this project was selected by the Memphis VA Medical Center-based clinical training phase of the United States Army Graduate Program Anesthesia Nursing (USAGPAN) as the topic for their doctoral capstone project. The USAGPAN students have been active in the design, revisions and reporting on the project.

Upon baseline evaluation, the CTT sub-committee identified wide variations in how patient care reports were being delivered and received, especially between SICU nurses and anesthesia providers. Vital information was sometimes omitted. Some ICU nurses wrote down information, others didn't or wrote it on whatever was handy: paper towels, bed sheets, scrub pants, etc. At times, one ICU nurse would take a report over the phone, though another nurse actually admitted the patient to the unit. Some anesthesia providers failed to relay important information, such as intra-op instability or blood/fluid administration.

Having identified these kinds of barriers, the CTT group developed a standardized printed hand-off form that serves as a prompt for effective communication. While still in the OR, the anesthesia provider now documents pertinent information on the hand-off form and relays this directly to the ICU nurse by phone. The ICU nurse records the information using a copy of the same form, therefore minimizing the possibility of something being overlooked. This system provides a written document that can also be shared with a relief nurse.

Even though the forms are a useful reference tool, team members agreed that verbal communication is most effective, and that barriers still existed in verbally relaying complete information that might be needed within the first hour of arrival to the unit.

Digging deeper into what these barriers were and why they might exist, the

team found that the anesthesia providers felt that the ICU nurses were not attentive to verbal reports and missed key pieces of information that directly impacted patient status in the immediate post-op period. On the other hand, the ICU nurses felt that the anesthesia providers were not respectful of the admitting processes that are required upon a patient's arrival to the unit.

In order to address these concerns, the team assigned specific duties to be performed upon arrival to the unit: The anesthesia provider is now responsible for managing airway transfer to the respiratory therapist; the OR nurse is now responsible for assisting the SICU nurse in calibrating monitors and assessing initial vital signs.

Once the patient is "tucked in," the anesthesia provider calls for a "time-out," similar to the process used in the OR. The receiving R.N. and anesthesia provider then both turn their undivided attention to a "cross check" of information between their respective hand-off forms, confirming that the right information on the right patient at the right time had been communicated to ensure a "safe landing" for the patient being transferred to a new unit.

This process has been very favorably received and CTT members have been effective in convincing peers to participate. Lori DeLeeuw, R.N., M.S.N., the NCPS nurse educator assigned to this project, recently lauded its progress in an email: "I want to offer my congratulations on the two spectacular CTT projects that Memphis is currently working on; utilizing standardized hand-off and communication templates in the ED and OR, which are some of the best I have seen."

As a result of the success, plans are under consideration for rolling out this concept to other transfer of care areas at the Memphis VA Medical Center.

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### Creating a Culture of Safety at the Overton Brooks VA Medical Center

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to avert a potential adverse event and promote a culture of safety.

In addition, the simulation scenarios used in our training effectively promoted briefings, as well as a structured approach to teamwork and communication during a crisis. As a result, our surgical service team members performed with “good to excellent” skills in utilizing CRM techniques during simulated crisis scenarios; and feedback from our staff has been positive.

All in all, over the course of the past year, our team members have significantly improved their mastery of teamwork and communication strategies because of the CTT training.

“Burt” Thomas Smith, a certified registered nurse anesthetist, stated that pre-operative briefings help identify problems before they happen, allowing changes in patient positioning to prevent adverse outcomes.

“The surgeon will want the patient in prone position,” Mr. Smith said, “This comes up in the pre-operative briefing and I’ll say, ‘Because of the patient’s size, he can’t be in that position for long. He’ll breathe better in lithotomy.’ Then the surgeon might say, ‘Okay, I’ll make it work in lithotomy.’ We decide all of this before we even bring the patient back.”

“Or,” Mr. Smith continued, “the surgeon might need a special lens for a cataract surgery, so the circulator makes sure we have it even before we bring the patient back.”

Cleveland Waterman, M.D., an anesthesiologist, said of pre-procedure briefings, “Oh, it’s the best thing! It’s brutally hard to ask questions, you ask the surgery resident a question and get one answer, then ask the surgery attending and get another answer. With pre-procedure briefings you get a consistent place to ask questions and get one answer.”

The training also helped us decrease wasted OR minutes by identifying a number of pitfalls, such as a requirement for specialized equipment and challenges in patient positioning. Addressing misconceptions about patient care in the pre-op briefing, another pitfall we have overcome, enables the surgical team to quickly address misconceptions accurately, prior to the patient arriving in

the OR. As our OR Nurse Manager Emily Cypher, said, “The pre-operative briefings really help!”

Overall, we found that implementing a fundamental change in the culture, using CRM techniques, has resulted in rapid improvements in our OR efficiency and surgical care, oftentimes within months of the implementation. For instance, from July 2013 to June 2014 we had a 100 percent rate of pre-procedure and post-procedure briefings.

Reviewing our OR efficiency, we found that we had decreased “wasted” OR minutes, from as high as 1,030 minutes in January 2014 to 339 minutes in June 2014.

We have also improved equipment availability, recording a 100 percent level of equipment availability from November 2013 to May 2014.

In addition to improving our OR efficiency, we found that instituting a culture of safety through empowering surgical team members to speak up, using situational awareness strategies and countermeasures training, has had a profound impact on patient safety.

Since beginning CTT training, we have noted a significant decline in Critical Incident Tracking Network (CITN) events. In fiscal year 2013, three CITN events occurred: In comparison, no CITN events have occurred to date this fiscal year.

Prior research has demonstrated that successful implementation of patient safety tools like pre-procedure briefings and post-procedure debriefings is dependent upon facility specific leadership support.<sup>6,7</sup> At Overton Brooks, we have had the complete support of our surgical service chief, OR nurse manager, anesthesia chief and the entire senior facility leadership.

We believe the success of our experience has been integrally linked to our leadership’s commitment to changing the culture into one that emphasizes patient safety as our paramount concern. In addition, the sincere commitment of our entire surgical service team to creating a culture of safety is deep rooted, involving everyone at all levels.

It is this team-wide commitment that has brought about what we call “The Shreveport Success Story.” We are

proud of our surgical service team for accomplishing this mission and serving our Veterans with the safest, highest quality care possible.

“Change in a vacuum is destined to fall by the wayside. Training, and recurrent training, such as advocated by the Overton Brooks model, and bolstered by leadership support, is capable of delivering on the CRM promise of high-reliability, safe, team-oriented, and patient-centered health care delivery,” said Dr. Paull. “Hats off to the Overton Brooks surgical service. You are an inspiration to me and your other VHA colleagues and a reminder of why we work here.”

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