



# TIPS

Volume 1, Issue 5

Topics in Patient Safety

October/November 2001

## VA/QuIC Patient Safety Summit Gives Attendees Plenty to Take Home

The VA/QuIC Summit on Effective Practices to Improve Patient Safety was held September 5-7, 2001, in Washington, DC. Approximately 350 people attended the Summit with about two-thirds coming from VA. With a focus on presenting information that could put to immediate use to improve patient safety, the Summit had over 30 different presenters.

One of the featured presenters was Dr. Mark Rosekind, President and chief scientist at Alertness Solutions and a former sleep research scientist at NASA. An internationally recognized expert in fatigue management, sleep, circadian rhythms, and performance, Dr. Rosekind spoke about alertness management in health care settings. Our circadian rhythm programs us to sleep at night and to be awake during the day. When we try and override this through shift work and altered work schedules, employees encounter fatigue and sleepiness and degraded vigilance and decision-making. Additionally, Dr. Rosekind discussed the epidemic proportion of people not receiving sufficient

sleep. When this physiological need for sleep is not met, the human brain can spontaneously shift to microsleeps (lasting only seconds) to extended sleep (lasting minutes). Some of the signs and symptoms of fatigue are slowed reaction time, forgetfulness, fixation, reduced vigilance, and degraded communication and decision-making skills.

In response to fatigue, Dr. Rosekind presented personal strategies for coping. Simply telling health care workers to "get more sleep" is not going to change anything. We need to be aware of fatigue countermeasures to minimize sleep loss such as naps, good sleep habits, and the effects of food, alcohol, and exercise. Since sleep debt is cumulative with the average person needing eight hours, minimize your sleep loss. Naps can prove enormously helpful; "Any nap beats no nap," states Dr. Rosekind, with 20 to 45 minutes representing an effective period of nap time. Once an individual realizes they are fatigued and they cannot get any sleep, other effective measures include physical activity, social interaction, and strategic caffeine use. Suggests Dr. Rosekind, "Don't take caffeine when you are wide awake at the beginning of a shift; instead, take it before your anticipated time of decreased alertness. Your circadian rhythm typically makes you the sleepest from 3 to 5 a.m.; take the caffeine an hour before this time if you have to be alert and working."

Dr. Rosekind reviewed the first steps that patient safety managers and leadership should consider in addressing fatigue in operational settings including:

- Educate people about fatigue and sleep
- Consider setting the number of hours of service for employees
- Be cognizant of physiological needs of employees when scheduling
- Consider countermeasures such as rest areas for employees

For more information on this topic, visit his company's website at <http://www.alertness-solutions.com/>

Another featured presenter was Major (Dr.) Fred Stone, one of the principle authors of the U.S. Air Force's Medical Team Management program, who has trained hundreds of Department of Defense health care workers around the world on teamwork and patient safety. Major Stone uses video vignettes and discussion to demonstrate that a lack of teamwork creates an unsafe and hazardous work environment. A situation encountered in healthcare is excessive professional courtesy, whereby those of higher status are deferred to and not questioned even when there are observed deficiencies in performance. Major Stone presented the undesirable circumstance of "accommodation," whereby team members become complacent with difficult tasks (such as complicated

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# SAFETY SPOTLIGHT

(On a regular basis we will feature teaching examples pulled from medical literature and similar RCAs that we feel are applicable and of interest to the entire VHA health care system. The following represents information taken from RCAs; it is presented to spark discussion and does not represent NCPS policy. Depending on the specific circumstances at any given facility, there are various systems-level solutions that will be most appropriate.)

## Administering a paralytic agent when patient is not on ventilator assistance

### Description

Vecuronium was ordered for a patient in SICU who was intubated; two days later the patient was extubated but the Vecuronium remained as an active order. A nurse from the ICU was reassigned to the SICU and was assigned to care for the patient, including administration of medications to him. The RN noted Vecuronium Bromide on the patient's medication profile in BCMA and in the Pyxis medication dispensing system. The RN, not familiar with this particular drug, asked another nurse about the expected actions of the medication. The nurse responded that Vecuronium is a paralytic agent. The RN then administered the drug as ordered. The patient, no longer intubated, experienced a full arrest shortly after receiving the

drug. Chest compressions were started, a code was called, and the patient was promptly intubated. The resuscitation was successful and the patient achieved full recovery with no immediate or long lasting complications reported.

### Facility Identified Vulnerabilities

The following are factors that increased the probability of inadvertently using this paralytic agent:

- The CPRS and Pyxis systems provide no warnings regarding neuromuscular agents and the need to ensure adequate airway before administering
- The pharmacy system does not require reordering of neuromuscular agents within any specified time frame
- The CPRS system does not provide easy access to review pharmacological agents while writing medication orders
- There was no clinical pathway for management of ventilator dependent patients
- The system for releasing physician's orders does not ensure that all orders have been reviewed by a pharmacist or pharmacologist before release
- The competency of RNs assigned to ICUs should be revised to accurately and specifically support the practice level required in the various intensive care units

### Actions Taken by Facility

In response to this case, the facility took the following actions:

- Neuromuscular agents will now have a three-day automatic stop date
- Anesthesia has developed a Quick Reference Guide for maintenance dose of neuromuscular agents
- All pharmacy orders will be approved by a pharmacist or pharmacologist
- Clinical reminders for these agents are activated in CPRS when the medication is prescribed
- Chief of Pulmonary developed clinical guidelines for the administration of paralytic agents
- Revised ICU competencies with annual audits to ensure accuracy

### Staff Observations

Three years ago if this had happened, we would have been looking for someone to blame. The nurse would have been disciplined at a minimum and might have been fired.

Once the RCA team began to examine the specifics of this case and delve into why this occurred and what system issues allowed this incident, we were quite successful in identifying vulnerabilities that many did not realize existed. Our team members were excited about their involvement and felt justifiably proud that they had made a substantive difference in patient safety.

### NCPS Comments

*Some of these specific actions are important and improve the quality*

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## Safety Spotlight

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*of care delivered, but will not directly mitigate these vulnerabilities. The team might have also considered limiting the medication dispensing by staff that have rotated onto the service. Another vulnerability that might have been considered is the availability on Pyxis floor stock of a neuromuscular (paralytic) agent. A barrier could be removing these from the floor and placing in the pharmacy.*

*Under actions taken by the facility, the three-day automatic stop date may represent a compromise between an unlimited order and a one-time order. We wonder if other facilities have adopted a variable order date such that the neuromuscular agent is primarily a one-time or three-day dose, but perhaps can be written PRN for long-term vent-dependent patients.*

*Depending on the specific circumstances at any given facility, there are various systems-level solutions that may be of value. In any event, this case points out how adverse events and close calls can identify vulnerabilities, that when constructively approached, result in actions that can reduce the likelihood of similar problems in the future.*

## Safety Summit

*continued from page 1*

surgeries) because they have performed them so frequently.

There are specific strategies that can be taught to teams that are effective in countering these tendencies. Whenever anyone "feels the pinch" (defined as a potentially unsafe situation), Major Stone suggests a non-threatening assertive statement such as "Doctor, I'm concerned about the amount of bleeding we're witnessing at the surgical site. Can we take a moment to

## What is HFMEA™?

Healthcare Failure Modes and Effects Analysis™ (HFMEA™) is a prospective analysis system developed by NCPS. HFMEA™ uses a multi-disciplinary team, process and sub-process flow diagramming, failure mode and failure mode cause identification, a hazard scoring matrix, and a decision tree algorithm to identify system vulnerabilities. A worksheet is used to record the teams decisions, rationale and corrective actions.

HFMEA™ was introduced by NCPS through a series of four videoconferences aired this past August. Following these broadcasts a training videotape was created and shipped to each medical center. The HFMEA™ forms and work sheets have been made available on the NCPS intranet website (<http://vaww.ncps.med.va.gov>). The program was also presented at the VA/QUiC Patient Safety Summit during September 2001.

NCPS will be distributing example analysis of the BCMA contingency plans using the HFMEA™ system during the first quarter of FY02. While the use of the HFMEA™ prospective analysis system is not mandated, it is recommended.

confirm that all the sutures are holding?" He also explained the "two challenge" rule, a tool in which team members can challenge another member's actions. This involves an agreed to action (such as calling in another person for a consult) if a medical team member does not respond following two assertive statements.

Other presentations at the Summit included Institute for Healthcare Improvement President Dr. Donald Berwick talking on patient safety improvements, Joint Commission on Accreditation of Healthcare Organization's (JCAHO) President Dr. Dennis O'Leary talking about JCAHO's new initiatives for patient safety, and VA National Center for

Patient Safety Director Dr. James Bagian talking about lessons learned about patient safety in the VA.

The response to the questionnaire distributed at the Summit indicated that participants were highly satisfied with the program: satisfaction levels in respondents averaged 90% for 17 different questions surveyed.

Selected summit presentations and materials will be made available on line at the NCPS internet and intranet sites. When this information is available on-line, a notification will be sent to Summit registrants and we will also announce it in TIPS.

## Conference Calendar

### CONFERENCE

### DATE

### LOCATION

HHS Ambulatory Patient Safety Workshop

11/30/01

Arlington, VA

IHI 13th Annual National Forum on Quality Improvement in Health Care

12/9-12/01

Orlando, FL

Human Factors and Ergonomics Society Annual Meeting

9/23-27/02

Pittsburgh, PA

# Cognitive Aids Distributed

NCPS recently distributed the first series of cognitive aids to VHA facilities throughout the country. These aids included an enhanced version of the American Heart Association's 2000 Handbook of Emergency Cardiovascular Care, the Malignant Hyperthermia Emergency reference card, the Association of Anesthesiologists Difficult Airways Algorithm and a Malignant Hyperthermia poster.

The cognitive aids sent to each location were based upon a survey conducted during the first quarter of FY01. This survey requested each facility to identify the number of code carts, the number of anesthesia machines, and the

number of operating rooms at their location, including CBOCs.

The cognitive aids are intended to serve as a reference and reminder for clinical staff and assist health care in moving away from a culture that is totally dependent upon each individual's ability to memorize difficult and complex tasks for use during routine and crisis situations.

Demand for the cognitive aids has been high, with many facilities requesting additional copies. A second order is being processed and additional sets of the cognitive aids should be available within the next few months.

We would like to take this oppor-

tunity to thank VISNs 6, 17 and 18 for agreeing to pilot test the distribution of this first sets of aids. The lessons learned at these facilities helped ensure a smoother role out for the remainder of the country.



**NCPS TIPS** is published bi-monthly by the VA National Center for Patient Safety (NCPS). As the official patient safety newsletter of the Department of Veterans Affairs (VA), it is meant to be a source of patient safety information for all VA employees. All pictures are VA photos unless otherwise identified. Opinions of contributors are not necessarily those of the VA. Suggestions and articles are always welcomed and readers can contact us at:

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## A Chance to Make a Difference....The Results

NCPS thanks all of you that submitted proposals for equipment and products that improved patient safety and resulted from a root cause analysis recommendation. A panel reviewed the recommendations on the basis of generalized applicability to a broad group of VA hospitals, documented patient safety impact, and anticipated cost savings. From the submissions, we developed a complete business case for three of the recommendations and presented these to VA Under Secretary for Health Dr. Thomas Garthwaite. He has given us an enthusiastic green light to pilot test these recommendations in selected facilities and VISNs. Based upon the pilot tests, we will role these out nationally.

Our congratulations to:

- ✓ Pamela Bennett, RN, MSN, Patient Safety Manager of Salt Lake City VAMC  
**Recommendation:** Change in humidification system for ventilator-dependent patients

- ✓ Mary Huddleston, RN, MSHE, Patient Safety Manager for VISN 8  
**Recommendation:** End Cap CO2 detectors to be used on crash carts for all codes
- ✓ Mary Watson, APN Falls Program Coordinator for Little Rock VAMC  
**Recommendation:** Hip pads as integral part of falls prevention program

Additional thanks and recognition for submissions by:

- ✓ Deborah Dallimore, Risk Manager, New Orleans VAMC
- ✓ Lin Hillman, Patient Safety Nurse and Patrick Mulrain, Facility Safety Officer, Tomah VAMC
- ✓ Linda Swan, VISN 22 Patient Safety Manager
- ✓ Gloria Williams, VISN 9 Patient Safety Manager
- ✓ Karole Wire, Quality Manager, Danville VAMC