



Patient Safety Training Ideas

All full-time VHA employees are now required to receive 40 hours of continuing education training annually - of which 20 hours should be devoted to patient safety education. Some of you have asked us for ideas on how to meet this requirement, so here are a few suggestions we have come up with:

- Use time spent as an RCA team member
- Interactive CD training (such as the modules that can be added to Synquest)
- View patient safety videos
- Use web-based training
- Give credit for reading selected patient safety related articles/publications
- Provide traditional face-to-face training
- Use time spent at patient safety meetings

- Credit time spent at patient safety related conferences
- Organize mini (brown bag) training sessions
- Set up poster sessions and award time spent attending (this could be in conjunction with the safety fair many hospitals organize)

- Credit time spent participating in patient safety activities related to the physical plant safety (fire drills, emergency preparedness drills, etc.)

This list is certainly not exhaustive. Please let us know if you come up with additional methods so that we can share them with everyone.

Assessing the Environment of Care: Potential Electrical Shock

Many of our hospital sleeping rooms have small televisions mounted on articulating arms serving each patient bed. These televisions generally operate at 12 to 24 volts direct current (DC) with the power often supplied to the unit through a coaxial cable which also carries the television signal. The coaxial cable is connected to a transformer and



A typical hospital television mounted on an articulating arm.

is generally located in a nearby wall. Power (120 volts alternating current) for the transformer is supplied via an electrical cord that is plugged into a wall receptacle.

There was a close call recently when an Alzheimer's patient grabbed and pulled out the electrical cord supplying power to the transformer. The cord was pulled out even though strain relief was provided at the point of connection to the transformer. This action resulted in exposed, energized, electrical wires in the immediate vicinity of the patient. This incident resulted in only minor burn marks on the floor; however, the results could have been fatal. The electrical circuit breaker protecting the wiring system supplying the

continued on page 4

What's Inside

Lessons Learned	2
New NCPS Logo	2
Safety Spotlight	3
Conference Calendar	3
Learning Links	4

Japanese Healthcare Organizations visit NCPS

Japan recently sent several delegations of healthcare officials to the U.S. on patient safety fact-finding tours. This past month, NCPS was visited by two of these groups.

Officials from Japan's Department of National Hospitals, National Cardiovascular Center, and the Japan Council for Quality of Health Care (their equivalent of JCAHO) visited NCPS and were given an overview by NCPS staff members about the VA's patient safety processes and information systems. This was followed by a general discussion of patient safety issues.

The visit of these two prominent healthcare delegations is further indication that the VA's patient safety program is gaining international stature and being used as a role model for other healthcare organizations both here and abroad.

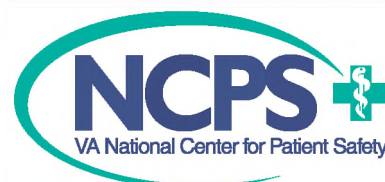
A Lesson from the Field

O₂ and CO₂ Bottle Confusion

CO₂ is routinely used during the provision of patient care in a number of clinical settings such as radiology, anesthesiology, and laparoscopy. Because of a lack of knowledge regarding specialized regulators designed to deliver CO₂, an O₂ regulator fitted with a universal adapter to override the safety pin index was placed on a CO₂ tank to be utilized during a procedure. The standard color for CO₂ tanks is gun metal gray; however, in some cases CO₂ tanks are old green tanks that have been painted battleship gray. These gray-green "E" cylinder-sized tanks had been lined up next to oxygen "E" cylinders. The CO₂ cylinders incorrectly had O₂ regulators attached. Following a medical procedure a patient was transported for follow up imaging. This patient needed O₂. On this day a CO₂ tank was inadvertently picked up and used during the patient transport instead of O₂ creating a hazardous situation.

The FDA database has indicated this is not a unique event. This event proved to be revealing and is being shared in the hopes of preventing a similar occurrence elsewhere. Lessons learned include:

- Never modify regulators to defeat the safety interlocks
- Do not use universal adapters and ask your Pulmonary Division to control all universal adapters
- Work with vendors and manufacturers to provide the safest product for your patient.
- Ensure that all compressed gas cylinders and containers are labeled in accordance with Compressed



New NCPS Logo

We're proud to unveil the new NCPS logo. The logo was based on ideas from the NCPS staff and Andrew Scheller, a visual illustrator from the Philadelphia VAMC. It was intended to capture the essence of what we are all about - patient safety. Using the traditional green "safety cross," we have also added the Staff of Aesculapius (the traditional symbol of medicine) to it and have the color of the lettering in the logo blue, the color often associated with VA healthcare.

Gas Association C-7, *Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers*. Labels and placards are more effective than color as cylinders are often subject to abuse that can wear off the paint making identification of the original color difficult. The color of the tank can also appear different dependent upon the lighting conditions.

- Control your compressed gas inventory along with your regulators.
- Train all staff who work with compressed gas cylinders on the standardization of color, regulators, and the Pin Index Safety System.

Manufacturers do make specialized regulators, for example VERIFLO makes a specialized CO₂ regulator (960094) that is designed to provide CO₂ gas by volume. If you are using CO₂ tanks equipped with oxygen regulators — **STOP!!** Contact your compressed gas dealer who can help you locate the appropriate equipment. And last but not least, encourage your staff to READ the labels. **Right patient. Right Intervention. Right Gas.**

To learn more about this topic see the July/August 2000 FDA Consumer Magazine article "Avoiding The Hazards Of Medical Gases" (www.fda.gov/fdac/features/2000/400_gas.html) and the Compressed Gas Association's website (www.cganet.com/Publication_Selector.asp?mode=free) which shows the latest industrial gas safety information available covering the proper manufacture, handling, and use of industrial gases and cryogenic liquids.

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 healthcare system. These cases are intended to be used for learning purposes only.)

MRI Near Miss

Description

Case #1. The patient was taken to an MRI room for imaging. After the MRI, the patient was transferred from the MRI couch to a stretcher in the magnet room. Unknown to the technologist, the IV pole on the EC stretcher was of a ferro-magnetic material affected by the magnet. The IV pole was pulled into the magnet gantry, narrowly missing the technologist and the patient. The patient and stretcher were removed unharmed from the MRI.

No damage occurred to the MRI.

Case #2. The patient was placed on MRI couch to begin the MRI procedure. A sandbag encircled the patient's arm to control tremors. Unknowingly, this sand bag contained ferro-magnetic materials. The bag was pulled to the magnet, pinning the patient's arm to the MRI with several hundred pounds of force. The technician followed emergency shutdown procedures to free the arm. There was no permanent harm to the patient. (Of note, each time there is an emergency shutdown it can cost from \$20,000 to \$40,000. If the magnet core is damaged from an emergency quenching this can cost up to \$500,000.)

Vulnerabilities

MRIs and MRI suites have been identified as system vulnerabilities by manufacturers, the Food and Drug Administration (FDA), and the Emergency Care Research Institute (ECRI). Vulnerabilities include:

- Exposing materials that we presume are not affected by the magnet (e.g., sand bags) but are in fact a risk
- Sandbags may contain ferrous elements to increase the weight of the bag without added bulk, without any labeling about the contents
- Transferring from stretchers to MRI couch in magnet room rather than anteroom
- Failing to adequately screen for objects on a patient that will be affected by the magnet (keys, pens, barrettes)
- Using equipment that is not designed for MRI usage (e.g., the IV pole within the magnet room)
- If items are labeled "MRI Safe" it doesn't necessarily mean they are safe

Actions To Consider

The following actions were recommended:

- Use of MRI-designated equipment within the MRI suite
- Transferring patients from the stretcher to the MRI couch only in the anteroom
- Only sand bags confirmed to be MRI appropriate shall be used in the MRI suite
- A process change of having the patient disrobe prior to entering the MRI area and putting on clothes strictly for the MRI suite. This will prevent the inadvertent slip of forgetting about items that may pose a danger or forgetting to adequately screen prior to entering the room.

Conference Calendar

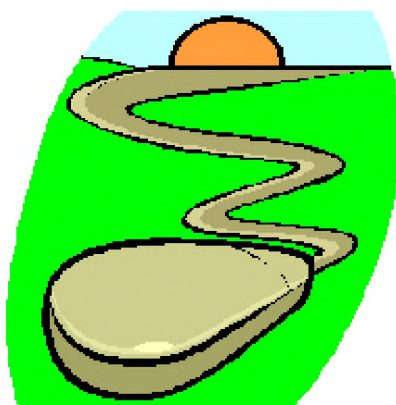
CONFERENCE	DATE	LOCATION
NCPS Patient Safety Improvement Training	4/24-26/01	Chicago, IL
VHA Nat'l Quality/Safety Conference	5/1-4/01	New Orleans, LA
NCPS Patient Safety Improvement Training	6/5-7/01	Chicago, IL
QuIC Task Force Summit on Practices to Improve Patient Safety	9/5-7/01	Washington, DC
NCPS Patient Safety Improvement Training	9/11-13/01	Chicago, IL

Learning Links

We have recently come across some interesting articles and websites on patient safety issues that we want to pass on to you.

Academic Medicine

In the February issue of *Academic Medicine*, there is an article titled "A System of Analyzing Medical Errors to Improve GME Curricula and Programs" (www.academicmedicine.org/cgi/content/abstract/76/2/125). This is a great article about getting resident physicians involved in RCAs. (Please note: this link is to an abstract of the article, a paid subscription to *Academic Medicine* is required to view the entire article.)



The Lancet

The Lancet publishes a weekly electronic medical journal simply titled "The Journal" (www.thelancet.com/journal). *The Journal* has a periodic feature called "Uses of Error" in the Editorial and

Review section. In the March 3rd issue, "Uses of Error" featured an article titled "Missed Opportunities" (www.thelancet.com/journal/vol357/iss9257/full/llan.357.9257.editorial.and.review.154011) that deals with systems determining whether routine things get done or not. (Please note: a free registration process must be completed before you are able to access *The Lancet*.)

Potential Electrical Shock

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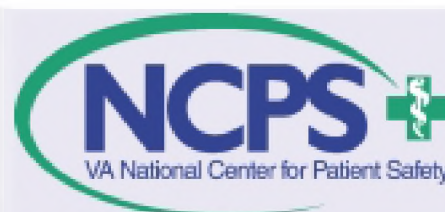
wall receptacle did not operate. However, it was operating properly. The primary purpose of a circuit breaker is property protection. Circuit breakers are designed to operate if the current demand exceeds a preset amount (27 amps in this case). In this incident the current draw did not exceed 27 amps and the breaker did not operate. An electrical shock exceeding 50 milliamps of alternating current (1 amp equals 1000 milliamps) can be fatal.

Root cause/contributing factors for this incident included care plans

not tracking trends in the patient's behavior and the electrical cord being within the grasp of the patient. Actions that may be taken to eliminate or control this potential shock hazard include installing Ground Fault Circuit Interrupter (GFCI) receptacles or breakers, and modifying the electrical power cord. The electrical cord supplying power to the transformer could be shortened and installed in conduit or wire molding. Selection of the most appropriate corrective action will depend on the specific circumstances related to the patient's condition and environmental factors.

FDA Medical Device Checklist

On the U.S. Food and Drug Administration's (FDA) website (www.fda.gov), their Center for Devices and Radiological Health has a useful checklist for choosing a medical device that is best for the patient. You can find that checklist at www.fda.gov/cdrh/useerror/you_choose_checklist.html.



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