Safety Is Not a Bad Word

Jonathan Hill

In most professional organizations today, safety is of paramount importance and for obvious reasons. Any medical device should have safeguards to protect the user of the device as well as the repair person responsible for maintaining it or anyone who comes in contact with the device. Unfortunately, some safeguards that should be adhered to require manual implementation. This article discusses some of the safeguards that biomeds must know about to do our jobs.

We work in a field that poses danger from the equipment we work with as well as potential exposure to biological hazards, chemical hazards, nuclear hazards, and electrical hazards. Protecting ourselves and those we work with is essential to completing our tasks. Subjecting ourselves to those hazards without adequate protection and safeguards can have serious consequences for us and create hazards to others around us.

When dealing with biological hazards, we need to assume that anything we come into contact with could allow potential exposure. As a result, we need to be mindful of the warning signs placed outside of patient rooms, the equipment we pick up off of the floors, and the infection control policies of our individual organizations. Even though today's hospitals have isolation rooms, not all patients need to be placed into one of these rooms; some patients get placed in "contact isolation." In this situation, when entering the room we need to be aware of what we touch.

Upon leaving a contact isolation room, wash your hands and anything that came in contact with a surface in the room. Hand washing is the best way to help prevent infection. Another type of isolation is airborne isolation. In this situation, you need to use the barrier technique or universal precautions. Located outside this room is an isolation cart containing everything you need to enter the room such as gowns, shoe covers, masks, gloves, and sometimes face shields (if not on the mask). This is not an inconvenience. It's necessary protection. These protections are not limited to isolation rooms.

Equipment picked up on the floors may not be clean. Examine the device before coming into contact with it to determine if more cleaning is necessary. If the device is dirty, take most portable equipment to central or sterile processing to be cleaned before you begin work on the equipment. It is essential that the device gets cleaned after you work on it as well. A quick wipe down with an anti-bacterial washing solution should be sufficient (consult your operations infection control policy for what is prescribed).

Chemical hazards also exist within most organizations. Reading your Material Safety Data Sheets (MSDS) for the hazards and protective measures is essential for proper protection. Every organization has either individual work area MSDS manuals, a centralized databank of them, or both. If you receive new chemicals such as a new brand of electrical contact cleaner you should ensure that the MSDS is in the packing material. If not, obtain one before using the substance. It is the only way to know for sure if you are adequately protecting yourself.

Nuclear and radiological hazards exist mostly in the imaging department. Nuclear stress tests can cause additional exposure if the nuclear material spills on the treadmill in the electrocardiogram department. Most nuclear departments handle their materials conscientiously, and clean up after themselves when a spill occurs. Present any related questions to the head of the nuclear medicine department or the radiation safety officer. Of key importance to safety in the imaging department is the use of radiation badges. They must be exchanged on a regular basis, and it's important to keep the records. No one should be operating a radiation room without the use of a badge system.

The need for electrical safety is our "bread and butter."

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We perform periodic checks during incoming inspections for all equipment (whether as loaners, demos, or equipment purchased), preventive maintenance, and when a device is repaired. These checks allow us to verify that no potential harm from electrical equipment comes to the patients being treated or the operators of the device. Guidelines for the allowance of current leakage can be found in the National Fire Protection Association's NFPA 99 and your local policies. Every technician should be familiar with both. When equipment comes to the shop for repair or after receiving a call to respond to the floor, a technician should check the device's power cord as well. Immediately address any break in the shielding, pins that are bent, or burn marks present.

Certainly, hazards are all around us. We cannot afford to get comfortable or lax in recognizing these hazards. Diligence is key to providing a safe environment. Without the use of proper safeguards, everyone is in danger. Just knowing the hazards and not taking steps to prevent them makes us a hazard to others as well. Safety is not a bad word. So we should be careful out there. ■

Test Your Safety Knowledge

1). What is the number one way to prevent infection?
- a) Never enter a hospital
- b) Use universal precautions
- c) Read MSDSs often
- d) Hand washing

2) Where do you find information on protective equipment for chemicals?
- a) The solutions label
- b) Material Safety Data Sheets
- c) Packing slips
- d) Purchase orders

3) What types of isolation rooms can exist within a hospital?
- a) Contact Isolation
- b) Airborne Isolation
- c) Both A & B
- d) Electrical Isolation

Answer Key: 1) d 2) b 3) c

1/2 page ad