

Health Facilities MANAGEMENT

Central Service Igniting Interest

By Jay Greene

Hand-rub dispenser locations undergo scrutiny

Fire marshals in several states have created policies to restrict the placement of alcohol-based hand-rub dispensers in egress corridors of hospitals. While many of the policies are still under development, fire marshals are concerned about the flammability potential of the gel contained in the dispensers.

The policies are partially in response to at least two separate incidents in Maine and Kentucky in which fires erupted on health care workers after they used the alcohol-based gel to sanitize their hands. The two health care workers suffered superficial skin burns.

In one incident at Kosair Children's Hospital in Louisville, Ky., a health care worker used the gel, quickly took off a 100 percent polyester isolation gown, which is known for its ability to build up static electricity, then touched a metal door. The connection created a spark that ignited the alcohol residue still present on her hands and arms.

At the Maine Medical Center, Portland, a fire flashed briefly on an emergency medical technician (EMT) after he used the alcohol-based rub in a bathroom and then tried to light a cigarette. A hospital spokesperson says the EMT was not employed by the hospital, which prohibits smoking and also has policies that govern the use of hand rubs.

"Fire marshals' main concern is that they do not want these dispensers to be placed in fire exit corridors [because of flammability concerns and Medicare regulations they must enforce]," says Judene Bartley, vice president, Epidemiology Consulting Services, Beverly Hills, Mich., and infection control consultant on the Michigan Hospital Association's patient safety committee. "They are telling hospitals to remove them."

Bartley says several states also are issuing citations if dispensers are located in egress corridors. Those states include Wisconsin, South Carolina, Minnesota and Michigan.

State fire marshals have determined the dispensers contain flammable liquids, and, in some cases, protrude from walls more than what Medicare allows, which is 3 1/2 inches above hand rail height, according to several fire officials.

But, gel dispensers are allowed only in patient rooms in South Carolina, California, Arkansas, Maine and Massachusetts, says Bartley, also a safety consultant with the AHA, who culled the information from the APIC listserv.

Flammability concerns with hand rubs have triggered a policy review in Maine about whether dispensers will be allowed in certain corridors, especially if they lessen the required 8-foot opening between corridor walls, says Nelson Collins, chief of inspections with the Maine State Fire Marshal's Office.

"We understand there have been two incidents across the United States. This is not a widespread problem," Nelson says.

"We just need to have a unified policy on this. We don't want different inspectors coming up with individual policies for each hospital."

Officials with the Maine Hospital Association, Augusta, are developing educational material for safe use by health care workers and are working with the fire marshal's office on the policy, says Mary Mayhew, the association's vice president of government relations.

"Each hospital has a different approach on placement of the dispensers," Mayhew says. "We want to avoid overregulation and micromanaging on their location. We just want to know what is permissible and what is not."

A spreading deterrent

Two million people become ill each year and thousands die from hospital-acquired infections, according to the CDC. Half of these infections can be prevented by proper hand hygiene, states the CDC. Infections contribute to the deaths of nearly 90,000 hospital patients per year and \$4.5 million in medical expenses. These figures do not include higher liability insurance costs or malpractice judgments against health care institutions. After trying for years to persuade doctors, nurses and other health care workers to wash their hands more often between patients, the CDC issued hand hygiene guidelines last October. The guidelines recommend the use of alcohol-based hand rubs, which the CDC says are faster, easier, equally effective and less irritating than soap and water. The guidelines include warnings on flammability and suggest safe handling procedures.

Bartley, who also is a consultant with Premier Safety Institute, Oak Brook, Ill., says the guidelines increased hospitals' interest in using alcohol-based hand rubs. Many hospitals have purchased the rubs and are in the process of installing dispensers, she says.

"Alcohol-based hand rubs have been used in many hospitals, particularly ones in northern Europe for the last 10 to 20 years," says John Boyce, M.D., chair of the CDC's Healthcare Infection Control Practices Advisory Committee. "Incidents of fires due to hand rubs is extremely low in European countries."

Boyce, chief of infectious diseases at the Hospital of Saint Raphael, New Haven, Conn., says safe use of alcohol-based hand rubs can be accomplished by making sure "you rub your hands together until they are dry and there is no volatile material left."

Due to hospitals' interest in reducing infections by using alcohol-based hand rubs, the Michigan Office of Fire Safety, Lansing, issued a policy effective Jan. 1. "Dispensers containing this product are prohibited from being placed in a required corridor or exit, or any area open to a required corridor or exit," the policy states. "This product must be isolated from high temperatures and possible ignition sources such as, but not limited to, open flame, electrical equipment, switches or receptacles."

Fire officials described hand rubs as containing a high volume of alcohol, which varies between 60 percent to 70 percent. "This is considered a Class I Flammable Liquid with a flashpoint of approximately 75 degrees F.

This policy shall assist in minimizing the fire hazard of this product in facilities," states the policy.

After meeting with hospital representatives, Bartley says state fire officials agreed to provide more guidance on placement of the gel dispensers. "They published clarifications on their Web site and will provide posters for use at state society meetings," she says.

Up against a wall

From a materials management standpoint, Bartley says state fire marshal policies are causing confusion and costing hospitals extra dollars, especially if dispensers already placed on walls have to be removed.

"There is an economic cost to large institutions that have installed them and now have to take them out and repair the wall," Bartley says. Gel dispensers are most useful when they are in patients' rooms, she says.

However, some people believe health care workers will use them more if they are placed in corridors, she says. "No one knows what locations will encourage people to use the gel the most. If you take them away from places where people use them more often, there will be a risk that infection rates will increase because people will use them less often," Bartley says.

To determine the best placement of alcohol-based hand-rub dispensers and to investigate flammability issues, the American Society for Healthcare Engineering,

Chicago, will be commissioning a study, says Dale Woodin, ASHE's deputy executive director for advocacy.

Bartley welcomes the study, but says the debate on having a national policy will slow down the implementation of dispensers. Rules are clearer for hospitals in states like Michigan where statewide policies exist, she says.

"The Michigan fire marshal has told us he will provide additional guidance if people want to check with him on where they want to place the dispensers," Bartley says.

To discuss policy differences between states and hospitals, the AHA is organizing a meeting with many organizations, including state fire marshals, state hospital associations, infection control specialists and the CMS, Bartley says.

A meeting date has not yet been chosen. CMS has adopted health care facility fire codes developed by the National Fire Protection Association.

Squelching the spark

Like many hospitals, in anticipation of CDC guidelines that were expected to encourage the use of alcohol-based hand rubs, Kosair Children's installed gel dispensers in several hospital units in early 2002, says Kristina Bryant, M.D., a pediatric infectious disease physician at the hospital.

The flash fire that flared on the health care worker at Kosair Children's "was a pretty unusual accident," Bryant says.

The hospital's policy is to use soap and water "whenever your hands are visibly soiled, then alcohol-based hand gel," she says. "It is very important to rub it in and let it dry before you move on to something else."

After the flash fire, the hospital took several steps to further improve safety.

"We performed additional education throughout the hospital and we replaced old polyester gowns with gowns that have carbon-fibers through them because there is a lot of static during winter," she says. "We also have increased humidification to reduce static electricity."

Bartley says many hospitals are looking at ways to reduce static electricity and provide additional education on safe use of the alcohol-based hand rubs to both staff and the public.

Despite flammability concerns, Boyce says the benefits far outweigh the risks of using alcohol-based hand gel in conjunction with standard soap and water.

"One of the issues is whether the alcohol hand dispensers are safe to be placed in hallways, patient rooms and bathrooms open to the public," Boyce says.

"My take is that hospitalized patients will have lower infection rates and health care workers who use the gel will have less damage to their hands."

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