

Proper Maintenance for Infection Control Equipment

To the Editor:

Technical maintenance staff in our hospital have been concerned about potential infection risks associated with equipment contaminated with biological fluids. A large variety of equipment, including volumetric infusion pumps, respirators, humidifiers, portable suction machines and heart-lung machines, allow fluids to seep into areas not accessible to routine cleaning. Technical maintenance personnel are faced with a potentially contaminated machine which cannot be disinfected by conventional methods.

Before purchasing new equipment adequate cleaning methods should be established; however, many manufacturers do not consider this an important prerequisite for medical equipment. Are other hospitals experiencing the problem, and if so, is it being drawn to the attention of manufacturers by hospital authorities?

Kim Macey, RN
Infection Control Nurse
Royal Perth Hospital
Perth, Western Australia

George Mallison PE, MPH, responds to Ms. Macey's comments.

You are right in asking infection control personnel to keep manufacturers aware of users' concerns about seepage or spillage into places impossible to clean. From the standpoint of patient safety, however, not all equipment is equally hazardous. Infusion pumps, for example, touch only the disposable plastic intravenous or enteral tubing, and thus need only surface cleaning, whereas parts of respiratory therapy equipment come into direct contact with patient secretions and thus need special handling. The US Centers for Disease Control *Guideline for Handwashing and Hospital Environmental Control, 1985* divides patient-care objects into "critical," "semicritical" and "non-critical" for cleaning and processing purposes. Ask: Does the equipment come into contact with intact skin only, or with mucous membranes, or with normally sterile tissue or with blood?

As a first step, equipment contaminated with biological fluids should be thoroughly drained before further processing. The drained fluids should be carefully discarded (avoiding splashing) down a hopper or sink.

Next, there should be a pre-clean-

ing process consisting of thorough manual ("elbow grease") cleaning of contaminated equipment using soap or detergent in water. The actual cleaning can be carried out either in a machine washer or in large sinks, if feasible. The cleaning process itself must not permit fluids to seep into areas not accessible to further cleaning.

It is easier to assure consistent standards when there is a single central services department (or a system with another name that has the same mission) that will clean, decontaminate, disinfect, and sterilize (if necessary); there should be no other group or system providing these same services. After thorough cleaning, critical devices should be sterilized with steam or ethylene oxide.

If your question has to do instead with the fears that technical personnel may have of handling contaminated equipment, perhaps the time is right to reinforce personal hygienic practices. They may also need to be shown how easily most organisms die once removed from a wet, warm, or dark environment.

George F. Mallison, PE, MPH
Consultant
Glen Rock, New Jersey

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