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Risk Management: Compatibility Issues

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An emergency is not the time to discover that your equipment is incompatible with your EMS. Avoiding that fate can save a lot, including a life.

by Gerald M. Dworkin
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I've always advocated the need for aquatics facilities to collaborate and coordinate lifeguard and water rescue training and emergency operations with community fire, rescue, emergency medical services (EMS) and law enforcement agencies. This includes combined emergency response drills. Such training gives lifeguards a better understanding of what's expected of them before and after the arrival of responding professional rescue services personnel and equipment. It also allows public safety and rescue agencies to evaluate the operations and capabilities of lifeguards, as well as their EMS and rescue equipment. And it lets first responders assess the facility's rescue and safety equipment. This ensures that it's compatible within the communitywide EMS system, and that the equipment also is state-of-the-art and appropriate for its intended use.

Case in point: A national distributor was marketing a brand of bag-valve-mask (BVM) resuscitators that was promoted and sold as a one-size-fits all device intended for use on adult, child and infant patients. During my travels, I've seen this device at a number of aquatics facilities. It would not be accepted or used by any EMS agency within the United States, yet it's being marketed and sold to numerous aquatics facilities.

The CPR protocols established by the American Heart Association and the American Red Cross recognize three classifications of patients — adult, child, and infant. The rescue protocols for these patients are unique, as should the rescue equipment used for these patients while providing positive pressure ventilation via the

use of a bag-valve-mask resuscitator.

I've also seen backboards at numerous aquatics facilities with so much flex in them that to immobilize patients on them would aggravate or compromise a suspected spinal injured patient. In the same way, I've seen backboards that are so tall and wide, they would not fit into a ground or air ambulance.

During an actual emergency, this problem would require EMS personnel to remove the patient from the facility's backboard and transfer him or her onto one of their own backboards, prior to transport. In attempting to do so, the risk of secondary cord injury is increased, thereby jeopardizing the patient's condition.

Backboards should be constructed of plastic and a maximum of 18 inches wide and 72 inches tall. Wooden backboards cannot be adequately disinfected and should not be considered for pre-hospital EMS use.

Other equipment that should be considered for proper spinal injury management are cervical extrication collars. Cervical immobilization devices (head immobilizers) are only designed to minimize lateral and anterior movement of the head and/or neck. A cervical collar is designed to minimize flexion and extension of the neck. For proper immobilization, the combination of a CID and cervical extrication collar must be used.

The American Red Cross eliminated the use of cervical extrication collars from its training some time ago. With so many extrication collars on the market, ARC didn't believe it could adequately instruct guards in the various brands, according to an administrative blue letter issued by the organization.

But, in reality, regardless of the extrication collar brand, only two types are used in pre-hospital EMS care — a one-piece or two-piece rigid collar. And approximately 98 percent of pre-hospital EMS services within the United States use one-piece rigid cervical extrication collars. Regardless of the brand, all one-piece cervical extrication collars are sized and applied the same way.

EMS systems typically have exchange programs with hospitals. When a patient is transported there with a cervical extrication collar, the hospital provides the EMS with a replacement and charges the patient for the collar. If the aquatics facility used the same collar brand, the responding EMS could easily provide it with a replacement collar prior to transporting the patient.

Similar equipment that can be exchanged would be non-rebreather oxygen masks, bag-valve-mask resuscitators, suction catheters, and even backboards and strap systems. At the very least, cooperative agreements should be established with the EMS agency that when a patient is transported on the aquatics facility's backboard, along with the head immobilizer, and strap system, that equipment could be provided until it can be recovered from the hospital.

Another concern for proper spinal injury management is the use of an effective immobilization strapping system.

We've found an immobilization harness (spider strap) provides the most effective immobilization to prevent anterior, lateral and head-to-toe movement. And the use of these systems allows for rapid immobilization.

There's a concern, however, if the harness has Velcro straps and will be used in water; rescuers must know how to keep them from tangling. They should peel and seal one strap at a time, and be cautioned against bringing the system into water with all the Velcro straps exposed because they tend to bind together.

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