

# THE RESCUE COMPANY

## COLD WATER AND ICE RESCUES

THIS IS THE SEASON for rescues from cold and ice-covered waterways. We have heard of rescue victims who survived after being submerged for up to an hour in icy waters. Last year in Fargo, North Dakota, a young boy completely recovered after being rescued from a lake in which he had been submerged for more than 30 minutes. In 1984, four-year-old Jimmy Tontlewicz spent 25 minutes in Lake Michigan before being rescued by Chicago firefighters. Having been involved in the rescue of five youths (one survived after being submerged for more than 25 minutes) from freezing waters, I can testify that these types of incidents tax rescuers to the extreme.

A number of factors contribute to the success of cold water rescues: the victims' ages, the water temperature, the Mammalian Diving Reflex (see my article "In-Water Firefighting Units" in the October 1985 issue), and the medical treatment victims receive. Most important, however, it is the actions of the

rescuers that determine success.

Granted, there are unsuccessful rescues. Delayed notification of rescuers, lack of equipment, untrained rescuers, or a combination of all three may contribute to tragedies. However, you can take steps to minimize these tragedies. Educate the public about the importance of promptly notifying the fire department not only for fires but for such emergencies as ice rescues. An open house is an ideal place to demonstrate to the public your department's capabilities, equipment, and response duties. Most departments hold open houses during Fire Prevention Week in October. This is the best time to educate the public about cold water and ice rescues—when you are reviewing and preparing for such winter operations yourself.

Most departments have game plans for high-rise fires, taxpayer fires, nursing home fires, and haz-mat incidents based on previous experiences working them. If your department has never been involved in a cold water or ice rescue, you still should be prepared for it. Your planning should include reinforcing training with drill sessions, readying equipment, and formulating a game plan. The computer (under your helmet) must start spitting out the information you learned in training or from previous experience.

What can you expect on your arrival

at the scene? Most operations involve some highly excited civilians and more than one victim. An additional victim may be a would-be rescuer—many courageous but untrained individuals become victims themselves while attempting to rescue others.

First assess and evaluate the situation. Gather information such as the number of victims; whether victims are visible or submerged; and, if submerged, the victims' locations or last-known whereabouts. In the excitement of the moment, you may not be able to obtain accurate information. Put your game plan into action based on what information you have at hand and make necessary adjustments later.

### ELEMENTS OF RESCUE

Some common rescue procedures are Reach, Throw, Tow, and Go; Reach, Throw, Row, and Go; and Reach, Throw, and Go. Whichever technique you use, the actions are similar.

*Reach.* Can you rescue the victim simply by reaching out and pulling him back to safety? Can you rescue him by using an object such as a tree branch, pole, stick, rope, ladder, flotation device, or piece of clothing to pull him to safety? You can be very ingenious and improvise at such incidents.

Rescue teams carry such equipment as rescue ropes, buoy rings with ropes attached, rescue tubes, throw rope bags,

■ RAY DOWNEY has been a member of the City of New York Fire Department for 27 years and has commanded the operations of Rescue Co. 2 for the past nine. Captain Downey holds an associate's degree in fire science. He's a New York state certified instructor and has conducted seminars and lectures throughout the United States on rescue-related tactics.

and lifeline guns. Lifeline guns shoot a line to the vicinity of the victim, but the victim may not be able to get to and hold on to the rope, line, or rescue device. Victims may be physically injured from the accident or unresponsive due to the effects of the cold water. The psychological reassurances that normally calm victims may be ineffective during these operations. During the Air Florida plane crash into the Potomac River in Washington, D.C., survivors were unable to hold on to rescue lines lowered from helicopters for this reason.

**Tow.** If the victim is able to hold on to an object, rescuers on the shore can tow him back to shore. Try and get as close as possible to the victim you are towing to finish the task quickly without causing additional injuries.

**Row or go.** If you can't reach victims by throw lines or ropes, you must make your way out to them by rowing or going in inflatable boats and rafts, aluminum boats, or rescue sleds. You can push such vehicles easily across ice surfaces. Attach a line to the boat, sled, or raft so other rescuers can pull it back to shore.

Two rescuers usually are required to remove the victim and place him in the rescue vessel. These rescuers should be outfitted with specialized exposure or survival suits. Such suits protect them from the extreme cold water and are designed to keep them buoyant. They can be easily donned over work clothes. These suits also have attachments for safety lines. All rescuers and victims must be secured with safety lines. The lines are not only for safety but can be used for towing victims or rescuers when necessary. During night operations a safety line serves as a guideline to the rescuer should he become disabled or entangled.

Your priority must be to get the victim out of the water and to the shore as quickly as possible. Medical personnel should be summoned and standing by to render the proper treatment. Special rewarming techniques are required for treatment of hypothermia. Hypothermia, the lowering in body core temperature, is usually associated with cold water incidents (see "Hypo-

thermia and the Scuba Diver" in the March 1987 issue of *Fire Engineering*).

If the victim is submerged, only qualified divers trained in ice diving and rescue procedures should attempt a rescue. They must use dry suits with insulated underwear for protection against the cold water. Divers should always be tethered and a backup diver suited up and standing by. Using improperly equipped or unqualified rescuers will only compound the problems of these difficult operations. Safety begins with the rescuers.

Equipment for these incidents can mean the newest on the market if your department budget allows it or the innovative use of commonly found materials. A few years ago, members of a Massachusetts fire department had difficulty reaching a victim by ice sled during a rescue attempt. The rescue was a success, but rescuers were not satisfied with how long it took. The problem centered around the runners on the sled, which kept sinking into the "salt ice." With a little firefighter ingenuity, they solved the problem. Using a surf-

board and wearing a survival suit, firefighters used two ice picks with strapped handles to test and cross the ice surface. The department has since refined the method and includes a number of these fiberglass surfboards in its rescue equipment inventory.

Your department's inventory should reflect your response district and duties. Departments with numerous lakes, ponds, bays, inlets, or oceanfronts require a greater amount of specialized gear and equipment.

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With an increase in the popularity of such winter sports as skating, snowmobiling, and ice boating, we can expect an increase in cold water and ice rescues. Being prepared means having the equipment ready and in top operating condition.

Medical technology often can save victims who have spent up to an hour submerged in freezing water. However, it is through the efforts of skilled rescue teams that such victims even make it to the hospital. ■

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