

THE RESCUE COMPANY

IMPALEMENT

HOW OFTEN IN THE rescue field have you heard "That sure was an odd job"? The unexpected has become the expected. When we respond to serious vehicular or industrial accidents, we usually don't envision some of the "odd jobs" that seem to be on the increase. A number of years back, my unit responded to a particular "odd job" five times in one year. All five involved impaled victims. The frequency of this unusual type of incident has not been repeated since that time.

What I remember most about these incidents are the valuable lessons that we learned and were able to utilize at any type of rescue operation. These operations also help prove the value of training, critiquing, and then adjusting and improving operations as necessary, based on the lessons learned.

The unusually high frequency of similar "odd jobs" over a short period of time will impress many of the lessons learned upon your mental computer for a long time after. Ironically, of the five impalement incidents of that year, the first and the fifth involved the same picket fence, and both operations were

almost identical, with one exception: in the fifth incident we had the advantage of putting to work all the lessons learned from the previous four.

The first incident involved a young man in his twenties who had either fallen or jumped from the upper floors of a seven-story building and impaled himself on a one-inch-square steel picket fence that was six feet high and surrounded the property. The victim had pickets in his back, leg, and arm. He was still alive. Units had to concern themselves with providing support for this victim so that the weight of his body would not exacerbate his condition.

Rescuers first used a full backboard and placed it under the victim, supporting it with six-foot hooks fixed horizontally under the board and held by members. In this way, some of the pressure was relieved from the victim. Paramedics arrived early in the operation and immediately initiated victim stabilization as rescuers busily went about the process of removing the victim.

Cooperation between medical personnel and rescuers is a must. Understanding the duties and responsibilities of the other agencies will be of great assistance during these type operations. Rescue company personnel placed a portable backpack cutting torch into operation. Covering the victim with fireproof blankets, cuts were made both horizontally and vertically to separate the section with the victim from the main body of the fence. A handline was stretched and charged and was standing

by in the event that any sparks caused minor fires. It was necessary to provide additional manpower for support since each cut shifted body weight from the fence to the rescuers. The cut sections helped to relieve pressure on the victim. The section cut was small enough so as not to increase weight too drastically, but not so close as to endanger the victim.

An ambulance was waiting, and its team made special accommodations both for the victim's condition and for his very large size. Design features of ambulances don't normally account for oversized passengers. Rescuers were strategically positioned inside the ambulance to assist in this most delicate transportation. Rescue company members preceded the ambulance to the hospital and notified hospital personnel of what to expect—these incidents don't fall in the category of daily emergency room visits. With a closely coordinated team effort, the victim was successfully moved to the hospital.

The second impalement incident of that year involved a six-year-old boy who was attempting to climb a picket fence surrounding a high school. He lost his balance and impaled himself in the temple area of the head. The incident occurred near the quarters of a fire company, and by the time the rescue company arrived, members were already supporting the victim and attempting to prevent any further injury. Two members were able to straddle the fence, themselves held up by portable ladders and other firefighters, and pro-

■ RAY DOWNEY has been a member of the Fire Department of New York City for 26 years and has commanded the operations of Rescue Co. 2 for the past 8. 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.

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vide the necessary victim support.

Rescuers, using a cutting torch with great care, skillfully cut a section of fence from the main body of fencing. As the boy was removed from the fence and placed into the ambulance, the spike worked itself loose and came out of the temple area. This was considered to be attributed to the boy's restfulness while awaiting help and the relaxation

of all the muscles after being successfully removed from the fence.

The third such incident involved another pre-teen youth who accidentally fell on a picket fence while roller skating. The young lady landed on a one-half-inch spike from the top section of the fence that penetrated her chin, and she instinctively flexed her head back, thrusting the spike into her mouth.

The first-arriving unit members found the young lady in this position and were awed by her composure. This was evident throughout the operation. The unit

had requested the service of a rescue company and went about providing, support, comfort, and the psychological reassurance needed during these kinds of operations.

After assessing the situation and providing additional reassurance, a portable cutting torch was placed into operation. Surgeon-like cuts were made, and the fence and young lady were carefully removed via ambulance to a special trauma team that was awaiting her arrival at the hospital. Because of the position of the fence, the young lady required special transporting. Padding was placed between her body and the fence, and she was transported face down. Transporting her in this manner would preclude the possibility of her choking on her own blood. Again, a closely coordinated team effort was necessary.

Just two weeks later, a fourteen-year-old fell from her second-story window and was impaled on a picket fence that was used to prevent anyone from falling into the cellar entrance and stairs. Fire department units first at the scene found two family members supporting the victim on this four-foot-high fence. The smaller height of the fence made support of the victim much easier than the prior impalement operations. Much of the cutting of the fence was done prior to the arrival of the rescue company, and only a few spikes remained to be cut to separate completely the young lady and the cut section of the fence from the main fence.

Experience had shown that teamwork would be the key at this point of the operation. The hospital was only a few blocks away and members prepared for transporting the victim with the same amount of care that had been used in all previous incidents. The lessons learned and previous experiences were of great assistance to both rescuers and hospital personnel.

Deja vu, just one year after that first impalement incident, someone fell off the same building and onto the same picket fence—a nineteen-year-old woman who plunged three floors and was impaled in the leg, buttocks, and abdominal area. As fate would have it, the rescue company was taking up from

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another incident and was just three blocks from the scene.

As in the four impalement cases before, additional manpower was critical in supporting the victim. She was positioned in an almost full-length position, as if stretched out. Noting the need for a larger section to be cut, two cutting torches were placed into operation. Two members who had worked at the

previous incident were working this tour, and their experience was of great assistance.

Because of the size of fence that had to be cut, transporting the victim created some additional problems. After clearing the ambulance, the victim, fence, and much-needed manpower (to support fence) just barely fit into the ambulance. Members went ahead to the hospital to make sure that clearance was sufficient to get through the entrance doors and elevators. Making certain that the operation would not be interrupted

by some unforeseen obstacle was part of the game plan that had been updated by using the lessons learned from previous incidents.

Let's look at some of these lessons that helped make the rescues successful:

Our company policy of reviewing and discussing our special-operations report each tour plays an important role in passing on the lessons learned to all company members. The officer in charge of the incident fills out this in-house report, listing the equipment used and particulars of the incident, and gives special attention to the lessons learned. At the beginning of each tour, these reports are reviewed by all, and if any member who worked the incident is on duty, he adds his personal experience to the group discussion.

After the first incident, the section of fence involved in the incident was obtained from the hospital (with approval of all parties involved). Cutting and testing of the various fences helped in developing and upgrading our SOP for these types of operations. Training sessions in quarters were devoted to testing by members using the fence and making comparisons with other power tools as to speed of cuts, ease, handling, noise levels, and effectiveness. The cutting torch was used in all of the incidents for a number of reasons:

- It allowed for better control and maneuverability than did a power saw or sawsall.

- It cut faster than either of those other two tools.

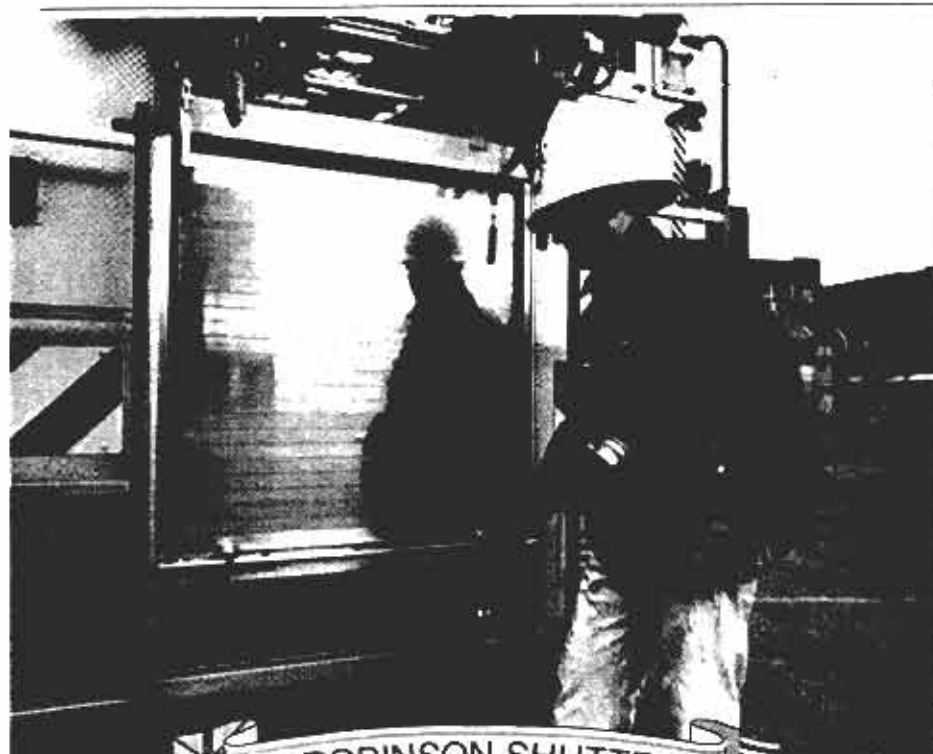
- Vibration was eliminated, and the noise level was greatly reduced as compared to the power saw. Noise can be a very important psychological factor for a victim. The victims in all five incidents were conscious, aware of what was going on around them, and could hear rescuers discussing various aspects of the rescue operation.

- Test results showed that heat conduction was not a problem based on the speed of the cutting and density of the material.

When using torches:

- ✓ Be sure all potential hazards are removed from the immediate area.

- ✓ Provide protective fireproof blan-



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kets for victims. Turnout coats can be substituted (but don't use the ones protecting the members who are doing the cutting).

✓ Always have a charged handline in readiness. Manpower needed for support of victims must be made aware of all cutting operations and alert to the possibility of sparks.

✓ The ROO (rescue operations officer) must reach into the "computer," mentally print out the checklist, and cover all the bases.

Four of the five victims survived these most traumatic incidents. The expertise of the rescuers and medical personnel at the scene and in the hospital were most instrumental in this. In only one incident did an inexperienced emergency medical worker suggest removing the fence at the scene. Hospital personnel are certainly better equipped than personnel in the field and can deal with the unexpected, such as cardiac arrest, more efficiently.

Having members precede the ambulance to the hospital provides the medical staff with information regarding the patient's condition, type of fencing, and areas of penetration and impalement. It also allows rescuers to clear the entrance area, hallways, and emergency rooms and to check for the necessary clearances for oversized patients.

Although emergency room personnel see numerous accident victims day-in and day-out, the sight of an impaled victim can be upsetting, (to say the least). In two incidents, volunteer workers openly expressed shock at the sight of the accident victims. This was not too reassuring to the victims. Ask the hospital personnel in charge to clear all workers except those actually needed. Be prepared to scrub down, if necessary. Rescuers stood by in operating room gowns in the event that any special tools or equipment were needed to assist in the removal of the fence.

Combine all those lessons learned, upgrade your operational plan, and develop an SOP that will make these operations less of an "odd job." ■