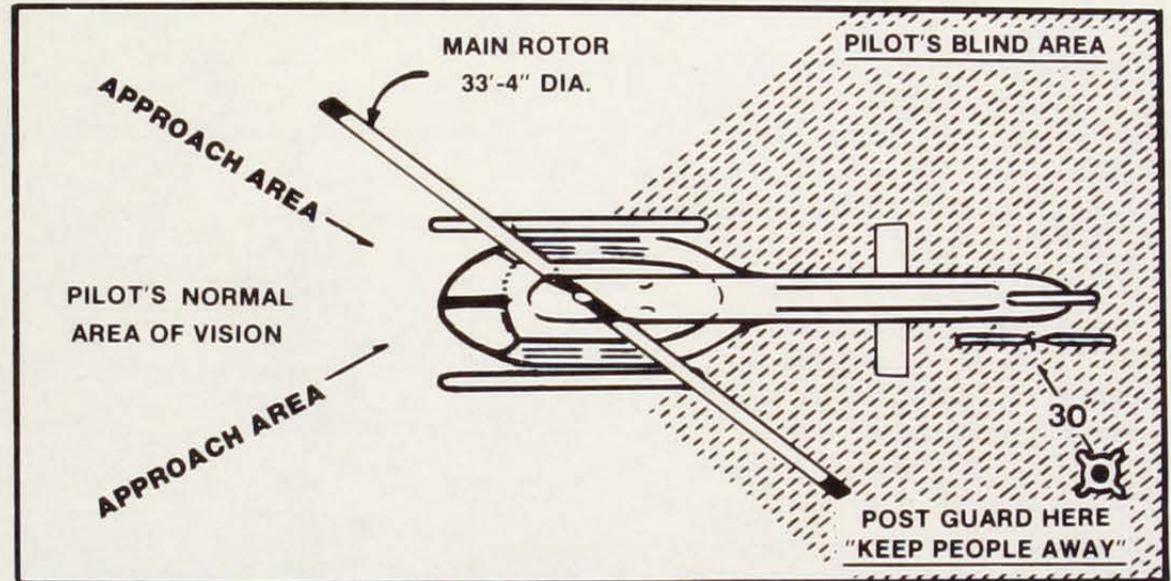
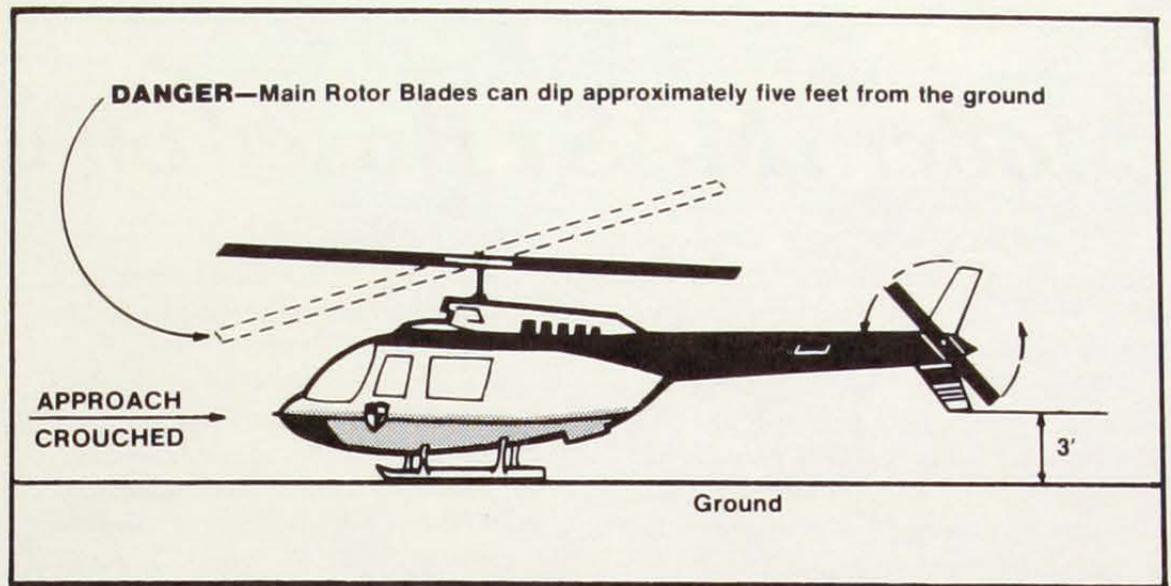




# Maryland EMS NEWS

Vol. 11 No. 2 AUGUST 1984



## Helicopter Landing, Loading Procedures

*Editor's Note: The following article on helicopter landing site selection and patient loading procedures is the first in a series of articles designed to continue the promotion of safety around helicopters at Med-Evac scenes throughout the state.*

Ground personnel at the scene of an accident (ambulance, fire, or police) must mutually select the appropriate helicopter landing site.

The ideal site is a 100-foot x 100-foot (minimum) square of level, unobstructed ground, such as a playground, ball field, church or shopping center parking lot, or farm field close to the scene. If poles, signs, culverts, fences, or power lines partially obstruct the landing site, their locations must be radioed to the helicopter crew before the landing attempt.

If such first-choice sites are not available, the highway itself becomes the second choice — providing it is clear of wires and traffic or it is not too congested.

Third choice for a landing site is clear, level ground one-quarter to one-half of a mile from the scene. An ambulance can transport the patient from the scene to the landing site as long as such transport does

not compromise the patient.

During evening or night-time hours, the selected landing site can be marked by four flares, one at each corner. No additional flares or personnel waving flares are required.

Since it is the pilot's responsibility to land the helicopter safely, he usually flies a reconnaissance pass over the area, followed by a second, lower-altitude pass, to assess the site's acceptability. If he judges it inadequate in relation to wind, expected load, take-off run, or other pilot-determined factors, he selects an alternate site and so notifies the ground personnel via radio communications.

Once the landing site selection is complete, the area within its parameters should be cleared of all personnel and spectators.

After the helicopter lands, ground personnel should not rush the patient to its doors. The medic/observer exits the helicopter and then opens the Med-Evac doors. *ONLY* the M.S.P. medic opens and closes these doors. (The pilot remains at the controls of the running helicopter at all times.)

The medic then proceeds to the ambulance to obtain patient history, assessment data, etc., from the crew. If the medic and ambulance personnel agree that the patient should be flown to a trauma center, the medic prepares the helicopter litter for transport.

Litter transport of the patient requires assistance. The medic *ALWAYS* carries the litter at the head position; the local medic or firefighter/policeman carries at the foot position. A heavier-than-normal patient may need extra carriers at the center or side positions. All patients must be loaded feet first, with the feet toward the front (or forward) part of the cabin. (It should also be noted that the chopper can accommodate patients on wooden backboards and patients with Hare traction splints.) After the medic/observer has loaded the litter and locked it in place, he instructs everyone to move away from the landing zone and he closes the helicopter doors.

If the patient has respiratory or cardiac failure/distress, he needs continuous care from transport to take off. The medic/

*(Continued on page 5)*

# Modern MAST Based on Old Principle

These days, emergency personnel refer to them as medical antishock trousers. Some may have heard them called military antishock trousers.

Originally, they were called Kaplan antishock trousers, after Burton H. Kaplan, MD, who designed and tested the prototype of the trousers that are now standard equipment on most ambulances in this country.

Dr. Kaplan, who joined the staff of the MIEMSS Shock Trauma Center in July 1983 as director of graduate medical education, says his military experience in Vietnam and his training in aerospace medicine and biomedical engineering led him to develop medical antishock trousers (MAST).

The MAST garments designed by Dr. Kaplan were field tested for the first time in 1973. However, he says the earliest forerunner of MAST garments, the pneumatic rubber suit, was developed in 1900.

Furthermore, the physiological principle that explains why MAST garments are effective in treating hypovolemic shock apparently was discovered thousands of years ago. The evidence for this assertion is that Roman soldiers and Japanese warriors tightly bound their extremities and abdominal areas with various materials before going into battle.

George W. Crile, who designed the pneumatic rubber suit, may have witnessed the beneficial effects of binding the abdomen and extremities while serving as a surgeon in the Philippines during the Spanish-American War.

The Philippine tribesmen, who also used bindings, could not be stopped by the Springfield rifles and 38-caliber pistols used by the American soldiers. They were able to keep charging the American troops while sustaining multiple bullet wounds.

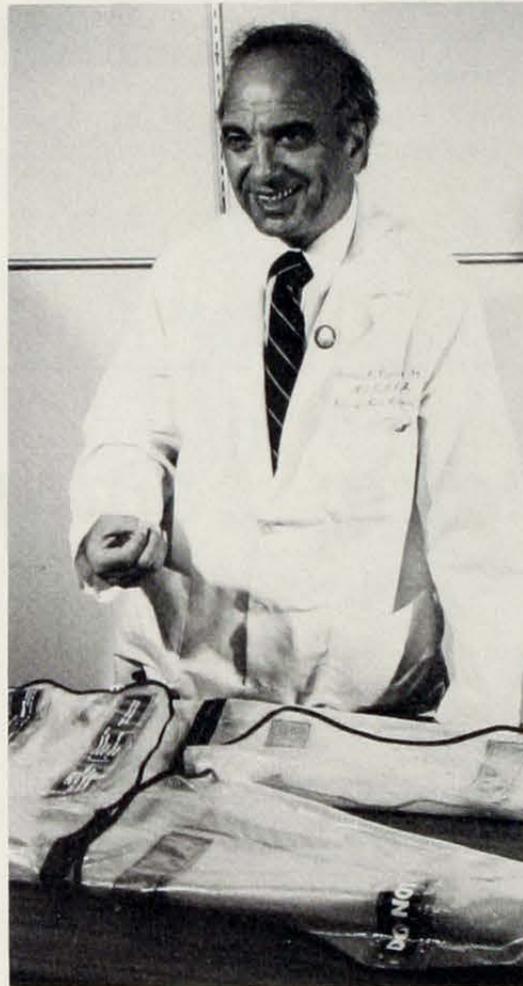
Although the tribesmen were critically injured in battle, they did not immediately succumb to shock because the bindings they wore stopped bleeding in the lower halves of their bodies and sustained their central blood supplies to the heart, lungs, and brain, according to Dr. Kaplan.

As every prehospital care provider knows, these are the same reasons that MAST garments are effective in treating patients who are in shock. These effects are brought about by tamponading occult bleeding and by increasing lower body peripheral resistance through the application of external pressure to the body, explains Dr. Kaplan.

After the Spanish-American War, Dr. Crile, wanting to improve the treatment of shock, drew on his experience to design the pneumatic rubber suit.

The suit consisted of several double-layered rubber bags that were laced together to conform to the abdomen and extremities. Dr. Crile used a bicycle pump to inflate the suit. It was possible to inflate the extremity and abdominal portions separately or simultaneously. Deflation was controlled with air valves.

Dr. Crile eventually stopped using the pneumatic rubber suit because it proved to be cumbersome and inefficient to use.



*Dr. Burton Kaplan designed and tested the prototype of the MAST garments.*

However, World War II prompted a renewed interest in external counter-pressure devices. Military pilots frequently blacked out because of the high acceleration (G) forces exerted on them during pullouts from dives and turning maneuvers.

To solve this problem, Dr. Crile, who by that time was a consultant to the U. S. Navy, worked with Commander J. R. Poppen in developing the first "G" suit. The suit counteracted increases in the force of gravity by elevating peripheral re-

sistance in the lower body and increasing venous return.

Following World War II, the "G" suit, with some modifications, was used in medicine to treat postural hypotension, and to control hypotension during neurosurgery and intra-abdominal hemorrhage. Its applications were restricted to the hospital.

The Vietnam War provided the first opportunity to use the modified "G" suit in emergency facilities. Use of the suit increased the percentages of soldiers who survived the 15- to 30-minute trip to a mobile operating room and who survived resuscitative surgery.

However, military and civilian medical personnel complained that the suit was too complicated to use in an emergency room, much less in prehospital care, because it had to be inflated with compressed air, and it required too much lacing and monitoring.

That is where Dr. Kaplan stepped into the picture. Having served in the U.S. Army in Vietnam, Dr. Kaplan experienced the problems with using the "G" suit. After returning to the states in 1965, he set out to design a simple device for stabilizing shock victims prior to transport to the hospital. He was eminently qualified for the task.

He first became familiar with the "G" suit when he became an Army flight surgeon, following graduation from the University of Zurich in Switzerland in 1962. After his tour in Vietnam, Dr. Kaplan became a resident in aerospace medicine at the Naval School of Aerospace Medicine in Florida, where he experimented with ways of stimulating circulation in the legs.

This outcome was the opposite of the one desired in treating shock. But in working on this project, Dr. Kaplan learned the dynamics involved in shifting blood quickly from one part of the body to another.

Later, at the Army Aeromedical Research Laboratory at Fort Rucker in Alabama, he applied what he had learned to increasing the central, rather than the peripheral blood supply. In addition, he obtained a master's degree in biomedical engineering from Drexel University in Pennsylvania.

The prototype MAST garments that Dr. Kaplan designed were made of a one-piece, double-layered, inflatable fabric that conformed to the lower half of the body and could be secured with Velcro instead of laces.

*(Continued on page 3)*

# Statewide 911 System Set for 1985

Maryland has moved several steps closer to having the first statewide 911 system in the country with the implementation of systems in Carroll and Washington counties.

Washington county's 911 system became completely operational on August 10. The new system offers immediate phone number identification; a call-hold feature that keeps the caller on the

line and dials back if the call is lost; and one-button transfer that switches the call to the appropriate agency, then frees the 911 line. This prototype system was developed and installed by Motorola and will be serviced by them for five years. It is only the second of its kind in the country.

Washington county's new system began its phase-in operation last month, but wasn't publicized until August, when

a public education program began. A task force composed of representatives from the fire and rescue association, city and state police, sheriffs' department, and communications office worked on developing the county's new system and its publicity campaign.

The county, which previously had no 911 system, has added five people to its communications staff to man the new service — all basic fire personnel or EMTs.

In January, Carroll county became the second county in Maryland with an enhanced 911 system. Baltimore county was first when its enhanced system became operational last year.

The enhanced system gives 911 dispatchers immediate access to the address and phone number of the caller, provides a redial if the call is lost, and permanently records pertinent information. The computerized system also picks out the closest appropriate agency allowing the dispatcher to know exactly who to contact. In its first five months of operation, as many as 100 calls have been logged each day with no major problems, according to Shift Supervisor Michael Clapsaddle.

Carroll county dispatchers work six eight-hour shifts with two days off, with three dispatchers on duty per shift. All of the dispatchers belong to a fire department and attend a special dispatcher training program.

The 911 system is located in a disaster-proof, earth-covered bunker in Westminster. The 5,000-square-foot structure was designed to withstand radiation from nuclear attack and to operate on generators and radio equipment in electrical outage.

The unit complies with all emergency management guidelines and is totally self contained, according to C. Oscar Baker, Carroll county's fire administrator. "The structure has its own water supply and radiation filters to assure safe air handling, and can accommodate 24 people for up to 14 days in case of a nuclear emergency," he says.

According to Marilyn Farnon, secretary to the emergency numbers systems board, 17 counties currently have operational 911 systems. The remaining counties (Harford, Somerset, Anne Arundel, Talbot, Worcester, and Wicomico) and Baltimore city are expected to become operational within one year.

— Rochelle Cohen

## MAST Designed by Kaplan

(Continued from page 2)

A simple foot air pump was used to inflate the single-compartment trousers through inlet valves located at the bottom half of the trousers. For safety, the trousers had a pressure-sensitive valve that would pop off if the pressure inside the trousers exceeded 104 mmHg.

The prototype trousers were field tested in Miami, FL in 1973. At that time, the emergency medical system was under the direction of Gene Nagel, MD, one of the nation's foremost innovators in the field of prehospital emergency care. Both he and Joseph Civetti, director of traumatology at Jackson Memorial Hospital Medical Center in Miami, assisted in the pilot study.

The first patient on whom the trousers were used was a construction worker, Dr. Kaplan remembers. "A block of concrete weighing about 1,000 pounds fell on him and crushed his legs. When we got to the scene, he was unconscious and had no pulse. But soon after we put on the trousers, the man woke up and his pulse returned," Dr. Kaplan says. In this case, the garment not only checked the bleeding and redistributed the blood supply, it also stabilized the patient's broken leg bones.

"The second patient we had was a woman who had lost a lot of blood because of a spontaneous abortion," Dr. Kaplan continues. Her blood pressure and pulse were low. She also was uncooperative with our efforts to help her, but we finally managed to get the trousers on her. After the trousers were inflated, she calmed down and her pulse and blood pressure returned to normal."

An award-winning poster presentation on the first 21 cases in which MAST garments were used was exhibited by Dr. Kaplan at the American Medical Association's annual meeting in 1973. It showed that use of the trousers significantly reduced mortality in patients with severe and life-threatening injuries.

Subsequently, Dr. Kaplan obtained an agreement from the David Clark Company to manufacture the trousers. In 1975, both adult- and child-sized MAST garments became available commercially.

"That is when the name changed from military to medical antishock trousers," says Dr. Kaplan. "Originally, it was suggested that the trousers be named after me, but I did not feel that was appropriate because I was in the military at the time I developed them," he adds.

Several improvements have been made on MAST garments since they first came on the market. For example, the number of chambers in the trousers has been increased from one to three to permit more gradual deflation.

Last year, a transparent model came out, permitting physicians at the hospital to see any open wounds the patient may have in the abdomen or legs, provided the person's clothes have been removed. These trousers also have zippers in the pelvic region to give physicians access to the lower vascular system if they need it.

And later this year, production will begin on MAST garments that are designed for use on toddlers, ages two to four.

A major educational effort, on Dr. Kaplan's part, has been necessary to make sure that physicians, as well as prehospital care providers, know how to use MAST garments properly. Dr. Kaplan says there have been cases in which the garments were inflated incorrectly or were deflated too rapidly. Some physicians even have tried cutting them off on admission.

However, as Dr. Kaplan travels around the county to speak on the safe use of MAST garments, he asks the EMTs he sees what they believe is their most valuable piece of equipment. The most frequent answer he gets to his private poll is MAST garments.

"That's very gratifying," he says.

— Dick Grauel

# Colella Aims to Improve Prehospital Care

Strengthening prehospital care is the major current goal of Joseph J. Colella, Jr., MD, medical director of Maryland EMS Region V and director of the Department of Critical Care Medicine at Prince Georges General Hospital and Medical Center in Cheverly.

Specifically, Dr. Colella is working to improve the advanced life support (ALS) program in Prince Georges County and to initiate the U. S. Department of Transportation (DOT) paramedic program in Region V.

Presently, only 40 percent of Prince Georges County is covered by ALS units, and the average response time of those ALS units is 15 minutes, says Dr. Colella.

Studies have shown that, when the response time is that long or longer, the survival rate of patients needing CPR is less than 10 percent. The same studies show that the survival rate jumps to 70 percent when the response time is seven minutes or less and a bystander initiates CPR immediately.

Therefore, Dr. Colella advocates increasing the number of available ALS units from 4 to 12. With 12 ALS units, he says Prince Georges County would have full ALS coverage and he estimates the average response time for these units would be about seven minutes.

After extensive discussion, the Prince Georges County Council included funding for the first year of this ALS expansion in its fiscal 1985 budget. These funds will come from existing revenues rather than from an ambulance transport fee, which had been proposed.

To reach the desired 70 percent survival rate, it also would be necessary to train about 310,000 people in CPR to achieve an effective first responder capability in Prince Georges County. Presently, only about 40,000 people in the county have received CPR training.

Dr. Colella also would like to standardize the ALS protocols used in Region V. The protocols vary from county to county because they were adopted independently and at different times, explains Dr. Colella. However, he expects to delay the standardization process until the ALS protocols for the state have been finalized and the DOT paramedic program has been implemented in the region.

Four of the counties in Region V are conducting DOT paramedic training programs. A paramedic program was started in Montgomery County three years ago. Twenty-four of the CRTs enrolled in that

program will be ready to take the National Registry Certification Examination this summer. A combined program was started in Charles and St. Marys counties two years ago. About 14 of the CRTs going through that program will be ready to take the National Registry Examination by the end of the year. Prince Georges County followed suit a year ago, with an enrollment of about 25.

"Barring any unforeseen delays, Prince Georges and Montgomery counties will have their first fully trained paramedics by winter," says Dr. Colella.

In terms of the skills taught, the main difference between CRT and paramedic training is that the latter will include endotracheal intubation. Endotracheal tubes are used on patients in cardiopulmonary arrest to help them breathe.



Dr. Colella, in his position as chairman of the ad hoc committee on paramedic intubation training for the MD/DC Society of Anesthesiologists, is working with John K. Stene, MD, PhD, chief of anesthesiology for MIEMSS, to develop an endotracheal intubation program to be incorporated in the Region V paramedic program.

They have started a pilot project, using graduates of the DOT paramedic program from Anne Arundel County, to find out the kind and amount of training that students need to gain proficiency in the skill.

The pilot training program will consist of a lecture on the topic by an anesthesiologist, a demonstration of the procedure on a mannequin, practice performing the procedure on mannequins, intubation of anesthetized patients in the operating room, and intubation of fresh cadavers in the emergency room or morgue.

Drs. Colella and Stene will evaluate which combination of teaching methods is most effective in helping students learn how to intubate a patient to a satisfactory level of competency. In addition, they will monitor the students in the field to find out if their training translates into effective performance.

On the issue of cooperation with the neighboring trauma centers in Washington, DC, Dr. Colella says, "We feel that we have a close relationship [with those centers]."

"On the other hand, we feel that, for safety reasons and to avoid confusion at the scene of an accident, patients should be transported to designated trauma centers according to MIEMSS protocols. The designated trauma centers in Prince Georges and Montgomery counties provide the highest quality care that is immediately available.

"Therefore, it would be a violation of the trust that our citizens have placed in us to transport patients across state lines to higher costing and more distant trauma centers, unless they need a specific kind of care that is available only at one of those centers."

—Dick Grauel

## Nurses to Tour Egypt

Trauma nurses from this country will be able to share their knowledge with their counterparts in Egypt, while enjoying a 10-day cruise down the Nile. This educational travel program, starting October 19, will be sponsored by the MIEMSS Field Nursing Program.

This international workshop on emergency and critical care nursing will give American trauma nurses an opportunity to visit the leading health centers and hospitals in Egypt, as well as many of the historical attractions along the Nile.

The professional meetings, which will be held in Cairo, Kom Ombo, the Aswan, will cover the following topics: nursing diagnosis in critical care, targeted assessment of the trauma patient, developing a patient classification system, families in crisis, and laugh therapy for stress management. The Eastern Regional Accreditation Committee of the American Nurses Association has granted 25 contact hours for attending the workshop.

For more information on the workshop and trip, please call the International Professional Meeting Coordinators, Ltd. at 800-221-2216 and ask for the MIEMSS desk.

# Didactic CRT Instruction Videotaped

In January 1981, an idea was conceived by Capt. John R. Johnson and Lt. Kenneth L. Young, both with the Baltimore City Fire Department Medical Bureau, to convert the continuing education for CRTs from classroom seminars to an in-service program.

In past years, CRTs were required to attend five classes, conducted at the Fire Academy, on their time off. In exchange, they were given an extra vacation day per class, resulting in the granting of approximately 480 additional vacation days per year.

To solve this problem, a proposal for in-service continuing education was submitted to Peter J. O'Connor, chief of the Baltimore City Fire Department, in September 1981 and was approved for implementation.

To structure this program, many hours of meetings with representatives of various city and state agencies were attended by Capt. Johnson and Lt. Young. Lt. Young devoted many hours of his

## Helicopter Procedures

(Continued from page 1)

observer designates a local medic to help him inside the aircraft rear compartment to take over CPR and breathing while the medic/observer closes the Med-Evac doors. Once he finishes loading the patient, locking the litter in position, and closing the doors, he instructs all other personnel to leave the landing area. He then relieves the local medic in performing one-man CPR inside the helicopter, and instructs him to exit the helicopter and depart the area to the front of the aircraft so the pilot can verify his leaving. The pilot then starts his take-off.

—Major Gary Moore  
Commander, Aviation Division  
Maryland State Police

## EMS Week Slated

Mark your calendars! EMS Week will be celebrated statewide from September 16 to 22. Each region is planning its own activities. The American College of Emergency Physicians (ACEP) declared the same week as Emergency Medicine Week, so Maryland EMS providers will be joining many emergency providers nationwide in their efforts to promote recognition of emergency medical services.

Contact your regional administrators for further details.

time, both on and off duty, researching materials and developing study guides and quizzes. The continuing education program is being carried out in conjunction with the Community College of Baltimore's Liberty and Inner Harbor campuses. CRTs report to the school's learning resource center on either campus and participate in a packaged program learning session, using instructional videotapes.

Lt. Young states that the videotaped instruction allows for the cancellation of classes, when necessary, in emergency situations requiring medic units. When pulled from school, CRTs can simply stop the videotape and continue from that point later, or they can review previous material before continuing. This is the exception rather than the rule, however. Usually, the CRTs are left in school undisturbed. Such flexibility is not possible with classroom instruction, notes Lt. Young.

Now, class sites are always the same and no instructors are required. Once the instructional videotapes have been produced, duplicate copies are always available at both campuses of the college. The instruction is thereby standardized.

During the first year of the program, tapes were produced covering the following topics: mass casualty incidents, electrocardiogram interpretation, hypothermia, human anatomy, and epilepsy. These tapes were produced largely from borrowed material.

During 1984, three videotapes were developed specifically for the CRT continuing education program. These tapes cover the topics of prehospital burn care, hand trauma, and pediatric assessment.

The development of these videotapes was funded with a \$6,000 block grant from the Maryland Department of Health and Mental Hygiene (DHMH). The Baltimore City Fire Department has applied for another DHMH block grant to produce more instructional videotapes for CRT recertification training next year.

The videotapes produced under the DHMH grant can be borrowed or reproduced by other EMS agencies wanting to use them for CRT recertification training. Copies of the tapes may be obtained by contacting Capt. Johnson or Lt. Young at the Baltimore City Fire Department (396-3090) or MIEMSS Biomedical Media Resources (528-3994).

According to Lt. Young, during the two years that videotaped instruction has been used, no CRT has been decertified as a result of not meeting the didactic

education requirement. By the end of May, about 50 percent of the CRTs in Baltimore City had completed didactic training for 1984, which is somewhat ahead of schedule. All results of this new method of delivering instruction have been positive, says Lt. Young.

—Baltimore City Fire Department

## Region V

EMS Week planning has begun in Region V. The highlight of the week (September 16–22) will be a regional skills competition for both BLS (EMT-As) and ALS (CRT) providers. Regional winners will then be eligible to compete at the statewide level next spring. The regional competition will be held at the Montgomery County Public Services Training Academy in Rockville on Sunday, September 23. For further information and applications, contact the Region V EMS Office.

The other major regionwide activity for EMS Week will be a repeat of last year's successful Speakers Bureau Program, where speakers on a variety of EMS-related topics are requested to speak to civic and community organizations throughout the region. As in the past we expect that "How To Utilize the Emergency Medical System" will be the most popular topic, particularly with senior citizens groups.

Other topics for the Speakers Bureau will include: the trauma team, the ambulance service, and the need for citizen education.

At the county level, Montgomery County Fire/Rescue Association will lead into EMS Week with an EMS Skills Competition as part of their convention week activities during the week of September 9–15. Other counties are also considering county-level competitions. Prince Georges County will kick off EMS Week with a bang, with a major, countywide disaster drill. This drill, which will involve 75 patients and 4 county hospitals, will be the first Maryland test of "The Greater Washington Metropolitan Area Police and Fire/Rescue Services Mutual Aid Operational Plan." In St. Marys County EMS Day activities will be held at St. Marys Square in Lexington Park on September 22. Events will include a demonstration of advanced cardiac resuscitation in the field, a blood pressure screening, and EMS exhibits.

—Marie Warner, Ed Lucey  
(301)773-7970

# Paper Mill Has Its Own Rescue Squad

Injured employees of Westvaco Corporation's Luke, Maryland mill who required hospitalization used to be transported to a medical facility by a plant guard trained in basic first aid.

In the early 1970s, the importance of prompt, on-the-scene response by trained medical personnel began to be recognized. At about that time, rescue squads were formed in Allegany County and EMT training classes became available locally. Several Westvaco employees completed this training and became certified as EMTs.

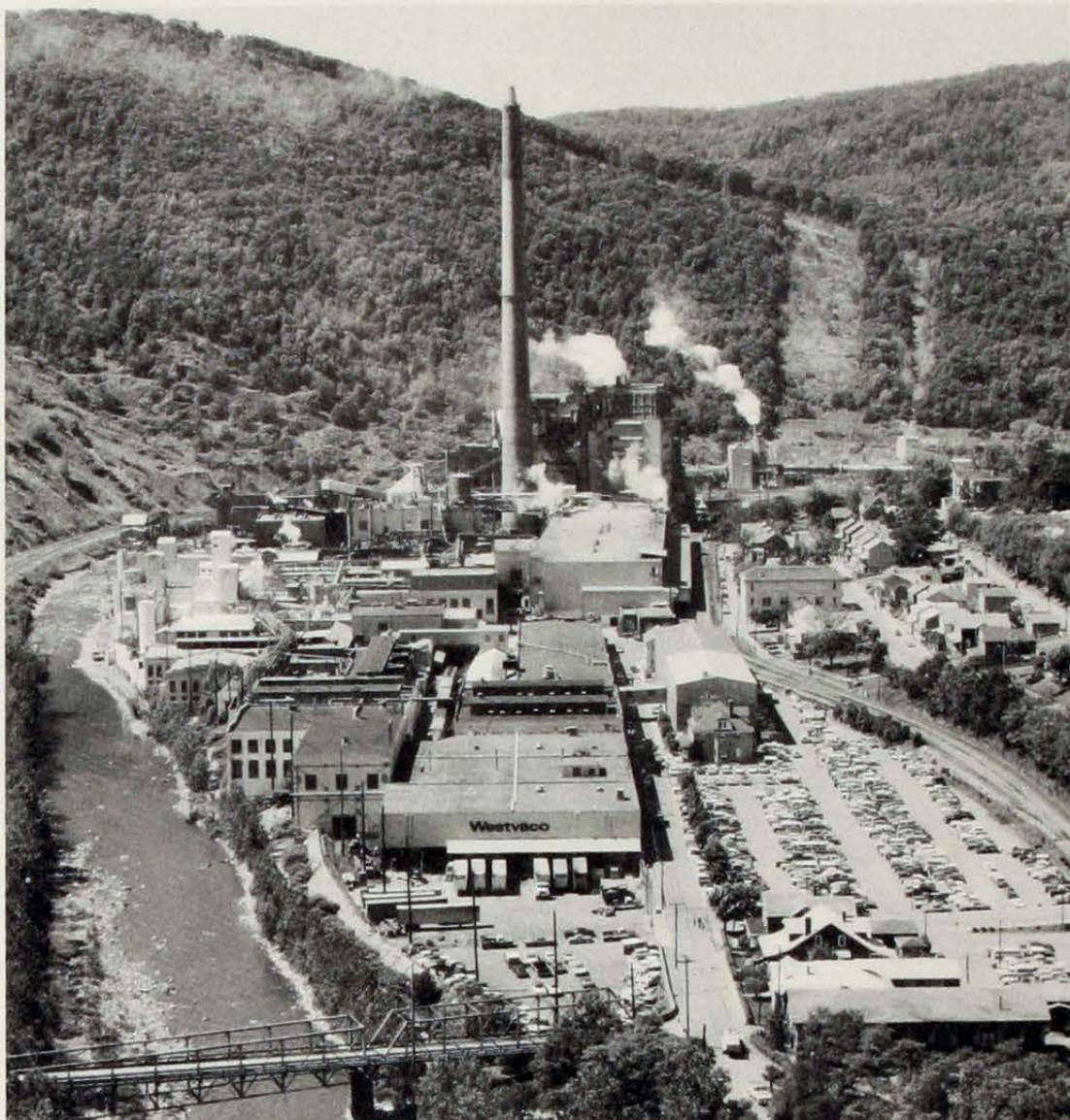
The Westvaco EMTs, fresh from their training, felt that the emergency medical services available to the company's employees could be improved, says Francis Mowbray, Jr., a Westvaco guard who is a CRT. They took their concerns to Walter Riley, then plant safety/property conservation director. Through his cooperation and that of other members of the company's staff, the Westvaco emergency squad was created to expand the emergency services that already existed, he says.

Today, the squad consists of 18 members: Don Bland (president), Pete Pamepinto (vice-president), Sharon Pattison (secretary), Mr. Mowbray (captain), Terry Timbrook (lieutenant), Harold Hoopengardner, Steven Householder, Paul Johnston, George Kelly, Charles Lyons, Robert McIntyre, Wayne Rounds, Diane Shimer, Paul Wilson, James Braithwaite, Richard Braithwaite, Elvin Rotruck, and Larry Cecil. All of these prehospital care providers are active members of the Tri-Towns, Keyser, George's Creek, and Burlington fire companies in Region I.

Four of the 18 members of the squad are guards, as were the original Westvaco EMTs. Two of them are EMTs; the other two are CRTs. The remaining 14 members of the squad work in the various functional areas of the mill. One of them is a CRT; the rest are EMTs.

In addition to the squad members, five other Westvaco guards are certified EMTs. Although they do not belong to the squad, they provide assistance when needed. A number of other guards, trained as emergency vehicle drivers, are available around the clock.

In 1979, Westvaco purchased a new Chevrolet Vanguard type II ambulance, equipped with all the essential basic life support equipment. Shortly thereafter, a two-channel VHF medical radio was



*Approximately 1,850 are employed at Westvaco Corporation's mill in Luke, Maryland. (All photos are courtesy of Westvaco Corporation.)*



*Westvaco Ambulance 388*

bought and installed in the vehicle, permitting communication with the Office of Civil Defense, the local hospital, other ambulances, and the Tri-Towns Rescue Squad. The Office of Civil Defense then designated the Westvaco Emergency

Squad as Company 58 and the company's emergency vehicle as ambulance 388.

Since then, additional equipment has been purchased for ambulance 388, including an esophageal obturator airway, medical antishock trousers, a traumatic amputation kit, and an eye injury treatment kit. The newest addition will be a second Hare traction splint. To certify that ambulance 388 meets basic life support standards, the Westvaco Emergency Squad plans to have it inspected under the MIEMSS Ambulance Inspection Program.

The way the system works now is that the guard at the main gate is notified when an employee becomes sick or is injured. If the problem is minor, the guard dispatches the EMT on the squad who is closest to the scene of the emergency. If the problem is serious, the guard may dispatch all available EMTs to the scene. With EMTs working in all parts of the mill, the average response time of an EMT to the scene of an emergency on the two-mile



Squad members (l-r) with Ambulance 388: EMT Don A. Bland (president), EMT Paul Wilson, EMT Terry Timbrook (lieutenant), CRT Steven Householder, CRT Diane Shimer, CRT Francis Mowbray (captain), and EMT Paul Johnston.



Squad members (l-r) CRT Steven Householder, EMT Paul Wilson, CRT Francis Mowbray, and EMT Don Bland treat an electrical shock victim during drill simulation.



Squad members (l-r) CRT Francis Mowbray, CRT Steven Householder, EMT Paul Johnston, and EMT Don Bland prepare a patient for loading during a monthly drill.

long tract of land owned by Westvaco ranges from 30 to 45 seconds.

At the scene, Westvaco EMTs perform the same functions that any other EMT would perform. They assess the patient, initiate initial treatment based on medical protocols established by MIEMSS and the company's medical director, Robert Bess, MD, and decide which hospital the patient should be sent to and what mode of transportation should be used.

If air transport is necessary, the EMT calls the Civil Defense Emergency Center to request a State Police Med-Evac helicopter. If ground transport is deemed appropriate, patients needing basic life support are transported in ambulance 388. When the patient needs advanced life support (ALS), the EMT calls the ALS unit at the Tri-Towns Rescue Squad to the scene. But studies are underway to equip ambulance 388 as an advanced life support unit, which will require the purchase of such items as a cardiac monitor/defibrillator and a drug box.

The Westvaco Emergency Squad responds to some 1,000 calls for emergency care each year, according to Mr. Mowbray. About 300 of those calls result in patient transports to the local hospital or to a designated trauma center, he says. Back when the first Westvaco employees became certified as EMTs, the number of calls for emergency care ranged from 10 to 20 per year.

This marked increase in the use of emergency medical services is due partly to new procedures requiring EMTs to respond to all medical problems, and partly to the construction work resulting from the expansion of the Westvaco plant, explains Mr. Mowbray.

"New buildings and operating facilities are currently under construction," he says, "and our squad provides emergency medical services to the 500 to 700 construction workers on those projects, as well as to Westvaco employees."

Are Westvaco employees satisfied with the company's elaborate emergency medical services capability?

"Proud but not satisfied," replies Mr. Mowbray. "The members of our squad want to improve their training and their knowledge of industrial rescue operations. With the help of Dr. Bess, Mill Manager Philip Emery, and Safety Director Charles Barbe, we hope to make arrangements with the Maryland Fire and Rescue Institute to provide the training. Soon, they will be receiving additional specialized equipment for industrial rescues," he says.

— Dick Grauel

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## Crime Scene Search Team Organized

Some of the fire and rescue squad personnel in Region I are volunteering their time for yet another community service: participating in search parties to find criminal evidence or missing persons.

A carefully selected and well-trained search team, called the Western Maryland Specialized Crime Scene Search Team, consists of 36 fire and rescue workers and four employees of the Maryland Department of Natural Resources (DNR), who serve as squad leaders.

The search team was organized recently by TFC Carl Skidmore, of the Maryland State Police barrack in LaVale, and Bernard Zlomek, of the DNR. It serves the law enforcement agencies in Washington and Garrett counties, as well as in Allegany County.

After passing criminal background checks, the team members were selected by a review board, made up of law enforcement officials and representatives of EMS and fire and rescue agencies.

Next, they had to complete about 40 hours of training, which was divided equally between classroom instruction and field experience that consisted of participating in mock searches. To maintain their skills and knowledge, the team members also are required to participate in one mock search per month during the spring

and summer and to attend one classroom session per month during the fall and winter.

The number of team members will be held at 40. If someone drops off the team, that person's replacement will be trained through the continuing education sessions and by viewing videotapes.

Although the team members did not complete their formal training until June 1984, some of them were used on an actual search in April. The team conducted a search in Boonsboro for clues in the death of a 15-year-old Hagerstown girl.

The procedure for requesting a search team starts with the Office of Civil Defense, which uses the fire company radio frequency to alert team members to stand by the telephones at which they said they could be reached. The captain of the team then calls the team members individually to determine their availability.

"We will try to respond to requests for searches with two nine-man teams, especially when a search of a crime scene is needed," says TFC Skidmore.

A crime scene search requires team members to hunt for evidence by crawling through the area, shoulder to shoulder, on their hands and knees. The teams alternate with each other during this long, tedi-

ous process. A crime area search is not quite as demanding in that the team members walk through the area.

Since the team members live in all parts of Allegany County and searches are conducted in a three-county area, a juvenile services van is used to pick up the members and transport them to the place to be searched. The fact that the team members live far apart ensures that fire and rescue manpower in any one area of the county is not depleted when the team goes on a search.

In addition to this formally instituted search team, search teams are organized, as needed, to search for missing persons. In these cases, however, the search team consists of members of the local fire company where the search is to take place.

TFC Skidmore also provides a one-day training program for fire company personnel in how to conduct a search for a missing person.

The need for this kind of search team arose from the problem of hunters getting lost in the mountains of western Maryland. However, TFC Skidmore says searches also might be conducted to locate lost children, suicidal persons, and senile elderly people who have wandered off.

— Dick Grauel