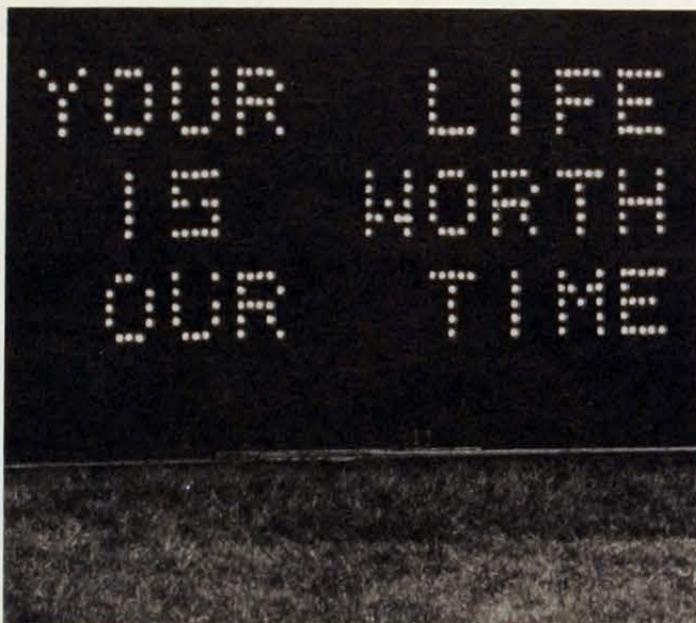


# Maryland EMIS NEWS



MARYLAND INSTITUTE FOR EMERGENCY MEDICAL SERVICES SYSTEMS VOL.8 NO.2 MAY 1982





## Get Ready! Get Set! Go!

Go into the planning of the 1982 EMS Week and Olympics!

### Dates

Sept. 13-19 EMS Week  
Sept. 19 EMS Olympics  
Sept. 22 Statewide Awards Banquet

Location of Olympics  
University of Maryland  
Baltimore County,  
Catonsville, Maryland

EMS Week Theme  
Accidents Are the Cause;  
EMS Is the Cure

Additional information will be available from the regional coordinators.

To get you into the swing of EMS Week 1982, the "Maryland EMS News" would like to help refresh your memories of last fall's activities by devoting several pages of this issue to EMS Week 1981 and the first annual Olympics.

## Terrorism Among Issues Slated For International EMS Conference

"Thousands Left Homeless in Century's Worst Earthquake"

"Search Continues for Air Crash Survivors"

"Hostages Freed by Special Commando Unit"

"Twenty Killed in Oktoberfest Bombings"

"Pope Survives Assassination Attempt"

Such headlines greet us with a perverse kind of regularity. When political, technological, psychological, or natural systems go haywire, the results all too often involve mass casualties. In a very real sense, these situations put emergency medical services to the ultimate test. While such incidents mean almost instant chaos, the medical response must be immediate, coordinated, and definitive.

Yet how does one prepare for civil disturbances, natural disasters, international terrorism, and other mass casualty events? R Adams Cowley, MD, and others responsible for organizing the First International Assembly on Emergency Medical Services hope that the answer lies in an exchange of ideas among those directly involved in responding to many of these international incidents.

The assembly, scheduled for June 13-17 at the Baltimore Convention Center, will bring together representatives of international relief organizations, government agencies concerned with EMS, and medical experts from all parts of the world. Conference participants will learn firsthand what worked and did not work in terms of the medical response to the Air Florida crash, presidential assassination attempt, Hanafi hostage incident, natural disasters in Latin America and Italy, civil unrest in Belfast, the Moluccan train hostage incident in Holland, the Oktoberfest bombings, the Moorgate subway accident, and much more. The format for the meetings is designed to permit a dialogue between speakers and registrants. The official language will be English.

There will be four special guest speakers: Dennis S. O'Leary, MD, Dean of Clinical

Affairs at the George Washington University Medical Center; Peter Safar, MD, a University of Pittsburgh School of Medicine research scientist known for his work in brain resuscitation; Darrell M. Trent, the Deputy Secretary of the US Department of Transportation; and Robert H. Kupperman, PhD, Executive Director for Science and Technology at the Georgetown University Center for Strategic and International Studies. Trent and Kupperman are co-authors of a new book *Terrorism: Threat, Reality, Response*.

The assembly is being sponsored by MIEMSS and jointly presented by the George Washington University Medical Center, the Georgetown University Center for Strategic and International Studies, and the US Department of Transportation. Cooperating organizations include the Pan American Health Organization, North Atlantic Treaty Organization, World Health Organization, International Society for Emergency Medical Services, US Department of Defense, American Trauma Society, and Emergency Department Nurses Association.

For more information, contact First International Assembly on Emergency Medical Services, Convention Office, 428 East Preston Street, Baltimore, MD 21202. Telephone (301) 528-4259.

## EMS Evaluation Possible With Statewide Registry

Victims of severe trauma should have a better chance of surviving and of having a shorter length of hospital stay and lower incidence of residual disabilities if treated in areawide trauma centers. These premises are central to the trauma system concept pioneered in Maryland, but until recently it has been difficult to judge the specific effects of pre-hospital care and transport protocols or the designation of areawide trauma centers. According to Alasdair Conn, MD, medical director of field programs, the MIEMSS trauma registry will provide the data needed to evaluate such factors as transport time, length of hospital stay, and patient outcomes.

The computerized registry, a collection of as many as 130 bits of information about each patient, has been in operation since July 1981. Information from five of the state's areawide trauma centers and from the MIEMSS Shock Trauma Center currently is stored in the registry. Dr. Conn expects to have all nine areawide trauma centers contributing quarterly data by the end of the year.

### Uniformity in Data Collection

To be meaningful, the data in such a registry must be collected in a uniform way, and the MIEMSS registry was designed with this goal very much in mind. Mark Moody, PhD, deputy director of operations research and systems analysis (ORSA) for MIEMSS, and his staff were responsible for overall system design and software development. Working with Dr. Conn, they devised admission and disposition profile forms for collecting the raw data. The information provided by the hospitals is then coded by ORSA personnel and entered into the University of Maryland Professional Schools Computing Center's administrative computing network.

The Admission Profile allows

the hospital to record for each patient such information as age, sex, and race; time, date, and cause of the injury; mode of transport and details of prehospital care; the patient's vital signs and injury profile; and admitting diagnosis. The Disposition Profile provides for each patient: information on date of discharge and to what type of facility; a record of surgical procedures and complications; as well as specific codes identifying the patient's injuries.

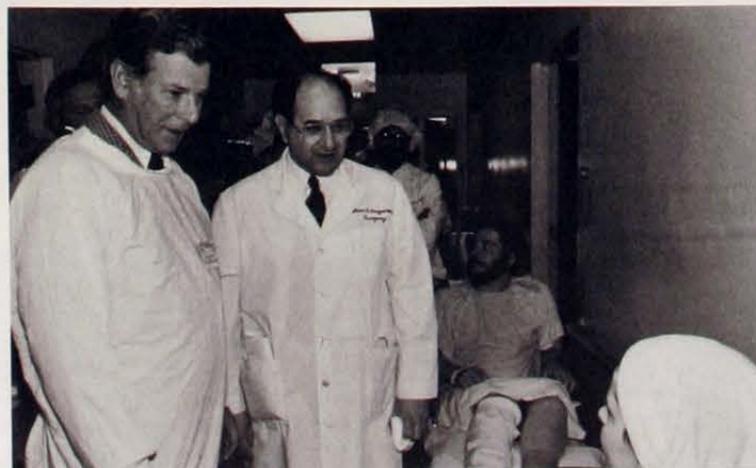
"Ensuring consistency in gauging the severity of injuries is a major problem in such systems," Dr. Moody explained. "What one hospital calls a concussion another may routinely list as a cerebral contusion. And as the classification of injuries becomes more specific, it becomes less and less uniform." To offset these differences in diagnostic labeling, hospitals are asked to identify the patient's injuries by the standardized International Classification of Diseases (ICD-9-CM) code. Numbers between 800 and 959 indicate trauma.

ORSA personnel use a 1,706-entry dictionary, prepared in consultation with MIEMSS traumatologists, to assign to each of the ICD-9-CM diagnostic codes an Anatomical Injury Score (AIS). The three highest AISs relating to different anatomical regions of the body are squared and summed to compute an overall Injury Severity Score (ISS) for each patient. The AIS and ISS codes are similar to scales developed by Susan Baker of Johns Hopkins. As used at MIEMSS, these codes are a way of equating the severity of different types of injuries, based on anatomical rather than complete physiological data.

MIEMSS Shock Trauma Center data were the first to be included in the registry three years ago when it was begun as a paper system; and it is likely that these data will continue to be more

(Continued on page 8)

## Plans for New MIEMSS Building Funded



Governor Harry Hughes, accompanied by John Siegel, MD, of MIEMSS, talks to a patient in the Shock Trauma Center.

Before it adjourned in April, the Maryland legislature approved \$475,000 for the development of architectural and engineering plans for a new 138-bed MIEMSS facility to be built by 1990. The consensus of MIEMSS, the University of Maryland, the Governor's Office, and the state planning and health departments is that the expanded facility should be adjacent to the University of Maryland Hospital and the Institute for Psychiatry and Human Behavior.

MIEMSS currently occupies space that is inadequate to meet

(Continued on page 8)

## MIEMSS to Study New Drug

Merrell Dow Pharmaceuticals, a subsidiary of Dow Chemical Corporation, has chosen the MIEMSS Shock Trauma Center as the site for a half-million-dollar clinical trial of the new drug Mesna (Mistabron®). The grant award includes \$229,000 in direct support and \$310,000 in computer systems and analytic instruments on loan to the project. The drug to be studied is a mucolytic agent, that is, one that keeps mucous in liquid form so that it can be removed easily and will not block the patient's air passages. Mesna was developed by UCB of Belgium, and has been used successfully in Europe both to prevent and to relieve acute respiratory distress syndrome (ARDS). Since the mortality rate for ARDS approaches 60 percent, the drug could have major implications for treating patients susceptible to lung collapse and severe respiratory problems.

According to Barry Burns, PhD, who will direct this study, MIEMSS's patient population is ideal for such a trial. Mucous blockage of air passages is a frequent complication in trauma victims, many of whom have tracheostomies or endotracheal tubes in place as part of their treatment and rely on mechanical ventilators for respiration. In fact, Dr. Burns points out, respiratory failure is a leading cause of death in such patients. This is a major reason for the farsighted and vigorous support given to the project by MIEMSS director R Adams Cowley, MD.

Traditional methods of treating patients with excessive airway mucous production include administering sodium bicarbonate or saline to help liquify the mucous and performing regular chest physiotherapy. The latter involves positioning the patient so that the clogged air passages can be cleared by tapping on the chest wall to dislodge the mucous plug.

The European experience with Mesna and Merrell Dow's own studies indicate that the new drug should be far more effective than current therapies. The MIEMSS study is designed to measure accurately how well the lung responds to treatment with either the usual sodium bicarbonate fluid or the new drug. Because it is a double blind trial, neither the patients, their doctors and nurses, nor the research team will know which drug (bicarbonate or Mesna) is being used until all data have been collected.

In all, 90 patients in the MIEMSS critical care recovery unit will participate in the study, beginning in June. Patients will be asked to take part only if they meet certain criteria. They must be relatively stable, 18 years of age or more, have an endotracheal tube or tracheostomy, show evidence of excess mucous or lung collapse, and have arterial, Swan-Ganz, and peripheral vein catheters already in place.

Every 4 hours for 24 hours these patients will be given either Mesna or sodium bicarbonate during chest physical therapy. The actual effects of the drugs on lung function will be measured with a very sensitive multiple inert gas

technique developed in the mid-1970s. A sterile dextran solution containing trace quantities of six inert gases will be injected through the peripheral vein catheter. Each of the dissolved gases marks how well different parts of the lung function. The multiple inert gas technique will give an accurate picture of the patient's ventilation (breathing) and perfusion (blood flow) by measuring the amounts of inert gases in the blood and the relative amounts removed from the blood by the lungs. Three types of samples from each patient (venous blood, expired air, and arterial blood) will be analyzed in a gas chromatograph. The results then will be fed into a computer, which will calculate the percentage of the lung that is blocked by mucous plugs or functioning abnormally.

"By providing quantitative information, the study should prove conclusively how effective each mode of therapy is in relieving complications due to stubborn or excessive airway secretions," Dr. Burns explained. "The risk to the patient is minimal and the probability of therapeutic benefit high. If the drug is as effective as we think, it may revolutionize respiratory therapy in the United States."

A specialist in respiratory and cardiopulmonary physiology, Burns received his PhD in environmental medicine at Johns Hopkins. Associate investigators for the project are John K. Stene, MD, PhD, who also trained at Hopkins and is now on the clinical staff at MIEMSS, and Peter Chodoff, MD, MPH, who is chief of critical care and anesthesiology at the Shock Trauma Center. Together they bring to the study a vital combination of expertise in both basic and clinical research focused on patient care. The researchers hope to complete their analysis of the data by August 1983. —Judie Zubin

### EMS Awareness Day



Following EMS Week, students in the emergency health services program at the University of Maryland Baltimore County (UMBC) held an EMS awareness day on the campus October 22 to celebrate the first "anniversary" of the program. Rescue and rappelling demonstrations, as well as displays by various state and local emergency and rescue agencies were on the agenda.

Rescuers rappelled down the side of the four-story social sciences building to save a "victim" and successfully transport him to the ground. After some initial treatment, the victim was taken to a waiting Med-Evac helicopter to complete the simulated rescue.

## Field Personnel Now Using Hand-Held Resuscitator



The instant feedback provided by the Harrigan resuscitator has several advantages, according to Mr. Schaefer. The most important is that the device helps ensure that CPR is performed correctly. By watching the needle on the pressure gauge, which registers compression force from 0 to 150 pounds, the rescuer knows precisely the depth and force applied. The needle's movement also helps in maintaining a steady rhythm. Without such feedback CPR often is a matter of guesswork, even for skilled professionals; with it, near-normal mean arterial pressures (MAPs) can be achieved. Pressures generated with bare-hands CPR typically are one-third normal — barely enough to sustain life.

Common errors in administering CPR include beginning with too forceful compressions and using jabbing, irregular motions; or, worse still, using compressions too shallow to achieve the desired results. The resuscitator minimizes such errors and almost eliminates the danger of thoracic injury, a problem that occurs in a majority of cases with bare-hands CPR, even when performed by professionals. The gauge also helps assure consistency during changeovers in two-person CPR. Of course, the resuscitator should be used only by people thoroughly trained in CPR. It is not designed for use with infants or small children.

Mr. Schaefer has compared pressures generated with CPR using the bare hands, the Harrigan Cardiac Resuscitator, and a mechanical cardiac compressor. The results were impressive. Regular manual CPR produced a MAP of 50 mm, the gas-powered mechanical compressor (which costs thousands of dollars) generated a MAP of 70 mm, while with the \$100 Harrigan device MAPs of 90 mm or more were achieved.

The dramatically higher arterial pressure, Mr. Schaefer explained, means better myocardial oxygenation; and in CPR the heart must be well oxygenated if it is to contract in response to external chest compressions. Citing cases of spontaneous conversion even after advanced cardiac life support techniques had failed, Mr. Schaefer concluded, "I think it's an indispensable piece of equipment for emergency vehicles. One day such devices may even hang on the wall next to the fire extinguisher." —Judie Zubin

Maryland's Med-Evac helicopters and ambulances that serve various high-risk areas of the state are equipped with a surprisingly uncomplicated and inexpensive device that also is used in the MIEMSS Shock Trauma Center and hyperbaric chamber. According to MIEMSS Associate Director for Prehospital Education and Training Ronald Schaefer, the hand-held 10-ounce Harrigan Cardiac Resuscitator gives rescuers the instant feedback and control needed to apply external cardiac pressure that is optimal for each individual victim. It also eliminates the guesswork and deviations that are often unnoticeable and unavoidable with only the bare hands. The device consists of a compression force gauge and a resilient rectangular "chest compressor" filled with nontoxic pressure-transmitting fluid.

During cardiopulmonary resuscitation the device is placed directly on the victim's lower sternum, and chest compressions are applied through the rectangular portion of the resuscitator. The correct procedure is to begin with slightly shallow compressions, then increase depth and force in a stepwise fashion until compressions are just adequate to create a carotid pulse that feels normal. The rescuer then continues at this force, sternal deflection, and rhythm as long as necessary.

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# EMS Olympics

Everyday Maryland's highly trained ambulance and rescue professionals — of whom more than 80 percent are volunteer — exercise skills in saving lives. The "kickoff" to Maryland EMS Week, the Olympics was a competition that gave the EMTs a chance to display those skills and gave the public a chance to observe "up close" the quality care given by field personnel. The Olympics was a time for recognition and a time to say "thank-you."

More than 4000 spectators attended the all-day event at the Timonium Fairgrounds on October 10. More than 15 EMS-related agencies and organizations cooperated in planning the event. Co-chairpersons included Alex Gretes and Lou Jordan (MIEMSS), Lt. James Craumer (Baltimore County Fire Department), and Robert Lynch (Maryland State Ambulance and Rescue Association). Capt. John Gochnauer (Baltimore County Fire Department) was the main commentator.

Other activities scheduled throughout the day included skydivers; auto extrication demonstrations; aerial rescues; Maryland State Police Med-Evac, US Army, and Maryland National Guard helicopter displays; and EMS awards. Thirty EMS exhibits were also on view.

## Skills Competition

"There has been an explosion at a grain elevator. There are no indications of any fire or electrical hazards. It is safe for you to approach the scene and render care." These were the ominous instructions to each of 20 three-member teams that entered the EMS Skills Competition, a highlight of the October 10 EMS Olympics. Three of Maryland's five EMS regions were represented in the competition, which included teams from both paid and volunteer companies.

### The Events

The grain elevator explosion was one of three situations presented to each team, but it was perhaps the most dramatic. The two "victims" (actually students from the new MIEMSS-sponsored undergraduate emergency health services program at the University of Maryland Baltimore County), lay on their backs, unconscious. One, impaled by a wooden two-by-two, oozed blood at the mouth and moaned convincingly as his rescuers felt for possible leg fractures. The most striking feature in the other "victim," a young woman, was an eyeball protruding completely from its socket. But the actual life-threatening injury in her case, according to a student who played this role, was a neck laceration that should have been covered immediately as a possible source of venous air embolism. Several of the teams missed this and also failed to treat her for shock, the student said.

Teams were given 20 minutes to evaluate and treat victims in each situation, using accepted basic life support methods. The other two incidents involved performing one- and two-person CPR on a pair of recording Resusci-Annies, and treating accident victims from a car that supposedly had struck a bridge support. Each event required that the three-member team split up. In the CPR case the third team member was allowed to participate only during the last 14



### The Winners

And the winners — First prize, \$1,000, went to the Joppa-Magnolia Volunteer Fire Company from Harford County. Second prize, \$750, was awarded to Community Rescue Service of Hagerstown (Washington County), which had entered three teams in the competition. And third prize, \$500, was won by the Odenton Volunteer Fire Company from Anne Arundel County. The captains of the winning teams indicated that the prize monies had been donated to their volunteer companies for purchasing additional EMS equipment or for sending teams to similar events.

All were enthusiastic about the idea of the competition and about repeating it on a larger scale. EMT William Millikan, captain of the Odenton team, said they weren't surprised by the three problems in the competition. "We expected something unusual, like what you run into during training. But these sure weren't the kinds of situations you encounter every day." CRT/EMT Andy Conley, captain of the Joppa-Magnolia team, was especially impressed with the realistic moulage and student performance. "It made for a better competi-

minutes. In the auto accident problem the unconscious driver was pinned in the car; had possible head, back, and chest injuries; and was having trouble breathing. His passenger had been thrown from the car and, though conscious, seemed to be favoring her right shoulder. A student who played this victim said teams should have bandaged the shoulder and treated her for shock. Many did one or the other, but not both.

In general, the teams appeared to size up the situations quickly and begin treatment promptly, checking vital signs, suctioning blood from the mouth, administering oxygen, talking to the victims, bandaging wounds, covering those suffering from shock, splinting fractures, applying a cervical collar and a short backboard to the trapped driver. The CPR changeovers seemed to be done smoothly and professionally. In short, the competition was keen. The judges, two EMT instructors and an emergency physician for each event, moved around continuously, observing and scoring members of the team competing at their station. The judges' individual scores were totaled and then averaged to arrive at a final score for each team in each event.



tion," he explained. "The person impaled with the stick, for example, acted like a real patient. That helps. It takes your mind off all the spectators."

To win, the Joppa-Magnolia team clearly must have been concentrating on the victims, not the crowd. Speaking for the team as a whole, Mr. Conley said, "We feel it's quite an honor to have placed first in a MIEMSS-sponsored competition. Maryland has one of the best EMS systems, and there were some really tough teams. We consider ourselves lucky."

The Joppa-Magnolia team was one of several in which both sexes were represented. In addition to Mr. Conley (a medical attendant for Bethlehem Steel Corporation), the team included Richard Hicks (who recently joined the admitting area staff at the MIEMSS Shock Trauma Center) and Alice Beck (a nurse at Baltimore City Hospitals). As a member of the ladies auxiliary, Ms. Beck makes ambulance runs along with regular members of the company, approximately 14 of whom are women. According to Mr. Conley, Joppa-Magnolia is one of the few companies in the state in which members of the auxiliary may ride ambulances.

For all three members of the first-place team volunteer and regular work are closely related,



but people from all walks of life choose this as an avocation. Members of the Odenton team were captain William Millikan (a nursing assistant at Church Home Hospital), Mike Lovelace (a fire insurance investigator), and Mark Preschak (a dump truck operator for a construction company). Jay Frantz, captain of the Community Rescue Service team, is an insurance agent. He has been involved in volunteer emergency medical work for 20 years and is also a Maryland CRT instructor. Michael Mann of the same team is an operating room technician, while Barbara Darr works for a podiatrist.

The Hagerstown-based rescue service has more than 200 volunteer members, about 20 percent of whom are women. The company has entered numerous international EMS competitions and boasts winning adult, women's, and youth teams. It looks forward to the next international competition, to be held in August 1982 at Baltimore's new Hyatt Regency Hotel.

—Judie Zubin



## Skydiving

The small plane 3500 feet in the air was the only visible sign of the skydiving event when the commentator began his story. The skydivers would be falling initially at 120-180 mph, or approximately 175-230 feet per second, and would spend 35-40 seconds in a free fall before their parachutes opened. Two would be trailing smoke to more easily mark their fall. "There are the chutes" — the cry from the crowd. Then sighs of relief as the three skydivers landed in the field in front of the grandstand, right on target.



## Keynote Speaker

"Marylanders can feel much safer . . . and we do, having this country's best statewide emergency medical system to rely upon," said Fred Dewberry, deputy secretary of the Maryland Department of Transportation (DOT), at the EMS Olympics.

"The [Maryland] Department of Transportation is proud to be a part of this system . . . this team operation," Mr. Dewberry added.

It has supported Dr. R Adams Cowley's efforts to improve the state's emergency medical services even before the inception of the Maryland EMS system in 1973, he said.

In 1970, the Maryland DOT funded a survey for the Maryland Department of Health and Mental Hygiene (DHMH) to determine the needs for training, ambulances, medical equipment, and communications throughout the state.

The findings of the survey led the Maryland DOT to grant \$78,000 in federal funds to buy a second helicopter to help the Maryland State Police transport patients to the trauma center that was opened by Dr. Cowley at the University of Maryland Hospital. The agency also supported a training program for EMTs and the acquisition of ambulance equipment, Mr. Dewberry said.

During the remainder of the decade, the Maryland DOT funneled more than 3.4 million state dollars into the EMS division of DHMH and the Maryland Fire and Rescue Institute. In addition, an average of \$300,000 per year in federal highway safety grants was awarded for training and equipment.

"Many of the fire and rescue companies competing in today's event were trained, using equipment provided through our funding," said Mr. Dewberry.

"We've been able to assist almost every ambulance company in the state. I know our funds are in good hands and I commend you.



We all know our lives are in good hands and we thank you," he said.

"But money is only part of the story. Without the personal dedication and sacrifice of a leader like Dr. Cowley, Maryland would not be in the forefront of American emergency medical services," said Mr. Dewberry, adding "and what brings success to a leader are all those whose consistently strong efforts and dedication back him up with highly skilled performance."

—Dick Grauel

## Auto Extrication Demo

Auto extrication is not something people get to see very often. If you're unfortunate enough to need it, you probably won't be aware of what's going on. But the special skills and equipment it takes to remove wrecked cars from trapped victims are used every day. Two types of extrication systems, one power-driven and one manual, were demonstrated during the afternoon activities of the EMS Olympics.

"The overriding goal in all such rescue efforts," explained the demonstration's narrator, Robert Williams, "is to remove the car from the casualty, not the casualty from the car — unless there's a danger of explosion, of course." Extrication rescue squads concentrate on getting parts of the car out of the way so that EMTs can

treat the victim. Naturally, every minute counts, and the rigs used in auto extrication are designed to make short work out of the job.

The Hurst Rescue System was demonstrated first, on a large sedan with a crash-helmeted "victim" in the driver's seat. The system includes a gigantic set of pincer/spreaders that can exert 18,000 pounds of pressure at the tips; enormous hydraulic cutters with a force of 30,000 pounds; a ram with a pushing force of 15,000 pounds; and a compressed gas-powered generator to run them all. The complete set of equipment costs just over \$8,000.

With the pincer/spreader the rescue squad widened the driver-side window opening, pried open the door, and then removed it completely. Using the same tool, they pushed the seat back and raised the dashboard and steering column off the "trapped" driver's lap. The hydraulic cutters snipped through the frame just above the dash as though it were aluminum foil. The separation of roof from body sections made it possible to raise the entire roof several feet with the ram braced between floor and roof. Finally, the men pulled the door and quarter panel off, as they might have had to do in a car wrapped around a telephone pole. The "victim" stepped out unscathed.

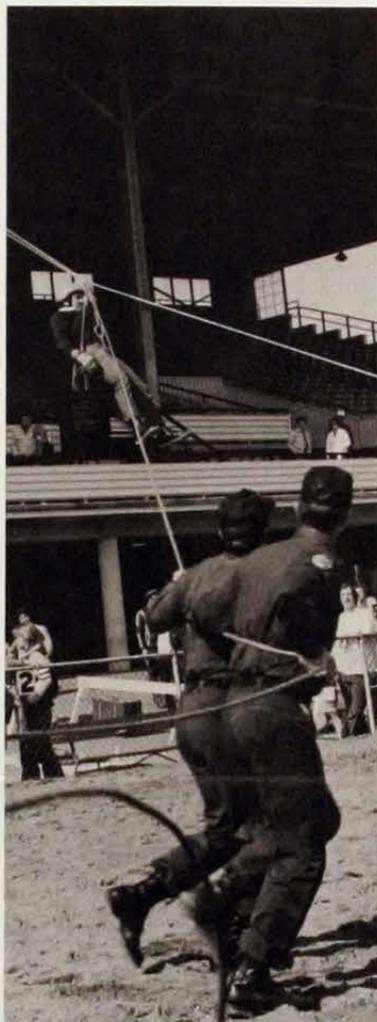
The crew then went to work on the same vehicle with Cecil's Rig, a highly portable manual apparatus composed of segments of steel I beam, pipe, chains, hooks, connectors, and "come-alongs." The latter act like hoisting or pulling ratchet wheels. Cecil's Rig can be set up in minutes by two trained rescuers and performs some of the same functions as the power-driven model — pulling doors, dashboards, and roofs away from victims. It also can lift the entire car from the front, back, or side to allow access to someone trapped underneath. "The rig is especially safe in this application," the Cecil Rig's company representative explained, "since it lifts from above rather than pushing from below. The raised vehicle is stable because it's held by two hooks attached by chain to the vertical I beam." The men illustrated the various lifts on the large sedan and on a small foreign car.

If the big old junked sedan looked a bit forlorn at the beginning of the demonstration, it was almost unrecognizable as an automobile by the time the fire department experts finished with it. The subcompact fared no better. But in real extrication situations the car is expendable; saving its occupants is what counts.

—Judie Zubin



The 1981 EMS Week slogan "Your Life Is Worth Our Time" was displayed on billboards, posters, flyers, bumper stickers, programs, and handouts. Jim Faulkner of MIEMSS received an award from the International Association of Business Communicators for the logo design.



than 31 years and with the ambulance division for 19 years, was one of Maryland's first EMT instructors. He also worked closely with Chief Marty McMahon in the early days of CPR development.

*Award presented by the Baltimore County Fire Department.*

Captain Ralph B. Maxwell, now a part of the fire suppression division of the Baltimore County Fire Department, was honored for his devotion to duty. He was an outstanding EMT in the early years of EMS and one of the first EMT instructors.

*Award presented by the Maryland Council of Fire Rescue Training Academies.*

Alex Gretes, executive assistant to the director of MIEMSS, was honored for his contributions in developing Maryland's EMS system as a national model and for his work in putting together the first EMS Olympics. His success in meshing the thousands of details for an informative and entertaining program was applauded.

*Award presented by MIEMSS.*  
—Beverly Sopp

## Comments on Olympics

Several people wrote letters commenting on the EMS Skills Competition. Many were impressed with the victims. As an EMT spectator from Pennsylvania noted: "The wounds on the victims and the make-up applied to the victims were excellent. Because of the make-up and the fine acting, it was very realistic. Making-up the victims enabled the competitors to better visualize the seriousness of the condition of the patients they were working on."

Some commented on the attendance: "We did not have a tremendous amount of civilians show up on this day but we have to start somewhere and I believe that as the years go by the event will grow and grow and we will have greater participation from the public."

And suggestions to improve the next competition: the CPR station should include other injury situations to make the problem more realistic and interesting; the score sheets should be returned to contest participants so they could improve on their mistakes; participants should see samples of the scoring sheet before the contest so they know how they will be judged; equipment to be used by the team should be placed in front of the team before the competition so they can study its placement, or it should be in a van from which the team would work.

—Beverly Sopp

## HEAT

More than 100 people could be rescued in 15 minutes from a burning high-rise by using traverse lines, according to Lt. Jesse N. Graybill, Jr., team leader of Maryland's High Rise Evacuation Aerial Team (HEAT). Lt. Graybill explained three techniques used by the HEAT team during a simulated high-rise rescue at the EMS Olympics.

The suspension traverse line technique is used for building-to-building or building-to-ground rescues. The traverse line is secured to the top of the building and to a stationary object on the ground or in a safe area. Holding a pulley, people can "slide" quickly down the rope to safety.

In the demonstration of another technique, while the helicopter hovered over the infield at Timonium Fairgrounds, HEAT members dropped the rappelling rope and descended to the ground (in a real rescue, the ground would, of course, be the roof of the high-rise). The team then untied their ropes and retied them to the "victims" who were lifted up and transported.

HEAT members are also trained in rappelling. After they are "dropped" onto the roof of the burning building and secure their ropes, rescuers can rappel down

the side of the building sometimes "picking up" as many as five people on one line and transporting them safely to the ground. This technique is good for rescuing people from balconies of burning buildings.

The HEAT team is a cooperative effort of the Maryland State Police, the fire departments of Baltimore city and county, Anne Arundel County, Annapolis City, and Howard County. Each of the above fire departments has members on the HEAT team. The Maryland State Police provide helicopter and supervisory training.

—Beverly Sopp

## Awards to EMS Providers

Outstanding EMS providers received awards during the EMS Olympics.

Chief Martin C. McMahon (retired), Baltimore City Fire Department, made the EMS division of the Baltimore City Fire Department a model for the nation. He also worked with Dr. Jude and Dr. Kouwenhoven in the development of CPR.

*Award presented by the Baltimore City Fire Department.*

Edgar C. Christ, a member of the Brunswick Volunteer Ambulance Company, was involved in Maryland EMS since its beginning. It is said that "whenever

EMS is discussed in Frederick County, Edgar Christ is there." He is presently a member of the Advanced Life Support Planning Committee.

*Award presented by the Maryland State Firemen's Association.*

William E. Brown of Clinton volunteered thousands of hours for EMS. One of the first EMS instructors in Maryland, he fought many early battles for the development of EMS and has made great contributions to the training of ambulance personnel.

*Award presented by the Maryland State Ambulance and Rescue Association.*

Charles W. Riley, a volunteer member of the Abingdon Fire Company for 28 years, served the company in many capacities, including chief and assistant chief. In addition, he served over eight years as a member of the Board of Directors of the Harford County Chiefs Association and was second vice-president of the Maryland State Firemen's Association. In 1977 then Governor Blair Lee designated him as a chairman of the Maryland Fire-Rescue Education and Training Commission and he continues to serve in that capacity.

*Award presented by the State Board of Higher Education.*

Captain Harold M. Evans, who has been with the Baltimore County Fire Department for more

Marylanders — from the governor to school children, recovering trauma patients, and EMS providers — celebrated EMS Week October 11-18 with proclamations, disaster drills, special lectures, open houses, and exhibits. Governor Harry Hughes's official proclamation recognizing "the tireless and selfless efforts of emergency medical technicians, nurses and physicians" was echoed in separate proclamations by many of the state's county executives. The week's activities gave people in each of the five EMS regions a chance to meet the professionals who make Maryland's EMS system work.

### Region I

In Region I a feature article in the *Cumberland Sunday Times* focused on the people and resources that make EMS a successful team effort in Allegany and Garrett counties. During the week, representatives from the region's 15 ambulance and rescue companies spoke to school and civic groups, and on Tuesday several companies as well as the Garrett County Central Alarm held open houses.

The Country Club Mall was the scene of displays and demonstrations by 16 area organizations on Thursday and Friday evenings and all day on Saturday. Prevention was a main focus, with KISS child restraints on display, free blood pressure screening by the American Red Cross, and American Heart Association tips on reducing the risk of cardiac disease. Kids found Sacred Heart Hospital's roving Mr. YUK someone to watch out for, but if they could tell dispatchers at the Civil Defense Department booth what 911 meant, they were rewarded with a prize. Maryland State Police representatives stressed the dangers of combining drinking and driving and showed how the mysterious breathalyzer works. EMTs and CRTs from area com-

panies demonstrated advanced life support, CPR, and rescue extrication techniques. "Price tags" on ambulance company displays reminded visitors that equipping these volunteer services is an expensive proposition — some \$40,000 per rescue truck and \$65,000 per ambulance.

### Region II

EMS Week activities in Region II, Frederick and Washington counties, also centered around shopping plazas. Members of the Critical Care Nurses Association and the Emergency Department Nurses Association talked with people at Hagerstown's Valley Mall; ambulance manufacturers had displays at Fredericktown Mall; and the American Heart Association and Jaycees demonstrated CPR at Fredericktown and Francis Scott Key malls. The Frederick-based Maryland State Police helicopter was much in demand during EMS Week — so much so that Med-Evac missions prevented it from making two of three scheduled lunch-hour landings at shopping centers.

Area radio stations announced EMS events throughout the week, and WTHU in Thurmont aired a special interview with orthopedic surgeon Robert R. Roberts, MD, first president of the region's EMS Advisory Council and a key figure in area EMS planning. Ambulance company representatives took their own safety message to school children as a follow-up to Fire Prevention Week, and Frederick Community College offered a free one-day "heart saver" course. A regional disaster drill, planned for October 18, had to be rescheduled for the spring because of inclement weather.

### Region III

Special activities in metropolitan Baltimore (Region III) included the EMS Olympics, which



kicked off the week's events, and the statewide EMS awards banquet (see separate articles). In addition, ambulance personnel in Baltimore City and several of the surrounding counties coordinated school visits with those of the firemen. Designated ambulances in Baltimore City were on call two hours a day not at the fire department but at local shopping centers, where their crews passed out EMS literature and talked with people.

On Wednesday EMRC announced that a tank truck carrying hazardous chemicals had collided with several passenger cars in Catonsville. In all, 90 "victims" injured by fire, explosion, smoke, or chemical burns were treated at Bon Secours, Lutheran, St. Agnes, and University of Maryland hospitals that morning. Both the victims, from Owings Mills and Lansdowne high schools, and observers from the four hospitals evaluated the Southwest Disaster Committee's drill and pronounced it a success.

### Region IV

On the Eastern Shore, Region IV, Salisbury TV channels 47 and 16 took evening news viewers through the Wicomico County Central Alarm and showed a mock cardiac emergency staged by local CRTs. The footage included pre-hospital care, telemetry, and transport. Attorney John Lancaster, director of the Governor's Office for Coordination of Services for the Handicapped and himself a paraplegic, spoke to an open meeting of the Trauma Recovery Group's Eastern Shore chapter on Tuesday at the Easton Public Library.

The Maryland State Police Aviation Division opened its hangar at Salisbury's Wicomico Airport to the public on Thursday. A slidetape presentation gave visitors an overview of Maryland's pioneering civilian Med-Evac program. In addition to open houses at fire companies in Oxford, Chestertown, and Easton, the Dorchester General Hospital in Cambridge gave visitors morning and afternoon tours of its emergency department. A mock nuclear disaster drill, also staged at Dorchester General, involved county ambulance companies and other organizations responsible for interacting should such an emergency occur.

### Region V

Special events were scheduled almost daily in Region V, suburban Washington and southern

Maryland. St. Marys County EMS Day, held at the county fairgrounds on the tenth, featured a parade, displays, and a minidisaster drill involving 2 cars, 10 victims, and 6 ambulance companies. Annual Rescue Days sponsored on Saturday and Sunday by the Wheaton Volunteer Rescue Squad and the Bethesda-Chevy Chase Rescue Squad included water and rooftop rescues, auto extrication, CPR demonstrations, and equipment displays. The Wheaton event culminated in a mock air crash with Med-Evac transport. EMS services also were fully represented at the weekend's Patuxent River Appreciation Days in Solomons.

More than a dozen EMS organizations took part in a day-long public information exhibit at the Montgomery Mall on Monday. On Tuesday students from Eleanor Roosevelt High School in Greenbelt were triaged, transported, and treated at the area-wide trauma center or one of five county hospitals after bleachers "collapsed." The Prince Georges County disaster exercise was rated an excellent test of the EMS system.

Throughout the week, speakers from area hospitals, rescue squads, and organizations such as the Southern Maryland Heart Association, Red Cross, Emergency Department Nurses Association, and American College of Emergency Physicians were available to civic groups. Thirty-seven speakers bureau presentations were given during the week on topics ranging from how to utilize an emergency room to eye trauma and sports injuries.

Most Region V hospitals and trauma centers had displays and demonstrations on the different aspects of an EMS system.

Charles County's EMS Day, held on Saturday at the Thomas Stone High School, capped the week's Region V activities. Ambulance and fire companies, Maryland State Police Med-Evac personnel, and law enforcement officers (including a SWAT team) all showed people their roles in saving and protecting lives.

### Response to EMS Week

If public and media responses to the week's events are any indication, Marylanders clearly know that their EMS services are second to none. By the hundreds they took time to absorb the safety messages, ask questions about the sophisticated lifesaving equipment, and meet many of the unsung heroes who make this calibre of emergency care possible.

—Judie Zubin

## Emergency Medical System's Region I Provides Help When It's Needed Most

EMERGENCY MEDICAL SYSTEM'S REGION I provides help when it's needed most. The system is a network of ambulance companies, fire departments, and other emergency services that work together to provide rapid response and care to those in need.

Emergency medical services are a vital part of our community. They provide the first and most critical care to those who are injured or ill. The EMS system is a complex network of professionals, including EMTs, paramedics, and nurses, who work together to provide rapid response and care to those in need. The system is a network of ambulance companies, fire departments, and other emergency services that work together to provide rapid response and care to those in need.



### DEVELOPMENT HIGHLIGHTS OF EMS REGION I

The Emergency Medical System's Region I has made significant progress in the past year. Key highlights include:

- Improved Response Times:** Through the implementation of new dispatch protocols and the addition of more ambulances, response times have been significantly reduced.
- Enhanced Training:** All EMS personnel have completed advanced training courses, ensuring they are equipped with the latest techniques and equipment.
- Community Outreach:** The system has conducted numerous public safety seminars and demonstrations, increasing awareness and preparedness in the community.
- Partnership with Law Enforcement:** A new partnership with local police departments has improved coordination during emergency incidents.

These achievements are a testament to the dedication and hard work of the EMS professionals in Region I. We continue to strive for excellence in providing the highest quality care to our community.

# Statewide EMS Awards Dinner

Twenty-two Marylanders received awards for their dedication and contributions to the continued development of their statewide EMS system at the second annual EMS Week Banquet, hosted by MIEMSS at the International Hotel.

Categories for the awards included: EMS Supporters of the Year, Special Awards, Media Awards, Fire Service Awards, and Regional Awards.

Recognized for their consistent support of Maryland EMS were Senator Paul Sarbanes, Senator Francis Kelly, and Comptroller Louis Goldstein. Senator Kelly was applauded for his strong stance on such legislative issues as "motorcycle helmet" and "drinking and driving" laws and the Center for the Study of Trauma.

Jon Franklin, Alan Doelp, Dorothy Gordon, James O'Donnell, and Fred Dewberry received special awards. Journalists Franklin and Doelp were cited for their four years of research and writing which resulted in the book *Shock Trauma* (the book is now being adapted for a TV movie); Dr. Gordon for her efforts in establishing the emergency health services program at the University of Maryland Baltimore County; Maryland Department of Transportation's Secretary O'Donnell and Deputy Secretary Dewberry for their support for the sophisticated equipment needed to advance Maryland's EMS system.

Joanne Rogers and Rich Adams were honored for their excellence in media presentations on EMS. Ms. Rogers has written many articles on EMS, among them "Shock Trauma" which appeared in *Science Digest*. As Editorial Director for WDVM and an active volunteer with the Bethesda-Chevy Chase Rescue Squad, Mr. Adams through his interpretation of EMS-related issues has helped to explain the complexities of an EMS system to the public.

In the fire services category, Capt. John Gochnauer, Lt. James Craumer, Capt. Donald Howell, and Capt. Charles Wills received awards. Capt. Gochnauer and Lt. Craumer were recognized for their assistance in coordinating the first Maryland EMS Olympics; Capt. Howell and Capt. Wills for their efforts to improve their EMS system through their service in

various EMS associations in Howard and Charles counties, respectively, and to upgrade EMT and CRT training.

The regional councils selected several EMS leaders in their counties to receive awards. MIEMSS recognized the contributions to EMS of F. W. Miltenberger, MD, and Gina Glick, MD (Region I); Robert Roberts, MD (Region II); John Stafford, MD (Region III); John Bulkeley, MD (Region IV); and Ellen Hewitt, RN, Henry Burke, MD, and Marvin Riddle (Region V).

Medical director for Region I and past president of the EMS Advisory Council, Dr. Miltenberger was instrumental in obtaining the 911 system for Allegany County, establishing an areawide trauma center for the region, and laying the groundwork for medical control.

Dr. Glick, head of the anesthesiology department at Sacred Heart Hospital and a member of the EMS Council, served as chairperson of the Education Committee and a CRT instructor since 1973 and was also involved in the first pilot EMT class taught in Allegany County in 1967.

Dr. Roberts, who served two terms as president of the EMS Advisory Council, was instrumental in developing the EMT program for Region II. According to his council, he is a "concerned, dedicated, unselfish provider who doesn't know the meaning of the word 'No.'"

Region III recognized the achievements of Dr. Stafford who, although he is no longer with Maryland EMS, worked to make Maryland recognized as a national leader in providing the highest standards of patient care in pre-hospital and hospital programs. Prior to his 1977 appointment as field program director for MIEMSS, he developed and implemented a model communications system for the Baltimore metropolitan area that gave Region III national recognition.

As medical director of Region IV, Dr. Bulkeley has worked to improve all aspects of EMS programs, such as implementing advanced life support and EOA/MAST programs, improving the region's communications system, and preventing skills decay in rural volunteer companies. He was also actively involved in the

designation of the region's area-wide trauma center.

Recognizing the importance of pre-hospital emergency medicine, Ms. Hewitt, Director of Inservice Education at St. Mary's Hospital, was a charter member of the Region V and St. Mary's County EMS advisory councils. A CPR, EMT, and EOA/MAST instructor, she served as a prime mover in the development of an advanced life support program in St. Mary's County and coordinated this year's St. Mary's County EMS Day.

Medical director of the Charles County advanced life sup-

port system since its founding in 1977, Dr. Burke was recognized for his pioneering efforts in developing that program, which is recognized nationally as a model rural ALS program.

Mr. Riddle has long been a leader in EMS at the county, regional, state, and inter-state levels. Director of Public Safety for Calvert County, he has been an active member of Region V's council and of the Metropolitan Washington Council of Governments' EMS Policy Committee, serving in various leadership roles.

—Beverly Sapp



## Leo Schwartz: Keynote Dinner Speaker

Leo Schwartz, keynote speaker for the statewide EMS Awards Banquet, focused on EMS in a time of change. Mr. Schwartz is chief of the EMS division of the US Department of Transportation.

According to Mr. Schwartz, this is a time to "assess what we've done and where we're going." In tracing the development of EMS, he pointed out to his audience — mainly EMS providers and administrators, media personnel, and legislators — that EMS systems are directly a product of technological development and of society's adjustment to the idea of "field intervention medicine," practiced by trained civilians. Society's "adjustment," however, was often accomplished with difficulty due to many small groups who felt threatened by change. Mr. Schwartz said that acceptance of EMS in Maryland was accomplished through leadership and congratulated those in the audience who helped implement Maryland's system and who continue to make it a national model.

In looking forward, Mr. Schwartz discussed problems in four areas.

He praised the "trained, competent people converting victims into patients" — people "we can depend on to come to our aid in time of need." But we need to consider: improving career oppor-

tunities for them (most are members of fire or police services); ensuring uniform standards of training; and resolving problems of reciprocity and jurisdiction (some EMTs have been reprimanded because they responded to victims across state lines).

Cohesiveness and structure is needed in EMS leadership. In the past, EMS developed through the support of federal grants. However, the precarious nature of future federal EMS funding, combined with the frequent lack of leadership at the state level, has created a problem. Mr. Schwartz reminded the audience how lucky they were to have state leadership in EMS, and stated that the goal for other regions is to "firmly establish prehospital care in the social structure at the community and state levels."

Mr. Schwartz also mentioned the unwillingness of many communities to invest in a first-class communications system. This is a problem, he said, since communications "holds everything together," including the EMT, hospital, physician who provides direction to field personnel, and the public.

The final challenge cited by Mr. Schwartz was evaluation. We need "to render account for stewardship and prove it over and over to the skeptical."

But, despite the obstacles that still remain, Mr. Schwartz affirmed that "there is no question in my mind that this is well worth doing."

—Beverly Sapp



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## Trauma Registry Implemented

*(Continued from page 1)*

detailed than those from the areawide trauma centers, according to Dr. Moody. For this reason, the Shock Trauma Center data may be useful in monitoring specific clinical protocols as well as in analyzing factors such as work load, operating room utilization, and patient outcome in terms of injury severity. When complete, areawide trauma center data should help MIEMSS identify particular strengths, as well as areas of concern, in a continuing effort to improve the quality of trauma care for Marylanders.

### A Look to the Future

Perfecting the MIEMSS registry is a priority for both Dr. Conn and Dr. Moody. Both agree that links to other computerized systems may enhance the registry's usefulness. For example, data from the new machine-readable ambulance runsheets could be integrated into the registry to provide a more complete picture of prehospital care and transport. Another possibility is a shared data base comprised of the MIEMSS trauma registry and the Maryland State Police Automated Accident Reporting System. Such an exchange of information could be especially useful in identifying (and remedying) motor vehicle hazards that appear to be related to specific injuries.

Although the MIEMSS trauma registry is still in its infancy, already broader applications are being considered. The state of Virginia, which recently designated areawide trauma centers, expects to begin its own registry using the MIEMSS one as a model. Dr. Conn has long advocated the development of a national trauma registry. He sees a privately funded National Trauma Resource Center, now being organized by a group of concerned citizens, government leaders, and health professionals, as an important step toward realizing that goal. Proponents of the center include President Reagan, Senators Barry Goldwater and Alan Cranston, Health and Human Services Secretary Richard S. Schweiker, and "Quincy" star Jack Klugman. A major feature of the resource center will be a national data bank of trauma information.

—Judie Zubin

### NEW ADDRESS

The Region V EMS Office has moved to: Landover Mall, West Office Building, Suite 202, 2100 Brightseat Road, Landover, MD 20785. The new phone number is 773-7970.

## New Building Planned

*(Continued from page 1)*

the increasing demands for trauma care. To observe these overcrowded conditions firsthand, Governor Harry Hughes toured the MIEMSS Shock Trauma Center while the legislature was in session. After arriving by helicopter, observing the various clinical areas, and talking to several patients, Governor Hughes held a press conference.

Praising the "marvelous work" of the Shock Trauma Center, he announced his support for the new facility and stated that when he returned to Annapolis, he would make "every effort to make sure that we get the appropriation through."

Governor Hughes was also concerned about some statistics. Approximately 60 percent of shock trauma patients are admitted as a result of motor vehicle, pedestrian, or motorcycle accidents, and 10 percent are the victims of violent crimes. Fifty percent of the patients admitted because of auto accidents had alcohol levels above the legal limit in Maryland. According to Governor Hughes, this points out the need not only for a new facility but for measures that would "remove drunken drivers from the road" and "get handguns out of the hands of people that should not have handguns."

—Beverly Sopp