



Maryland EMS NEWS

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Region I: 100% Compliance with Ambulance Inspection Criteria

David P. Ramsey (Region I administrator), Kenneth L. May (chairman, transportation committee), Capt. William Turnbull (president, EMS Advisory Council), and Robert Shimer (president, Allegany Fire & Rescue Board) review the line-up of ambulances in Region I that have received certificates of excellence for passing the voluntary ambulance inspection. Region I is the first region in Maryland to achieve total regional compliance.

The crews in the photo and the ambulance companies they represent include:

LaVale Rescue Squad

William Smith & Capt. Wayne Babb

Flintstone VFD

Capt. Allen Ruby & Chuck Tement

Cumberland Fire Dept.

Wayne Mowbray &
Lt. William Herbaugh

Northern Garrett Co. Rescue Squad

Linda Beachy & Capt. Wes Bender

George's Creek Ambulance Service

Capt. Barbara Doolan &
Lt. Diane Foutz

Cresaptown VFD

Capt. Wally Finster & Linda Finster

Ellerslie VFD

Capt. Cork Jamison &
William Lecemby

Corriganville VFD

Capt. Gary Carpenter &
Cynthia Ford

Frostburg Area Ambulance Service

Capt. Lois Hughes &
Lt. Marshall Lancaster

Tri-Towns Ambulance Rescue Service

Capt. Diane Shimer &
Nancy Carpenter

Southern Garrett Co. Rescue Squad

Capt. William Frankhouser &
Pres. Rayma Weeks

Mt. Savage VFD

Chief Elwood Lashley &
Richard Myers

Bowman's Addition VFD

Capt. Greg Boyd & Robert Kinser

For the past three years the volunteer and career ambulance services in Allegany and Garrett counties (Region I) have been making a concerted effort to ensure compliance with the Maryland Voluntary Ambulance Inspection criteria. In May, Region I became the first region in Maryland to have all its first-line ambulances that are operated by not-for-profit organizations meet the standards of the inspection program.

Getting total regional compliance with the ambulance inspection criteria was first initiated by the Transportation Committee of the Region I EMS Advisory Council in 1981 and became a major council goal in that year. Kenneth L. May, transportation committee chairman, stated: "The voluntary inspection program seemed a good way to obtain consistent high quality equipment and care for the region." Mr. May's squad,

LaVale Rescue, was the first to be inspected and had both vehicles pass. Shortly after this, Mt. Savage Volunteer Fire Department became interested in the program and achieved the distinction of being the first ambulance service operated by a volunteer fire department to obtain certification.

Over the next two years the following companies requested inspection and
(Continued on page 6)

For Kids Only: Hopkins Pediatric Trauma Center

A two-year-old is injured in a car crash. Still secure in his car safety seat, he is bleeding from a head wound and appears to be going into shock. The driver is critically injured and a helicopter has already been summoned for her by CRTs at the scene. But what about the child. . . .

An eight-year-old follows her ball into the road. She is struck by a car but remains conscious and alert. She appears to have a femoral fracture, but there may also be some undetectable head injuries. . . .

Babies, children, and young teens. They may possibly be the toughest challenge to prehospital personnel today. Half of all deaths and a majority of disabilities in these age groups are caused by injuries. Accidental injury takes more children's lives than all other medical and surgical causes combined.

In Maryland we are fortunate to have access to the first pediatric trauma center in the world, at the Johns Hopkins Hospital; another pediatric trauma center at the Childrens Hospital National Medical Center was recently designated to be part of the Maryland EMS system. (An article on Childrens pediatric trauma center will appear in a later issue.) Nearly 300 multiply injured children are treated at the Hopkins center each year. A team of pediatric surgeons, traumatologists, and intensivists are available at this "mini-shock-trauma center," fully equipped and capable of handling the most complex pediatric trauma problems. Yet despite the availability of excellent treatment facilities and the prognosis of more complete recovery than adult trauma victims, many children still get displaced in the system.

Recognizing the need for improved understanding in the handling of pediatric trauma victims, J. Alex Haller, MD, Robert Garrett Professor of Pediatric Surgery and Pediatric Surgeon-in-Chief at Hopkins, has begun a comprehensive research and education program on pediatric trauma.

The initial phase of the program includes a presentation on childhood injury control that Dr. Haller and several of his colleagues have begun presenting throughout Maryland. These presentations focus on the importance of appropriate care during the hour following the trauma, special problems in childhood trauma, and transport protocols. Educa-



Dr. J. Alex Haller

tion and prevention are also stressed in these discussions, which are open to doctors, nurses, and emergency field personnel.

Simultaneously, researchers at Hopkins, working under a Robert Wood Johnson grant, will study pediatric trauma in Maryland. Susan Baker, MPH, professor at Hopkins' School of Public Health and Hygiene, will gather information on childhood injuries from 10 or 12 hospitals throughout the state, deciphering how injuries are managed, where children are treated, and what types of injuries are most common. Once the statistics are available, Dr. Haller and his staff will determine how to best prevent and treat pediatric trauma cases.

"This is the first grant in what will hopefully become a series for identifying a center for the study and control of childhood injury," says Dr. Haller. "In the past, no one has been an advocate for children with trauma, but this is going to change." In fact, Dr. Haller has recently given up his own practice of pediatric heart surgery to devote more time to trauma. "I used to spend one-third of my time doing heart surgery, and I loved doing it," he says. "But still, it was two operations per week compared to the thousands of perfectly normal children dying each year from trauma."

Until recently, the nation's 50 pediatric surgeons have had limited involvement in trauma care. The American Academy of Pediatrics did not recognize trauma care as part of its role because they were not really familiar with it, since pediatricians rarely see the child in trauma. General surgeons, who usually see these victims, have traditionally treated them as little adults. "But," according to Dr. Haller, "they are not little

adults; their patterns of injury are different both physiologically and emotionally."

In 1978 when Hopkins was designated as a pediatric trauma center, there were no models to base it on, no protocols, and no organizational structure. The system was loosely modelled on the MIEMSS Shock Trauma Center. Dr. Haller began to work with community hospitals, which initially did not want to give up the pediatric emergency cases, to develop the concept of "life-threatening" pediatric emergencies. The case-by-case determination was made by EMTs, doctors, and EMRC (Emergency Medical Resources Center, the central alarm for Region III). Gradually, hospitals agreed to participate in the fledging system, at first grudgingly and later with enthusiasm. "We had to prove that we were not trying to take all of their patients away, but only wanted to aid those who needed complete tertiary care for life-threatening injuries," Dr. Haller says.

Protocols were established, many of which remain today. When EMTs call in through EMRC (either directly or through their central alarms), two telephones are answered at Hopkins: one in the adult emergency department where a nurse and pediatric traumatologist are always available; and one in the Pediatric Intensive Care Unit (PICU), where a pediatric intensivist and anesthesiologist answer. The closest community hospital may also be on the line. Members of the Hopkins team advise EMTs on how to handle the patient and how to prepare for transport, either by helicopter to Hopkins or to the community hospital for stabilization and possible air lift at a later time. (See article on a pediatric patient "save" on page 4.)

EMTs may continue to talk with Hopkins' personnel even during transport and at the community hospital if a stopover must be made for stabilization.

Once the determination is made to send a patient to Johns Hopkins, a team consisting of the PICU fellow, chief resident in pediatric surgery, pediatric nurse, and senior resident in pediatrics prepare to meet the patient. If head injury is involved, a neurosurgical resident joins the team.

Medical patients are sent straight to the PICU; major trauma patients may go directly to the operating room. All others are transported to a specially-equipped

resuscitation area for children in the emergency department.

According to Michael Dean, MD, assistant professor of pediatric anesthesia and critical care medicine, "it is useful to know in advance what is wrong with the child without a delay. We rely heavily on field assessment to best set up for the trauma." Dr. Dean says Hopkins should be called for all questionable pediatric cases. "It's really no more effort to patch through to both hospitals [community and Hopkins] since some kids really need to be flown in, not go to the nearest hospital." The helicopter ride is often shorter anyway.

"We are never upset to hear from field personnel to give advice. It's always better to err on the side of conservatism in pediatric cases," he says; "in fact, pediatric trauma calls should always come to Hopkins, at least for advice."

Jim Buck, MD, assistant professor of pediatric surgery at Hopkins, adds that field personnel should overcome their hesitancy to act when children are involved. "The main problem is getting over your fears and doing just what you need to do, making minor modifications on what you do for adults," he told a group of EMTs recently.

According to Dr. Buck, these modifications should be based on the following differences between adult and pediatric trauma victims:

- Pediatric traumas usually include significant head injury due to the child's proportionately larger head.
- Pediatric victims have less respiratory reserve.
- Pediatric victims suffer from shock with as little as one unit of blood loss due to their limited blood supply.
- Pediatric victims may have abdominal distention because they normally breathe from their abdomens, causing respiratory compromise.
- Pediatric victims may suffer from hypothermia more easily, and can quickly progress to secondary shock.
- Pediatric victims and their families need special emotional support, and that responsibility lies with the care giver.

Dr. Buck urges field personnel to practice the ABCs, making a few modifications on the procedures they perform on adults. (See article on this page.) "Care givers must overcome their own fears and the fears of others at the scene

and take positive steps immediately," he urges. "The Golden Hour may be only 30 minutes for children."

Both he and Dr. Haller stress that with prompt, appropriate care, children can sustain a tremendous amount of trauma and bounce back. "Even with head injuries, the child's brain is more likely to fully recover, probably because all of the nerve cells have not yet been committed," Dr. Haller says.

In the future, Hopkins will be stressing prevention of the trauma that kills so many healthy, normal kids between the ages of one and fourteen. Already pediatric residents from both Johns Hopkins and the University of Maryland medical schools are learning about pediatric trauma first-hand as part of their residency training.

"I am a strong advocate of trauma prevention," Dr. Haller notes, "and when the results of our studies are in, we will begin educating parents, care givers, and teachers about how to best protect our children from fatal injuries."

— Rochelle Cohen

Orthopedic Conference Offers Hands-On Care

A recent MIEMSS-sponsored continuing education workshop for operating room personnel featured some interesting apparatus as part of its sessions. Simulated ankle bones, hip sockets, femurs, and wrists were strewn around the workshop areas along with hammers, screws, plates, and other orthopedic tools to give the group of 84 nurses and technicians experience in performing orthopedic procedures.

According to Andrew R. Burgess, MD, workshop chairman and chairman of orthopedics at MIEMSS, this is only the third time this type of program has been offered in the United States. In the past, it has been offered only to physicians who must travel abroad to take the classes. "We believe that by giving operating room personnel a hands-on experience with orthopedic equipment and techniques, we will enhance patient care with smoother assisting during surgeries."

A Swiss-based manufacturer of orthopedic supplies cosponsored the two-day meeting, whose participants came from several states surrounding Maryland. In addition to the applied sessions, members of MIEMSS' orthopedic staff and a nurse from the Swiss corporation presented lectures and discussions.

— Rochelle Cohen

Ped. Trauma Tips For Field Care

Accidents are the leading cause of death in children between the ages of one and fourteen. One-half of all deaths in this age group are a result of trauma.

Recognizing the magnitude of the special problems that pediatric trauma victims present to prehospital personnel, Margaret Widner-Kolberg, MIEMSS pediatric nurse coordinator, gives the following suggestions to prehospital personnel handling the multiply injured child:

- Don't panic! Remember, just as with an adult patient, your first concern should be with the ABCs.
- Always clear the mouth and throat first. Then open the airway with a chin lift.
- If breathing is inadequate, ventilate the lungs using the mouth-to-mouth or the bag-and-mask method.
- Check the brachial pulse. If there is no pulse, start cardiac compression to accompany breathing.
- As soon as possible, call EMRC (or your central alarm who will patch through to EMRC).
- With EMRC on the line, identify yourself and say you have a pediatric trauma patient. Ask to be connected to both Johns Hopkins Hospital and the nearest community hospital. Immediately specify whether the emergency is medical, surgical, or trauma.
- Wait for instructions from Hopkins and the community hospital, but be prepared for an aerial transport to Hopkins.

"Remember," says Ms. Widner-Kolberg, "we have the most outstanding pediatric trauma system in the country. So don't panic, but follow the protocols and let EMRC guide you to a successful response."

— Rochelle Cohen

Changes at City Hospitals

In July, the operation of Baltimore City Hospitals transferred from the city of Baltimore to Francis Scott Key Medical Center, Inc., an affiliate of the Johns Hopkins Hospital and University. All phone numbers have also changed. To contact the Burn Center, call 955-0890; the Intensive Nursery, 955-0386; the Emergency Department, 955-0350.

A Happy Ending for 2-Year-Old Lindsey

Kelly Brooks was only five years old last March when she ran upstairs from the family's den and calmly said, "Mom, come on and see, Lindsey looks funny. She's asleep standing up and she's drooling."

What little Kelly didn't see, however, was that her sister Lindsey, then 21 months old, had wrapped a drapery cord around her neck and was hanging from it, her feet just barely touching the floor beside the sofa where she had been at play. When Shirley Brooks reached her daughter, Lindsey was unconscious and not breathing. She quickly brought the baby upstairs and instructed Kelly to dial 911 while she initiated CPR.

"Luckily we had taught Kelly her name and address from an early age so she was able to tell the operator exactly where to send the paramedics," Mrs. Brooks said. "Otherwise, with all the commotion going on, I'm afraid they would have thought it was a prank call."

Ironically, there is no 911 in Anne Arundel county where the Brookses live, but paramedics speculate that the call was answered by nearby Prince Georges county operators and quickly transferred to Anne Arundel's Lifeline, an emergency switchboard staffed 24 hours per day with a CRT.

Joseph Rumenap, CRT on duty at Lifeline, received the call and instructed Mrs. Brooks to time Lindsey's then-sporadic breathing and to clear the blood that spurted from her nose and mouth.

When CRTs Pat Prendergast and Gene Sheckells arrived at the Brooks' house, Lindsey was breathing but unconscious. Her eyes were bulging, her skin was mottled, her eyes and lips were blue, and blood had pooled in her nose and mouth. She was given oxygen, turned on her right side, and completely immobilized. "With hangings I always treat for C-spine injury, since the risks of cervical injury are so great. She was improving steadily when we put her into the ambulance," Mr. Prendergast said, "and she did well during the ride." But since the EMRC [Emergency Medical Resources Center — central alarm for Region III] radio was jammed, they could not notify Anne Arundel County Hospital or Johns Hopkins Hospital of exactly what her injuries were. "It's a credit to the system that we have a back-



Kelly, Shirley, and Lindsey Brooks recall Lindsey's accident last March.

up. We just went through the regular fire department radio and had the fire station contact the hospital so they knew what was coming.

"Anne Arundel [hospital] responded rapidly," Mr. Prendergast said. "They notified Hopkins for us immediately and had an entire team assembled and waiting when the ambulance arrived."

Unfortunately, after doing well during the ambulance ride, Lindsey had a seizure. Further troubled by her reflexes and an X-ray that revealed a possibly fractured neck, Anne Arundel Hospital staff transferred Lindsey by Maryland State Police Med-Evac helicopter to Johns Hopkins Hospital within three hours of the initial call for help.

After being observed in Hopkins' emergency department, Lindsey was transferred to the Pediatric Intensive Care Unit (PICU), still unconscious and with a questionable prognosis. She remained unconscious and doctors still suspected a broken neck. One day later, Lindsey's one lung collapsed, her fever skyrocketed, and again she was in critically ill condition. Then, within 30 hours, she gradually regained consciousness, and in 48 hours was completely awake, alert, and responsive. Unfortunately, she was left limp like a newborn and showing signs of nerve damage due to the strangling.

Nine days later, she began regain-

ing control and movement, in the exact order of an infant: lifting her head, rolling over, sitting and, by one month, walking just one step at a time.

Lindsey continued to improve after discharge from Hopkins and has not needed additional therapy. For now, she is a normal, happy two-year-old, and seems to have completely forgotten the accident.

Mrs. Brooks says she was very impressed with the [MIEMSS] system that saved her baby's life. As a newcomer to Maryland from California, she was never aware of our extensive emergency medical care system. "Everyone was wonderful during every step of Lindsey's care. Hopkins seemed to know how to treat our whole family, to understand upheaval, and how to support us in the worst moments," she says.

Pat Prendergast has followed the Brooks' case, like he does with many of his patients, especially children. "Pediatrics is tough for everyone. It seems to bother us all equally. I try to focus on what needs to be done and react later.

"What I've learned about pediatric cases is that if I can't make a diagnosis, if I see a potential need for advanced life support, or I can't decide how serious an injury is, I call Hopkins," he says. "My advice is, whenever there is a question, call Hopkins."

— Rochelle Cohen

Setting Voluntary National EMS Standards

The U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA) is supporting efforts to develop national standards for EMS on a voluntary basis. As a result of two national meetings initiated by NHTSA, five subcommittees and various task forces with representatives from EMS organizations and interest groups nationwide (including Maryland) are working on recommendations.

Alasdair Conn, MD, medical director of MIEMSS field operations and deputy director of the Shock Trauma Center, is vice-chairman of the Executive Committee on EMS Services. He explained that the Reagan Administration does not favor mandatory federal regulations relating to EMS or federal enforcement of EMS regulations. But recognizing the need for national EMS standards, NHTSA contracted last year with a Virginia consulting firm, Maximus, Inc., to find an appropriate forum for developing these standards.

At a meeting last March at the National Bureau of Standards that was attended by representatives of numerous EMS organizations and agencies, the consensus was that the American Society of Testing and Materials (ASTM) should manage the process of setting voluntary EMS national standards. ASTM is an independent, nonprofit organization, that has set national standards within the building industry and many other fields. (ASTM's involvement with the medical profession includes setting standards for anesthesia machines.) ASTM has a staff of approximately 200 and 31,000 members, of which 3,000 are international.

The selection of ASTM as the agency to develop national EMS standards was voted on and accepted at a meeting in Philadelphia on July 25–26. Invitations to attend this meeting had been sent to more than 150 organizations involved in EMS, including EMT and paramedic groups, ambulance manufacturers, helicopter groups, and government and jurisdictional agencies.

Those attending the July meeting also formed five subcommittees. The main committee is the Executive Committee on EMS Services. The five subcommittees include: EMS Equipment (including vehicles); Personnel, Education, and Training; Organization and Management (including medical control

and data management); Communications; and Emergency Medical Care Facilities (including trauma centers, specialty centers, and freestanding clinics).

The Executive Committee has four elected officers (including Dr. Conn as vice-chairman); each subcommittee elected a chairman and formed five or more task forces that are responsible for generating the standards. Several Maryland EMS providers are task force members: Dr. Conn, task force on quality assurance in emergency care facilities; Lou Jordan (MIEMSS), chairman of the task force on training for EMT-A, EMT-I, EMT-CC, and EMT-P levels; John Ashworth (MIEMSS), reimbursement; John Lewis, PhD (director of graduate program and faculty, Emergency Health Services program at UMBC), chairman of task force on educators (including curriculum for and certification of EMT and paramedic instructors); Captain Mary Beth Michos, RN (EMS Officer, Montgomery County, Department of Fire and Rescue), educators; Bill Hathaway (faculty, Emergency Health Services program, UMBC), communications; and Major James I. Mundy (Prince Georges County Fire Department), hazardous materials.

The subcommittee chairpersons are now asking for input into these task forces to produce drafts of different standards. Dr. Conn feels that voluntary national standards are greatly needed, and cites several reasons. He points out that EMT training in Maryland should be the same training that EMTs receive in other states. The same should hold true for paramedic training. A national standard for EMT training would facilitate the process of reciprocity. Dr. Conn draws the analogy that physicians and nurses have standard courses of study. To practice in another state they may have to take another certifying exam but not extra courses, as many EMTs are required to take.

On the subject of equipment, Dr. Conn notes that the only standards currently existing for ambulances are the Department of Transportation's KKK standards — and vehicles meeting these standards are the "Cadillacs" or "Mercedes" of ambulances. Many companies that need to replace old ambulances do not need and cannot afford the "Cadillac" version. Dr. Conn hopes ASTM will formulate a range of ambu-

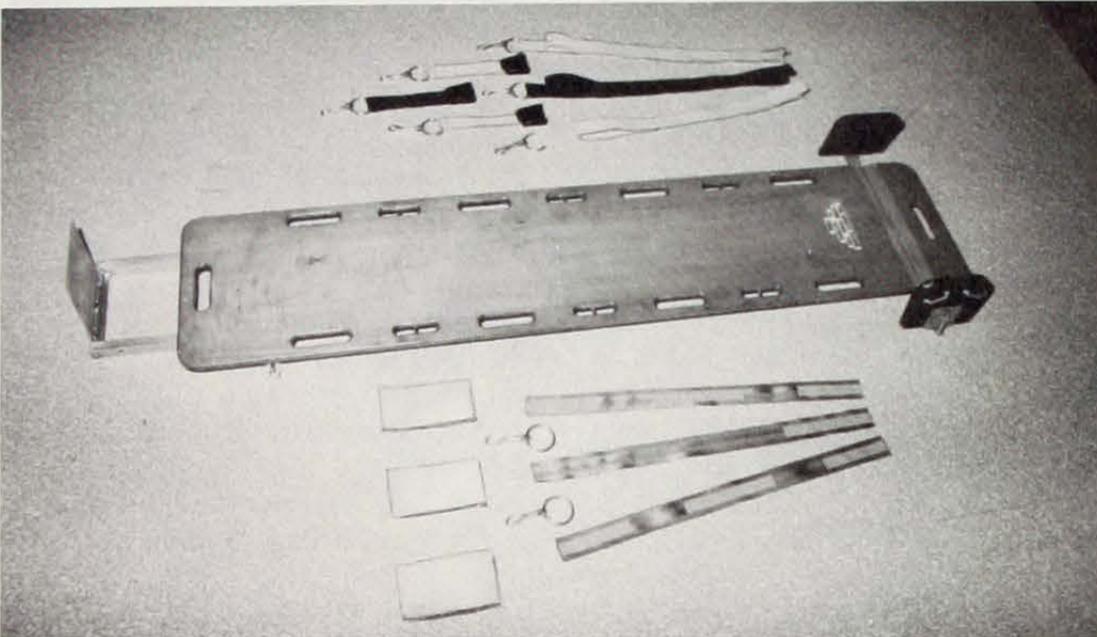
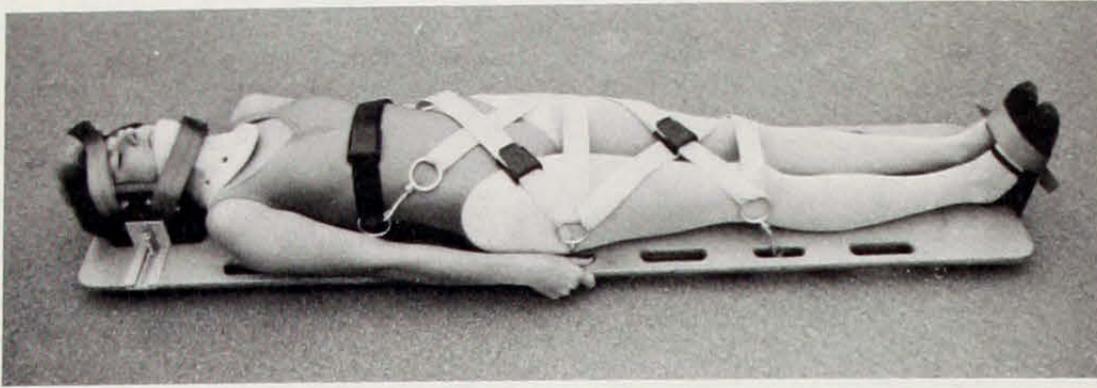
lance standards, letting each EMS system select its own minimum standard. Each company within the EMS system would have to meet or exceed that standard. The EMS Equipment Committee will also examine equipment that should be standard for helicopters and equipment used during prehospital care. Dr. Conn hopes that the committee will do follow-up studies to measure the efficiency of equipment that is used in the field, such as the MAST garment and the esophageal obturator airway. Whenever national standards for EMS currently exist — for example, the American College of Surgeon's standards for trauma centers — they will be incorporated into the new standards, according to Dr. Conn.

ASTM will provide staff support to the EMS Services Committee, and guide it through its process of obtaining consensus documents. This process is as follows:

- Task Force develops first draft.
- Subcommittee promulgates first draft.
- By mail ballot, 60 percent of the ballots have to be returned and two-thirds of the subcommittee have to approve the draft.
- The first draft is forwarded from the subcommittee to the main committee.
- The main committee then promulgates the draft.
- Sixty percent of the ballots have to be returned and 90 percent of the main committee have to approve the draft. If there is no approval, the draft goes back through the process.
- Every month, new standards are sent out. There is an Oversight Committee to verify that due process has been followed.
- When a negative vote on a standard is submitted, a reason must be given to the subcommittee for the negative vote. This can be "persuasive" (which leads to adoption of the change), or non-persuasive (in which case, a written comment explaining why the standard should stand "as is" should be given).
- There is one vote per voting interest in the main committee to avoid conflict of interest.

(Continued on page 7)

Henley Immobilization Device



Attached to the backboard are two padded, sliding head and neck supports (Henley restraining device) and the foot plate device, a self-storing, removable inclination support. Two straps are used to "snug" the HRDs to the side of the patient's head as well as limit all vertical movement. Trunk and lower extremity immobilization is accomplished by three special straps. The "ring snap device" uses a long snap hook that can pass through one board to another.

Over the past few years, there have been many advances and innovations in the development of products to be used by prehospital providers. One new product — the Henley Immobilization Device — was recently developed by Jay Henley, of the Damascus Volunteer Fire Department in Montgomery County, and shown publicly for the first time at the Maryland State Firemen's Association Convention in Ocean City in June 1984.

Mr. Henley, who has many years of experience as an EMT, was searching for an easier method to safely immobilize a patient on a long wooden backboard. The Henley Immobilization Device is based on a simple principle. The head and cervical spine are immobilized by using immobilization blocks on both sides of a patient's head; the head is kept stationary similar to the way books are held in place by bookends. Mr. Henley has designed a harness that snaps onto

locking pins that are embedded in the board. This allows the rescuer to immobilize the patient quickly, thereby minimizing any movement of the patient that may occur when the rescuer is threading the 9-foot straps to secure the patient's torso and lower extremities.

Recognizing the fact that most companies are utilizing the standard wooden backboard, Mr. Henley designed his device as a modification to the existing board; therefore, companies wishing to use his device do not have to discard their present expensive equipment. Mr. Henley has been providing conversion services to those who are interested in the device.

Further information on the Henley Immobilization Device can be obtained by contacting Mr. Henley at the Damascus Volunteer Fire Department, 26334 Ridge Road, Damascus, MD 20750.

—Lou Jordan, Marie Warner

Ambo Inspection

(Continued from page 1)

received certificates of excellence: City of Cumberland Fire Department, Frostburg Area Ambulance Service, Ellerslie Volunteer Ambulance Service, Corriganville Volunteer Fire Department, Cresaptown Volunteer Fire Department, Flintstone Volunteer Fire Department, Tri Towns Ambulance & Rescue Service, George's Creek Ambulance Service, Bowman's Addition Volunteer Fire Department, Northern Garrett County Rescue Squad, and Southern Garrett County Rescue Squad.

The inspections were not without problems. Numerous vehicles had difficulty in meeting the requirement for suction and oxygen. Although the ambulance equipment functioned, approximately 40 percent of the vehicles did not meet the required 20 inches of mercury vacuum. With adjustments to the vacuum and electrical systems, suction draw was increased and the vehicles passed inspection.

Region I's next project is a reinspection program. To assist with this, Richard Fuller, of Frostburg Area Ambulance Service, and James Henson, of the Memorial Hospital and Medical Center of Cumberland, Inc., developed an inspection kit to be used by the ambulance services. In addition to the existing criteria, reinspection criteria will include examining ambulances for carbon monoxide leaks and checking the EMS radios for signal levels.

Region I Council President, William Turnbull, stated that the cooperation of the ambulance services in participating in the voluntary inspection program was outstanding. "The fact that 100 percent of the companies received certificates of excellence indicates the desire of our people to provide the best care."

—Dave Ramsey, Region I Administrator

Emesis Pans for Sale

Ambulance companies interested in purchasing emesis pans (porcelain sputum trays) for 25 cents apiece should call the Maryland State Agency for Surplus Property at Jessup (301-799-0440).

New Region II Office

The Region II EMS Office will be moving to new quarters after October 1. The new address will be: 201 South Cleveland Ave., Rm. 211, Hagerstown, MD. Phone numbers should remain the same.

Field Care: Cold Water Drowning

Chief Roger Simonds, EMS officer of the Anne Arundel County Fire Department, has a favorite quote. It's attributed to playwright George Bernard Shaw and asserts "Progress is impossible without change, and those who cannot change their minds cannot change anything."

And that, according to Chief Simonds is where we currently stand in the treatment of near-drowning victims. For years medical science held that anyone submerged under cold water for longer than six minutes was biologically dead and rescue efforts were in vain. But now, we know that is not true, and we need to rethink the way we rescue and later treat these victims, he emphasized at the recent EMS '84 Conference.

"There are various mechanisms at work that keep a near-drowning victim alive even as long as 90 minutes," Chief Simonds says. "One of these mechanisms is the mammalian diving reflex, which slows down the circulatory system and redistributes blood to the heart, lungs, and brain." This considerably slowed down circulatory system then requires less oxygen; thus victims can survive under the water for longer periods than traditionally thought.

What is needed, according to Chief Simonds, is the ability to perform a rapid rescue, followed by good solid life support. "If you can rescue the patient within 90 minutes, the next thing to do is handle the victim gently and perform CPR. No rewarming should be attempted in the field; in fact, you might want to remove any wet clothes and keep the patient in a cool environment," he says. "Transport the patient as rapidly as possible, maintaining CPR as needed," he adds.

The best advice Chief Simonds thinks field people can follow is never to declare a cold patient dead. "Establish an airway and follow the ABCs, preferably using mouth-to-mask resuscitation with a supplement of O₂," he recommends. "And, most importantly, continue the resuscitation until a decision to do otherwise is made at the hospital."

In Anne Arundel County, the so-called "90-minute rule" has been in effect for four years. The county follows cold water drowning protocols developed by the emergency medical services system in Alaska. They have done training on the protocols at area hospitals, including a slide-tape show produced by

the International Association of Dive Rescue Specialists. "We run with the cold water policy every chance we get," Chief Simonds says, "and we think it's viable.

"There is a much brighter light than in the past for drowning victims; we just need the proper response modality and thought processes to do the job right," he says.

For further information, or a copy of the cold water protocols, contact Chief Simonds at Anne Arundel County Fire Department Headquarters, P.O. Box 276, Millersville, MD 21108 or phone (301)987-4010.

— Rochelle Cohen

Hospital Treatment For Hypothermia

Hypothermia frequently occurs in the elderly who are exposed to the cold during the winter months, or in swimmers who suffer near-drowning in the summer, according to John Britten, MD, chief of critical care medicine at MIEMSS. Speaking at the recent EMS Care '84 Conference, he said that low body temperature can mean that something is dreadfully wrong, and noted that a mild drop to 90°F can be tolerated, but that a body temperature below 90°F can mean myocardial problems, and less than 80°F can result in coma.

As a patient is exposed to colder environments, vasomotor regulation becomes inadequate to control heat loss. Increased loss of heat can be met only by increased heat production, brought about principally by shivering. As exposure to cold continues, this metabolic heat generator can be exhausted and body temperature begins to fall. At this point the body "goes out of whack physiologically" and death may result unless resuscitation is begun.

Resuscitation efforts can involve using either peripheral or core rewarming techniques. Peripheral techniques include passive rewarming by adding blankets, or active methods such as immersing the patient in a warm tub. Core techniques work by warming the internal organs first, then the skin. These include heated, humid air; heated IV fluids; heated gastric lavage; heated peritoneal lavage; and extracorporeal circulation.

— Rochelle Cohen

ALS Update

CRT and Paramedic Protocols

After input was received from all EMS provider groups and the regional medical directors, the advanced life support medical protocols for CRTs and paramedics were revised and presented to the Maryland Board of Medical Examiners where they were discussed at their September meeting. When approved, those protocols will go into effect on July 1, 1985. During the interim period, local ALS programs should provide continuing education which will update the CRTs and paramedics on protocol changes. The new ALS protocols will be implemented as soon as this continuing education process is completed.

Consolidation of ALS Documents

The Maryland Board of Medical Examiners, which must approve the protocols for each level of advanced life support training, recently said they want to promulgate only three documents (program standards, program regulations, and medical protocols) into which each ALS program would be layered. (This would eliminate the need for 9 separate documents — program standards, program regulations, and medical protocols for each of the ALS levels.) In addition, the Board wishes to make some minor changes to the currently proposed documents prior to approval by moving some items from standards to regulations and vice versa.

MIEMSS will be working with local jurisdictional representatives and organizational representatives to consolidate the current 9 documents for the Board's consideration. Because the process could take approximately six months to complete, MIEMSS has requested that the Board initiate the promulgation of emergency regulations to bring on-line as soon as possible the EMT-P and ATT programs to meet current operational needs.

National Standards

(Continued from page 5)

To participate in this process, one must be a member of ASTM. An individual or organizational membership is \$50 and entitles one to minutes of all meetings, drafts of all standards, and the opportunity to participate on a task force. For further information, contact your regional administrator, who will forward more information as soon as it is available.

— Beverly Sopp

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Prehospital Treatment for Orthopedic Injuries

Most trauma patients admitted to the Shock Trauma Center directly from the emergency scene arrive with appropriate fracture splinting. Michael J. Bosse, MD told prehospital personnel at the recent EMS Care '84 Conference sponsored by MIEMSS.

However, there are several topics, he said, which need emphasizing because of their value as diagnostic aids for the receiving physicians and therapeutic aids for the victim's long-term recovery.

First, these trauma patients are victims of high-energy accidents (motor vehicle crashes, pedestrians struck by

cars, construction falls, or crush accidents). Therefore, prehospital management should stress the possibility of C-spine fractures.

Assume a C-spine fracture (until proven otherwise) for any victim who (1) was wearing only a lap belt or no seat belt at all at the time of the vehicle accident, (2) has facial injuries (lacerations or fractures), or (3) cannot feel his feet indicating loss of sensation). Since 70 percent of C-spine injuries seen at the Shock Trauma Center have neurological involvement, pay particular attention to the neurological exam for patients

with such injuries.

Second, in splinting attempts, remember to DO NO HARM. The primary purpose of a splint is to immobilize, not realign, a limb. If a bone is sticking out, do not attempt to pull the bones back together. Such attempts can result not only in additional wound contamination but also in additional nerve and tissue damage. Protect against converting closed to open fractures (which take 50 percent longer to heal), laceration of nerve and vessels, and increased pain with transport. If an attempt to straighten a limb results in no pulse, restore the limb immediately to its original position, splint in place, and transport the patient. Report this event to the receiving physician as it can help in his assessment of the patient's injuries.

Third, be aware of possible ischemia. If there is no blood flow to a limb, use ice or cooling packs to decrease warm ischemic time. Suspect potential ischemia, not only with obvious injuries, but also with an injury such as a dislocated knee (possible disruption of the popliteal artery).

Such awareness of potential damage, combined with knowledgeable prehospital care, can result in more positive patient outcome. — Elaine Rice

New Equipment for Shock Trauma Center



R Adams Cowley, MD, director of MIEMSS, shows Suzanne Seabrease the plaque to be placed in the Critical Care Recovery Unit (CCRU) at the Shock Trauma Center, in memory of her father, Lawrence Winford Haley. Mrs. Seabrease, 1982-83 President of the Ladies Auxiliary Patriart Milliant in Chestertown, organized several events and raised over \$1,000 to be used for equipment directly related to the comfort of patients in the CCRU. Mrs. Seabrease is also a member of the Friends of Shock Trauma Advisory Board.