



Maryland EMS NEWS

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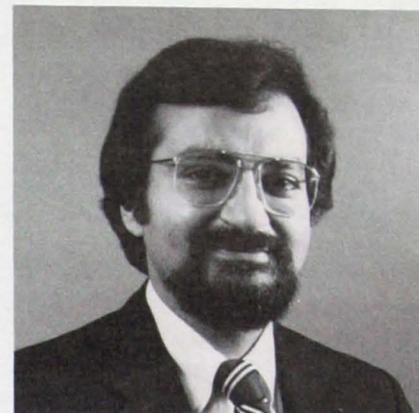
Ramzy Named EMS Director

Ameen I. Ramzy, MD, recently became state EMS director when MIEMSS Director R Adams Cowley, MD, appointed him as the deputy director of MIEMSS for the state emergency medical services system. In this role, he will be responsible for all aspects of the MIEMSS state programs.

In making the April 2 announcement, Dr. Cowley said that "it is important that a physician be identified as the director of our entire state EMS program. Dr. Ramzy has been active in both the outside, on-scene operations and the inside, clinical aspects of our system, and he is well qualified in both areas."

Dr. Cowley also said that William E. Clark, who has been serving as EMS director, will now direct the field operations program, including its communications, testing and certification, and pre-hospital care programs and will report to Dr. Ramzy.

In addition to his new responsibilities, Dr. Ramzy will continue as state medical director and as a traumatologist and attending surgeon at the MIEMSS Shock Trauma Center. He is also an assistant professor of surgery at the University of Maryland School of Medicine.



Ameen I. Ramzy, MD

Dr. Ramzy has worked with the field programs since 1982 when he was associate medical director for EMS field operations; he was named state medical director in 1985. He has lectured nationally and internationally, as well as regionally, on trauma care and was instrumental in formulating state medical protocols.

Dr. Ramzy said: "We are currently evaluating the components of the EMS system so that we can enhance its strengths and better meet the future needs of patients and providers."

—Beverly Sopp

Several EMS-Related Bills Pass

Several EMS-related bills were passed by the 1987 Maryland General Assembly. A coordinating council was established for trauma rehabilitation; a Med-Evac Advisory Committee was established; and a task force was formed to study the crisis relating to the nursing

shortage. There were also monies allocated for EMS for helicopters, communications, and the Shock Trauma Center.

Bills That Passed

SJR 37 (HJR 55) Comprehensive Trauma Rehabilitation Services Coordinating Council. This council, com-

posed of 21 members from state agencies, rehabilitation professionals, service organizations, and families of the traumatically injured, will develop a comprehensive rehabilitation services program; document needs and establish priorities; develop recommendations for funding methods; and provide for the objective development of a public agenda for the coordination of trauma rehabilitation. A preliminary report to the General Assembly is due by January 1, 1988; the final report is due by January 1, 1989.

SJR 33 (HJR 52) Maryland Med-Evac Helicopter Advisory Committee.

This committee will provide ongoing oversight and policy guidelines to EMS and will act as a liaison with the governor's office, the General Assembly, and the Department of Budget and Fiscal Planning. Meeting quarterly, the committee will address issues such as the deployment of helicopters, staffing requirements, experience levels of personnel, support functions, communication systems, training needs, and the optimal utilization of the helicopter fleet.

The committee will also structure a
(Continued on page 2)



Construction of the new Shock Trauma Center was boosted by \$3 million allocated by the 1987 Maryland General Assembly.

Ambo Equipment Retrieval at STC

Improvements were made to the system of holding and retrieving ambulance equipment that is left with patients brought into the MIEMSS Shock Trauma Center.

Sound practice dictates that certain equipment such as backboards, cervical collars, and MASTrousers remain with the patient for quite some time until alternative methods of stabilization or immobilization are applied. The need to quickly place the ambulance back into service dictates that the equipment be

left in the care of the receiving facility.

A new ambulance equipment holding area was constructed in the Shock Trauma Center, with a new policy designed to improve accountability and reduce loss. The new policy improves cooperation between trauma transport technicians on the team that received patients from the field, the admitting office staff who release the equipment, and the staff of the prehospital care office who provide quality assurance for the program and interface with prehospital

care providers and MIEMSS regional administrators on equipment retrieval problems.

The ambulance equipment holding area consists of a room with 10 separate lockers. Because of the volume of their calls, each of the six counties within Region III has its own locker. The remaining four lockers are assigned to Regions I, II, IV, and V, respectively. The outside door requires a key for access; the lockers, each of which can hold 5 to 10 backboards, are also locked.

Upon arrival at the Shock Trauma Center, either by helicopter or by ambulance, the patient is met by a team from the admitting area. This team includes a trauma transport technician, who among his/her other duties is responsible for gathering the equipment that arrived with the patient as it becomes available and packaging it securely. Normally, all items are taped to the largest piece, such as a backboard. The technician fills out an inventory sheet and places it with the equipment in the appropriate locker in the ambulance equipment holding area.

Prehospital care providers seeking to retrieve equipment are directed to the admitting office, located on the ground floor of the Shock Trauma Center in Room SC15. (Note that the admitting office and the admitting area are separate entities within the Shock Trauma Center. The *admitting area* includes the resuscitation suite where patients are initially evaluated; it is off-limits to non-staff members. The *admitting office* is responsible for registering patients and gathering necessary nonmedical information from family members.)

To retrieve equipment the prehospital care provider must present identification to the staff of the admitting office. The admitting office representative logs in the individual and provides access only to the locker of the jurisdiction from which the provider comes. The inventory sheet initially filled out by the trauma transport technician is signed to indicate what equipment is removed. One copy is left with the admitting office, the other is retained by the person retrieving the equipment. This second copy should be returned to a responsible member of the company to which the equipment belongs to be filed in the company records.

If equipment cannot be found, the point of contact at MIEMSS is the prehospital care office, which will work with

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1987 EMS-Related Bills

(Continued from page 1)

budget for Med-Evac operations, monitor the progress of budget requests and expenditures, develop protocols for cooperative use by Maryland State Police (MSP) helicopters, and examine reciprocity with adjoining states. Members of the committee include the lieutenant governor, the chairperson and vice-chairperson of the Joint Legislative Committee on Med-Evac Programs, the secretary of the Department of Budget and Fiscal Planning, the director of MIEMSS, the MSP superintendent, the director of MIEMSS Field Medical Services, the commander of the MSP Aviation Division, a representative from the Department of Health and Mental Hygiene, and a representative from Maryland's Fire and Rescue Services.

SJR 27 (HJR 53) Task Force to Study the Crisis in Nursing. The task force is to examine ways to retain working nurses, to attract inactive nurses back into the profession, and to promote

nursing in secondary schools. Some of the issues to be examined are: causes of the crisis, including working conditions and hours of work beyond scheduled shifts; the declining ability of hospitals and nursing homes to remain competitive in salary; realistic incentives to attract inactive nurses; recommendations for secondary schools to encourage students; the impact on nurses of cost containment measures; the impact of new employment options that attract nurses away from traditional hospital staff jobs; and making other recommendations. The report is due by January 1, 1988.

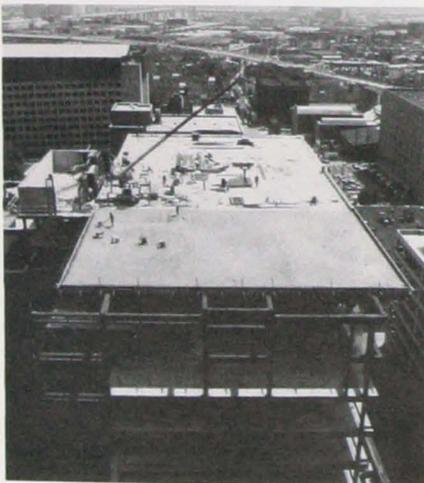
Monies Allocated

Monies allocated to enhance the EMS system include the following:

- The foundation was laid to increase the motor vehicle license tag renewal fee to establish a \$31 million fund for Med-Evac and related EMS services, including communication. The bulk of the fund will be used to purchase 10 new MSP helicopters.
- MIEMSS field operations was funded for 8 new SYSCOM/EMRC operators.
- \$3 million was allocated for constructing the new Shock Trauma Center.
- The new position of aeromedical director was established within MIEMSS to provide more intense medical input into the Med-Evac program.

Bills That Failed

One bill of interest to EMS providers failed: SB381 (HB 217), a bill requiring all persons to wear protective headgear when operating or riding on a motorcycle. Ameen I. Ramzy, MD, state medical director and state EMS director, testified on behalf of the bill. Dr. Ramzy says, "We are disappointed that this important safety measure did not pass at this time, but we appreciate the support of all who worked hard for its passage. We will continue our efforts in the future."



The heliport atop the new Shock Trauma Center is under construction (\$3 million was allocated this year by the legislature for the new building).

Role of Blood Donations at STC

At a recent Red Cross donor recognition dinner, Ameen I. Ramzy, MD, state medical director and state EMS director, spoke about the development of blood transfusions; described the role that blood donations play at the present time in the Shock Trauma Center; and then took a brief look into the future. Excerpts from his speech follow.

The first blood transfusion recorded in history was in 1667 when Jean Dennis of Paris transfused animal blood into an anemic 16-year-old boy. Unfortunately, later such attempts were fraught with problems, and transfusions to humans were by and large stopped for several centuries. Further scientific progress did not take place until this century. In 1900, Carl Landsteiner of Vienna discovered three of the four blood groups — A, B, and O. For this feat, Landsteiner won the Nobel Prize in Medicine in 1930. A year after Landsteiner's discovery of three of the blood groups, von Decastello and Sturli discovered the fourth group — the AB group. In 1911, Ottenberg developed the first cross match and in 1914, Houston added citrate to blood so that it could be temporarily stored rather than transfused directly from the artery of the donor into the vein of the recipient. However, medical science, like everything else, does not operate in a vacuum, and it was not until the development of reliable refrigeration in the 1930s that it became possible to store blood for greater periods of time. Hence, the first blood bank in this country was developed in 1937. During the next several decades, blood transfusions became more and more routine, until now we consider them indispensable.

The Shock Trauma Center in Baltimore admits more than 2,500 patients a year. Most of them are severely injured, needing immediate resuscitation and treatment as well as more extended critical care in the hope of returning these individuals to a functional role in their families, their communities, and their workplaces. The Shock Trauma Center in Baltimore is one of 11 trauma centers in the state; it functions as the highest level of trauma care serving not only the Baltimore area but also seriously injured patients from other parts of the state.

Without your support and your blood donations, the Shock Trauma Center would close immediately. A few figures will show how crucial the donations are. Looking back at a recent year of admis-

sions to the trauma unit, focus on just the amount of blood used in the first 24 hours after admission. These figures do not reflect the total number of units that are transfused later on throughout hospitalization (patients with major injuries often need transfusions during many portions of the treatment, especially when they need further surgical procedures). More than 300 patients received up to 8 units of blood in the first 24 hours; 74 patients, up to 16 units of blood in the first 24 hours; and 52 patients, more than 16 units of blood in the first 24 hours.

As an individual surgeon who admits and resuscitates some of these patients, I assure you that your donations and the blood that you've allowed us to give to your neighbors here in Maryland are absolutely critical. I can also tell you that I have experienced very different situations in other parts of this country and in other parts of the world. In another part of the United States, I had the experience of requesting blood during an emergency and waiting several hours for the blood to arrive by police car. In another part of the world, I had the experience of waiting two days for one unit of blood for a patient who had lost nearly two-thirds of his blood volume. So the gift of blood that you have given to your neighbors in the Chesapeake region is a gift for which I, as an individual surgeon, am very grateful. I thank you not only on behalf of the entire

staff of Shock Trauma and the staffs of all the hospitals in the state who utilize your blood donations, but most importantly, I thank you on behalf of all the patients whose lives you have saved.

We looked back 300 years at the first attempts at transfusion which, because of limitations of scientific knowledge, were not successful. We reviewed what's going on today. Now let's look ahead a bit. Medical historians several hundred years from now will probably look back on us in dismay. In the 23rd century of Commander Kirk and Officer Spock, they may well look back at us and say, "Did you read in this history book that back in the 20th century they were taking blood from some people and putting it into other people? They were even taking organs from some people and putting them into other people." They may well look back on us and scoff a bit. However, for now it's all that we have. Until we develop substitutes for blood and for organs, giving both is a gift of life. The whole perspective is reminiscent of the saying, "We must welcome the future, remembering that soon it will be the past, and we must respect the past, remembering that once it was all that was humanly possible." For making it possible for us to try to save the lives and limbs of our injured fellow citizens, we genuinely thank you. Be proud of what you've done and please continue it.



Many Organizations Participate in Health Fair

MIEMSS was one of more than 20 organizations participating in the Health Fair sponsored by Bay Area Health Care and the Maryland Health Care Foundation in March. Bay Area Health Care is a member of the Shock Trauma Rehabilitation Network. Held in Annapolis, the Health Fair drew a large crowd of legislators, including Governor William Donald Schaefer who participated in the ribbon-cutting ceremony.

ALS Flourishes in Rural Talbot County

With rural communities spread far apart and limited numbers of qualified personnel it is difficult to maintain ALS services in Talbot County, but volunteers are so determined to provide that level of care that during December and January their time logged in ranged from 51 to 244½ hours of service each.

ALS service is relatively new in Talbot County. In 1983 Kevin Knussman, a volunteer CRT now affiliated with the Easton Volunteer Fire Department (EVFD), encouraged the establishment of an ALS program because the distance involved in rural areas increases response time and travel time to a hospital. Many communities are 20-30 minutes away from a medical facility. The Talbot County Ambulance Committee was formed to study the situation, and with the cooperation of Memorial Hospital in Easton and MIEMSS the first ALS course was given in January 1985.

Graduates of that program were the first five CRTs to provide 24-hour coverage in the Easton area when the EVFD came on-line in August 1985. The Region IV office provided startup equipment—a monitor/defibrillator, an EMS radio, and a patient-side radio on which to send telemetry.

In summer 1986, the Talbot County Firemen's Association, which has members from all fire departments in the county, formed the Talbot County Advanced Life Support Services, Inc., with Mr. Knussman as its director. It was designated as an ALS system by the Region IV EMS Advisory Council. That designation permits any EMT who is a member of one of those fire departments to enroll in a CRT class providing the member has been an EMT for at least one year or has made 150 calls.

A proposal was sent by the group to the Talbot County Council, requesting funding for a countywide ALS system. The council responded with two grants: a startup grant for \$25,000 in July 1986 and a completion grant of \$23,470 in September.

There are now 18 CRTs throughout the county, and next year's class of CRTs should bring many more who have expressed an interest in taking the course when they meet the requirements. Interest has also been shown by ambulance and fire department personnel. Levin F. (Buddy) Harrison IV, executive director of the Talbot County ALS Services, says, "We must grow to meet the needs

of the people. All fire stations around the county, Oxford, Trappe, St. Michael's, Cordova, Easton, Tilghman Island, and Queen Anne/Hillsboro have CRTs on pagers. The ALS system went on-line in October 1986; of the 311 responses made from October through February, 217 required ALS intervention."

EVFD uses a tiered response system. Medic 9, the county unit, which is housed in central dispatch, is the primary response unit; Medic 6 from the EVFD is its backup unit. In a medical emergency the ALS unit, which is in the possession of a CRT at all times, responds directly to the scene to begin patient assessment and treatment. The BLS crew reports to the firehouse, picks up the ambulance, and comes to the scene.

Memorial Hospital played a major role in developing the ALS system. Margie Callahan, RN, is Memorial Hospital's EMS nurse liaison and coordinates the prehospital and clinical program of that facility. She coordinated the first CRT program and helped the CRTs decide what supplies and equipment should be carried on the ALS unit. Mrs. Callahan is proud of the results. "The CRTs are a dedicated, close-knit group. The system is working well," she says. Mrs. Callahan and Charles Schoenfeld, MD, assistant director of the emergency department and medical director for the Talbot County ALS program, informed physicians in the area about the differences between ALS and BLS units and the services provided by each type of response.

Twice each month all 18 CRTs meet

at Memorial Hospital for case reviews and discussions on policies and procedures. And at least once a month they have a 3-hour continuing education course with a physician, followed by skills- and written-tests.

With such a small number of CRTs available, scheduling is extremely difficult. However, Mr. Harrison says, "We haven't missed a call yet, and we are striving to continue that kind of service."

It is hoped that in the future there will be enough CRTs to establish satellite units at each firehouse, at which time the county unit will be disbanded. It is also hoped that neighboring counties will establish similar programs, which will open the possibility of a mutual aid program. For further information about the Talbot County Advanced Life Support Services, Inc., contact Buddy Harrison, 301-886-2530, or the Region IV office, 301-822-1799.

'Injured Athlete' Program

"The Injured Athlete: Initial Assessment & Management Techniques" will be offered June 26 at Essex Community College. The conference, approved for both ALS and BLS continuing education credits, is sponsored by the Union Memorial Sports Medicine Center, EMT Program of Essex Community College, National Athletic Trainers Association—District III, and the Health and Education Council in Baltimore.

A special registration rate of \$50 is offered to Maryland EMTs and paramedics. For information, call 301-686-3610.

Region IV



The dispatchers of the Somerset County 911 Communications Center were recently certified as first responders. The center officially began operating as a central alarm last year. (L-r): Cynthia Ford, Yvette Sterling, Gary Powell, Supervisor Don Howard, Barbara Allum, and Bridget Bradshaw. Not shown is dispatcher Robert Price who is a CRT.



Phyllis Friedman (center) presents Elizabeth Scanlan and Dr. R Adams Cowley with a "check" for \$108,000 for the Shock Trauma Foundation.



Dr. R Adams Cowley watches as Elizabeth Scanlan blows out the candles of the cake celebrating the twenty-fifth anniversary of the Shock Trauma Center.

Shock Trauma Silver Anniversary Gala

Over 800 people attended the Shock Trauma Silver Anniversary Gala on April 11. Governor William Donald Schaefer was the honorary chairman of the black-tie benefit held at the Towson Centre. A Maryland State Police Med-Evac helicopter, used to transport trauma patients, was on display for guests to view.

The evening began with a short address by the Governor, who described his friend R Adams Cowley, MD, director of Shock Trauma, as "persistent," "impatient," and "caring"; a person who is never satisfied, someone always pushing for more. The Governor's remarks were followed by the presentation of a \$108,000 check to Dr. Cowley for the Shock Trauma Foundation by the co-chairs of the event, Phyllis Friedman,

corporate secretary, Jolly Company, Inc., and Norman J. Loudon, vice-chairman of the board, Provident Bank of Maryland.

After a meal catered by Great Occasions, the Governor led the crowd in singing "Happy Anniversary" to Shock Trauma on its twenty-fifth anniversary as Dr. Cowley and Elizabeth Scanlan, RN, director of nursing, lit the anniversary cake. Guests enjoyed dancing to the tunes of Gene Donati and his orchestra until midnight.

Continuing Ed Credits

Information about upcoming continuing education programs can be obtained from your regional EMS administrator or the MIEMSS computer bulletin board (301-328-3842).

Ambo Equipment Retrieval System

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ambulance companies and the MIEMSS regional administrators to locate misplaced equipment. The prehospital care office can be reached at 301-328-2366. To place the call from within the Shock Trauma Center, dial ext. 2366.

MIEMSS encourages other facilities statewide to assume responsibility for ambulance equipment that must be left with patients and to establish their own protocols and mechanisms to ensure accountability and reduction of lost equipment. For example, some ambulance equipment is expensive. Approximate costs are: backboard, \$135; MASTrousers, \$500; and traction splint, \$250. The cost of replacement can be devastating to a volunteer company that may rely solely on contributions for its operating funds. Where ambulance service is municipally supported, the loss ultimately results in increased taxes or medical costs.

In fairness, it must be said that part of the problem lies with the ambulance companies themselves. Equipment that remains at a hospital unretrieved for several weeks is highly vulnerable to loss. Companies should strive to retrieve their equipment promptly.

Equipment often arrives at a facility poorly marked or not marked at all. Such equipment is very difficult to protect from loss. In this sophisticated statewide EMS system, trauma patients are often transported to the closest appropriate facility, which may be a trauma center in another county. The marking that is sufficient within a county may be totally foreign to a trauma center staff member earnestly trying to return the equipment.

The most recent revision of the Voluntary Ambulance Inspection Program indicates that the following minimum information is required if the equipment is to be accounted for and returned to service promptly:

- Ambulance number (e.g., A-31)
- Company name (not just initials)
- County and state
- Permanent, accessible phone number (such as station or central communications), including area code

The MIEMSS regional administrators and prehospital care office are ready to help ambulance companies and hospitals to improve their ambulance equipment retrieval policies, mechanisms, or facilities.

—George Smith
Associate Director, Prehospital Care

Infection Control & Prehospital Care Providers

This is the first of two articles on infection control and prehospital care providers.

"The faster we get a stable patient to a tertiary care or trauma center, the better we can handle his infection. Treating an infection in a dead patient is not an issue," says Ellis S. Caplan, MD, chief of the infectious disease service at the MIEMSS Shock Trauma Center, who spoke recently to prehospital care providers.

"Many people look upon infection as a failure of the system," Dr. Caplan says. "It is not. Infection is a byproduct of the way in which we must take care of very ill patients. Infection is the leading cause of death among patients who live for more than three days in a trauma or intensive care unit. We do not have the technology yet to prevent infections, but if the patients can get beyond the first three days we can treat most infections."

Dr. Caplan spoke of infections as they affect patients and also addressed the concerns of prehospital care providers regarding getting infections from patients. He said, "Judging from some of the calls I receive, I would say that the possibility of bringing infection home is a major concern among EMS personnel. You are at very, very low risk of acquiring an infection from taking care of critically ill patients; you are at much higher risk of becoming infected from something else you do. I have been a physician for 18 years, and for at least 12 years have dealt with the sickest and most infected patients in the hospital. I have three young children and I don't worry that I'll bring infection home. I protect myself and my family by using some common-sense procedures."

Dr. Caplan says it is necessary to know certain terminology to understand the transmission of infection. These terms are:

Infecting agent: An organism capable of producing an infection

Infection: The entry and multiplication of an infectious agent in a person

Communicable disease: An infection capable of being transmitted from a person or animal by either direct or indirect contact

Carrier: A patient or animal that harbors an infectious agent yet is free of the symptoms of the disease. This happens with diseases such as hepatitis, typhoid, or AIDS. "Typhoid Mary" was a woman who lived in the early part of this century, who had typhoid, and became a

carrier. She worked in a food distribution facility and was actually dishing out typhoid with the food. Typhoid is uncommon in the United States today.

Vehicle: A non-living object that acts as a link in the transmission of an infectious agent. The vehicle might be clothing or a hat in which an infectious agent such as lice might be transmitted, or particulate droplets from someone who is coughing. Children's toys can become vehicles when the children forget to wash their hands after going to the bathroom and feces get on their toys. The next child touches the toys and later puts his hand in his mouth. This is a common means of transmission.

Vectors: Usually insects. Fleas can transmit plague, but this is not a problem in this area. Ticks can transmit Rocky Mountain spotted fever, but if you should contract it while in the field it is a treatable disease. Mosquitoes transmit malaria, but you can't get malaria from contact with a person who has the disease. A mosquito must bite the infected person, incubate the disease, and then bite you. "Even if there were a mosquito in the ambulance with you while you were treating a patient with malaria, the mosquito would need five days to incubate the organism before it could transmit it," Dr. Caplan says.

Parenteral: That is, putting the agent into the skin, muscle, or bloodstream. This is the primary mode of transmission of hepatitis-B, when the health care provider contaminates him/herself with a needle. "Blood is drawn from the patient or he is bleeding, and either you cut yourself or by some other mechanism your blood and the patient's blood mix. If we wear gloves and are very careful with sharp instruments we can avoid this. And people in the health care field should have the hepatitis vaccine," Dr. Caplan says.

Hepatitis, which is a virus and affects the liver, is the most threatening infection to those who work with patients. Dr. Caplan says that many health care providers have already had hepatitis and don't know it because at least half of the hepatitis patients in this country are asymptomatic or have mild, cold-like symptoms. The other half of the hepatitis patients have fever, malaise, don't eat well, and have a yellow tinge to their skin and eyes. Most will be better in three or four weeks; 10 percent will become carriers; and although it is not known why,

about one percent will die.

Hepatitis cannot be caught if the vaccine is taken. MIEMSS patients are screened to detect carriers, and personnel are notified if patients are found to be positive. It takes several days to identify a carrier. According to Dr. Caplan, "There is a 6-30 percent chance of contracting hepatitis; some studies say 10 percent. It is clearly not 100 percent, even if you stick yourself with the patient's needle. The risk is lowered by taking precautions."

AIDS seems to be much, much less infectious than hepatitis, given the same circumstances. "Even if you stick yourself with the needle from an AIDS patient, although it is not clear what the risk is, it is very, very low. Much lower than that of hepatitis," Dr. Caplan emphasizes.

Direct exposure to body fluids: Gonorrhea, syphilis, and hepatitis-B are transmitted in this way. Sexual transmission is the most usual mode of transmission. This should not be a problem to health care workers.

Droplet transmission: This is the major mode of transmission of other diseases. There are approximately 115 different types of viruses that cause the common cold. If someone who is coughing has one of the viruses to which you have not been exposed, you can get the cold. Most of the time this is not transmitted at work but in the home environment. Influenza is a viral disease that occurs in the wintertime in this area. The risk of getting influenza is predominantly at home, Dr. Caplan says.

Tuberculosis is probably the only disease to which the health care provider has a moderately good risk of being exposed by transporting a sick patient who is coughing blood. However, even this disease is inefficiently transmitted unless there is close contact such as living and eating in the same household. Even giving mouth-to-mouth resuscitation to a patient with active tuberculosis has a very low chance of transmission. "If the health care provider should contract the disease we would not try to prevent it, but wait for it to occur and then treat it," Dr. Caplan says. "There are efficient drugs to interrupt tuberculosis."

Indirect Transmission: Head lice can be transmitted by children who share hats. Lice die within 24-48 hours away from the warmth of the human body. They usually live in the hairy areas of the body but can be transmitted in clothing.

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Research on Poisonings in Elderly

Poisonings in elderly people differ from those in other age groups; exposures are less likely to be the result of a suicide attempt (14.8 percent) or drug abuse (1.7 percent) and more likely to be accidental (83.1 percent), paralleling what has been observed in young children. Since the elderly are the fastest growing segment of population in the United States, preventive measures need to be developed and health professionals educated about poisonings in this age group.

A study on poisoning and 237 elderly persons, conducted by Wendy Klein-Schwartz, PharmD, assistant director of the Maryland Poison Center (MPC), and Gary M. Oderda, PharmD, MPH, director of the MPC, both of whom are associate professors in the University of Maryland School of Pharmacy, indicates that most poisonings occur by the oral route and at home. Although only 27.4 percent of the study population received treatment in an emergency department or required hospital admission, the probability of admission for the elderly person seen in the emergency department was significantly greater than that for younger adults and children.

Accidental exposures may be amen-

able to prevention techniques. Medicines were sometimes taken incorrectly or taken too frequently because the patient forgot that he/she had already taken the medicine. This may be avoided by using unit-dose medicines or by using pill boxes that contain only specific doses for the day. However, it is not always practical to have someone apportion the medication and leave it where the patient can see it, because if there are young children around they might be tempted to take the pills, thinking that they are candy.

In the study, senility and confusion contributed to the poisoning danger. Many exposures occurred in nursing home patients who for no apparent reason ate or drank substances stored within their reach. Fortunately these substances included items of low toxicity, such as flowers and cosmetics. Nursing home personnel need to be educated to ensure that nonfood substances are kept out of reach of patients who as a result of cognitive impairment are at risk to ingest them.

Sometimes products were used improperly while working around the home. Ammonia and bleach were mixed together causing toxic gas. Topical exposure to pesticides occurred while working in the

garden. In most instances, directions on the product label were not carried out.

Sometimes poisoning was due to the improper storage of an agent. Items were transferred from the original container to another one and mistaken for food or drink.

Nonfood items were sometimes mistaken for food; veterinary products were mistaken for those intended for human consumption; cleaning products were thought to be mouthwashes; eardrops were mistakenly put into eyes.

Dr. Klein-Schwartz believes that part of the problem with these cases of mistaken identity is due to the inability of the elderly person to read the product label. "Perhaps there is too much told on the label; if the directions and dangers were put in larger print and some of the unnecessary words were eliminated, the labels might be easier to understand."

Of the four fatalities that occurred to persons in this study, three were classified as suicides and one as an accident. Almost 9 percent of the suicide attempts among the elderly were successful. This is a high number relative to the general population of the MPC. The reason for this high number is unclear. It is possible that elderly suicidal persons take agents with a higher lethality or at a higher dose than persons who are younger, or perhaps accompanying medical problems and prior medications make the elderly less able to survive an acute insult.

Elderly patients may be less likely to improve rapidly and to cope with acute injury. Even with therapeutic doses of drugs the elderly often show increased and unusual responses and are more susceptible to drug reactions. Elimination of drugs may occur at a slower rate as a result of impaired hepatic metabolism and renal function; therefore, after an overdose it would take longer for symptoms to disappear.

Drs. Klein-Schwartz and Oderda emphasize that since the elderly may be more susceptible to the toxic effects of drugs and other products, aggressive initial management of serious intoxications is necessary, especially with suicidal patients. And the elderly and their caretakers must know how to contact their regional poison center. In Maryland call the Maryland Poison Center at the University of Maryland School of Pharmacy (a special MIEMSS consultation center): 301-528-7701 in Baltimore or 1-800-492-2414 elsewhere in Maryland.

Speech-Communication Disorders Award



(L-r) Dr. Ameen Ramzy (state medical director and state EMS director), Dr. James Hall III (associate professor and chief of audiology with the Department of Otolaryngology—Head and Neck Surgery of the University of Texas Medical School in Houston), and Roberta Schwartz (director of the MIEMSS speech-communication disorders program). Dr. Hall received the 1987 Shock Trauma Speech-Communication Disorders Research Award at the Third National Traumatic Brain Injury Symposium, sponsored by MIEMSS, March 26-27. He was cited for his paper, "The Role of Sensory Evoked Responses in Acute Care and Rehabilitation of Severely Head-Injured Children and Adults." More than 390 professionals from 33 states and 4 countries attended the conference.

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Infection Control & Prehospital Care Providers

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If you put someone's clothing in your pocket it is possible to get lice through vehicle-borne transmission. This is not a major problem.

Airborne transmission: This method is inefficient and can be thwarted by moving the air. A closed area should not be used for a long time to treat patients. Ambulances should be aired out as much as possible when not in use, but this is not a substitute for thoroughly cleaning high-contact areas.

Streptococcus could be picked up, but although it is common for children to have strep throats it is uncommon for adults to get one. Most people are fairly immune to this disease and there is good treatment available if it should be contracted. Ninety-nine percent of adults' sore throats are due to viruses and not streptococci, according to Dr. Caplan.

Some diseases for which there are perceived risks by airborne transmission are hepatitis, meningitis, herpes, and AIDS. Meningitis is the most likely.

Meningitis is an infection of the tissues covering the brain and/or spinal cord. This disease has earned its bad name, Dr. Caplan says. It can be fatal. Most of the meningitis seen in this area is caused by viruses that cause a very low grade disease with only a very short sick period. Patients are rarely transported

because they don't seem to be that ill. The bacterial meningitides are very common in children and have an intermediate mortality rate. Fortunately, there has not been an outbreak of meningitis in the United States for more than 20 years; there have been outbreaks in other countries. Meningococcus can be transmitted from a patient to someone else. A caregiver cannot transmit meningitis at home unless the caregiver gets it first. Meningitis is primarily transmitted through intimate household contact. Even if medical personnel did mouth-to-mouth resuscitation on a patient with meningitis, although it is possible to transmit the organism, it is very unlikely. If it did occur, an antibiotic would be taken to intercept the possibility. "It is very unlikely that it would happen," Dr. Caplan says. "And remember, you can't give it unless you have it. Children are most likely to pick it up at school."

Herpes (most commonly appearing as cold sores on the face) can be transmitted by touching the lesion and then touching your eyes or mucous membranes. "Keep your fingers away from the lesions," Dr. Caplan advises. "I strongly suggest wearing gloves when touching the mucous membranes or the blood of a patient."

AIDS is caused by a virus now called HIV (human immunodeficiency virus). It

is transmitted via inoculation of blood but seems to be difficult to transmit unless direct inoculation occurs. Again, if possible, gloves should be worn when there is contact with the blood of a patient.

There are methods by which medical personnel in the prehospital phase can protect themselves against infection:

1. Don't recap needles, dispose of them. If you must recap one, put the cap on the ground and stick the needle in. Most exposures occur by recapping needles. Don't do it.
2. Minimize contact with body fluids.
3. Wear gloves when touching wounds, sores, or other body fluids if you must touch them at all.
4. Don't touch yourself after contact with someone with an infectious disease until you have washed your hands.
5. Use mechanical aids for ventilation whenever possible. Use airway adjuncts if mouth-to-mouth resuscitation must be done.
6. Keep ambulances clean and well ventilated.
7. Take special care with sharp instruments, needles, and glass. Don't cut yourself inadvertently.
8. Be sure your vaccines are current.
9. Use common sense. "There are risks — and we must be careful," Dr. Caplan says.

—Erna Segal