



Maryland
EMS
NEWS

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Volunteers Needed . . .



Within the last few years, the demand for neonatal services has approximately tripled. This has meant the requirement for more interhospital transports utilizing the specially designed neonatal transport van. At this time, MIEMSS is asking for volunteers to help drive this van and assist with these types of transports. Candidates should be EMTs and have a valid driver's license. They will be taught how to care for premature babies and what points to look for during their assessment. Anyone interested in participating in such a program, please contact Cheryl Bowen or Kathy Aoki at (301) 528-3930.

ALS Equipment on BLS Units Discouraged

In recent months there has been word from the regional offices that ambulance companies that are now providing BLS care have been opting to purchase, with their own company funds, certain pieces of equipment specific to an ALS provider. One such piece of equipment is a cardiac monitor. Because of the use of the cardiac monitor without an attached defibrillator is not considered an invasive technique, there is little the regional offices can do to prevent the purchase of such equipment by BLS providers. However, it is the strong feeling of the MIEMSS central office that the purchase and use of such equipment by BLS ambulance companies be highly discouraged for several reasons. The justification of such reasons are based upon the interest of best patient care and long-term goals of the EMS system.

Hypothetical Scenarios

To further illustrate the idea, picture these two hypothetical scenarios. Both scenarios take place where ALS response is not available.

Scene 1: An ambulance company is called to the house of a man in his 50s. The patient is experiencing chest pain and anxiety, is diaphoretic, and is having shortness of breath. His only medical history is hypertension for which he is on medication. The EMT-As take vitals, place him on

oxygen, try to relieve the anxiety, and comfort him. Then they initiate the use of a cardiac monitor to look at the electrical activity of the heart. The closest hospital, which is 20 minutes away driving time, does not have the capability to receive an ECG strip since their county is all BLS. After loading the patient, the EMT-As take time to make a recording of the strip at the scene. They then begin transport to the local emergency room.

Scene 2: An ambulance crew is called to the scene of a construction site to see a worker who experienced sudden pain in his left chest wall while lifting a sheet of plywood. The patient is a 22-year-old male, in good physical condition, with no prior history and no allergies or routine medicines. The EMT-As on the scene take vitals, which are well within normal limits, and find nothing physically wrong. They then hook the patient to the monitor and observe a normal sinus rhythm at a rate of 72 with no ectopy. The impression of the EMT-As is that there is nothing wrong with him and they advise the patient he does not need hospital care. The patient agrees and the ambulance crew leaves the scene.

These two scenarios violate the rules of best patient care in several ways. In scene 1, patient transport is being delayed due to the fact that time is taken to hook up

the patient and to run a copy of the strip. There is no therapeutic value in EMT-As observing an ECG rhythm because the hospital cannot receive telemetry to give drug orders and there is no CRT to operate within ALS care procedures. Third, using a cardiac monitor may give the patient and family a false impression of what care can be given to the patient. By seeing the monitor in use, the patient and family may expect to see techniques that are far beyond the realm of an EMT-A.

Violation of Protocols

Scene 2 also violates similar protocols. By using a cardiac monitor on this patient, the EMT-A is using equipment beyond his training and certification. Again this gives a false impression to the patient about the ambulance crew's capability. Most important, by advising the patient that they see nothing wrong with him, the EMT-As are making a diagnosis. Field personnel who make such a diagnosis are clearly practicing medicine without a license.

When an individual operates outside the guidelines of established patient care protocols, he may be jeopardizing both the patient's well-being and his own, because the provider could no longer point to the protocols as the basis for his actions

(Continued on page 5)

Meeting of State EMS Medical Directors

Recently I met with the State EMS Medical Directors in Annapolis.

EMT-P Program Standards

First on the agenda was the draft of the EMT Paramedic Program Standards. Although MIEMSS has developed these in-house, the medical directors had some minor corrections to make. MIEMSS is incorporating these changes and within the next few days will forward the draft to many more agencies for their input. Among the agencies included will be the Fire Chiefs, REMSAC Education Subcommittee, the Maryland State Firemen's Advanced Life Support Committee, and the CRT instructors of the state. As delineated in a previous article, it is anticipated that, in addition to performing CRT skills, the Maryland-certified paramedics will be authorized to perform endotracheal intubation and to administer some medications beyond what CRTs can administer. The addition of these skills and medications will reflect the increasingly elevated level of care in the prehospital phase.

MIEMSS Governance Issue

The second discussion was on the MIEMSS governance issue. I am sure that many of you know that MIEMSS is working with the University of Maryland to delineate how the MIEMSS clinical component will be affected when the University of Maryland Hospital moves into a not-for-profit corporate status and out of the state system. Many of the personnel in the field have expressed concern as to whether this will change the MIEMSS as we know it, but Dr. Cowley and his staff are working with the University as it relates to the clinical component.

Helicopters

A third consideration was the use of helicopters, particularly in Region V. Many more helicopters are now available to prehospital providers, since Fairfax County, the Washington Hospital Center, and Washington City Police are all in the process of purchasing or leasing helicopter equipment.

Free-Standing Emergency Clinics

Concern was also raised about the functioning of free-standing emergency clinics in many parts of the state. There have been questions as to whether EMS vehicles on emergency calls should stop at these emergency centers or transfer patients to the nearest hospital. The MIEMSS Central Office, together with the Maryland Department of Health and Mental Hygiene, will examine this issue. It is worth

noting at this time that there are no Maryland standards or regulations for free-standing emergency clinics.

Consultation Center Designation

The last item on the agenda was consultation center designation. More hospital emergency rooms now wish to provide consultation for patients coming into their facility even if the patients are in cardiac arrest. I stated at the meeting that I thought that certain components need to be in place before that hospital could apply for a consultation center designation — namely 24-hour, in-house physician coverage,

ACLS certification, a ride-along program with the local medic units, a base station course to acquaint the hospital staff with the operation of the emergency communications system, and a willingness to conduct review sessions and continuing education sessions with prehospital providers. If any institution or physician wishes to inquire more about this program, please contact the regional administrators.

Thank you for the continued support of the Maryland EMS System.

— *Alasdair Conn, MD*
Medical Director, Field Programs

Focusing on Field Operations

Many things are happening within the EMT-A program nationwide. (See article on page 3.) One of the exciting prospects is the possibility of legal recognition and reciprocity among EMT-As from many states. In Maryland, we have recently worked out some guidelines. These are detailed in an article on page 3.

As you can see in that article, one of the prerequisites for obtaining a Maryland EMT-A certification card is that the individual must prove a need for Maryland recognition. It is likely that other states will

adopt this type of language in their legal recognition requirements so that any Maryland EMT who wished to move to any of these other states could easily join a company there and apply for legal recognition. It will take a few years to obtain a similar type of legal recognition at the advanced life support level, but I feel that once recognition at the basic EMT level is in place, then others will surely follow.

Another exciting development has been the announcement of a basic trauma life support course (BTLT). As many of you know, there has been an advanced trauma life support (ATLS) course designed for physicians for approximately four years. Physicians, particularly those in a more rural environment, are the target audience for ATLS and the objectives are to teach them how to assess trauma patients and how to do many of the interventions required for resuscitation, such as inserting chest tubes and performing peritoneal lavage. Soon after ATLS was introduced, a similar course for prehospital providers was requested. This course, called Basic Trauma Life Support, has now been developed and has been pilot tested. Some of the slides and curriculum need to be changed slightly, but we are working with the American College of Surgeons representative in Maryland to ensure that as soon as this is completed, the course is made available to Maryland prehospital providers. We hope to have the necessary materials by the beginning of the new year but I am afraid we can make no promises. I have yet to see the curriculum, but I hear that it is approximately two full days (16 hours) and as soon as we have more information, we will let you know.

— *Alasdair Conn, MD*
Medical Director, Field Programs

HBO Therapy Course Offered at MIEMSS

MIEMSS is offering a 5-day course with hands-on experience in clinical hyperbaric oxygen (HBO) therapy on March 5–9 and September 17–21, 1984.

The curriculum includes: physiology of gases and HBO; medical aspects of diving and decompression sickness; barotrauma and air embolism; overview of medical conditions treated, including procedures and protocols of emergency and routine treatments; pharmacology under HBO; evaluation of clinical patients for HBO; treatment workshop on decompression sickness cases; chamber operation and emergency procedures; role of nursing staff, tenders, and chamber operators; multiplace and monoplace chamber workshop; equipment operation and maintenance.

The course, which is open to physicians, nurses, inside tenders, and chamber operators, has been approved for Category I, 40 CME credit hours by the Undersea Medical Society, Inc. For further information, contact Barbara Schnitzer (301) 528-6152.

EMT Issues on a National Level

Lou Jordan, MIEMSS associate director of prehospital care, and Ronald Schaefer, MIEMSS associate director of prehospital education and training, attended the seventh annual meeting of the National Council of State EMS Training Coordinators, held in Bismark, ND. A synopsis of the many important developments at the conference follow.

Revised EMT-A Curriculum

The national standard EMT-A curriculum is currently rolling through the presses. This expanded program has suggested/recommended hours of approximately 110, and the majority of states have already moved to this minimum, with some exceeding the suggested number. Maryland is compiling a list of states and the hours they require for EMT-A training.

EMT Instructors Course

Another accomplishment was the

Council's completion of the standardized EMT instructors training program. The course, which had input from all states, covers lesson plans, audiovisuals, and evaluation of student progress. A national study group, established under a DOT grant, has been designated to evaluate EMT matters (for example, texts, lesson plans, audiovisuals, and instructor training). Ron Schaefer and Lou Jordan will be a part of this national study group.

National Reciprocity

Lou Jordan was appointed as chairperson of the National Reciprocity Committee and will be assisted by Ronald Schaefer. This group has already moved toward legal recognition of EMT-As and feels that a reciprocity agreement between many states is within reach. A standard format for comparing programs of various states was developed. This makes it possi-

ble for EMT-As from different states to transfer into another state's program if the states involved all have comparable training and evaluation procedures. The decision of the receiving state is not based upon the decision of the other states to reciprocate. This process is called "legal recognition."

Maryland has expanded to 24 the number of states whose programs meet Maryland guidelines (see article on this page). All certified EMT-As from these states are therefore eligible for legal recognition. (Prior to this, Maryland accepted EMT-As from three states.) EMT-As from those states designated as meeting Maryland's criteria can work in the Maryland EMT-A program for a period not exceeding one year. At the conclusion of this period of legal recognition, these individuals would be required to comply with Maryland's EMT-A recertification requirements. As always, it is extremely important for the local EMS authorities to work with new EMT-As and EMT-As entering the Maryland program under legal recognition to familiarize them with operational procedures, communications, protocols, etc., in their specific program.

EMT-P Program

The National Council continues to move forward in many areas of concern in EMS. Other national activities that are currently underway include the restructuring of the EMT-P program from 15 distinct modules to a format of six content areas, written testing, practical testing, and length of certification at various levels.

Leo Schwartz Resignation

Leo R. Schwartz, chief of the EMS Division of DOT-NHTSA, will be retiring soon after many years in EMS. In his letter to the field, Leo left us with some important guidelines for the future. Leo's statement is that "there are training programs to be written, research projects to be undertaken, legislative initiatives to be fought for and more. There are also EMS programs and systems to be protected and enhanced." As Leo puts it, "we must continue to apply the concepts, principles and standards that you have worked so hard to help institute, and protect them from the provincial and parochial winds of compromised opportunism and regression."

Organizations such as the National Council of State EMS Training Coordinators and MIEMSS have shared and will continue to share the beliefs of Leo.

— Lou Jordan

Associate Director, Prehospital Care

'Legal Recognition' in MD

By working with other state EMS agencies across the nation, MIEMSS has been able to identify other state programs that meet the requirements set for EMT-As in Maryland.

These states include:

- | | |
|----------------|---------------------|
| 1. Alaska | 13. New York |
| 2. Colorado | 14. North Dakota |
| 3. Connecticut | 15. Pennsylvania |
| 4. Florida | 16. South Dakota |
| 5. Idaho | 17. Rhode Island |
| 6. Illinois | 18. Tennessee |
| 7. Kentucky | 19. U.S. Virgin Is. |
| 8. Louisiana | 20. Utah |
| 9. Maine | 21. Virginia |
| 10. Montana | 22. Washington |
| 11. New Jersey | 23. Washington D.C. |
| 12. New Mexico | 24. West Virginia |

Legal recognition will be extended to individuals who are from the above states and who possess current EMT-A cards from their states if they meet the following requirements:

1. Individuals must prove a need for Maryland recognition.
2. The issuing State EMS Offices must verify, in writing, the credentials of the individuals.

Based on the above requirements, the individual will be granted legal recognition for a period not to exceed one year or until the expiration date on the current card, whichever is least. At the conclusion of this time of legal recognition, the individual must be in compliance with Maryland's recertification requirements.

The status of legal recognition would be extended to currently certified individuals from the following states provided that initial training has been completed within the past three years:

- | | |
|------------------|-------------------|
| 1. Arkansas | 5. North Carolina |
| 2. Iowa | 6. Oregon |
| 3. Massachusetts | 7. Texas |
| 4. Missouri | 8. Vermont |

After three years of training, individuals from the above states would be required to complete a refresher program — written and practical exams.

California does not yet meet Maryland guidelines and, therefore, EMT-As from California will not be able to obtain legal recognition in Maryland.

States to be evaluated further at this time due to incomplete forms or no responses include:

- | | |
|-------------------|-----------------|
| 1. N. Hampshire | 11. Arizona |
| 2. Wisconsin | 12. Delaware |
| 3. Mississippi | 13. Georgia |
| 4. Kansas | 14. Hawaii |
| 5. Indiana | 15. Michigan |
| 6. Ohio | 16. Minnesota |
| 7. South Carolina | 17. Nebraska |
| 8. Wyoming | 18. Nevada |
| 9. Oklahoma | 19. Guam |
| 10. Alabama | 20. Puerto Rico |

MIEMSS wishes to acknowledge the work of the National Council of State EMS Training Coordinators for making this process available and hopes that other states will address legal recognition in a like manner.

— Alasdair Conn, MD

Medical Director, Field Programs

Region I

The foundation of the EMS system is the EMT. Yet in the past several years we have seen a decreased number of EMTs recertifying and a dropout rate of 30 percent in 84-hour EMT courses.

In an effort to find out why these problems are occurring, the Region I EMS Council and the MIEMSS Region I office conducted a survey. Questionnaires were sent to all EMTs whose certification lapsed in 1981 and 1982. In addition, individuals who dropped out of 84-hour EMT courses during the same period were contacted. In all, 128 former EMTs and 85 former EMT students were sent surveys.

The response to the questionnaire has been quite impressive. Thirty-one percent of the former EMTs and 33 percent of the EMT students responded. As a result we have gained valuable information on how and why individuals become EMTs, as well as why they eventually drop out. A sample of the findings is listed below.

<i>Reason for not recertifying as an EMT</i>	<i>Percent</i>
Work/family commitments	34
Excessive requirements	21
Classes not at a convenient time	19
Other	9
Ambulance company politics	7
Too much stress	5
Travel — classes too far away	3
Health problems	1
Age	1

The survey findings will be used locally, and will also be made available to the Special Task Force now evaluating the Maryland EMT Program. This survey, combined with similar studies done in other regions, should assist in the improvement of EMT retention and recruitment. Currently a complete analysis of the survey data is being completed and individuals wishing more information should contact the Region I Office.

— *Dave Ramsey, (301) 895-5934*
Reprinted from "Mountain Medic"
(Nov. 1983)

Region III

A Region III lecture series has been developed recently. This series grew out of requests from EMTs for additional education while awaiting their CRT classes and requests from personnel in specialty units for a means to address large groups of EMTs on issues that need clarification or emphasis.

Ameen Ramzy, MD, associate medical director of field programs, and an attending surgeon at MIEMSS Shock

Region II

National Registry Test

A National Registry test for EMT-A level certification is scheduled for Region II on January 13, 1984 at 7:30 pm. Candidates must have completed a 5-station Maryland EMT practical exam within the last 12 months. The testing fee is \$15, and checks should be made payable to "National Registry." Candidates should pre-register at the Region II office by calling 791-2366 or 293-1749. For the test location and further information, contact the Region II office prior to January 7.

MAS Trouser Study

Those who attended the Region II "Trauma Days" sessions at Hagerstown in May might recall that Dr. Romane from Frederick Memorial Hospital discussed use of MAS Trousers for cardiac arrest patients. Dr. Romane proposed a study using EMTs and CRTs from Frederick County to document effectiveness. The Medical Advisory Committee and the Region II Council felt that this was an excellent proposal and recommended that the study be expanded to include all of Region

Region V

The EMT-A Survey published in the April issue of this newsletter produced some interesting data on what experienced EMT-As in the field think about the program. Experienced is the correct term since 33.5 percent of the respondents had 3 to 6 years as EMT-As while 42.1 percent had over 6 years of service. Over 80 percent of the EMT-As responding had previous first-aid training and 78.4 percent felt they had enough time to learn required practical skills. The number of EMT-As who feel the EMT-A course is long enough drops to 63.1 percent while over 85 percent feel that the EOA/MAST module should be added to the EMT-A courses.

In answering specific questions about the program, 74 percent felt that course objectives met the training needs of the

Trauma Center, began the series with a lecture on adult trauma in November at the Baltimore County Fire Academy. Future topics include pediatric trauma, burns, hand trauma, medical emergencies, and radiologic emergencies.

We also hope to offer a similar series for CRTs in the future.

— *John Donohue*
(301) 528-3997

II. As soon as the protocols can be developed so that everyone can participate, we will start this program in Region II. The Region II office will give all the individual ambulance companies sufficient copies of the protocols.

Washington County Hospital

Washington County Hospital has a beautiful new wing housing the emergency room, operating room, and cardiac and progressive care units. One of the problems in the development of the new facility has been that the ambulance driveway for the emergency room causes ambulance lights to shine into windows of the neighboring homes. It would be very considerate to the neighbors if ambulance drivers would ensure that their lights are turned off when they arrive at emergency room doors. Because the ambulance entrance is so exposed to neighbors, the sounds and lights are distracting, especially in the middle of the night.

— *Mike Smith*
(301) 791-2366

EMT-A in the field. The exam procedure received surprisingly good marks from these EMT-As, with 83 percent feeling that the written tests were appropriate measures of what was learned while 77 percent felt that the practical exam tested skills used in the field and over 71 percent felt the exam was fair.

In two areas, continuing education and recertification, the responses were somewhat unexpected. Over 90 percent of those surveyed stated that they would attend continuing education if offered while only 54.6 percent felt that the refresher course offers enough retraining.

In reviewing these results, the reader must be cautioned that a sample of 176 out of 11,107 EMT-As in Maryland is very small and biased in favor of the dedicated and experienced, because he or she is the one who takes the time to fill out and mail the questionnaire. On the positive side, however, who is better able to comment on the EMT-A program than the EMT-A who has been providing life-saving care over the last seven years.

Below is a summary of the profile.

<i>Affiliation</i>	<i>Avg. Yrs. of Service</i>
32.9% — career	7.14 (EMS)
69.9% — volunteer	10.60 (Fire)
3.4% — other	

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

ALS Equipment

(Continued from page 1)

in the event of complications, disability, or death.

Not only does the purchase and use of such equipment violate patient care standards, it is also contrary to short- and long-term EMS system goals.

First, the cost of such equipment is extremely high, and for a company to spend \$4,000–\$5,000 for equipment with no therapeutic value seems foolish in these days of tight EMS budgets. Contrary to long-term goals, the use of a monitor may retard the development of a true ALS system. In view of these reasons, the MIEMSS central office strongly discourages the purchase and use of ALS equipment by companies that provide strictly BLS care.

—Alasdair Conn, MD

Medical Director, Field Programs

Ameen Ramzy, MD

Associate Medical Director, Field Programs

Region IV

The Eastern Shore Emergency Medical Services Advisory Council, Inc., sponsored a legislative reception at the Tidewater Inn at Easton on October 24. The purpose was to better familiarize the members of the Eastern Shore delegation to the Maryland General Assembly with EMS and Region IV.

There were also several presentations on prehospital care — basic life support and advanced life support. Aviation section commander for the Maryland State Police, 1st Sgt. Robert Middleton described the Med-Evac program on the Lower Shore and its role and interface with Peninsula General Hospital Medical Center and the specialty referral centers in Baltimore. Sgt. Middleton also described helicopter coverage for the Upper Shore and how that area accesses the statewide EMS system for helicopter services.

The evening program was moderated by John Bulkeley, MD, chairman of the Region IV EMS Advisory Council. Additional guest speakers included Robert Adkins, MD, regional medical director, and Alasdair Conn, MD, medical director of the MIEMSS field programs.

The Council expressed their appreciation to those delegates who attended and it was indicated that this type of activity should be an ongoing annual event.

—Marc Bramble, John Barto
(301) 822-1799

Robert Wilder Returns to Baltimore As Visiting Attending at MIEMSS



Robert J. Wilder, MD, medical director of EMS in Oklahoma and known to many EMS field personnel in Maryland for his pioneering work in prehospital and hospital emergency care, has just completed three months as a visiting attending surgeon at MIEMSS Shock Trauma Center.

In 1956, while based at Baltimore City Hospitals, he became the first emergency squad doctor in the nation, and later helped to develop mouth-to-mouth resuscitation and CPR. He also coordinated the first national ambulance training workshops, which included participants from foreign countries.

As emergency squad doctor, Dr. Wilder assisted on the scene for specially designated emergencies. He was escorted by police car from City's emergency room to specially designated accidents in Baltimore City. Later, Johns Hopkins, Sinai, and University, as well as City Hospitals, participated in the program.

Also while at City, Dr. Wilder worked with Peter Safar, MD, to develop mouth-to-mouth resuscitation, using anesthetized medical students for practice. Under a grant to Dr. Safar from the Surgeon General, they were able to prove that the procedure was simple enough for women and children to do.

Retired Baltimore City Battalion Chief Martin C. McMahon remembered an 85-pound boy scout from Towson who was able to resuscitate an unconscious 200-pound medical student in their program. "After we proved children could perform this procedure, the American Medical Association sanctioned its use on unconscious victims," Chief McMahon said.

In 1958 Drs. Safar and Wilder at City did parallel work on closed chest cardiac compression with a group of Hopkins doctors. Their joint efforts resulted in what we now call CPR.

Dr. Wilder returned to Baltimore from Oklahoma to update his ideas and technical knowledge. "I chose the Shock Trauma Center because it offers the ultimate in care, research, and development nationally. People living in this area are fortunate to have a very good system of trauma care compared to other areas, especially since the organization has been ongoing for many years. Excellence in this specialty service needs to be developed over a long period of time," he said.

On his return in July, he was pleased to see progress in many areas, and expressed concern that a new facility had not been built to house the new Shock Trauma Center. "It's amazing that the center still operates in an inferior facility while delivering the highest level system and care available anywhere," he said. He was also pleased to see how well hospitals throughout the state have been tied into the MIEMSS system, as well as the development of programs that allow opportunity for fellows, residents, and physicians to come to the center and learn about trauma first hand. "That," he said, "is excellent for the whole country."

Dr. Wilder said he believes that trauma care in Oklahoma is following much the same pattern that it followed while developing here. The past six years have brought legislation to develop and fund a statewide EMS system, and to develop standards for statewide testing for licensing. An ambulance bill now designates regulations for equipment and staffing. "We still have a need to coordinate, with the emphasis on a whole system of care," Dr. Wilder noted, "and to set up designated trauma centers."

—Rochelle Cohen

EHS Program Deadline

The Emergency Health Services program at the University of Maryland Baltimore County has set February 15, 1984 as the final date for receipt of applications for its next class of majors. The program offers a choice of EMS management and paramedic tracks at the baccalaureate degree level. For information, write to: EHS Program, UMBC, 5401 Wilkens Avenue, Catonsville, MD 21228 or call (301) 455-3223.

Evaluating EMS Systems: Tools Needed

Editor's Note: This is the first article of a three-part series on the evaluation of emergency medical services. Part 1, below, describes the MIEMSS Trauma Registry and injury severity scores. Part 2 will discuss the practical usefulness of the information in the Trauma Registry. Part 3 will focus on the applications of injury severity scores in prehospital and hospital emergency care.

Maryland's EMS system has changed enormously during the last decade. Is the current EMS system better as well as different?

No one would doubt that it is. After all, there are many people alive today who would not have survived under the old EMS delivery system.

However, the question of what makes it better cannot be answered with certainty because the data needed to answer the question either do not exist or are not accessible. In addition, adequate research tools for evaluating EMS systems have not been available.

But all of that has changed as a result of two developments: the establishment of the MIEMSS Trauma Registry and the creation of injury severity measures.

The MIEMSS Trauma Registry is simply a computer that stores, tabulates, and displays patient data from ambulance runsheets and hospital records.

The registry contains data on a majority of patients transported by publicly owned ambulances or by Maryland State Police Med-Evac helicopters, and all patients treated at any of the state's areawide trauma centers, as well as at MIEMSS Shock Trauma Center.

In it are stored the demographic characteristics of these patients, the causes of their accidents or injuries, all of their diagnostic findings, and all of the treatments they received. In addition, the registry calculates and stores injury severity scores on each patient. The scores are calculated from the patient data fed into the registry.

Many different severity scores have been developed at MIEMSS and other medical institutions during the last 15 years. Some of them apply to medical illness rather than to injury. Many of them have been found to be invalid, unreliable, or not useful in practice.

The two injury severity scores calculated by the MIEMSS Trauma Registry are called the Clinical Triage Score (CTS), a physiological index developed at MIEMSS, and the Injury Severity Score (ISS), an anatomical index.

A physiological injury severity index is based on the assumption that the severity of injury is determined by the degree of physiological disruption caused by trauma. The assumption underlying an anatomical injury severity index is that the severity of injury is determined by the amount of physical damage sustained by the various anatomical systems of the body as a result of trauma.

The CTS is based on the patient's systolic blood pressure, pulse rate, respiration rate, and Glasgow coma score, whereas the ISS is based on the most severe anatomical injury in each of the patient's three most severely injured body regions.

The MIEMSS Trauma Registry is having an immediate impact on the EMS system in Maryland, as will be discussed in the next part of this article.

However, the utility of injury severity scores will not be evident for some time because research on these scores is still in progress.

EMS evaluation is essential for identifying existing needs and problems, and for

determining the effectiveness of the responses made to those needs and problems.

But there is also a strong economic incentive for evaluating EMS systems. In 1979, the Division of Emergency Medical Services of the then named Department of Health, Education, and Welfare recommended that grantees of Section 1204 of the Emergency Medical Services Act of 1973 conduct impact studies.

Gone are the days when an EMS project was funded simply because it sounded like a good idea. Due to the recent cutbacks in government spending on the federal level, EMS needs have to be documented much more carefully than before, and the benefits of implementing an EMS project have to be demonstrated to warrant continued funding.

Therefore, the bottom-line reason for evaluating an EMS system is money. And for MIEMSS in the years to come, the necessary data and tools to conduct accurate evaluations will mean money in the bank.

— Dick Grauel

EMT-P Program at AACC

The Anne Arundel County Fire Department has its fourth class of 10 EMT-Paramedic students enrolled in the Anne Arundel Community College EMT-P Program.

These students attend as apprentices in the college's program which is modeled after the Department of Transportation (DOT) guidelines.

In 1979 EMS Division Chief Roger C. Simonds approached the college to assist him with apprenticeship education to bring his CRT-Firefighters to the national paramedic level. A part-time, two-year, continuing education program in excess of 300 contact hours was sponsored by the International Association of Firefighters and the International Association of Fire Chiefs in conjunction with the Department of Vocational Technical Education through Anne Arundel Community College.

Based on a county need for this type and level of education and training, a 26-credit certificate program incorporating 517 hours of classroom, field, and clinical training was constructed in 1981. This 26-credit certificate program received approval from MIEMSS and the State Board of Higher Education as meeting or exceeding DOT standards.

As a result of completion of these programs, 39 Maryland firefighters have

become nationally certified as registered EMT-Ps. Thirty-six of these graduates were apprentice students — 31 from Anne Arundel County Fire Department and 5 from the Annapolis City Fire Department.

The pass rate for program graduates taking the National Registry examination has far exceeded the national average. Ninety-two percent of the certificate class of 1983 achieved national EMT-P certification.

According to feedback from local medical facilities and referral centers, EMT-P level education has fostered an increased awareness of the pathophysiology of medical and traumatic emergencies with higher level patient assessment and management skills being implemented in the field.

With 31 nationally registered EMT-Ps functioning as field providers, Anne Arundel County Fire Department is looking to implement a three-tiered response system of basic life support, intermediate life support, and advanced life support at the National DOT level. Chief Simonds sees his ultimate goal as manning each unit with one EMT-P and one CRT. This goal is close to fulfillment.

— Valerie Deverse, Coordinator,
EMT-P Program
Anne Arundel Community College

Advocating Use of Child Restraints

Editor's Note: This is the third article in our series on Maryland's child restraint legislation, which goes into effect on January 1, 1984. Margaret Widner-Kolberg, MIEMSS pediatric nursing coordinator, has been training professionals and laymen on the specifics of the legislation for several months, and is available to answer questions or speak to groups. She can be reached at the MIEMSS Field Nursing Office (301) 528-3930.

Emergency medical practitioners are often well-respected in their communities for the jobs they do, and are often considered by their neighbors as authorities in emergency medical matters, especially accident prevention. Since automobile accidents are the leading cause of death and injury in children, emergency personnel have witnessed their grueling effects on young people on a daily basis. Although statistics have continuously proven that properly used car seats and seat belts can cut death and injury dramatically, many parents remain unconvinced or just apathetic.

What can be done?

Emergency care-givers can be effective spokespersons for the new legislation and influential in convincing parents to properly secure their children in the car. Car seats, seat belts, and an awareness of car safety measures are essential if the devastating effects of automobile accidents on the young are to be controlled.

The following are some common excuses for neglecting to use car seats or seat belts, and how you can refute them [Courtesy of the Maryland Kids in Safety Seats (KISS) office].

I don't need to put my kids in their seats or buckle my own seat belt when I'm traveling at low speeds or going on short trips.

Response: All driving is potentially dangerous, and there is no way to tell when an accident will occur. More than 80 percent of accidents occur at speeds less than 40 miles per hour. Fatalities have occurred at speeds of only 12 miles per hour, about the speed you might drive in a parking lot.

We might be saved if we're thrown clear of the car.

Response: Facts show that the chances of being fatally injured are 25 times greater if you're thrown from the car. Remember, in being thrown, you have to go through windows, and that's dangerous. Then comes the next problem — where do you land after flying through the air? Under the circumstances, there isn't much choice.

Car seats for kids and seat belts for adults can help keep you in your seat so you don't: plunge through the windshield; smash into trees, rocks, or other cars; scrape along the ground or pavement; or get run over by your own or another car.

It takes too much time and effort to fasten my kids and myself in.

Response: In reality, it takes only a few seconds to buckle up. Once you make it part of your routine, it's not a problem. The slightest bit of effort pays off in your family's safety and well-being.

With car seats and safety belts, we might get trapped in a burning or submerged car.

Response: If you watch television, you probably think cars explode and drop into rivers all the time. But that's just not what happens in real life. Less than one out of every 200 injury-producing crashes involves fire or submersion in water. But suppose this does happen to you. Then a safety belt can save your life by keeping you unhurt, alert, and able to escape quickly. Without a safety belt, you can be stunned or knocked unconscious in even a minor crash. Then how will you escape?

I don't need a car seat; I can hold onto my own baby.

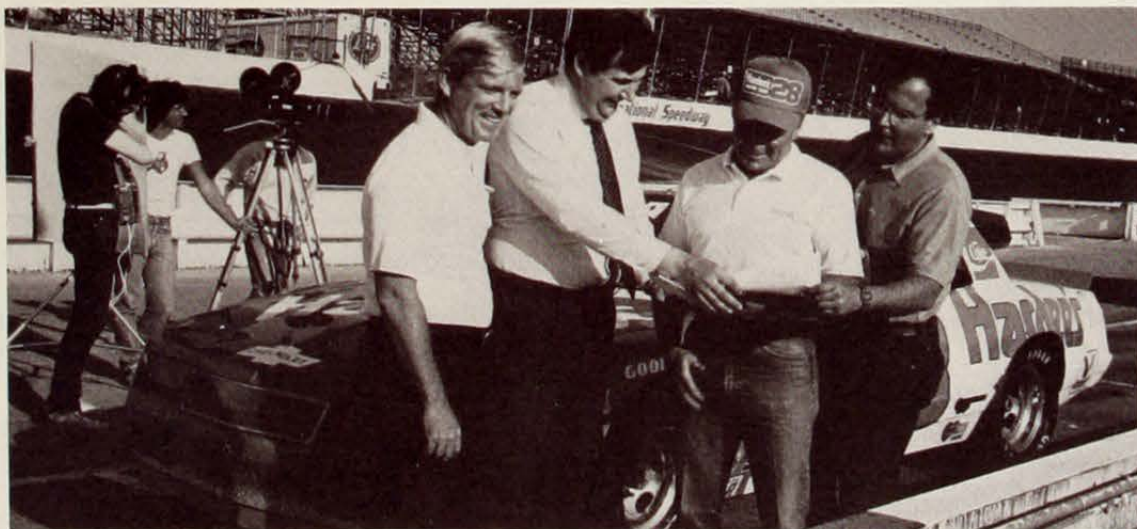
Response: Although many parents believe the safest and most loving way to transport a small child or infant in a car is in their arms, this is not true. In fact, the most dangerous place for a child or infant is on the lap or in the arms of an adult. Tests have consistently shown that even at speeds as low as 15 miles per hour, the adult cannot hold onto the baby upon impact. Tests also indicate that as the baby is ripped from the adult's arms and slammed into the dashboard, the adult's body becomes like a battering ram, crushing the infant into the dash at a force many times the adult's weight and shattering the windshield.

But my child doesn't like being confined in a car seat.

Response: Although you must decide what's best for your child, a car seat is a safe, comfortable place to ride. To ease the adjustment to a car seat you should:

- Introduce your child to the seat calmly, allowing him to check it out for himself.
- Set and maintain rules of behavior for the car.
- Consistently praise good behaviors.
- Ignore yelling and screaming but be sure to praise as soon as the child is quiet.
- Have special toys just for the car to decrease boredom.
- Say "no" in a stern voice and stop the car if necessary if your child tries to release the seat belt or climb out of the seat.

— Rochelle Cohen



Cale Yarbough Completes PSA on Seat Belt Use

Cale Yarbough, professional race car driver for the Hardee's racing team, recently completed 20- and 30-second public service announcements (PSAs) on the theme "Buckle Up! Your Life Depends on It!" The PSAs, along with a poster on the same theme, were developed by MIEMSS, the Maryland State Police, and the American Trauma Society, and will be distributed nationwide. In the above photo, Mr. Yarbough is reviewing the script with Mel Leonard (Hardee's), Dan McCarthy (Maryland State Police), and Andy Trohanis (MIEMSS).

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Glick, EMS Pioneer, to Leave MD

Gina Glick, MD, a Western Maryland anesthesiologist and president of the Region I EMS Council who has been active in EMS activities throughout the state for more than 20 years, will be leaving for a post in Texas later this month.

Dr. Glick, chief of anesthesiology at Sacred Heart Hospital in Cumberland, has been honored many times for her outstanding contributions to emergency medical care in the state. Soon after arriving in Cumberland, she initiated the tri-state poison control center, and several years later began the area's first CPR course along with two other area doctors. The first classes were taught to hospital personnel, and according to Dr. Glick, "although we saved lives, many people still did not believe in the technique."

In 1971 Dr. Glick and Gustav Voight, MD, working independently, presented demonstration projects to the Maryland Heart Association proving that laymen with an interest could learn ECG interpretation irrespective of prior educational level. These projects helped lay the groundwork for the statewide CRT pro-

gram which had begun as a local Heart Association project in Montgomery County. "Gina [Dr. Glick] more or less put Allegany County in the forefront of pre-hospital services. The ambulance service and prehospital phase of our medical program are a tribute to her efforts," according to Frederick Miltenberger, MD, Region I EMS medical director.

In the early 1960s, Dr. Glick and her husband Michael Glick, MD, a gastroenterologist, were instrumental in successful efforts to keep open Sacred Heart Hospital in Cumberland after it had been scheduled to close, and to prompt major expansion in its facilities and services.

In addition to receiving this year's Special EMS Supporter Award, Dr. Glick also won MIEMSS' 1980 Outstanding Contribution Award and 1982 Regional Award for Outstanding Local Talent. The first-place award for the advanced life support category of the Maryland EMS Olympics — presented for the first time this year — is designated the Gina Glick Award. Dr. Glick has been honored many times and

said she also has "a whole bunch of other plaques that I file away," for her unrelenting efforts to further emergency care in her region and throughout the state. In addition to working long hours as a physician and spending time with her husband and four children, Dr. Glick often puts in as many as 16 hours a week doing volunteer teaching. "I guess I can manage because I'm a rotten housekeeper and my kids love fast foods," she joked.

More seriously she insists that "teaching volunteer ambulance and rescue personnel is very satisfying work; since the students are so eager to learn, the teaching is a pure joy."

Dr. Glick is an active member of REMSAC (Regional EMS Advisory Council) and on numerous committees of the American Heart Association.

"There have been great strides in medical care in this area due to both the Glicks' presence," Dr. Miltenberger said. "When they leave, they will be sorely missed."

— Rochelle Cohen