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NEWS



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SYSKOM Assists EMS Personnel in Field

Maryland recently became first in the nation to have comprehensive, statewide emergency medical communications. The Emergency Medical Services Communications System (EMSCS) was developed to assist the EMS professional in the field. By providing on-site medical consultation capabilities, as well as direct communication between the ambulance crew and other system components—hospitals, helicopters, other ambulances—the EMSCS helps to maximize the skills and training of ambulance teams.

The use of the EMSCS by field personnel has largely involved car-

Trauma Course For Nurses To Be Offered

A 35-day, intensive, skill-oriented course in trauma will begin September 13 for emergency department, operating room, intensive care unit, and floor nurses in the designated areawide trauma centers.

The course will be given two days a week over a five-month period until January 31 so that nursing staffs will not have to cope with the absence of several nurses for an extended length of time. The program objectives are to provide an in-depth education on all aspects of trauma care from the initial phases through rehabilitation.

Approximately 20 days of didactic material and 15 days of clinical experience and skills performance are planned. The didactic sessions are scheduled at the areawide trauma centers and the clinical parts at the MIEMS Adult Trauma Center, the Baltimore Regional Burn Center, and Union Memorial's Hand Center. Carole Katsaros, R.N., and Pat Perdue, R.N., are coordinating the course, with primary faculty from the MIEMS physician and nursing staffs.

Each trauma course will be limited to 24 nurses. Continuing education credits are available through the University of Maryland School of Nursing, Department of Continuing Education.

Advanced skills and concepts will be taught in 11 subject areas: triage, advanced life support, assessment and priorities of trauma patients, emergency intervention, definitive management for specific system injuries, physiologic responses of the body to shock and trauma, team approaches to emergency care, preparation for and transport to a specialty referral center, nursing responsibilities in the 15 areas of the EMS Act of 1973, establishing and maintaining an areawide trauma center, and prevention of complications in the trauma patient.

diac consults and telemetry. Any ambulance in Maryland responding to a cardiac alert can be patched into a nearby hospital with a consulting physician and telemetry console.

The EMSCS is also equipped to facilitate the handling of trauma cases. SYSKOM, the systems communication center located at the Maryland Institute for Emergency Medical Services in Baltimore, is the coordinating center for trauma transports anywhere in the state and occasionally from other states. This center is responsible for arranging admissions to the specialty referral centers for various types of trauma: adult trauma (MIEMS); pediatric trauma (Hopkins); burns (City Hospital and Washington Hospital Center); hand trauma (Union Memorial); neonatal emergencies (City, Hopkins, University of Maryland); and spinal cord injury (MIEMS).

SYSKOM has dedicated telephone leased lines (EMSTEL) to

For each admission, SYSKOM must make between 15 and 25 calls, once the admission is definite.

each county central alarm, and to key notification numbers in Baltimore City. A UHF radio keeps SYSKOM in contact with Maryland State Police helicopters in the air and a special UNICOM radio was recently installed to provide communication with all other helicopter traffic. SYSKOM is always aware of the location and status of all MSP helicopters and availability of all specialty referral centers.

SYSKOM is manned by five full-time EMSCS operators; each is an emergency medical technician (EMT) having completed the di-

MIEMS Outlines Requirements For EMT Reciprocal Certification

Emergency medical technicians (EMTs) moving to Maryland from other states will be granted reciprocal certification as Maryland EMTs if they meet the requirements that are listed below.

Formal reciprocity agreements are in place with Pennsylvania, Virginia, and West Virginia. To receive certification in Maryland, EMTs from these states:

1. Must be Maryland residents affiliated with a Maryland ambulance/fire company.
2. Must show proof of successful completion of the certifying state's 81-hour DOT-approved EMT course.
3. Must apply at least six months prior to the expiration of their EMT certification. (Candidates whose EMT certifications will expire in less than six months must successfully complete the 21-hour EMT refresher course prior to reciprocal certification.)



A SYSKOM operator facilitates a trauma patient transport and admission.

dactic (classroom) portion of the cardiac rescue technician (CRT) course, with at least a year's experience on an ambulance or in communications. These qualifications are required so that the EMSCS operators can communicate effectively with both the EMS professional in the field and physicians, nurses, and other medical professionals in the hospitals.

EMS trauma protocols call for ambulances responding on trauma cases to contact SYSKOM with medical information on patients to be transported to a specialty referral center. With this information, SYSKOM can then initiate a call sequence to dispatch the nearest helicopter and alert the appropriate receiving facility.

For each admission, SYSKOM is responsible for notifying all medical team leaders, city fire and police departments, administrative personnel, campus police, etc. Each group must be continually updated on ETAs and any available medical

data must be relayed to the admitting team. For each admission SYSKOM must make between 15 and 25 calls, once the admission is definite.

With the patient's vital medical information available, SYSKOM can better inform all parties—the helicopter medic can bring necessary equipment along from the helicopter and be updated on the patient's condition; receiving admitting teams have a better idea what to expect; and the ambulance crew's assessment and diagnosis can be optimally utilized.

Without this protocol, there are many potential problems. For

The EMSCS trauma protocol is geared toward making maximum use of the assessment done by the initial responding ambulance crew.

example, if a helicopter is dispatched directly through the central alarm and the ambulance has not contacted SYSKOM, the communications center's first notification will be when the helicopter leaves its base. Generally the only information available in this situation will be the location of the incident and the potential number of transports.

This poses several problems. SYSKOM will not know what type of injuries are involved, and therefore cannot determine to which specialty referral center the patient should go. The call sequence cannot be initiated until this information is available. Instead of being informed about what to expect at the scene, the helicopter crew must be hastily filled in while loading the patient(s) on the helicopter.

Once the helicopter is en route, SYSKOM's call sequence must be interrupted so that vital medical data can be given by the helicopter medic, who has had to reassess the patient. There may not be adequate time to inform members of the admitting teams or to make other preparations.

The EMSCS trauma protocol
(Continued on page 2)

SYSCOM Utilizes Protocols

(Continued from page 1)

is geared toward making maximum use of the assessment done by the initial responding ambulance team. Without it, the information this crew gathers may be wasted, and the patient may have to be reassessed several times. Additionally, valuable time between the accident and definitive care, carefully bought through good scene stabilization

and rapid transport, may be lost. With the protocol, however, the patient's stabilization, transport, and resuscitation can flow smoothly, without interruption, and the communication that occurs between the EMS professionals in each location may have a further impact on the success rate of the EMS system.

—Marianna Herschel

<p>ABORT TIME _____</p> <p>SYSCOM NUMBER _____</p> <p>DISPATCHER'S NAME _____</p> <p>SOURCE OF INFORMATION _____</p> <p>Name (Initials) _____</p>	
<p>● PATIENT</p> <p>NAME _____</p> <p>MAILING ADDRESS _____</p> <p>DOB _____</p> <p>SEX: MALE _____ FEMALE _____</p> <p>RACE: WHITE _____ BLACK _____ ORIENTAL _____ OTHER _____</p>	<p>● CLASS OF ACCIDENT</p> <p>Auto/Truck _____ Farm _____ Industrial _____</p> <p>_____ Home _____ Recreational _____</p> <p>Motorcycle _____ Assault _____ Non-Fatal _____</p> <p>Medical Emergency _____</p> <p>Other _____</p>
<p>● NATURE OF INJURY/ILLNESS</p> <p>Fracture/Dislocation _____ Burn _____ GDW _____</p> <p>Laceration/Cut _____ Strabismus _____</p> <p>Internal injuries _____ Choking _____ OD/Foison _____</p> <p>Amputation _____ Cardiac case _____ Aneurysm _____</p> <p>Medical _____</p> <p>Other _____</p>	<p>● TIME SEQUENCE</p> <p>Date of Injury _____ TIME _____</p> <p>Date of Transport _____</p> <p>Time of Initial Call _____</p> <p>Time Ambulance is Dispatched _____</p> <p>Time Ambulance Arrives at Scene/Hospital _____</p> <p>E.T.A. _____</p> <p>Time Ambulance Leaves Scene/Hospital _____</p> <p>Time Ambulance Arrives at Referral Center _____</p> <p>Time Patient Arrives in Referral Center _____</p>
<p>● LOCATION OF INJURY</p> <p>Head _____ Chest _____ Neck _____ Back _____</p> <p>Face _____ Arm _____ Hand _____</p> <p>Eye _____ Pelvis _____ Leg _____ Foot _____</p>	<p>● MODE OF TRANSPORT</p> <p>Helicopter MSP #1 #2 #3 #4 _____ Other _____</p> <p>Ambulance _____</p> <p>Other _____</p>
<p>● VITAL SIGNS DURING TRANSPORT</p> <p>Time (1) _____ (2) _____</p> <p>Pulse _____</p> <p>Respirations _____</p> <p>B/P Pressure _____</p> <p>Pupils _____</p>	<p>● UNIT ASSISTING WITH TRANSPORT</p> <p>Ambulance _____</p> <p>Other _____</p>
<p>● PATIENT STATUS/TRANSPORT</p> <p>Conscious _____</p> <p>Unconscious _____</p> <p>Sensations _____</p> <p>Complaints _____</p>	<p>● PATIENT TRANSPORTED FROM</p> <p>Scene _____</p> <p>Hospital _____</p> <p>Other _____</p>
<p>● TREATMENT DURING TRANSPORT</p> <p>CPB _____ Time Started _____</p> <p>GIADM _____ Time Started _____</p> <p>Respirator _____ Time Started _____</p> <p>Observation _____ Time Started _____</p> <p>Shock Treatment _____ Time Started _____</p> <p>IV _____ Time Started _____</p> <p>Other _____</p>	<p>● PATIENT TRANSPORTED TO</p> <p>MIEMS _____</p> <p>JHM PED Trauma _____</p> <p>Union Hand Co _____</p> <p>Pennsylv Trauma _____</p> <p>Suburban Trauma _____</p> <p>UMD CCU _____</p> <p>JHM CCU _____</p>

SYSCOM operators complete the above form for each patient admitted to a specialty referral center.

Harford Co. Nurse Continues Work on IV Therapy Standards

A program of classroom and clinical training in intravenous (IV) therapy begun for a small group of emergency medical technicians (EMTs) in Harford County may become the basis for a national model.

Three years ago Shila Jones, R.N., began teaching a program in IV therapy for Harford County EMTs at Fallston General Hospital. (EMT-IV programs are offered in several Maryland counties. The type of program and requirements may vary according to county. But all certified EMT-IVs can administer IVs under a doctor's standing orders. EMT-IVs differ from cardiac rescue technicians insofar as they are not permitted to administer drugs or EKGs or defibrillate patients.) The program for Harford County EMTs begun by Ms. Jones later expanded to include nurses, nursing students, cardiac rescue technicians, and IV technicians and was offered for continuing education credits at Harford Community College. Approximately 300 EMTs and 250 nurses have been trained in this program to date. Last year, the National Intravenous Therapy Association (NITA) asked Ms. Jones to chair its Standards Committee, and she is currently acting as a member of the National Coordinating Committee for Large Volume Parenterals.

proximately 15 hours of classroom instruction in microbiology, anatomy, physiology, sociology, and psychology, as well as techniques in IV therapy. Other Maryland counties have already adopted her program, and Pennsylvania is investigating the possibility of using it.

As chairman of NITA's Standards Committee, Ms. Jones has been writing a formal presentation of her program and compiling information on requirements for IV therapists in other states. Fifteen of the 30 sections for the national standards have been completed and were approved at NITA's May meeting.

Ms. Jones is continuing as chairman this year to complete work on the standards. She has also written a training manual for use in teaching IV therapy which is being published. In addition, she continues her work in nursing. A nurse at Fallston General Hospital and supervisor of IV therapy for several years, Ms. Jones is now the infection control nurse, epidemiologist, at Harford Memorial Hospital and will also begin an independent nursing practice in the near future. And, of course, she continues to teach at Harford Community College, training EMTs, nurses, nursing students, and technicians in IV therapy.

—Beverly Sopp

According to Ms. Jones, IV therapy training is a relatively new field. There are probably less than a dozen formalized programs nationally. Usually IV therapists receive training only in the techniques of IV therapy. However, Ms. Jones feels that IV therapists need substantial background material. The program she teaches includes a minimum of two days of clinical training; this is preceded by ap-

Journal Features MIEMS

The Maryland Institute for Emergency Medical Services has been honored by the *American Surgeon* journal, which will devote the entire November issue to papers written by Institute staff members. The papers will describe the state-of-the-art of trauma management as practiced at MIEMS.

Physician Publishes Book On Radiologic Management

The facilitation of optimal radiologic management of the whole trauma patient is the intent of the new book, *The Radiologic Management of the Massively Traumatized Patient* by Robert J. Ayella, M.D., F.A.C.R.

Released in July by Williams and Wilkins publishers, the book has 312 pages with 908 illustrations, almost all x-rays.

Chief of Radiology at the Maryland Institute for Emergency Medical Services since 1969, Dr. Ayella and his staff are present in the admitting area of the Adult Trauma Center when trauma patients come in. Available 7 days a week, 24 hours a day, he personally has supervised the radiologic management of thousands of trauma victims.

The book reflects his experience and the radiologic practices

he developed at the Institute. Almost all the x-rays in the book are from one year of admissions at MIEMS. Only those illustrating ruptured aortas, a relatively rare condition, were gathered over a number of years.

Dr. Ayella says his philosophy is different from many radiologists. He feels that often too many films of trauma victims are taken. His book explains how to manage trauma victims radiologically without interfering with clinical management. He advocates only three routine x-rays—those of the cervical spine, a true erect chest, and the pelvis. If the patient has a head injury, a portable carotid arteriograph should be done. All these films are taken in the admitting area. Only in unusual cases such as ruptured aorta or ruptured kidneys, should the patient be moved to the x-ray department.

Nursing Workshops Begin in September

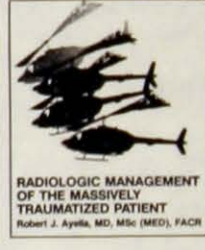
The nursing faculty of the Maryland Institute for Emergency Medical Services will offer 23 workshops on aspects of emergency medical care. The workshops, stressing the pathophysiology, assessment, diagnosis, and treatment of major illnesses and injuries, will begin in September at various locations throughout the state and will be repeated during the year. Ten new workshops are included in the group.

The total list of workshops consists of: Trauma, Orthopedic Emergencies, Spinal Cord Injury, Respiratory Emergencies in the Newborn, Respiratory Problems of the High-Risk Newborn, Crisis Surrounding Infants Born at Risk, High-Risk Pregnancies, Resuscitation of the Newborn, The Family of the Patient in Crisis, Principles of Patient and Family Teaching, Cardiac Emergencies, Respiratory Emergencies, Diabetic Emergencies, Blood Gases, Mechanical Ventilation, Fluid and Electrolyte Balance, Pediatric Emergencies, Burn Management, The Nurse as a First Responder, Change: Individual, Social, Institutional, Crisis Intervention, Child Abuse and Neglect, and Interviewing Techniques.

In addition, nine workshops are being scheduled mainly on a one-time basis at various locations in the Baltimore-Washington corridor.

These include: Pediatric Respiratory Emergencies, Pain Management and the Acutely Ill, Infection Management in the Critically Ill, Winter Emergencies, Pediatric Orthopedic Emergencies, Inhalation Injuries, Legal Aspects in Emergency and Critical Care, Summer Emergencies, and Nutrition and the Acutely Ill.

To schedule a workshop or to obtain a brochure or further information, contact the Office of the Nursing Coordinators (528-3930) or the EMS Regional Coordinator in your area. Continuing education units are available through the University of Maryland School of Nursing's Continuing Education Services to those who complete the workshops.



X-rays should be taken only for conditions which cannot be more rapidly evaluated clinically, Dr. Ayella says. X-rays with a high percentage of error should be eliminated. This is in accordance with the general philosophy of resuscitation that nothing should be done to a patient which will not change the course of treatment.

Dr. Ayella's philosophy developed in response to the type of patient admitted to MIEMS. When they arrive, patients are usually near death, and aggressive resuscitation and treatment begin before diagnosis. The radiologic approach to these patients must necessarily be as unique as the surgical and medical approach.

But, Dr. Ayella points out, every emergency room sees some critically injured patients. His book outlines what to do first when the accident victim arrives, how to protect the trauma patient during radiologic maneuvers, and what radiologic procedures are indicated during the course of treatment.

Another purpose of the book, Dr. Ayella says, is to teach traumatologists and other non-radiologists, who often have to interpret x-rays for trauma victims in the emergency room, how to read films accurately.

—Dottie McCaleb

Skills Workshop Offered For Emergency Physicians



Photos: E. Garber



Twelve physicians participated in the "Emergency Physicians Skills" pilot program last May. The week-long seminar, sponsored by the Maryland Institute for Emergency Medical Services in conjunction with the University of Maryland School of Medicine Program for Continuing Education, will be offered again

in the fall. (Photos l-r) During the ACLS session, Robert Hahn, M.D. (Memorial Hospital at Easton) demonstrates the esophageal obturator airway to Richard Fischer, M.D. (Calvert Memorial Hospital). Carole Katsaros, R.N. (MIEMS nurse) gives a demonstration on how to start an IV.



Photo: Dick Register



Photo: E. Garber

Ron Schaefer (MIEMS paramedical training officer) demonstrates an EKG transmission.

Three to Join MIEMS Staff

Peter Chodoff, M.D., Chief of Anesthesiology. Dr. Chodoff joins MIEMS as professor of anesthesiology at the University of Maryland School of Medicine, assigned to MIEMS. After receiving his M.D. degree from Jefferson Medical College in Philadelphia, PA, he served in various anesthesiology positions at institutions, including Albert Einstein Medical Center, Yale University School of Medicine and Baltimore City Hospital. He continues as associate professor of anesthesia at the Johns Hopkins University School of Medicine and as Medical Director, Respiratory Therapy Program, Community College of Baltimore.



Photo: Dick Register

(Above) Practicing patient assessment and treatment skills via computer-assisted instruction are Sam Caughran, M.D. (Charlottesville, VA) and Ann Zevallos, M.D. (Anne Arundel General Hospital). (Left) Charles Chapin, M.D. (Washington County Hospital), Carol Vougioukles (Montgomery County Heart Assoc.), and Roland Imperial, M.D. (Kimbrough Army Medical Hospital) participate in the dog lab sessions.

MIEMS Adds Eight Trauma Fellows

MIEMS Adult Trauma Center will welcome eight new fellows in traumatology on July 1.

The fellows form the core of the team concept of patient care used at the center. Four teams comprised of fellows, attending surgeons, anesthesiologists, residents, and sub-specialists serve on a rotating schedule.

The team on duty is responsible for all patients admitted during their shift, both in the admitting area and later in the Critical Care Recovery Unit. All team members contribute to the patient's management, but the team leader, a traumatology fellow, is in charge. Ernest A. Austin, M.D., Chief of Traumatology, oversees the teams.

The new fellows include:

Nikhilshwer Agwarwal, M.D., is a native of New Delhi, India, where he attended medical school. After an internship at D.C. General Hospital, he completed a four-year surgical residency at Maimonides Medical Center in Brooklyn, New York, where he stayed for a year as a thoracic and cardiovascular resident. He has recently been a resident in thoracic and cardiovascular surgery at St. Vincent's Charity Hospital in Cleveland.

Born in Cincinnati, Michael Carr, M.D., is a graduate of the University of Louisville School of Medicine. He completed his four-year surgical residency at Riverside Methodist Hospital in Columbus, Ohio.

C. Michael Dunham, M.D., received his medical degree from the University of Tennessee Medical College. He served for four years as a surgical resident at the University

of Tennessee Hospital in Knoxville.

Born in New York City, Kevin J. Farrell, M.D., attended Marquette School of Medicine in Milwaukee. He has been a resident in surgery at Milwaukee County General Hospital and the University of Arizona School of Medicine.

Alexander E. Kuehl, M.D., is from St. John's, Newfoundland. His M.D. is from the State University of New York and his M.P.H. from Johns Hopkins School of Hygiene and Public Health. He has been a resident in orthopedic surgery at Johns Hopkins Hospital.

Philip R. Militello, M.D., has worked at MIEMS previously, during his general surgery residency at Maryland General Hospital. Born in Oak Park, Illinois, he attended the University of Nuevo Leon in

Mexico and interned at Cook County Hospital in Chicago. He then spent a year of surgical residency at Grant Hospital in Chicago before his three years at Maryland General.

Born in Sirsi, India, K.A. Shaikh, M.D., received his medical degree from the University of Poona, India. A year of general surgery residency at the College of Medicine and Dentistry of New Jersey's Martland Hospital was followed by three more at Raritan Valley Hospital, Green Brook, NJ.

Thomas R. Layton, M.D., a Johnstown, PA, native, attended Jefferson Medical College in Philadelphia. He was at Mercy Hospital in Pittsburgh for both his internship and a four-year general surgery residency.

American Trauma Society Honors Dr. Cowley

R Adams Cowley, M.D., Director of the Maryland Institute for Emergency Medical Services, delivered the third annual William S. Stone lecture at the annual meeting of the American Trauma Society in Washington, D.C., in May.

In his lecture, "Why Not a National Institute for Trauma," Dr. Cowley called for the establishment of an Institute for Trauma within the National Institutes of Health to provide for centralization of trauma research, identification of clinical research needs, and facilitation of information exchange.

Dr. Cowley cited the fact that trauma is the third leading cause of death of all Americans, with approximately 70 percent of these victims under the age of 45. The

vast majority of the victims of cancer and heart disease are over 65. Yet the NIH budget for trauma research is less than two percent

of the amount spent on heart disease and less than one percent of that for cancer.

While some progress has been made, much work remains to be done. Dr. Cowley feels that "the time is ripe. And the future of trauma research and training could be bright indeed—if we are willing to fight for it, if we make it our responsibility to launch a massive attack on the ignorance of the fact of the devastation caused by accidental death and disability, if we enlist the support of our colleagues and the public, if we are willing to buttonhole our Senators and Congressmen and explain to them the need for a National Institute for Trauma."

—Sandy Bond



Photo: Dick Register

The William S. Stone Lectureship Award for 1978 was presented to Dr. Cowley.



Photo: P. Dorrett

Scenes from Mass Casualty Exercise at BWI...

Compared with the scene on Runway 22 at Baltimore-Washington International Airport, the discussions following the mass casualty exercise on May 12 may have seemed anticlimactic. There was none of the drama of 225 burn and multi-trauma "victims" wailing and moaning, of "hysterical patients" clinging to EMTs or wandering around dazed, of walking-wounded helping to carry litter patients, or of fire, ambulance, and helicopter crews rushing in. But the discussions were important, for they highlighted ideas that should be pursued on a local and even on a



Photo: E. Garber



Photo: C. Hopkins



Photo: E. Garber



Photo: C. Hopkins

national level to strengthen EMS preparedness in the event of a disaster situation.

According to R Adams Cowley, M.D., Director of the Maryland Institute for Emergency Medical Services: "Past disasters have pointed to the need for a pre-established national plan. Hopefully, many of the ideas provoked by evaluating the exercise can be incorporated into recommendations for such a plan."

Following are comments on various aspects of the Emergency Management at an Airport Catastrophe conference, sponsored by the MIEMS and BWI Airport on May 12 and 13.



Photo: B. Whiteford

specifications of Andrew Munster, M.D., Director of the Baltimore Regional Burn Center, were assessed by each of the four groups.

Patients were examined by Lou Jordan (MIEMS paramedical training officer) at the BWI site and diagnosed by Richard Treat, M.D., and Basil Pruitt, M.D., at Brooke Army Medical Center in San Antonio, Texas via CTS satellite in full-motion color/two-way audio.

Dr. Munster: "The mean difference in all nine patient assessments was three percent. That is outstanding. It's a tribute not only to the color on the satellite transmission and to the excellence of the technology but to the exami-

nation by paramedics on the spot."

Dr. Pruitt: "There were really no management errors made in reviewing these nine patients. A couple of them may have gotten 100 cc of Ringer's too much or too little but these were very minor things. We were essentially in agreement on management of all patients."

Mr. Jordan: "I felt comfortable knowing that a doc was there (even though he was 1800 miles away). I felt as if he was looking over my shoulder. He asked questions and it lifted some of the burden of patient assessment from me. We worked together."

The same patients were shown in black-and-white slow scan (via ATS-6 satellite) to physicians at Chicago's O'Hare Airport and Boston's Logan Airport.

Ron Schaefer (MIEMS paramedical training officer at the site of BWI): "Although the communications equipment is very portable and easy to operate by unskilled persons, the physician's input is limited due to the still photography, the time delay necessary to facilitate this photography, and the fact that the physician must rely on the assessment made by the person at the scene."

Max Kingoffer, M.D. (physician at Chicago): "This is worth further study. But color is essential."

The same patients were also

Satellite Transmissions

In cooperation with NASA's Goddard Space Flight Center and the Communications Satellite Laboratory (COMSTAT), assisted by the Office of Telecommunications of the Maryland Center for Public Broadcasting, MIEMS conducted a satellite feasibility study. The study centered on the use of satellite consultation with distant medical resource centers to provide on-site assessment of burn patients. Assessments made via black-and-white slow-scan video and full-motion color video were compared with those made by two-way audio communication and by physicians physically present at the site. Nine patients, moulaged according to the



assessed via two-way audio only. Ken Young, the paramedic on the scene, noted that this system can be speedily set up, has great mobility, and is familiar and easy to use for most rescue personnel.

Triage

Triage tags were placed on the "victims" by those doing assessments. Severity of injury was denoted by color, number, and word



Photo: B. Whitford



Photo: C. Hopkins

(for example, Red—#1—Immediate Action).

John Stafford, M.D. (Director of EMS Systems Programs): "The system is basically a good one. What was emphasized is that triage is not a static thing. You don't just make a one-shot evaluation. There are changes and you have to keep track of these things as the patient moves from station to station. . . . I was impressed by the degree of accuracy in assessment. . . . There is a need for a training course in triage management. The target people should be fire chiefs. Every state should have a cadre of these people—trained, certified, and available."

Ernest Austin, M.D. (Chief of Traumatology at MIEMS): "The age of the patient should be designated in disaster drills to give you some idea of the priority of the

case. For example, a 70-year-old with 60 percent burns obviously does not get priority in contrast with a 15-year-old with 50 percent burns."

Several persons recommended that a burn specialist and traumatologist be taken to the scene to assist with triage and evacuation of the patient.

Hospital Bed Availability

During the exercise, the communications centers at SYSCOM and EMRC determined hospital bed availability. Thirty-seven patients could have been admitted to the burn centers in adjacent states; fifty Maryland hospitals indicated that they could accept patients. This means that at the time of the exercise, all of the patients could have received initial treatment at hospitals in the area.

Computer Simulation

A computer simulation of the scenario at BWI was also programmed. This simulation permits the course of a patient's condition to be monitored as certain variables (such as number of emergency vehicles, medical supplies, or adverse conditions) are introduced into the scenario.

—Beverly Sopp



Academy of Health Sciences, U.S. Army

(Above) Burn "patients" at BWI Airport are assessed via CTS satellite at Brooke Army Medical Center in San Antonio. (Below) Following the field exercise, participants in the satellite transmission demonstration at San Antonio and at Baltimore's BWI met again via satellite to evaluate the use of satellite technology in burn assessments. Shown here are Ken Young (City Hospital), Lou Jordan (MIEMS), Ron Schaefer (MIEMS), R Adams Cowley, M.D. (MIEMS), Andrew Munster, M.D. (Baltimore Regional Burn Center), and Jim Wells, M.D. (Johns Hopkins Hospital).



Photo: D. Regester

MIEMS Nurses Undertake Alcohol Withdrawal Project

A nurse's concern about patients experiencing withdrawal from alcohol and their treatment has evolved into a MIEMS nursing research project.

Three-fourths of the patients admitted to the MIEMS Adult Trauma Center have been in traffic accidents, and alcohol is frequently involved. When the nursing research program got underway at MIEMS, Kathleen Trostle, R.N., who had worked there several years and observed the alcohol-related problems of patients, decided to turn her interest into a formal study. Paula Kelly, R.N., joined her as co-project director of the study, "Withdrawal Symptoms in Patients with Elevated Serum Osmolality." Dorothy Gordon, R.N., D.N.Sc., MIEMS Nurse Researcher, adds her expertise to the study as principal investigator.

Dr. Gordon explains that the study will produce descriptive and correlational data about the constellation of withdrawal symptom behavior commonly seen in the trauma center. For example, what are the patterns of withdrawal in relation to frequency, time of occurrence after admission, and time of day? A description of the nursing problems which arise and the influence of nursing management on withdrawal behavior also is expected to emerge from the data.

A patient is added to the study while still in the admitting area. To be included, Ms. Trostle said, the patient must be a direct admission (not a transfer), must not have a head injury, and must have a serum osmolality of more than 320 mos. mol/kg. Serum osmolality is routinely tested upon admission, and the 320 value correlates quite closely with a legally intoxicated blood alcohol level.

Each patient in the study is followed for 10 days. Every eight-hour shift, the patient's nurse assesses withdrawal symptoms, using a standard form which Ms. Trostle, Ms. Kelly, and Dr. Gordon adapted for the study. The nurse assigns numerical values to such symptoms as tremor, agitation, anxiety, cloudy sensorium, depression, hallucinations, convulsions and seizures. She also notes the nursing intervention that these symptoms required, such as verbal assurance, touch, and reality orientation. Drugs and restraints ordered by physicians are also noted.

In addition to nursing assessments, anesthesiologists are asked to note whether the patient re-

quired unusual amounts of sedation in the operating room. Dotti Kane, the Alcoholism Counselor from the MIEMS Family Services Branch, is also working on the study and contributes comments and observations.

The patients' treatment is in no way changed; all actions and observations are part of routine care; in the study they are simply quantified and recorded. The patients' names are not used, and they are not labeled.

An unusual feature of the study is the cooperation of all the nurses in all the units of the Trauma Center. Because assessments are made every shift for 10 days, the help of many nurses is required to record the data. To gain their cooperation and to increase reliability and validity, Ms. Trostle and Ms. Kelly oriented all the nurses to the purpose and methods of the study.

Although this study is a description of patterns of withdrawal and management at MIEMS, Ms. Trostle hopes that it will eventually lead to a standardized treatment protocol for patients withdrawing from alcohol.

—Dottie McCaleb

MIEMS Co-sponsors Physicians' Course In Virgin Islands

"Emergency Medicine 1979," sponsored by the Maryland/Virginia Chapters of the American College of Emergency Physicians (ACEP) and the Maryland Institute for Emergency Medical Services (MIEMS), will be offered January 8-14, 1979, at St. Thomas, U.S. Virgin Islands.

Two four-day programs are scheduled to run concurrently January 9-12. Major topics covered in the Clinical Course include: trauma, cardiology, pediatrics, and orthopedics. Specific subjects on each topic will be discussed in depth from the perspective of the emergency physician.

In the Negotiations Seminar, various aspects of negotiations will be discussed with particular emphasis on problems confronting emergency physicians. In addition to strategies, motivation, theories, goals, and methods of the negotiations process, the seminar will consider value systems and how one relates to them, and the application of negotiations techniques to third-party carriers, governmental agencies, jurisdictional disputes, and hospital boards. Registrants will also conduct a mock negotiations meeting.

Both programs are planned for practicing emergency physicians but are also open to medical students, nurses, emergency medical technicians, and paramedics. Twenty-two ACEP Category I credits will be offered.

Applications should be received by August 1. Forms and brochures can be obtained by contacting: ACEP—Md./Va. Symposium on Emergency Medicine, 3900 Capital City Blvd., Lansing, MI 48906 (phone—517-321-7913).

Maryland EMS News

Maryland Institute for Emergency Medical Services
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Women Outnumber Men on Volunteer Rescue Squad

Three years ago the West Lanham Hills Volunteer Rescue Squad began with 15 members; today it has 34. Nothing unusual—except that at least half of its members have always been women (currently 19 of its 34 members are women). Another unusual fact about the squad is that it is under the same board of directors as the community's fire company but has a separate constitution and separate membership roles. This makes it possible for members to concentrate on either firefighting or ambulance work according to their preferences; they are not obligated to do both. (However, several members—three men and one woman—are both firefighters and squad members.)

Squad members tend to shrug off the "woman-EMT" issue—for them, it's really not an issue. From the squad's beginnings, women were accepted as equal to men. It is not unusual for an all-female ambulance crew (including the am-



West Lanham Hills Volunteer Rescue Squad officers (l-r): Debbie Perdue, captain; J. P. Medani, sergeant; Marlene James, sergeant; Gloria Balducci, chief; and Sue Lucas, sergeant.

bulance driver) to respond to a call. Squad training officer Richard Sandelman points out that "there was no need for the women to prove themselves as EMTs. If you have the training, you do the job."

In the community, though, there were frequently some raised eyebrows and surprised looks when an all-female ambulance team ar-

rived at the emergency scene. The incredulous reactions are being dispelled as word of the crew's capabilities spreads. (One woman who had a cardiac arrest was so impressed by the medical care she received from squad members that she became an EMT and squad member herself.)

In addition, the entire squad

is undertaking more community involvement. To date, about nine CPR classes have been conducted by several of the squad's 14 CPR instructors for church, industry, and community groups. The squad has also been working on an information campaign to teach the community how to recognize an emergency, how to contact help, and what kind of duties EMTs are capable of performing at the emergency scene. Squad members frequently go to schools to teach students about rescue procedures.

The squad's "out-reach" effort is also extended to hospitals. Gloria Balducci, chief of the squad, and Susan Brooke, training officer, point out that it's often helpful for EMTs and emergency department staff to work in each other's territory. With this in mind, emergency department staff are often invited to accompany the squad's EMTs on calls to observe their assessment and management of injuries. By the same token, EMTs have worked in the emergency department at Prince George's General Hospital. Several years ago, squad members also initiated and helped to teach a mobile CPR training program at Doctor's Hospital in Lanham.

Squad members will comment that women EMTs may have some advantages and some disadvantages over their male counterparts. For example, a woman EMT's patience and maternal instinct might aid her in working with a teenager who has drug-overdosed or she might have a calming effect on a domestic squabble; but a woman facing a 350-pound patient is at a definite disadvantage and will often have to ask a bystander for help in lifting the patient.

The squad stresses the professionalism of all its members. All squad members are EMTs or will have completed EMT training within their first year on the squad. Ms. Balducci is also a cardiac rescue technician and EMT-instructor-candidate, and many squad members are CPR instructors. In addition, the squad includes: several RNs; emergency department, dental, and X-ray technicians; a medical student; and a Ph.D. in zoology.

The squad has two stations and together they average about 300 calls a month, covering a densely populated residential area of over 100,000 people. Each squad member works a minimum of eight hours a week. But being an EMT permeates one's entire life. Squad members comment: "You get into it up to your ears. . . . There are times when you say 'I'm going to quit' but ten minutes later you're running out the door. . . . Everytime you hear sirens, you stretch your neck. . . . On vacations, you even stop at firehouses." Sue Lucas recalls stopping to help some accident victims when she was vacationing out-of-state, and she laughs as she describes the male ambulance crew arriving at the scene and looking incredulous that a woman had everything under control. That's a reaction that West Lanham Hills Volunteer Rescue Squad doesn't get from its own members.

Photo: Prince George's County Fire Dept.

LAST CALL!

Mailing List Update

THE MARYLAND INSTITUTE FOR EMERGENCY MEDICAL SERVICES

Information and Editorial Office 22 South Greene Street - Baltimore, MD 21201

Last Call! If you want to receive the "Maryland EMS News," you must fill out a mailing list update form. If you have not yet completed a form, please fill out the following.

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(if applicable)

HOME ADDRESS (57-80)

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COUNTY (102-114)

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PHYSICIAN <input type="checkbox"/> (11) Specialty: (check 2 max.) <input type="checkbox"/> 1 Emergency Medicine <input type="checkbox"/> 2 Cardiovascular <input type="checkbox"/> 3 Pediatrician (12-13) <input type="checkbox"/> 4 Neurological <input type="checkbox"/> 5 Psychiatry <input type="checkbox"/> 6 Trauma <input type="checkbox"/> 7 Plastic Surgery <input type="checkbox"/> 8 Other (specify) _____ Affiliation: (check 2 max.) <input type="checkbox"/> 1 Hospital <input type="checkbox"/> 2 Industry <input type="checkbox"/> 3 Private Practice <input type="checkbox"/> 4 Academic <input type="checkbox"/> 5 Public Health (14-15) <input type="checkbox"/> 6 Inactive <input type="checkbox"/> 7 Other (specify) _____	NURSE RN <input type="checkbox"/> 1 LPN <input type="checkbox"/> 2 (64) Specialty: (check 2 max.) (65-66) <input type="checkbox"/> 1 Emergency Dept. <input type="checkbox"/> 5 Trauma <input type="checkbox"/> 9 Pediatrics <input type="checkbox"/> 2 Coronary Care Unit <input type="checkbox"/> 6 Burn <input type="checkbox"/> A Rehabilitation <input type="checkbox"/> 3 Neonatal <input type="checkbox"/> 7 Intensive Care <input type="checkbox"/> B Operating Room <input type="checkbox"/> 4 Psychiatric <input type="checkbox"/> 8 Spinal Cord <input type="checkbox"/> C Other Affiliation: (check one) (67) <input type="checkbox"/> 1 Hospital <input type="checkbox"/> 4 Private Practice <input type="checkbox"/> 6 Inactive <input type="checkbox"/> 2 Public Health <input type="checkbox"/> 5 Industry <input type="checkbox"/> 7 Other <input type="checkbox"/> 3 School Position: (check one) (68) <input type="checkbox"/> 1 Director <input type="checkbox"/> 3 Head Nurse <input type="checkbox"/> 5 Floor Nurse <input type="checkbox"/> 2 Supervisor <input type="checkbox"/> 4 Educator <input type="checkbox"/> 6 Other
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Clip and Mail

Clip and Mail

Pimlico Expands EMS Coverage; Security Force Trained in CPR

Resusci-Anne and Lou Jordan (MIEMS paramedical training officer) knew they had 50 sure winners for the Preakness race at Pimlico and were even willing to place their bets on them. (See photo.) Their winners were 50 security officers for the Maryland Thoroughbred Racing Protective Bureau Association who were trained in cardiopulmonary resuscitation (CPR) by Mr. Jordan and several CPR instructors as part of an effort to provide EMS coverage for crowds. (CPR instructors as-

attendants were on duty in the infield and in the stands—two huge spectator areas. Walkie-talkies were distributed to personnel scattered throughout the crowd and on the track, and a dedicated phone line was installed from Pimlico's first-aid station to Sinai Hospital's emergency department.

Pimlico Track management is continuing to formulate long-range plans for EMS coverage, working to provide its fans with more than a good race.

—Beverly Sopp



sisting Mr. Jordan included: Ron Schaefer, Ken Young, Lt. Art Gordan, Lt. Bert Wheeler, and Mouborak Ali.)

While more than 81,000 spectators attended the Preakness, the security guards mingled among the crowd. They were ready to use their new CPR skills and trying to stay within a minute's reach of anyone needing assistance.

The CPR training was only part of the combined efforts of the Pimlico Track management, the Baltimore City Fire Department, Sinai Hospital, the Baltimore City Health Department, and the Maryland Institute for Emergency Medical Services to provide plans for medical emergencies both on the track and in the spectator areas.

Representatives from these groups met at the request of Joseph Berman, M.D., Chief of Community Medicine at Sinai Hospital. Following an accident at the track in early May, four jockeys were transported to Sinai's emergency department. Concerned because the emergency department received no prior notification regarding the patients or their injuries, Dr. Berman initiated a meeting to discuss emergency services available at Pimlico.

Discussions centered on communications, training, and basic and advanced life-support equipment. Special preparations were made for the mid-May annual Preakness race. In addition to the security officers trained in CPR, nurses, physicians, and ambulance

MIEMS Schedules Nursing Orientation

An intensive 12-week orientation program for recent nursing graduates is now underway at the MIEMS Adult Trauma Center and will continue through August 31. This is the first time the program is being presented since the Adult Trauma Center only recently began employing new nursing graduates without previous critical care experience. In addition, the Adult Trauma Center presents an orientation program to experienced nurses beginning employment in the 12-bed Critical Care Recovery Unit (CCRU), the 20-bed Intensive Care Unit (ICU), the 20-bed Intermediate Care Unit (IMCU), and the Operating Room (OR). New nursing graduates beginning employment in the ICU and IMCU also participate in this program.

Most of the program planning was done by Pat Perdue, clinical specialist for in-service education.

The 12-week course combines technical aspects of CCRU nursing with bedside learning. Each week or module builds on the previous week.

During the first week, an overview of the total patient care system is given, including discussions on transpersonal communications, family services, physical and occupational therapies, and rehabilitation facilities. Weeks two and three stress nursing policies and procedures, operation of equipment, and a skills lab conducted at

Nursing Director Serves On Fire Rescue Commission

This June marked the completion of two years for the Maryland Fire Rescue Education and Training Commission. An advisory group to the Maryland State Board of Higher Education, this commission is responsible for setting basic standards in education and training for fire-rescue personnel.

Just as firefighting has traditionally been a male-dominated profession, the newly-formed commission was initially composed of 11 male representatives, 10 representing fire companies and one consumer member. Then, in June 1977, the commission replaced its consumer member with Elizabeth H. Scanlan, R.N., M.S., Director of Nursing for the Maryland Institute for Emergency Medical Services (MIEMS).

As she completed her first year as a commissioner, Ms. Scanlan assumed an expanded role, serving as a resource on emergency medical services, and facilitating communications between the commission, fire-rescue, and the MIEMS.

"The aim of the commission," she says, "is to find the best balance between the optimum service which can be provided to the consumer, and the demands which can reasonably be placed upon a fire-rescue system which is 95 percent volunteer."

"As emergency medical services become more sophisticated," Ms. Scanlan said, "it is possible to provide more and better care in the field. But it is important to take into consideration the fact that additional training places another

burden on the volunteer, who may already be donating many hours of his (or her) own time to serve the system.

"We are extremely fortunate in Maryland to have one of the most dedicated and best-trained statewide fire-rescue systems in the country. In helping to set our high but achievable standards, the commission plays an invaluable role in maintaining this excellence."

—Marianna Herschel

EMS Staff Notes Use of Air Splints

Because of the possibility of wound contamination, EMS personnel are urged not to cover air splints with any type of substance (including talcum powder).

According to Lou Jordan, paramedical training specialist at MIEMS, talcum powder is often sprinkled on air splints to prevent them from sticking together after they are washed and to make them easier to apply. To solve the problem of splints adhering together, he suggests placing paper towels or pieces of cloth inside the splint after washing. This material could be marked to indicate the size and type of splint to ensure rapid identification in the field. When the splint is opened for application, the paper or cloth should be discarded.

Mr. Jordan further emphasizes that all open wounds should be covered with a sterile dressing prior to splinting so that the wound is protected from possible contamination.

patient bedside. The emphasis is on "practice."

The "buddy" system starts during the fourth week. Each orientee is assigned a nurse as her buddy to assist her in developing her theory and skills. The buddy may attend the didactic sessions with the orientee.

In the Trauma Center's buddy program, the orientee begins by helping with technical aspects of patient care such as suctioning or administering tubal feedings. By the end of the fourth week, the orientee is assisting with neuroassessments. In subsequent weeks, the orientee learns and practices respiratory, cardiovascular, skin, musculo-skeletal, and abdominal assessments. Week eight is allotted to classes in shock and arterial blood gases, as well as information on how the Trauma Center relates to allied health facilities such as pharmacy services. At this time, most orientees are assisting their "buddies" in total patient care; if the buddy feels the orientee is ready, the orientee may assume responsibility for patient care while the buddy observes. The final week consists of a synthesis of information on all body systems—the types of injuries, signs and symptoms, complications, and how trauma affects each body system.

Experienced nurses starting employment at the Trauma Center receive equally as intensive, though

not as extensive, orientations. Separate programs are offered to CCRU, ICU, IMCU, and OR nurses. The CCRU, ICU, and OR programs consist of two weeks of classroom teaching on assessments, charting, and patient-care-related subjects, followed by practical applications in patient-care areas. Orientees then team up with "buddies." The length of time a nurse remains on the buddy system varies according to the individual. In the CCRU, though, the average orientee spends a minimum of six weeks with her buddy. In the OR, the orientees spend two weeks with their buddies to learn system assessments, protocols, and procedures in the CCRU and then work with their buddies in the OR for at least one month. In the ICU, the orientees spend one month with a senior coordinator before starting the buddy system. In addition, a fourth type of program is offered for nurses in the IMCU: first week, an overview of the patient care system; second week, classroom teaching and assessment skills; third week, buddy system. New nursing graduates participate in the ICU and IMCU programs.

When asked how long they think it will take them to be oriented, most orientees respond, "About three weeks." Gradually, they are oriented to the fact that at MIEMS' Adult Trauma Center it will take at least eight weeks.

—Beverly Sopp 7

Maryland EMS News

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22 S. Greene Street, Baltimore, Maryland 21201

Address Correction Requested

325 E. Oliver St./Baltimore, Md. 21202

JULY

CALENDAR

SEPTEMBER

- 11-13 National EMS Evaluation Symposium, Seattle, WA. Contact: Lee Shuck, DHEW/DEMS, 6525 Belcrest Rd., Suite 320, Hyattsville, MD 20782
- 28-29 Cardiovascular Emergencies, Morgantown, WV. Contact: Pat Gainer, Region VI/VII EMS, 201 Deveney Bldg., Fairmont, WV 26554

AUGUST

- 21-23 "The Emergence of Nursing as a Political Force," NLN Public Affairs Seminar, Washington, D.C.
- 26-28 Tutorials in the Tetons: Cardiac Emergencies, Moran, WY. Univ. of Neb. Medical Center, Omaha, & American College of Cardiology. Contact: Mary Anne McInerny, 9111 Old Georgetown Rd., Bethesda, MD 20014

SEPTEMBER

- 3-8 International Congress on Alcoholism and Drug Dependence, Warsaw. Contact: A. Tongue, ICAA, CP 140, 1001 Lausanne, Switzerland
- 6-8 Poisoning: A Systematic Approach for the Emergency Department Physician, Denver. Contact: Judith N. Bernstein, Rocky Mountain Poison Center, West Eighth Ave. & Cherokee St., Denver, CO 80204
- 10-12 International Congress of Prevention of Heart Disease & Cardiac Rehabilitation, Bombay. Contact: Dr. C. V. Shah, India House No. 2, Kemp's Corner, Bombay 400 036, India

- 10-15 Emergency Medical Care Symposium, Fallen Leaf Lake, CA. Contact: Pamela McNally, Dept. of Postgraduate Medicine, University of California, Davis, CA 95616
- 12-15 International Congress on Child Abuse and Neglect, London. Contact: The Conference Center, 43 Charles St., London W1X7PB, England
- 14-16 American Assoc. for the Surgery of Trauma, Lake Tahoe, NV. Contact: John Boswick, Jr., M.D., University of Colorado, 4200 East Ninth Ave., Box C-309, Denver, CO 80262
- 15-17 Basic Principles of Poison Treatment, Fallen Leaf Lake, CA. Contact: Pamela McNally, Department of Postgraduate Medicine, University of California, Davis, CA 95616
- 17-23 World Congress of Cardiology, Tokyo. Contact: Dr. H. Sasamoto, 7-2-23 Roppongi, Minato-ku, Tokyo 106, Japan
- 18-20 First World Conference on Pre-Hospital Care, Anaheim, CA. Contact: Paramedics International, P.O. Box 8265, La Crescenta, CA 91214
- 19-21 American College of Emergency Physicians, Houston. Contact: Arthur E. Auer, 3900 Capital City Blvd., Lansing, MI 48906
- 20-22 Problem Solving in Trauma, Tulsa, OK. Contact: ACS Trauma Division, 55 East Erie St., Chicago, IL 60611
- 27- Oct. 1 Primary Care of Hand Injuries, Sea Island, GA. Contact: American Society for Surgery of the Hand, Three Parker Place, 2600 South Parker Rd., Aurora, CO 80014