Injuries from Unstable ATVs

From 1982 to 1987, all-terrain vehicles (ATVs) in the US were involved in the deaths of 696 people, 313 of whom were under 16 years of age. ATVs are small 3- or 4-wheel, balloon-tired vehicles originally designed for off-road use, such as a farmwork alternative to horses or tractors. The vehicles look like toys, and 90 percent are now used for recreational purposes. The American Trauma Society estimates that approximately 2,000 are sold each day at a cost of $600-$3,500 per vehicle. But they are not toys; they are unstable vehicles that until recently were not covered by regulations. According to a study published in *Pediatrics* in November 1986, emergency department visits related to ATVs increased from 4,929 in 1980 to 78,000 in the first 9 months of 1985.

In March 1988, the US Consumer Product Safety Commission (USCPSC) announced consent decrees negotiated between the Department of Justice and representatives of the ATV industry—Honda, Yamaha, Suzuki, Kawasaki, and Polaris—to stop the sale of 3-wheel vehicles by dealers and to provide training to all future purchasers and those who bought their vehicles after January 1, 1987. There are also provisions for a public awareness campaign, improved labeling, a hotline, an outreach program, and age recommendations for riding various vehicles.

A big loophole that concerns attorneys general in 32 states, who according to Maryland Assistant Attorney General C.J. Messerschmidt are signatories to a "Friends of the Court" brief, is that the USCPSC consent decrees affect only new 3-wheel ATVs sold by dealers. Used 3-wheel ATVs may still be sold by consumers to consumers. There is no manufacturer's buy-back arrangement for consumers.

The American Trauma Society attributes injuries and deaths from ATVs to three factors: vehicles, environment, and drivers. A description of the problems follows.

Vehicles: Three-wheel ATVs are particularly unstable due to their triangular base. An ATV handles differently from other vehicles including motorcycles. Most ATVs have a solid "live" rear axle—both rear wheels turn at the same rate at all times. When turning, the outside wheel must travel a greater distance than the inside wheel in the same amount of time. To do this, the driver must reduce the weight on the inside rear wheel by shifting his/her body weight to the outside footrest and leaning the upper body to the inside of the turn. This causes the inside wheel to spin, sometimes lifting the wheel off the ground. If the turn is not done properly, the ATV may plow straight ahead instead of turning, or roll over. ATVs weigh from 300 to 500 pounds and serious injuries may result if the driver is pinned under the vehicle. Although 4-wheel ATVs are also unstable, the risk of injury on a 3-wheel vehicle is twice as high.

Environment: The majority of ATV accidents occur when the vehicle overturns after hitting a terrain irregularity or obstacle, or while traversing a slope. ATVs are vulnerable to bumps, holes, and ruts and some hills are too steep regardless of the skill of the driver. ATVs are classed as off-road vehicles. They are not stable and are difficult to handle on a paved surface. Serious accidents occur when ATVs collide with other vehicles.

Drivers: Based on a study conducted by the USCPSC in 1985-1986, children under 12 years of age should not operate any ATV. Of the documented ATV-related deaths, 139 victims were less than 12 years old. They typically lack adequate physical size, strength, cognitive abilities, motor skills, and perception needed to operate ATVs safely. Children under 16 years of age should not ride adult-size ATVs. The risk of injury to ages 12-15 is 1 1/2-2 times the average.

Drivers should take an ATV training course from certified instructors. The USCPSC injury survey shows that almost half of drivers injured had less than one year's experience; one-fourth of them had less than one month's experience.

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Protective Gear

Proper gear should be worn by ATV drivers. The most important piece of ATV protective gear is the helmet; approximately one-quarter of the people who died of head injuries might have been saved if they had worn helmets. A good helmet with face shield or goggles does not reduce essential vision or hearing. Helmets should be approved by one of the following agencies: US Department of Transportation, Snell Memorial Foundation, or the American National Standards Institute (ANSI). Athletic headgear such as hockey, football, bicycle, or skateboard helmets are **NOT** acceptable for ATV riding. They do not have adequate energy absorption qualities for use while operating a motorized vehicle.

In addition to a helmet, the Specialty Vehicle Institute of America (SVIA), an organization sponsored by ATV manufacturers, recommends long-sleeved shirt with shoulder pads/chest protectors; off-road pants with knee and shin protection; over-the-calf boots with low heels to keep the feet from slipping off the footrests; and off-road gloves padded over the knuckles. They also suggest a kidney belt.

Those clothes are worn in ATV competitions, but are rather costly for the average driver. On a more practical level, drivers are urged to at least wear heavy, long-sleeved shirts, heavy jeans or work pants, heavy work boots that cover the ankles, and heavy work gloves. The idea is to cover all parts of the skin to save it from abrasion in the event of an accident.

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SAFE KIDS: Effort to Prevent Injury

More children die from preventable injuries each year than from all childhood diseases combined; in 1987, nearly 8,000 children under age 15 died and 50,000 sustained permanent disabilities from injuries. U.S. Surgeon General C. Everett Koop says, "If a disease were killing our children in the same proportions accidents are, people would be outraged and demand that this killer be stopped." Dr. Koop is the honorary chairman of the national SAFE KIDS campaign.

The SAFE KIDS campaign is a program of the Children's Hospital National Medical Center in Washington, DC, (which is the designated pediatric trauma, burn, and neonatal center for Maryland's EMS Region V) and is sponsored by Johnson & Johnson and the National Safety Council. This 5-year effort is organized by the National Coalition to Prevent Childhood Injury, comprised of more than 30 organizations including the American Red Cross, Boy Scouts of America, Girls Scouts of the USA, the National PTA, and the National Association of Broadcasters.

Coalition members, local organizations, businesses, and individuals formed a grassroots network to sponsor National SAFE KIDS Week, May 16-22. Cities targeted for special effort during this first campaign were Atlanta, Birmingham, Boston, Chicago, Columbus (Ohio), Dallas, Denver, Detroit, Kansas City (Missouri), Los Angeles, Miami, Philadelphia, St. Paul, Salt Lake City, Seattle, and Washington, DC.

In addition to planned activities, safety booklets and guidelines were distributed regarding five major risk areas: motor vehicle accidents, burns, drowning, falls, and poisoning/chokings. A 16-page, 4-color, cartoon-type safety booklet, "Safe Kids Are No Accident: How to Protect Your Child From Injury," with important tips for parents and caregivers, is distributed at fairs and special safety events. The target audience for the booklet is parents.

Safety tips recommended by the booklet include:

- Get your child into the habit of wearing a bike helmet when cycling.
- Cross streets hundreds of times with your children before letting them cross one alone.
- Always use safety belts and child safety seats.
- Supervise children in or near water.
- Install smoke detectors and test them monthly.
- Plan a fire escape route and practice it.
- Store matches and lighters out of reach of young children.
- Lower the hot water temperature to 120°F.
- Keep common household poisons and medicines out of sight and locked up.
- Keep small objects out of reach.
- Install window guards and stairway safety gates to prevent falls.
- Post emergency numbers next to your phones.
- Take a First Aid or CPR course.

Inquiries about the campaign are invited from interested individuals and groups. For further information, materials, and contact with others in your area, call Deborah Clark, national field director, at 202-338-7727.

—Erna Segal

SAFE KIDS Week Observed

SAFE KIDS Week was observed in many ways in the Maryland/DC area. Proclamations were issued in Washington, DC and Charles and Prince Georges counties. Children's Hospital National Medical Center, the originator of the campaign, had a water safety event at the Capital East Natatorium featuring demonstrations on how to save a drowning person without endangering the rescuer; methods shown included tossing a flotation ring or forming a human chain.

Booklets, such as "Safe Kids Are No Accident" and others about child safety restraints, were given out by Amoco stations, the Headstart program, the DC Department of Public Works, and hospitals in the area. A balloon launch took place in Fairfax County, Virginia. Bicycle inspections, staffed by volunteers from the DC Department of Recreation, were held at Amoco stations. There was also a bicycle rodeo. Children's Hospital provided classes on water safety, first aid, and fire safety. Ronald McDonald and Mr. McGruff, the crime dog, greeted the children, and clowns entertained and gave out balloons and T-shirts.

Emergency departments and ambulance companies in Region V gave out safety booklets and will have them available throughout the year.

In Walkersville, Frederick County, the American Red Cross (ARC) sponsored the SAFE KIDS campaign. The ARC has been developing a total program of child accident prevention. For example, Boy Scouts were given a course in lawn mower safety. Briggs & Stratton, a lawn mower manufacturer, had representatives teach safety procedures. The boys went through a maze of lawn mower challenges, such as rocks and irregular terrain. This class was so well received that it might be implemented every year. Another program given at the Walkersville Elementary School in cooperation with Frederick Memorial Hospital featured a "Wellness Works" event. With PTA cooperation, programs will take place at local shopping malls and at Frederick County Fair. In addition to the SAFE KIDS material, ARC is emphasizing health and safety services, injury control, response training, and teaching what the citizen can do before EMS providers arrive. For further information about the SAFE KIDS program in Frederick County, contact Dorie Simmons, ARC safety services coordinator, at 301-662-5131, or Lloyd Abbott, at the Charles McC. Mathias, Jr., National Study Center for Trauma and Emergency Medical Systems, at 301-328-7800.

Region IV Conference

Region IV EMTs and CRTs should mark their calendars for Saturday and Sunday, October 1 and 2, 1988. The Memorial Hospital at Easton, the Talbot County Advanced Life Support Services, and the Region IV office are planning a two-day continuing education program. The program will be held at the Memorial Hospital. Those who attend both days of classes will be eligible for 12 hours of continuing education credits to meet their recertification requirements. A complete program schedule and registration information will be published in the August issue of the *Maryland EMS News.*

Marijuana Use Before Time of Injury

The first report of the incidence of marijuana use among victims of vehicular and nonvehicular trauma treated in a trauma center has been issued by investigators at the MIEMSS Shock Trauma Center. More than a third (35 percent) of the patients in the study had used marijuana just before the time of injury.

An article about the study was published in the June issue of *Archives of Surgery*. It is the result of the collection and interpretation of data by Carl A. Soderstrom, MD, MIEMSS Department of Surgery; Anna L. Trifillis, PhD, Department of Pathology, University of Maryland; Belavadi S. Shankar, ScD, director of MIEMSS Operations Research and System Analysis; William E. Clark, MS, an emergency medical systems specialist with the Charles McC. Mathias, Jr., National Study Center for Trauma and Emergency Medical Systems; and R Adams Cowley, MD, director of MIEMSS.

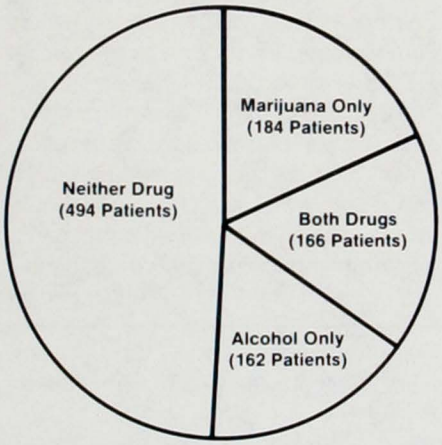
Previous reports of marijuana use in large groups of trauma victims were limited to people who died as a result of vehicular crash injuries or to those who agreed to be tested. By assigning random numbers to blood samples and separating the samples from information that would identify their sources, the MIEMSS investigators were able to examine blood from a large series of people yet protect patient confidentiality.

Marijuana can be either a stimulant or a depressant: it has varying effects in different users. Intoxication with this drug hampers intellectual processes, impairs immediate memory, and shortens attention span. Of particular risk during the operation of a vehicle are marijuana's influences on psychomotor performance. The drug increases the user's rate of error in estimating time and judging distance. It also slows reaction time and diminishes coordination of movement.

Included in the marijuana study were 1,023 patients admitted to the MIEMSS Shock Trauma Center between July 29, 1985, and May 8, 1986. At the Center, it is routine procedure for trauma patients' blood to be analyzed for the presence of alcohol and other licit and illicit drugs, but not marijuana. In this study of marijuana use, serum samples left over from routine admission tests were subjected to another test: they were examined for the presence of delta-9-tetrahydrocannabinol (delta- 9-THC), the major psychoactive ingredient of marijuana.

The results of analysis for alcohol and marijuana were used to construct four categories of patients: (1) those who had used marijuana only, (2) those who had used alcohol only, (3) those who had used both drugs, and (4) those who had used neither prior to the injurious event.

Delta-9-THC was detected in 355 (35 percent) of the 1,023 patients. A level of 2 nanograms/milliliter (ng/ml) was used as the demarcation between "negative" and "positive" for the presence of delta-9-THC. The levels of the compound in the study group ranged from 2 to 75 ng/ml. Three categories of concentrations were delineated: $\geq$ 2 to 4.9 ng/ml (141 patients), 5.0 to 9.9 ng/ml (91 patients), and $\geq$10 ng/ml (123 patients). The incidence of marijuana use was the greatest among people younger than 30 years and among men. The rates of use were similar among victims of vehicular and nonvehicular trauma.



Tests for the presence of alcohol were performed on 1,006 (98 percent) of the 1,023 patients in this study; 328 (33 percent) had detectable levels of alcohol in their blood. The incidence of alcohol use was greatest among people younger than 30; among men; and among those injured in vehicular crashes.

Neither alcohol nor marijuana was used by almost half (494) of the patients tested for both drugs. The remaining 512 were divided fairly evenly among three groups: those who had used marijuana (18 percent), those who had consumed alcohol (16 percent), and those who had used both (17 percent) (see illustration).

Among victims of vehicular and nonvehicular trauma, the use of marijuana was more common among those younger than 30 and among men injured in vehicular trauma. Alcohol consumption was more frequent among patients younger then 30 and in men injured in vehicular crashes; however, no correlation was noted between age or gender and involvement in nonvehicular trauma in the study of alcohol use.

Vehicular crash victims were divided into automobile occupants (drivers and passengers), motorcycle riders (drivers and passengers), pedestrians, and others. Of the 393 automobile drivers, 125 (32 percent) had used marijuana; there was no difference in the rates for men and women. The use of marijuana was almost twice as frequent among drivers younger than 30 than among those over that age. Half of the male passengers and 23 percent of the female passengers had used marijuana. Sixteen percent of drivers had positive tests of alcohol and delta-9-THC.

Almost 30 percent of the drivers had BALs greater than 100mg/dl. This group included more men than women and more people younger than 30 than older than 30. Twenty percent of passengers had BALs of 100 mg/dl or higher.

Of the 74 motorcycle riders, 15 percent had used marijuana, 24 percent had consumed alcohol, and 23 percent had used both drugs. The use of only alcohol

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EMS Week
will be celebrated throughout Maryland
September 18-24
For additional information contact your regional administrator.

ATVs: Injuries, Death

(Continued from page 1)

ATVs are designed to carry only one person. A passenger greatly diminishes the driver's ability to shift his/her weight and control the vehicle. In the USCPSC survey, 31 percent of the injured were drivers with passengers; 20 percent were passengers.

Alcohol or drugs were involved in 30 percent of fatal accidents involving ATVs. Driving skills, visual sharpness, reaction time, and general awareness are all seriously impaired by substance abuse. Only one glass of beer can affect

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MSP, 4-H Teach ATV Safety Skills...

Although all-terrain vehicles (ATVs) can be dangerous, many responsible people are enthusiastic about driving them and believe that proper training is the answer to making it a safer sport. Finding a training course given by certified instructors is not easy. A tragic accident in Carroll County in 1985 in which a youth was seriously injured—and is still in a coma—was the impetus for an award-winning safety program originated by the Maryland State Police in conjunction with the 4-H Clubs. The program has been so well received it might be implemented statewide.

Westminster Barrack "G" of the Maryland State Police, under the direction of Barrack Commander Knut Ellenes, was contacted by Robert M. Shirley, 4-H extension agent of the University of Maryland Cooperative Extension Service, after a local 15-year-old 4-H member was injured while riding as a passenger on an ATV that overturned. Mr. Shirley requested assistance to address the issue of ATV safety; TFC Ronald (Buck) Warfield, ATV enthusiast, volunteered to help.

The MSP exhibit on ATVs at last year's Maryland State Fair.

After a series of meetings, it was decided that with the constantly increasing number of ATV riders and the corresponding increase in injuries, the logical solution to help reduce accidents was a safety training program. Mr. Shirley, TFC Warfield, TFC Douglas Wehland, TFC Scott Wimmer, and five civilian volunteers took courses given by the Specialty Vehicle Institute of America (SVIA) to become certified ATV instructors. Each volunteer received approximately 80 hours of training.

To publicize the training program in the county, TFC Warfield spoke before civic groups, the county commissioners, and local legislators about safer and more responsible ATV use and appeared on radio and TV programs. The Carroll County Commissioners were so impressed by the proposed training course that they purchased a new 350 Yamaha 4-wheel drive ATV specifically to be used by the qualified troopers as a training unit and for related police functions. A new trailer was installed on TFC Warfield's patrol car to transport the ATV.

The Carroll County ATV Safety Program began in spring 1987 with five qualified instructors, the ATV donated by the county government, a budget of $1,200, and a waiting list of students. Training sessions encompass 16 hours, divided into two sessions. The first session, conducted in the classroom at the Agriculture Center, begins with basic concepts such as ATV controls, maintenance checks, safety equipment, and clothing. This session includes basic riding skills,

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Injuries, Death from Unstable ATVs

(Continued from page 3)

braking, reacting to the environment, road surface awareness, turning speed selection, lane positioning, defensive riding abilities, and evasive maneuvering. Even cold tablets and allergy pills can affect coordination and judgment.

The majority of injuries result from the driver losing control; the vehicle rolling over; the driver being thrown off; or the driver colliding with a fixed obstacle. Climbing and traversing hills are particularly dangerous situations.

Legislation Not Passed

Several attempts were made during the 1988 session of the Maryland General Assembly to set some ATV regulation, or at the very least, to require registration of vehicles. The bills addressed another problem caused by the proliferation of ATVs—where to ride them. Although ATVs should not be driven on public lands or posted farms, considerable damage has been done by ATV drivers who trespass. The results are deep ruts, destroyed vegetation, litter, fences left open, and animals frightened or hurt. Some ATV drivers deliberately heighten the noise of their motors.

Responsible ATV owners agree that guidelines should be set so the vehicles can be enjoyed without damage to lives or property. Many favor ATV registration to make it possible to identify the persons who do damage. All three bills failed in the legislature this year. Other states, such as Kentucky, are further along in the legislative process and have enacted model legislation.

Not all applications of ATVs are recreational. The Maryland State Police found unexpected advantages to having ATVs on hand. They are particularly adaptable to crowd control and are able to respond quickly to a disturbance. "No other vehicle can provide this ability," says TFC Ronald (Buck) Warfield. "A motorcycle must maintain its speed to be stable; the ATV is not so restricted." The ATV is being considered for other State Police jobs, such as transferring heavy, cumbersome loads to remote areas. ATVs have excellent traction and pulling capacity and could be used to transport scuba equipment; taken to isolated plane crash sites; and used to conduct search and rescue missions. "The ATV should be as accepted as a marked patrol car in performing specialized police functions."

—Erna Segal

For information about ATVs, contact:
The Motorcycle Safety Foundation (MSF)
National Resource Office
PO Box 5044
Costa Mesa, CA 92628-5044
714-241-9922

The Specialty Vehicle Institute of America (SVIA)
3151 Airway Avenue, Building K-107
Costa Mesa, CA 92626
714-241-9256

ATV Research
444 South Flower Street
PO Box 326000
Los Angeles, CA 90017
213-689-4413

4-H Youth Development Center
University of Alaska
2221 E. Northern Lights Blvd.
Anchorage, AL 99508-4143
904-279-5582

...To Youngsters in Carroll County

(Continued from page 4)

first-aid procedures, and discussions about mental alertness. Emphasis is put on the responsibilities of the driver, such as getting permission from property owners before riding and learning about Maryland laws and penalties that relate to ATVs. (Although these laws do not specifically mention ATVs, they may be applied under appropriate circumstances. The laws include topics such as trespassing, agricultural land, malicious destruction of property, reckless or negligent driving, driving while intoxicated or under the influence of alcohol or drugs, fleeing or eluding, etc.) It is also pointed out that parents may be held responsible for their minor children's actions.

Students are provided with a workbook and other handouts, and various audiovisual aids are used. A written exam is given and must be passed before the student is eligible for the next phase of training, the "hands-on" course that is designed to develop rider skills.

Course Standards

Each rider brings his own ATV, which must meet rigid inspection standards. He/she must be dressed in protective gear including a helmet with eye protection, a long-sleeved shirt or jacket, long sturdy pants, over-the-ankle leather boots (no sneakers), and leather gloves. Class size is limited to eight riders. As the final test, a new and unfamiliar obstacle course is designed and students have their completion time noted. Points are deducted for striking obstacles, missing gates, etc. A predetermined score must be reached to earn a certificate of completion. It is mandatory for students under 14 years of age to have a parent present during the training; this emphasizes the need for parental supervision for younger riders.

A young ATV enthusiast participates in the safety course in Carroll County. (Photos courtesy of Carroll County ATV Safety Program)

TFC Warfield says that the coordination between the 4-H and the Maryland State Police has been extremely successful. "The 4-H Clubs address youth training and activities; they have dedicated leaders, excellent training facilities, media equipment, and experience in recruiting participants into their programs." The State Troopers add an additional dimension to the program. Parents frequently approach them at the completion of the training and say, "We've tried to tell our children to be more careful, but it goes in one ear and out the other. But hearing it from a State Trooper as dedicated as you are lends considerable credibility to the information. Kids really pay attention to what you are teaching."

Juveniles Referred to Program

The Carroll County Department of Juvenile Services reviewed the program in relation to reducing the large amount of ATV-related complaints they received. Since September 1987, it has been mandatory for any juvenile referred to them for an ATV-related crime to attend and successfully complete the training.

Emergency department statistics indicate a 22 percent overall reduction of ATV related injuries. Other counties have expressed interest in the course. Baltimore and Garrett counties requested speakers, and Kent County had several courses for their 4-H groups. The troopers staffed an exhibit at the Maryland State Fair last fall.

Course Wins Award

The course was recently awarded the highly competitve statewide award from the Maryland Agricultural Safety and Health Federation.

The primary function of the Carroll County ATV program is to promote safe and responsible ATV use. TFC Warfield says, "This is a goal that is worthy of statewide acceptance. To bury our heads in the sand and believe that the ATV is a passing fad is to watch many of our youth be injured or die from ATV accidents."

To register for an ATV safety course, call the Carroll County 4-H Club office, 301-848-4611. For further information about ATV safety, contact TFC Warfield at 301-795-5970. *—Erna Segal*

Marijuana Study Published

(Continued from page 3)

was greater among pedestrians (at 24 percent) than in any other category of victim; 14 percent had detectable levels of delta-9-THC, and 20 percent had used alcohol and marijuana.

Injury Severity Scores

The injury severity score (ISS) provides a means of measuring and comparing degrees of injury among blunt trauma victims. The article about marijuana use among trauma victims admitted to the MIEMSS Shock Trauma Center contains the first report of a search for a possible relationship between use of the drugs and ISSs. No correlation was found. Among all categories of patients in this study, only pedestrian status correlated with increasing ISSs, which is not surprising considering the vulnerablity of pedestrians in roadway incidents.

As previously reported from other studies by Dr. Soderstroom and colleagues, the use of alcohol did not correlate with ISS. (See the March 1988 issue of *Maryland EMS News.*)

Although this study did not examine cause-and-effect relationships, it does suggest that the use of marijuana contributes to the occurence of incidents resulting in serious injuries. Dr. Soderstrom stated that if the incidence of marijuana use found in trauma patients in Maryland is duplicated in studies in other parts of the country, the findings put a new slant on the idea that marijuana is a "safe" drug. "The results of our study show that people who are using marijuana are involved in traumatic incidents at a much higher rate than expected."

In an editorial published with the MIEMSS study, Dr. Donald Trunkey, an internationally recognized trauma surgeon from Oregon, stated that "this study has profound medical and health policy implications. The authors have identified an extremely important problem. It is now up to the medical profession, automotive engineers, health policy people, and the public at large to try to solve this vexing problem."

—Linda Kesselring

Around the State...Around the State...

Hurst Extrication Tools

Hurst extrication power tools have been distributed to Deep Creek Volunteer Fire Department and the LaVale Volunteer Fire Department. Purchase of the tools was funded by a Department of Transportation Highway Safety grant to MIEMSS. The Hurst tool in Garrett County is strategically located in the center of the county and will make a significant difference in response time in the tourist area of Deep Creek Lake during the summer. The tool at LaVale will provide additional coverage for the increased traffic flow through Allegany County.

MAST Distributed

MAST garments funded by a Department of Transportation grant were distributed to Calvert, Charles, Montgomery, Prince Georges, and St. Marys counties at the spring meeting of the Region V EMS Advisory Council.

Above, Leon Hayes (Charles County) accepts the garments from Region V Administrator Marie Warner-Crosson. Below, Harry Kohler (St. Marys County) examines the MAST garments.

Trauma Disaster Short Course '89

MFRI, MIEMSS, and Garrett Community College have already begun planning for next year's trauma disaster short course in Garrett County.

Region II ALS Coordinator

Patricia Hicks is the new Region II ALS coordinator, replacing Jonathan Newman who resigned in order to relocate in West Virginia. Ms. Hicks is an NREMT-P. She was formerly a paramedic supervisor for ambulance and med-evac flights for the Acadian Ambulance Services in Louisiana, one of the largest land and air ambulance companies in the country. Ms. Hicks recently completed her BS degree in emergency health services management at UMBC. She can be reached at her office at Washington County Hospital at 301-790-8265.

Mini-Disaster Drill

Washington County Hospital, the areawide trauma center for Region II, conducted a surprise multiple-patient mini- disaster drill on May 19 to challenge its emergency department's disaster plan. The scenario was a van (with eight moulaged passengers) that struck a building. Washington County ambulance companies that helped plan the drill and responded were Community Rescue Service, Smithsburg Emergency Medical Service, and Washington County Civil Defense Ambulance Service.

Frederick ALS Honored

Frederick County recently held an awards banquet to honor the sixth year of dedicated ALS service to Frederick County and the surrounding areas. The banquet took place in the Libertytown Volunteer Fire Department banquet hall, with guests including county officials and the Region II administrator. Frederick County ALS provides advanced life support for the entire county through a tiered response (chase car) system.

Region III Council Officers

George Pelletier, Jr., and Roger Simonds recently were reelected chairman and vice-chairman, respectively, of the Region III EMS Advisory Council. Julie Casani is the new secretary.

New Ambo for Frederick

In recognition of the increased number of calls and the need to supplement the existing ambulance services available in the city, Frederick placed into service its first full-time, city-owned-and-operated ambulance. Temporarily housed at Independence Volunteer Fire Department pending completion of its new quarters, Ambulance #279 will offer 24-hour service.

Continuing Ed in Region IV

To assist prehospital care providers to meet their continuing education requirements, the Region IV office is planning 12 hours of EMT continuing education to follow each 12-hour MFRI skills program scheduled in the region. The fall and spring class schedules will be mailed to fire and ambulance companies and rescue squads in the region.

Haz Mat Credits OK'd For CRTs, EMTs

MIEMSS approved the Maryland Fire & Rescue Institute (MFRI) level I hazardous materials training program for CRT and EMT continuing education credits. Providers taking these programs will be given 4 hours credit in ALS Category 2 or the BLS local option category.

To receive credit, providers must complete the MIEMSS continuing education attendance card and turn it in at the course. MFRI course instructors will have the appropriate program numbers and attendance cards available at the programs.

It is anticipated that the level II hazardous materials program will be approved when it is developed later this year.

Runsheet Improved

The Maryland Ambulance Information System runsheet is undergoing a minor facelift. Although you will soon be seeing a runsheet that looks different, the runsheet content has not changed; only the shading of some data fields has changed.

The new shading will visually assist you in accurately completing the runsheet. All areas that are shaded light red must be completed on all calls (even if the patient is not transported). In addition, the darker red blocks are the minimum that should be completed each time a patient is transported. The remainder of the blocks should be completed as necessary depending on patient condition and care rendered.

It is hoped that these changes will make the runsheet easier to complete and improve the accuracy of the information. Any questions related to the runsheet should be addressed to the Prehospital Care Office at 301-328-2366.

Airway Management Taught on Videotape

"Airway Management of Shock Trauma Patients," an educational videotape, has been produced by the department of anesthesia at the MIEMSS Shock Trauma Center. The film is being aired on the Hospital Satellite Network, a national television network with more than 1100 hospital subscribers in 49 states.

The videotape begins with a description of Maryland's statewide EMS system. MIEMSS Director R Adams Cowley, MD, describes his early research on the Golden Hour—the first 60 minutes after injury, during which the perfusion and oxygenation of patients in shock must be reestablished if they are to survive. Ninety-five percent of the patients who are admitted to the MIEMSS Shock Trauma Center and who can be resuscitated survive.

John K. Stene, MD, PhD, chief of the anesthesia department, and Charles R. Barton, CRNA, chief nurse anesthetist, narrate the program. They describe the airway management procedures used in the department of anesthesia at MIEMSS.

A member of the anesthesia department is with the crew that meets the trauma patient at the heliport or ambulance bay. At this time, the integrity of the patient's airway is assessed. If ventilation is insufficient, an endotracheal tube is inserted immediately. More often, however, the oral tube placement is accomplished in the more controlled environment of the admitting area.

Specific protocols for airway management during the resuscitation phase of care have been developed through years of experience with the multitrauma patient population that is seen at the MIEMSS Shock Trauma Center. These procedures are delineated in the videotape.

Oral and nasal routes for airways are compared. At the Shock Trauma Center, oral endotracheal airways are used most frequently, because they can be established quickly, are associated with the fewest complications, and can be placed independently of the patient's respiratory effort. After treating hundreds of patients with endotracheal tubes, using cricoid pressure and in-line cervical stabilization, no instance of exacerbation of a spinal cord injury has been documented. The film describes alternative ventilation techniques for use in situations in which oral airways cannot be used.

Anesthesia professionals treating trauma victims encounter difficult challenges. They often have no knowledge of a patient's allergies or previous reactions to anesthetics. Thirty to 50 percent of trauma patients are under the influence of alcohol or other drugs. Combative, frightened, and obtunded patients also pose special treatment problems.

"Our goals are to prevent unnecessary additional patient injuries," states Dr. Stene, "and to maintain cardiovascular stability by implementing the appropriate airway management regimen."

The MIEMSS anesthesia department has completed a study of the effects of the muscle relaxant vecuronium in the airway management of patients undergoing elective surgery. Its assets extend to the management of trauma patients. The videotape provides a comparison of the characteristics of vecuronium and other neuromuscular blocking agents.

"Airway Management in Shock Trauma Patients" is being broadcast to subscribers 48 times during 1987 and 1988. The program is also available to nonsubscribers as a continuing education video presentation. It is accredited by the Department of Continuing Education in Health Sciences, UCLA, in category 1 of the Physicians' Recognition award of the AMA and by the American Association of Nurse Anesthetists Continuing Education Program. The intended audience is anesthesiologists and residents, certified registered nurse anesthetists and students, traumatologists, and emergency medicine physicians and nurses.

The script was developed by Barbara Reeves-Ellington, a medical writer from New York. Location filming was directed by Harnack Productions from Santa Monica, California, in conjunction with Andy Trohanis of MIEMSS Special Support Services. Film and sound crews were from Viewpoint Communications, Washington, DC. Additional footage was supplied by Jim Faulkner, Jim Brown, and Dick Regester from MIEMSS and by Capt. John Gochnauer of the Baltimore County Fire Department. The project was supported by a grant from Organon, Inc.

For more information about the videotape or the vecuronium study, contact Dr. Stene or Mr. Barton at 301-328-2628.

—Linda Kesselring

ALS Coverage on NRP Hovercraft

To determine the feasibility of having ALS coverage on the Chesapeake Bay and its tributaries, the Maryland Natural Resources Police (NRP) has implemented a one-year pilot program.

Patients will be transported principally by hovercraft, thus making NRP the first agency in the United States to use an air-cushioned vehicle for this purpose. The craft is being used for routine patrol on weekdays and will be staffed on weekends with NRP medics and participating CRTs and EMT-Ps.

The hovercraft is now based at Sandy Point State Park near the William Preston Lane Memorial Bridge and will patrol the areas of Anne Arundel, Baltimore, Harford, Cecil, Kent, Queen Anne's and Talbot counties as well as Baltimore City.

Medically qualified individuals who are interested in participating and who have prior approval from their EMS officers should contact: Sgt. John Gilmer, Emergency Medical Services, Maryland Natural Resources Police, Tawes State Office Building, Annapolis, MD 21401; 301-974-2247.

The DNR hovercraft provides EMS services on the Chesapeake Bay and its tributaries.

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Address Correction Requested
MIEMSS, *Maryland EMS News*,
22 S. Greene St., Baltimore, MD 21201-1595

(301) 328-3248
Managing Editor: Beverly Sopp,
State EMS Director: Ameen I. Ramzy, MD
Director: R Adams Cowley, MD

University of Maryland at Baltimore
22 S. Greene St., Baltimore, MD 21201—1595

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New Legislation of Interest to EMS

Several bills of interest to EMS personnel were passed into law by the 1988 Maryland General Assembly. Among them, funds were secured to complete and equip the new Shock Trauma Center; additional funds were approved to replace and enhance certain components of the EMS communications system; a facility for communications repair was funded; confidentiality and discoverability of MIEMSS systemwide information were defined and protected; and AIDS reporting requirements were addressed. A summary of these and other bills follows.

A part of the capital budget, money for the new Shock Trauma Center will be forthcoming on July 1. The building will be completed and equipped to be ready for patients to move in as of January 15, 1989.

The statewide communications system will be enhanced in three major areas: new monitor defibrillators, ALS med-channel repeaters, and improvements to the statewide microwave system. Other areas of improvement will be forthcoming. A statewide communications repair facility was funded. It will be located on the campus of UMBC to service communications equipment belonging to field operations and prehospital care personnel, providing an indoor garage where emergency vehicles can be put on lifts, etc., to be serviced by the communications technicians.

SB 492: It is MIEMSS responsibility, as the statewide EMS agency, to continuously evaluate patient care throughout the Maryland EMS system for the purposes of study and research. This bill provides protection for MIEMSS personnel and other persons who provide certain information under specified circumstances, similar to the protection given Medical and Chirurgical Faculty, inhospital staff committees, or the State Department of Health and Mental Hygiene, providing the information is to be used for the betterment of the EMS system.

SB 215/HB 16: If paid or volunteer firefighter, EMT, or rescue squad personnel come in contact with a patient who is subsequently diagnosed as being HIV-positive, the provider must be notified. The health-care facility and physician are immune from actions relating to breaches in patient confidentiality if they notify the personnel of the possible exposure according to the law.

HB 1131: Handguns (Saturday Night Specials). This bill makes it a misdemeaner to sell, carry, or transport such handguns; specifies a $250-$2,500 fine; and a jail sentence of 30 days to 3 years. If such a handgun is offered for sale, there is a mandatory jail sentence of at least 90 days.

HB 1330: Blood alcohol levels were lowered from .13 to .10 for driving while intoxicated and from 0.8 to 0.7 for driving under the influence of alcohol.

SB 375/HB 442: Requires a motor carrier who transports hazardous materials on a state highway, who is at fault and causes a traffic accident, and who is responsible for a spill or hazardous discharge, to reimburse expenses for emergency response, containment, cleanup, and abatement by volunteer fire companies, rescue squads, ambulance companies, and authorized individuals.

SB 376/HB 529: The same provisions as the preceding bill, but pertaining to paid fire departments and individuals.

Several bills were passed offering tuition benefits to persons who wish to study nursing or to obtain higher levels of education in the field.

Bills defeated in the legislature this year include the motorcycle helmet law. Since it seems apparent that significant opposition to this law will continue, additional efforts are being made to educate motorcyclists' organizations about safety awareness.

Many of the bills that failed this year were referred to the newly formed Governor's Commission on Health Care Policy and Financing and the Governor's Task Force on Rehabilitation.

—Erna Segal