



EMERGENCY MEDICAL SERVICES

24/7 Care – Everywhere



EMERGENCY MEDICAL SERVICES *AN ESSENTIAL PUBLIC SERVICE*

Emergency Medical Services, more commonly known as EMS, is an essential public service. You can easily recognize EMS when you see ambulances and medical helicopters responding to incidents in your community, but EMS is much more than emergency medical response and transport.

EMS is part of an intricate system of agencies and organizations; communications and transportation networks; trauma systems, as well as hospitals, trauma centers, and specialty care centers; rehabilitation facilities; and highly trained professionals—including volunteer and career prehospital personnel, physicians, nurses, therapists, administrators, government officials and an informed public that knows what to do in a medical emergency. Each player in the EMS system has an essential job to perform as part of a coordinated system of care.

The scenario described in the next few pages highlights the complex interaction of the essential components of an EMS system in managing a single, critical incident.

The organizational structure of EMS, as well as who provides and finances the services, varies significantly from community to community. Prehospital services can be fire-based, hospital-based, or provided by commercial or public safety companies; but the components of an EMS system always remain the same.



EVERY DAY ACROSS THE UNITED STATES, THOUSANDS OF PEOPLE LIKE THE COOPERS, EXPERIENCE A MEDICAL EMERGENCY. WHEN THEY LEAST EXPECTED IT, THIS FAMILY FOUND THEMSELVES IN A DESPERATE SITUATION; BUT THE EMS SYSTEM WAS THERE WHEN THEY NEEDED IT. THIS IS THEIR STORY.

CAR CRASH

So far the day could not have been more perfect, Dave Cooper thought. He congratulated himself on making the right decision to avoid the traffic congested interstate and take the rural, scenic route to his wife's family reunion. It was almost 4 pm on Friday, and if he maintained the same pace, he and his family would get there by 6:30 at the latest. Even 10-year-old Brian, in the back seat, had calmed down and was reading a comic book.

Suddenly, a pickup truck emerged from an almost hidden intersection, moving toward the path of the Cooper's car. Dave swerved to avoid the pick-up and then saw the pole. That was the last thing he remembered.



BYSTANDER CARE AND 9-1-1 ACCESS

Jill saw the car in a field not far from the road. She pulled her car safely off the road, stopped and immediately called 9-1-1 on her cell phone. As she walked closer to the smashed car, she saw Dave trying to get out and heard his wife crying. As she began to calm and reassure the two adults, she saw the young boy in the back seat; he did not have on his safety belt. He was not moving and did not appear to be breathing. Fortunately, Jill had recently completed a course in bystander care for the injured and was able to recognize that this was a life-threatening situation. Jill reached into the car and safely changed Brian's position so that he could breathe again. This simple action very likely saved his life.



EMERGENCY MEDICAL DISPATCH

Debra was on duty that Friday afternoon at the county 9-1-1 center. She is a trained, certified Emergency Medical Dispatcher. As Jill described the situation to Debra, she calmly and efficiently asked Jill questions so that she could send the appropriate units to the scene. After reviewing the dispatch procedures, Debra immediately dispatched a fire engine from a station only one-half mile from the crash scene and a BLS ambulance that was 10 minutes from the scene. Recognizing that there was a potentially life-threatening situation, Debra also radioed an Advanced Life Support (ALS) ambulance from its base at a hospital 20 minutes away. In the meantime, she gave Jill simple step-by-step instructions on what to do before help arrived.

FIRST RESPONDER

Within minutes, the fire engine arrived. The fire fighters had been trained not only in fire suppression and vehicle rescue but also had received 40 hours of formal training as medical First Responders. They immediately started to assess and treat Brian with oxygen while establishing better access to Brian using rescue tools that were on the fire engine.



PREHOSPITAL CARE

When Tom, a paramedic on the ALS ambulance, and his partner arrived at the crash scene, they found that the BLS ambulance crew had arrived about 10 minutes before them. The Emergency Medical Technicians (EMTs) had already immobilized Brian for possible head and neck injuries. Tom and his partner were able to further stabilize Brian and continued monitoring him as they transported him to the rural critical access hospital only a few miles from the crash scene.

EMERGENCY DEPARTMENT/HOSPITAL CARE

Even before Brian arrived, Dr. Murphy, on duty at the critical access hospital, had talked to Debra, the dispatcher, and the ALS ambulance crew by radio. She knew the severity of the injuries and that Brian would receive optimal care at the regional pediatric trauma center, which had special equipment and a staff highly trained to treat the injuries of infants and children. Luckily for Brian, a regional trauma system was in place, which would make it possible to transfer him to the regional pediatric trauma center. When Brian arrived by ambulance at the critical access hospital, the staff immediately assessed his condition and further stabilized him. Dr. Murphy consulted with the trauma surgeon at the pediatric trauma center, and because of the distance, it was decided to transfer Brian by helicopter.



AIR MEDICAL TRANSPORT

Fred and Lisa, the nurse and paramedic on the helicopter crew that transported Brian to the pediatric trauma center, had additional training in the care of critically injured patients. Much of that training included the treatment of pediatric patients. The helicopter was specially equipped, and Brian was in good hands as he was flown to the regional pediatric trauma center almost 80 miles away. Via radio, Fred talked frequently with the surgeons at the trauma center, updating them on Brian's condition.

TRAUMA AND SPECIALTY CARE

Upon arrival at the pediatric trauma center, Brian was met by the trauma team led by Dr. Thomas, a board-certified pediatric trauma surgeon. Protocols and training guided the team as it rapidly assessed and diagnosed Brian's condition. The trauma team worked quickly, getting X-rays and CT scans and performing other diagnostic tests to determine his injuries and guide treatment. The pediatric trauma surgeons and nurses treating Brian were optimistic about his prognosis.



REHABILITATION

During his first few days at the pediatric trauma center, Brian was evaluated by Melissa, a physical therapist, as well as other specialists from speech therapy and social work. They were part of the trauma team and worked daily with Brian and his parents throughout his stay. The trauma team also consulted with his teachers to ensure Brian's safe return to school.

PREVENTION

Tom, the lead paramedic who responded to the Coopers' crash, was concerned that the Cooper's accident was the fourth crash in a year to which his crew had responded at the same location. After discussing their concerns and visiting the intersection, Tom and members of his ambulance crew thought that a partially obscured stop sign might be the cause of these crashes. They contacted staff from the State Highway Safety Office to get more visible road signs erected.



PUBLIC EDUCATION

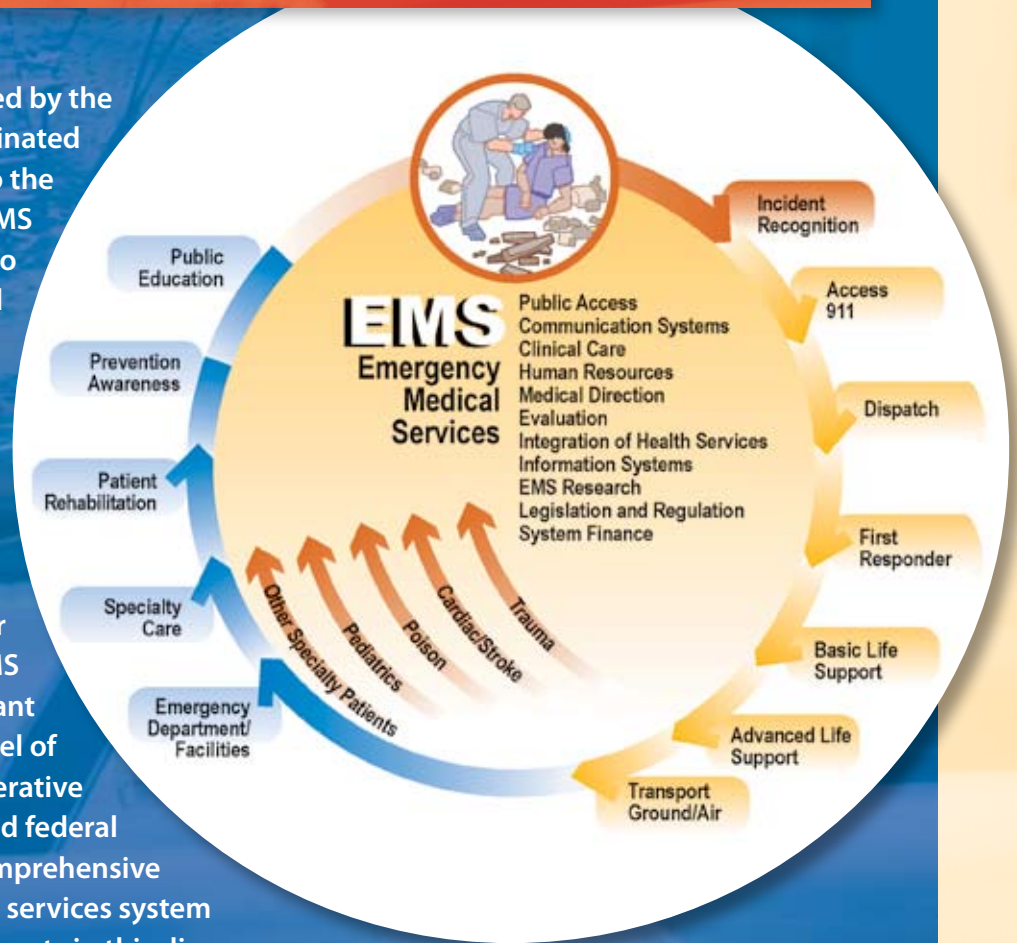
The Coopers were concerned that their son had unbuckled his safety belt. After talking with Brian, they decided to try to do something positive. They contacted several public safety and EMS organizations to see what they could do to emphasize the importance of wearing safety belts at all times. Brian appeared in several public service announcements, and his parents were asked to speak to groups about buckling up. Because of the Coopers, the message about wearing safety belts is now being taken seriously by many more people.



EMERGENCY MEDICAL SERVICES SYSTEM

A LOCAL, STATE AND FEDERAL EFFORT

As demonstrated by the well coordinated response to the Coopers' car crash, an EMS system is far more than a ride to the hospital. This coordinated response, involving many different people and agencies, requires thoughtful planning, preparation and commitment. Whether responding to a car crash, a heart attack, a stroke, a pediatric poisoning, a disaster or other emergency, an EMS system must be in a constant state of readiness. This level of readiness results from a cooperative effort by local, state and federal stakeholders. A comprehensive emergency medical services system includes each of the elements in this diagram.



LOCAL EMS SYSTEMS

Responding to sudden illness or injury is the ultimate responsibility of local emergency medical services systems across the country. Local EMS systems represent a coordinated effort among many different organizations to deliver the best possible medical care to all patients.

Local communities design their own EMS systems, using local resources to fill local needs. For instance, prehospital emergency medical care and transport, one component of an EMS system, may be provided by a volunteer rescue squad, a hospital-based ambulance service, a fire department, a commercial ambulance company or others.

The level of prehospital emergency medical care varies greatly from community to community across the country. It can range from Basic Life Support (BLS) provided by an EMT-Basic to Advanced Life Support (ALS) provided by a Paramedic.

STATE EMS AGENCIES

Each state and territory in the United States has a lead EMS agency. These agencies are usually a part of the state health department, but in some states they are part of the public safety department, or are an independent state agency.

State EMS agencies are responsible for the overall planning, coordination and regulation of the EMS system within the state, as well as licensing or certifying EMS providers. The following functions are typically, but not universally, performed by state EMS agencies:

- Serving as the lead agency for statewide trauma systems or other specialty care systems;
- Collecting data from local EMS agencies, hospitals and trauma centers and monitoring system performance and outcome;
- Promulgating statewide medical protocols for EMS providers, or otherwise establishing the scope of EMS practice within the state;
- Operating or coordinating a statewide communications system that connects EMS providers in the field with hospitals as well as trauma and specialty centers;
- Coordinating the distribution of federal grants for EMS or administering state grant programs;
- Planning for and coordinating the medical response to disasters and mass casualty incidents, and since 9/11, homeland security medical initiatives;
- Administering or coordinating regional EMS programs.



The National Association of State EMS Officials (NASEMSO) is a non-profit organization of State EMS Directors, State EMS Medical Directors, Training Coordinators, Data Managers and Trauma Coordinators. For more information about the NASEMSO and as well as state EMS agencies, go to www.nasemso.org.

FEDERAL EMS PROGRAMS

Reflecting the diversity of EMS systems, several different federal agencies, each with a unique contribution, provide products, programs, funding and technical assistance to local and state EMS systems and 9-1-1 systems. These agencies include the Department of Transportation (DOT), the Department of Health and Human Services (HHS), the Department of Homeland Security (DHS), and the Federal Communications Commission (FCC). Programs like Emergency Medical Services for Children, the Division of Injury Response and the Office of EMS coordinate their efforts through regular communications, planning, and collaboration on numerous projects.

In addition to supporting local and state EMS system development, several other federal agencies directly provide emergency medical services. These include the Indian Health Service, the National Park Service, the nation's military and others.

Federal coordination of agencies involved in EMS was formalized in August 2005 when Congress passed legislation establishing a Federal Interagency Committee on Emergency Medical Services (FICEMS). This Committee includes representatives from DOT, DHS, HHS, and representatives from agencies like the FCC.



FICEMS has statutory responsibility to identify the needs of local, state, tribal and regional EMS and advise, consult and make recommendations to Congress for new or expanded programs for improving EMS systems and emergency communications, including 9-1-1. FICEMS is further charged with ensuring coordination among federal agencies and with identifying ways to streamline the process through which federal agencies support local, state, tribal and regional EMS.

The federal agency coordinating efforts for EMS is the Office of EMS in the U.S. Department of Transportation, National Highway Traffic Safety Administration. The Office of EMS provides staff support to FICEMS and works with its federal, national, state and local partners to facilitate consensus-based programs and guidelines to support EMS system improvements nationwide. The mission of the Office of EMS is to reduce death and disability by providing leadership and coordination to the EMS community in assessing, planning, developing and promoting comprehensive, evidence-based emergency medical services and 9-1-1 services.

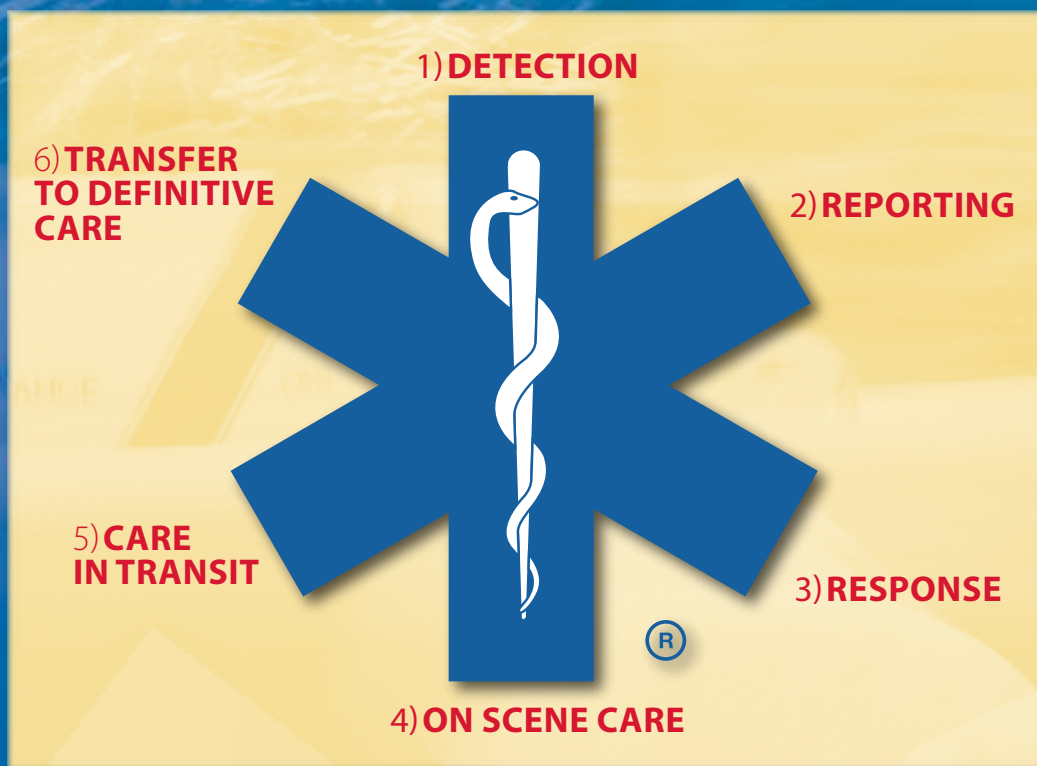
To find out more about emergency medical services or the Office of EMS, contact us at nhtsa.ems@dot.gov or (202) 366-5440.

THE STAR OF LIFE

A SYMBOL OF EMERGENCY MEDICAL SERVICES

It is appropriate that Emergency Medical Services (EMS) be distinctively identified for the benefit of not only EMS providers but also their patients and the general public. Recognizing the need for a symbol that would represent this critical public service and be easily recognized by all, the National Highway Traffic Safety Administration (NHTSA) created the 'Star of Life' and holds priority rights to the use of this registered certification mark.

Adapted from the personal Medical Identification Symbol of the American Medical Association, each bar on the 'Star of Life' represents one of six EMS functions. The functions include:



The serpent and staff in the symbol portray the staff of Asclepius, an ancient Greek physician deified and the god of medicine. Overall, the staff represents medicine and healing, with the skin-shedding serpent being indicative of renewal.

The 'Star of Life' has become synonymous with emergency medical care around the globe. This symbol can be seen as a means of identification on ambulances, emergency medical equipment, patches or apparel worn by EMS providers and materials such as books, pamphlets, manuals, reports, and publications that either have a direct application to EMS or were generated by an EMS organization. It can also be found on road maps and highway signs indicating the location of or access to qualified emergency medical care.



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