Introduction to Emergency Medical Care

How It Began: The earliest documented emergency medical service was when the French transported wounded soldiers away from the battle scene in the 1790s. During the American Civil War, Clara Barton provided an emergency care service and later established the American Red Cross. During the Korean Conflict and the Vietnam War, medical teams produced further advances in field care. Nonmilitary ambulance services began in some major American cities in the early 1900s but offered little to no emergency care. Smaller cities offered ambulance service in the late 1940s. Often the local undertaker provided a hearse for ambulance transport. Soon the need for quality care at the emergency scene and the need to organize systems for such prehospital care were recognized.

EMS Today: In 1966 the National Highway Safety Act charged the United States Department of Transportation (DOT) with developing EMS standards and assisting the states to upgrade the quality of their prehospital emergency care. In 1970 the National Registry of Emergency Medical Technicians was founded to establish professional standards. In 1973 Congress passed the National Emergency Medical Services Systems Act to implement and improve EMS systems across the United States. The National Highway Traffic Safety Administration (NHTSA) Technical Assistance Program has established an assessment program with a set of standards for EMS systems. These include Regulation and policy, Resource management, Human resources and training, Transportation, Facilities, Communications, Public information and education, Medical direction, Trauma systems Evaluation

Components of the EMS System

Accessing the EMS System: Care begins with the initial call to the Emergency Medical Dispatcher (EMD). The EMS system responds. An ambulance transports the patient to the hospital. The patient is received by the Emergency Department (the gateway to the rest of the services at a hospital). Some hospitals may be specialized trauma centers, burn centers, pediatric centers, cardiac centers, or stroke centers. You will become familiar with hospital resources in your area and may use on-line medical direction to make the right life-saving decision. The dispatcher answers the call, takes the information, and alerts EMS or the fire or police departments as needed. EMDs are specially trained dispatchers who obtain the appropriate information from callers and provide medical instructions for emergency care. The EMD allows the EMS system to provide emergency care at the earliest possible moment. Many communication centers have enhanced 911, which automatically identifies the caller’s phone number and location. A few communities still do not have 911 systems, and callers must dial a standard seven-digit telephone number or access an operator who can direct them to the dispatch center.

Levels of EMS Training: Emergency Medical Responder (EMR): First at the scene, Includes police officers, firefighters, and industrial health personnel
Emphasis is on providing care for life-threatening injuries, controlling the scene, and preparing for the arrival of the ambulance. Emergency Medical Technician (EMT): Minimal level of certification for ambulance personnel Provides basic-level medical and trauma care and transportation to a medical facility. Advanced Emergency Medical Technician (AEMT): Provides basic-level care and transportation. Provides some advanced-level care (e.g., advanced airway devices and administration of some medications) Paramedic Performs all of the skills of the EMT and AEMT plus advanced-level skills Provides the most advanced level of prehospital care

Roles and Responsibilities of the EMT: Personal safety, Safety of the crew, patient, and bystanders, Patient assessment, Patient care, Lifting and moving, Transport Transfer of care, Patient advocacy, Possible community health initiatives (e.g., injury prevention)

Traits of a Good EMT: Physical traits In good health and physically fit. Able to lift and carry up to 125 pounds (coordination, dexterity, and strength) Able to clearly see distant objects and close objects, as well as distinguish colors. Able to give and receive oral and written instructions to patients, bystanders, and members of the EMS system

Personal traits Pleasant, Sincere, Cooperative, Respectful, Self-starter, Emotionally stable, Able to lead, neat and clean. Of good moral character and respectful of others. In control of personal habits. Controlled in conversation and able to communicate properly Able to listen to others, Non-judgmental and fair. Education—An EMT must maintain up-to-date knowledge and skills. Refresher training (recertification at two- to four-year intervals). Continuing education (supplements to an EMT’s original course)

Where Will You Become a Provider? EMTs are employed in public and private settings (fire departments, ambulance services, and rural/wilderness or urban/industrial settings). A large portion of the United States is served by volunteer fire and emergency services.
National Registry of Emergency Medical Technician: The National Registry of Emergency Medical Technicians provides registration to EMRs, EMTs, AEMTs, and paramedics. Registration is obtained by successfully completing NREMT practical and computer-based knowledge examinations. Many states use the National Registry examinations as their certification exams. Many employers look favorably on NREMT registration.

Quality Improvement: Quality improvement consists of continuous self-review with the purpose of identifying aspects of the system that require improvement to ensure the public receives the highest quality prehospital care. Once a problem is identified, a plan is developed and implemented to prevent further occurrences of the same problem. You can work toward quality care in several ways. Preparing carefully written documentation. Becoming involved in the quality process. Obtaining feedback from patients and hospital staff. Maintaining your equipment. Continuing your education.

Medical Direction: Every EMS service or agency has a Medical Director—a physician who assumes ultimate responsibility for medical direction. Oversees training Develops protocols Participates in quality improvement process. Medical direction is the oversight of the patient-care aspects of the EMS system. An EMT at basic or advanced level is operating as a designated agent of the physician. An EMS system will develop standing orders. Policy or protocol that authorizes EMTs and others to perform particular skills in certain situations. Medical direction referred to as off-line medical direction Other procedures require an EMT to contact the on-duty physician by radio or telephone prior to performing a skill or administering medication. Medical direction referred to as on-line medical direction. Medical direction referred to as on-line medical direction May be requested any time you feel medical advice would benefit patient care. Always follow local protocols for on-line and off-line medical direction as they may vary from system to system.

Research: Research impacts EMS through a focus on improving patient outcomes (long-term results) and through evidence-based techniques. Evidence-based process includes Forming a hypothesis Reviewing literature Evaluating the evidence Adopting the practice if evidence supports it.

The EMS Role in Public Health: Injury prevention for geriatric patients (e.g., identifying hazards or running blood pressure clinics) Injury prevention for youth (e.g., child safety seat clinics or distribution of bike helmets) Public vaccination programs (e.g., seasonal flu or H1N1 vaccinations) Disease surveillance (e.g., reporting increase in injury or disease)