

Introduction

Emergency medicine is the medical specialty concerned with care of illnesses or injuries requiring immediate medical attention. Emergency Medicine Physician and EMT specialize in providing care for unscheduled and undifferentiated patients of all ages. As first-line providers, in coordination with emergency medical services (medical team including EMT and paramedics), are primarily responsible for initiating resuscitation and stabilization and performing the initial investigations and interventions necessary to diagnose and treat illnesses or injuries in the acute phase. Emergency medical physicians along with EMTs generally practice in hospital, depts., pre-hospital settings via emergency medical services, and ICU.

Sub-specializations of emergency medicine include; disaster medicine, medical toxicology, ultrasonography, critical care medicine, sports medicine, palliative care, or aerospace medicine.

Star of Life

Star of Life (Fig. 1) is a symbol used to identify emergency medical services. It features a blue six-pointed star, outlined by a white border. The middle contains a Rod of Asclepius—an ancient symbol of medicine. The Star of Life can be found on ambulances, medical personnel uniforms, and other objects associated with emergency medicine or first aid. Elevators marked with the symbol indicate the lift is large enough to hold a stretcher. Medical bracelets sometimes use the symbol to indicate one has a medical condition that emergency services should be aware of.

The Star of Life is widely used around the world, but like many international symbols, it has not been adopted everywhere. Its use is restricted to authorized personnel in some countries.

History

Emergency medicine as an independent medical speciality is relatively young. Prior to the 1960s and 1970s, hospital emergency departments (EDs) were generally staffed by physicians on staff at the hospital on a rotating basis, among them family physicians,



Fig. 1: Generic Emergency Medical Service Flag (Star of Life)

general surgeons, internists, and a variety of other specialists. In many smaller emergency departments, nurses would triage patients, and physicians would be called in based on the type of injury or illness. Family physicians were often on call for the emergency department and recognized the need for dedicated emergency department coverage. Many of the pioneers of emergency medicine were family physicians and other specialists who saw a need for additional training in emergency care. In the UK in 1952, Maurice Ellis was appointed as the first casualty consultant at Leeds General Infirmary. In 1967, the Casualty Surgeons Association was established with Maurice Ellis as its first president. In the US, the first of such groups managed by Dr James DeWitt Mills in 1961, along with four associate physicians; Dr Chalmers A. Loughridge, Dr William Weaver, Dr John McDade, and Dr Steven Bednar, at Alexandria Hospital in Alexandria, Virginia, established 24/7 year-round emergency care, which became known as the "Alexandria Plan".

It was in 1979 via a historic vote by the ABMS that emergency medicine became a recognized medical speciality in the US. The first emergency medicine residency program in the world began in 1970. In 1990 the UK's Casualty Surgeons Association changed its name to the British Association for Accident and Emergency Medicine and subsequently became the British Association for Emergency Medicine (BAEM) in 2004. In 1993, an intercollegiate faculty of Accident and Emergency Medicine (FAEM) became a "daughter college" of six Royal Medical Colleges in England and Scotland to arrange professional examinations and training. In 2005, the BAEM and the FAEM became a single unit to form the College of Emergency Medicine, now the Royal College of Emergency Medicine, that conducts membership and fellowship examinations and publishes guidelines and standards for the practice of emergency medicine.

Many hospitals and care centres feature departments of emergency medicine, where patients can receive acute care without an appointment. Policies have improved to assist better ED staff (such as EMT, paramedics). Mid-level helpers such as physician assistants and nurse practitioners' direct patients towards more appropriate medicals, such as their primary care physician, urgent care clinics or detoxification facilities.

Treatments

Emergency medicine is a primary or first-contact point of care for patients requiring the use of the health care system. Specialists in emergency medicine are required to possess the specialist skills in the acute illness diagnosis and resuscitation. Emergency physicians are responsible for providing immediate recognition, evaluation, care, and stabilization to adult and pediatric patients in response to acute illness and injury.

Emergency medical physicians along with EMTs and paramedics include nurses (as a team), provide treatments to a range of cases requiring vast knowledge. They deal with patients from mental illnesses to physical and anything in-between. An average treatment process would likely involve the investigation, diagnosis, either treatment or the patient being admitted. In terms of procedure's they cover a wide and broad range, including treatment to GSWs (Gun Shot Wounds), head and body traumas, stomach aches, mental episodes, seizures and much more. They are some of the most highly trained physicians and EMTs, and are responsible for providing immediate recognition, evaluation, care, and stabilization, in response to acute illness and injury.

Training

The emergency medicine specialist rides in the ambulance, provides stabilizing care at the scene. The patient is directed to the appropriate hospital department for emergency care. An ambulance team of emergency physician, paramedics and EMT, respond to out-of-hospital emergencies and transport patients to the emergency departments; more dependence on these healthcare providers including paramedics and EMTs for on-scene care.

Emergency Medical Technician (EMT)

EMT specially trained and certified to administer basic emergency services to victims of trauma or acute illness before and during transportation to a hospital or other healthcare facility. Emergency medical technician (EMT) is a medical professional that provides emergency medical services. EMTs are most commonly found serving worldwide in ambulances (Fig. 2).



Fig. 2: EMTs loading an injured skier into an ambulance

Occupational Hazard Control

EMTs are exposed to a variety of hazards such as lifting patients and equipment, treating those with infectious disease, handling hazardous substances, and transportation via ground or air vehicles. Employers can prevent occupational illness or injury by providing safe patient handling equipment, implementing a training program to educate EMTs on job hazards, and supplying PPE such as respirators, gloves, and isolation gowns when dealing with biological hazards.

Infectious disease has become a major concern post-COVID-19 pandemic, for that centres for COVID-19 disease controlling agencies have recommendations include modified call queries, symptom screening, universal PPE use, hand hygiene, physical distancing, and stringent disinfection protocols. Research on ambulance ventilation systems found that aerosols often recirculate throughout the compartment, creating a health hazard for EMTs when transporting sick patients capable of airborne transmission.