Accident & Emergency

Read the article and make notes on any new vocabulary items: Write these down in your vocabulary note books/journals.

*An **emergency department** (**ED**), also known as **accident & emergency** (**A&E**), **emergency room** (**ER**), or **casualty department**, is a medical treatment facility specializing in acute care of patients who present without prior appointment, either by their own means or by ambulance. The emergency department is usually found in a hospital or other primary care center.*

Due to the unplanned nature of patient attendance, the department must provide initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention. In some countries, emergency departments have become important entry points for those without other means of access to medical care.

The emergency departments of most hospitals operate 24 hours a day, although staffing levels may be varied in an attempt to mirror patient volume.

Department operation

The emergency department entrance at Mayo Clinic's Saint Marys Hospital. The red-and-white emergency sign is clearly visible.

Today, a typical hospital has its emergency department in its own section of the ground floor of the grounds, with its own dedicated entrance. As patients can present at any time and with any complaint, a key part of the operation of an emergency department is the prioritization of cases based on clinical need. This process is called triage.

Triage is normally the first stage the patient passes through, and consists of a brief assessment, including a set of vital signs, and the assignment of a "chief complaint" (i.e. chest pain, abdominal pain, difficulty breathing, etc.). Most emergency departments have a dedicated area for this process to take place, and may have staff dedicated to performing nothing but a triage role. In most departments, this role is fulfilled by a nurse, although dependent on training levels in the country and area, other health care professionals may perform the triage sorting, including paramedics or physicians. Triage is typically conducted face-to-face when the patient presents, or a form of triage may be conducted via radio with an ambulance crew; in this method, the paramedics will call the hospital's triage center with a short update about an incoming patient, who will then be triaged to the appropriate level of care.

Most patients will be initially assessed at triage and then passed to another area of the department, or another area of the hospital, with their waiting time determined by their clinical need. However, some patients may complete their treatment at the triage stage, for instance if the condition is very minor and can be treated quickly, if only advice is required,

or if the emergency department is not a suitable point of care for the patient. Conversely, patients with evidently serious conditions, such as cardiac arrest, will bypass triage altogether and move straight to the appropriate part of the department.

The resuscitation area, commonly referred to as "Trauma" or "Resus", is a key area in most departments. The most seriously ill or injured patients will be dealt with in this area, as it contains the equipment and staff required for dealing with immediately life threatening illnesses and injuries. Typical resuscitation staffing involves at least one attending physician, and at least one and usually two nurses with trauma and Advanced Cardiac Life Support training. These personnel may be assigned to the resuscitation area for the entirety of the shift, or may be "on call" for resuscitation coverage (i.e. if a critical case presents via walk-in triage or ambulance, the team will be paged to the resuscitation area to deal with the case immediately). Resuscitation cases may also be attended by residents, medical students, nursing students, emergency medical technicians, respiratory therapists, and/or hospital pharmacists, depending upon the skill mix needed for any given case and whether or not the hospital provides teaching services.

Patients who exhibit signs of being seriously ill but are not in immediate danger of life or limb will be triaged to "acute care" or "majors," where they will be seen by a physician and receive a more thorough assessment and treatment. Examples of "majors" include chest pain, difficulty breathing, abdominal pain and neurological complaints. Advanced diagnostic testing may be conducted at this stage, including laboratory testing of blood and/or urine, ultrasonography, CT or MRI scanning. Medications appropriate to manage the patient's condition will also be given. Depending on underlying causes of the patient's chief complaint, he or she may be discharged home from this area or admitted to the hospital for further treatment.

Patients whose condition is not immediately life threatening will be sent to an area suitable to deal with them, and these areas might typically be termed as a *prompt care* or *minors* area. Such patients may still have been found to have significant problems, including fractures, dislocations, and lacerations requiring suturing.

Children can present particular challenges in treatment. Some departments have dedicated pediatrics areas, and some departments employ a play therapist whose job is to put children at ease to reduce the anxiety caused by visiting the emergency department, as well as provide distraction therapy for simple procedures.

Many hospitals have a separate area for evaluation of psychiatric problems. These are often staffed by psychiatrists and mental health nurses and social workers. There is typically at least one room for people who are actively a risk to themselves or others (e.g. suicidal).

Fast decisions on life-and-death cases are critical in hospital emergency rooms. As a result, doctors face great pressures to overtest and overtreat. The fear of missing something often leads to extra blood tests and imaging scans for what may be harmless chest pains, run-of-the-mill head bumps, and non-threatening stomach aches, with a high cost on the Health Care system.[4]

Nomenclature in English

Emergency department became the recommended term[*by whom?*] when emergency medicine was recognised as a medical speciality, and hospitals and medical centres developed departments of emergency medicine to provide services. Other common variations include 'emergency ward,' 'emergency centre' or 'emergency unit'.

Historical terminology still exists across the English-speaking world, especially in vernacular usage. The previously accepted formal term 'accident and emergency' or 'A&E' is still widely used in the United Kingdom, Commonwealth countries and the Republic of Ireland, as are earlier terms such as 'casualty' or 'casualty ward', which continue to be used informally. The same applies to 'emergency room' or 'ER' in North America, originating when emergency facilities were provided in a single room of the hospital by the department of surgery.

Critical conditions handled

Cardiac arrest

Cardiac arrest may occur in the ED/A&E or a patient may be transported by ambulance to the emergency department already in this state. Treatment is basic Life support and advanced life support as taught in advanced Life support and advanced cardiac life support courses. This is an immediately life-threatening condition which requires immediate action in salvageable cases.

Heart attack

Main article: Myocardial infarction

Patients arriving to the emergency department with a myocardial infarction (heart attack) are likely to be triaged to the resuscitation area. They will receive oxygen and monitoring and have an early ECG; aspirin will be given if not contraindicated or not already administered by the ambulance team; morphine or diamorphine will be given for pain; sub lingual (under the tongue) or buccal (between cheek and upper gum) glyceryl trinitrate (nitroglycerin) (GTN or NTG) will be given, unless contraindicated by the presence of other drugs, such as drugs that treat erectile dysfunction.

An ECG that reveals ST segment elevation or new left bundle branch block suggests complete blockage of one of the main coronary arteries. These patients require immediate reperfusion (re-opening) of the occluded vessel. This can be achieved in two ways: thrombolysis (clot-busting medication) or percutaneous transluminal coronary angioplasty (PTCA). Both of these are effective in reducing significantly the mortality of myocardial infarction. Many centers are now moving to the use of PTCA as it is somewhat more effective than thrombolysis if it can be administered early. This may involve transfer to a nearby facility with facilities for angioplasty.

Trauma

Main article: Physical trauma

Major trauma, the term for patients with multiple injuries, often from a road traffic accident or a major fall, is initially handled in the Emergency Department. However, trauma is a

separate (surgical) specialty from emergency medicine (which is a medical specialty, and has certifications in the United States from the American Board of Emergency Medicine).

Trauma is treated by a trauma team who have been trained using the principles taught in the internationally recognized Advanced Trauma Life Support (ATLS) course of the American College of Surgeons. Some other international training bodies have started to run similar courses based on the same principles.

The services that are provided in an emergency department can range from simple x-rays and the setting of broken bones to those of a full-scale trauma centre. A patient's chance of survival is greatly improved if the patient receives definitive treatment (i.e. surgery or reperfusion) within one hour of an accident (such as a car accident) or onset of acute illness (such as a heart attack). This critical time frame is commonly known as the "golden hour".

Some emergency departments in smaller hospitals are located near a helipad which is used by helicopters to transport a patient to a trauma centre. This inter-hospital transfer is often done when a patient requires advanced medical care unavailable at the local facility. In such cases the emergency department can only stabilize the patient for transport.

Mental illness

Some patients arrive at an emergency department for a complaint of mental illness. In many jurisdictions (including many US states), patients who appear to be mentally ill and to present a danger to themselves or others may be brought against their will to an emergency department by law enforcement officers for psychiatric examination. The emergency department conducts medical clearance rather than treats acute behavioral disorders. From the emergency department, patients with significant mental illness may be transferred to a psychiatric unit (in many cases involuntarily).

Asthma and COPD

Acute exacerbations of chronic respiratory diseases, mainly asthma and chronic obstructive pulmonary disease (COPD), are assessed as emergencies and treated with oxygen therapy, bronchodilators, steroids or theophylline, have an urgent chest X-ray and arterial blood gases and are referred for intensive care if necessary. Noninvasive ventilation in the ED has reduced the requirement for tracheal intubation in many cases of severe exacerbations of COPD.

Source http://en.wikipedia.org/wiki/Emergency_department