

# **When can I discharge my patient?**

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## **COI Disclosure**

**I have no relevant relationship or financial/  
material support to disclose.**

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## Definition of Emergency Medicine

Emergency Medicine is a primary specialty and field of practice - established using the knowledge and skills required for the prevention diagnosis and management of urgent and emergency aspects of illness and injury, affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioral disorders.

This includes organizing the proper medical response for patients looking for urgent medical care.

Time and timing in this setting may be critical either from a medical or from the patient's point of view.

## **Definition of the emergency physician task ( EP )**

Emergency Physicians care for patients with a wide range of pathology from the life threatening to the self limiting and from all age groups.

The attendance and number of these patients is unpredictable and they mostly present with symptoms rather than diagnoses.

Patient care includes physical, mental and social aspects.

It focuses on initial care until discharge or referral to other health professionals.

## Emergency Medicine

addresses the comprehensive medical needs of all patients in the emergency setting and prioritises interventions, coordinating and directing care for multiple patients at any one time.

## Emergency Physicians

have a fundamental role in modern healthcare systems





Szpitalny Oddział Ratunkowy  
Emergency Department





## Emergency Physicians faces numerous challenges

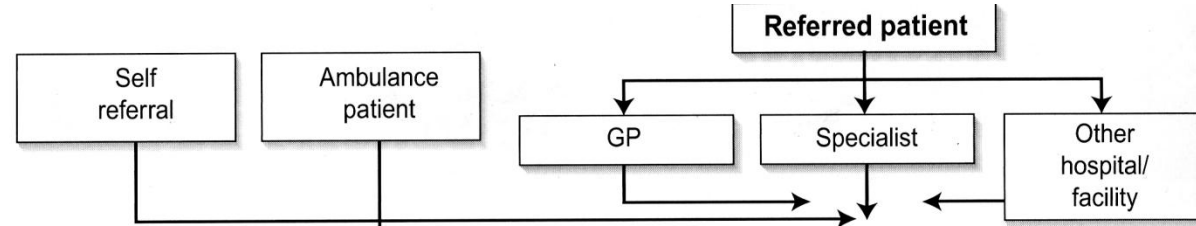
The first challenge is that of **limited time**. Time constraints occur because of the severity and acuity of the illness and also because of the ever-present worry that someone else will need the physician's attention.

The second challenge for the EP is that they need to quickly assess and make therapeutic decisions on the basis of **limited information**.

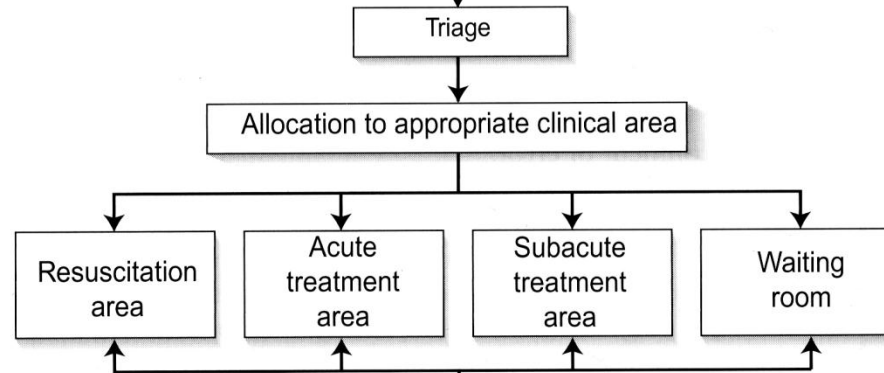
The EP may also be providing medical control for patients in the prehospital environment. In addition, the EP also will need to determine what care was given prior to arrival and what impact the intervention made.



**Phase 1**  
Pre-emergency  
department



**Phase 2**  
Entering the  
system



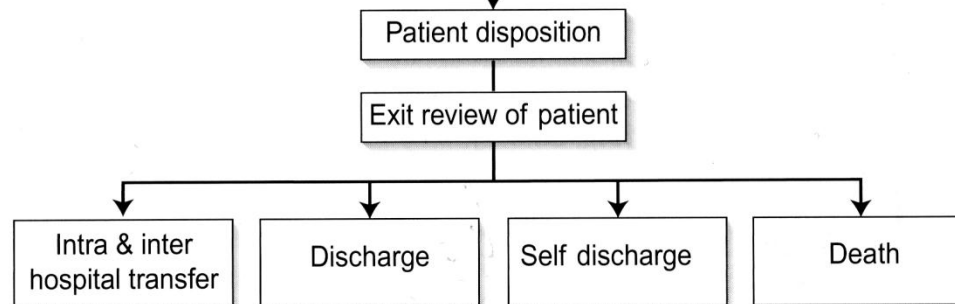
**Phase 3**  
Rapid assessment  
Initial treatment

Assessment/investigation/provisional diagnosis and  
initial management (history taking, test ordering,  
plan of action, treatment).

**Phase 4**  
Further investigation,  
consultation, review

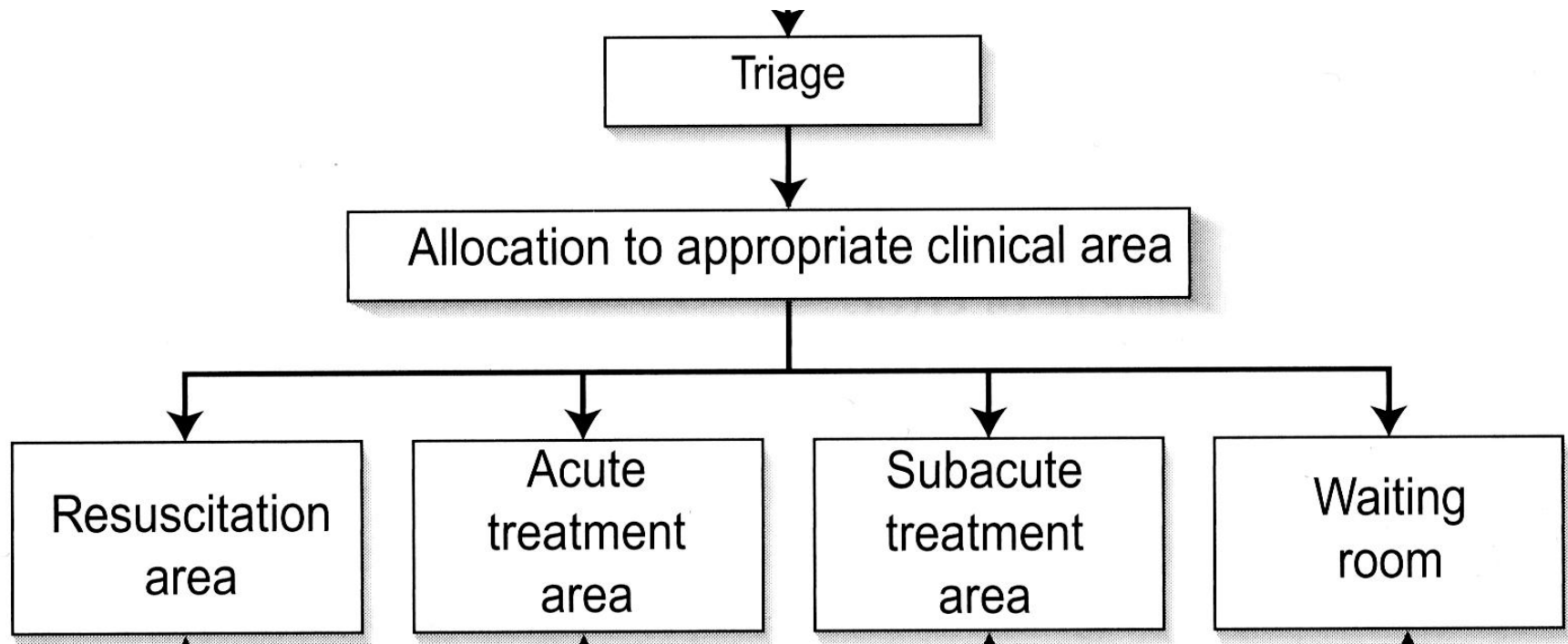
Review of results of investigation, review of  
patient, further investigation and consultation

**Phase 5**  
Exiting the  
system



**Phase 6**  
Following exit  
from ED

Follow up of absconders, patients who left against medical advice (LAMA) or did not wait (DNW)  
Notification of missed/misinterpretation diagnostic test results, change of treatment.



The EP has a different mindset than other specialties.

The main concern of the EP is not necessarily the diagnosis, but a process of thinking aimed at ruling in or out serious pathology that is life- or limb-threatening

The evaluation of patients should proceed in a parallel fashion rather than the time-honored serial method.

*The mindset that patients must be triaged and registered in the waiting room when there are beds available must be abandoned.*



Patients should be taken straight away to any available room where the physician and nurse assess the patient and get the history while the patient is simultaneously having an intravenous line with blood work drawn and registration occurring in the room.

*The single intervention of in-room registration can decrease the length of stay of the patient by an average of 15 minutes.*

▪  
**A cornerstone of an EP's practice**  
is the recognition of patterns in a patient's presentation;  
therefore,

**the prudent EP must be a detective and scientist**  
to muddle through the muck of vague signs and  
symptoms to find the pattern.

It is well known fact about ED patients that their  
presentations do not fit nicely into specific textbook  
diagnoses or classical presentations of illness

The Emergency Physician must be able to determine the cause of common presenting symptoms and determine the appropriate investigation and treatment

- Acute Abdominal Pain/ distension in adults and children
- Behaviour and Agitation
- Altered Level of Consciousness
- Back Pain
- Bleeding (Non Traumatic)
- Cardiac Arrest
- Chest pain
- Crying Baby
- Diarrhoea
- Dyspnoea
- Fever and Endogenous Increase in Body Temperature
- Headache
- Jaundice
- Pain in Arms
- Pain in Legs
- Palpitations
- Seizures
- Shock
- Skin Manifestations
- Syncope
- Urinary Symptoms (Dysuria, Oligo/Anuria, Polyuria)
- Vertigo and Dizziness
- Vomiting



## The principles of emergency medicine

are simply questions that must be answered  
to provide effective care to patients  
to be used as a simple method  
to guide the EP through  
the quagmire of clinical emergency medicine.

## Is THE PATIENT ABOUT TO DIE?

*This is the first and most important question to answer.  
Every patient's presentation is quickly prioritized to one of the  
following acuities:*

**Critical**—Patient has symptoms consistent with a life-threatening illness or injury with a high probability of death if immediate intervention is not begun.

**Emergent**—Patient has symptoms of illness or injury that may progress in severity if treatment is not begun quickly.

**Nonurgent**—Patient has symptoms that have a low probability of progression to a more serious condition.

*Look for symptoms of a life-threatening emergency, not a specific disease entity.*

*Anticipate impending life-threatening emergencies in the apparently stable patient.*

## **WHAT STEPS MUST BE UNDERTAKEN TO STABILIZE THE PATIENT?**

*Act quickly to stabilize the critically ill or injured patient.*

Focus on the primary survey (airway, breathing, circulation, and neurologic deficits) and make necessary interventions as each issue is identified. Do not delay necessary primary interventions while awaiting completion of ancillary testing.

## **WHAT ARE THE MOST POTENTIAL SERIOUS CAUSES OF THE PATIENT'S PRESENTATION?**

*Thinking of the worst-case scenario, develop a mental list of the most deadly causes of the patient's presentation by asking,*

*"What will kill my patient the fastest?"*

Once the list has been developed, the vital signs, history, physical examination, and ancillary assessments should identify or confirm those causes highest on the list.



## COULD THERE BE MULTIPLE CAUSES OF THE PATIENT'S PRESENTATION?

*In addition to constant reevaluation and reprioritization of the differential diagnosis, continually ask,*

*"Is this all there is?"*

For example : Is the near-syncope and abdominal pain in an apparently intoxicated college coed from a ruptured ectopic pregnancy **or perhaps** a ruptured spleen secondary to undisclosed physical abuse by her boyfriend?

Frequent reassessment of patient's condition is imperative.

## CAN A TREATMENT ASSIST IN THE DIAGNOSIS IN AN OTHERWISE UNDIFFERENTIATED ILLNESS?

*Often, in emergency medicine, treatment response foretells a diagnosis.*

In emergency medicine philosophy an established diagnosis is not a prerequisite to initiating appropriate treatment.

Pitfalls can exist. For example, sublingual nitroglycerin and so-called GI cocktails can relieve symptoms of chest pain resulting from the same cause.

Assessment/investigation/provisional diagnosis and initial management (history taking, test ordering, plan of action, treatment).



Review of results of investigation, review of patient, further investigation and consultation

## **Is A DIAGNOSIS MANDATORY OR EVEN POSSIBLE?**

*After the emergency issues have been addressed, the patient and EP are often left with an undifferentiated symptom complex.*

The EP should become accustomed to and comfortable with the notion of determining the disposition for a nonemergency patient—having treated their symptoms and excluding emergency conditions—without a specific diagnosis.

## **DOES THIS PATIENT NEED TO BE ADMITTED TO THE HOSPITAL?**

*Having appropriately answered the preceding questions, make the bottom-line disposition decision.*

Once assessments and treatments are under way, decide whether an emergency condition exists.

Are you, as the EP, comfortable discharging the patient?

Patient disposition

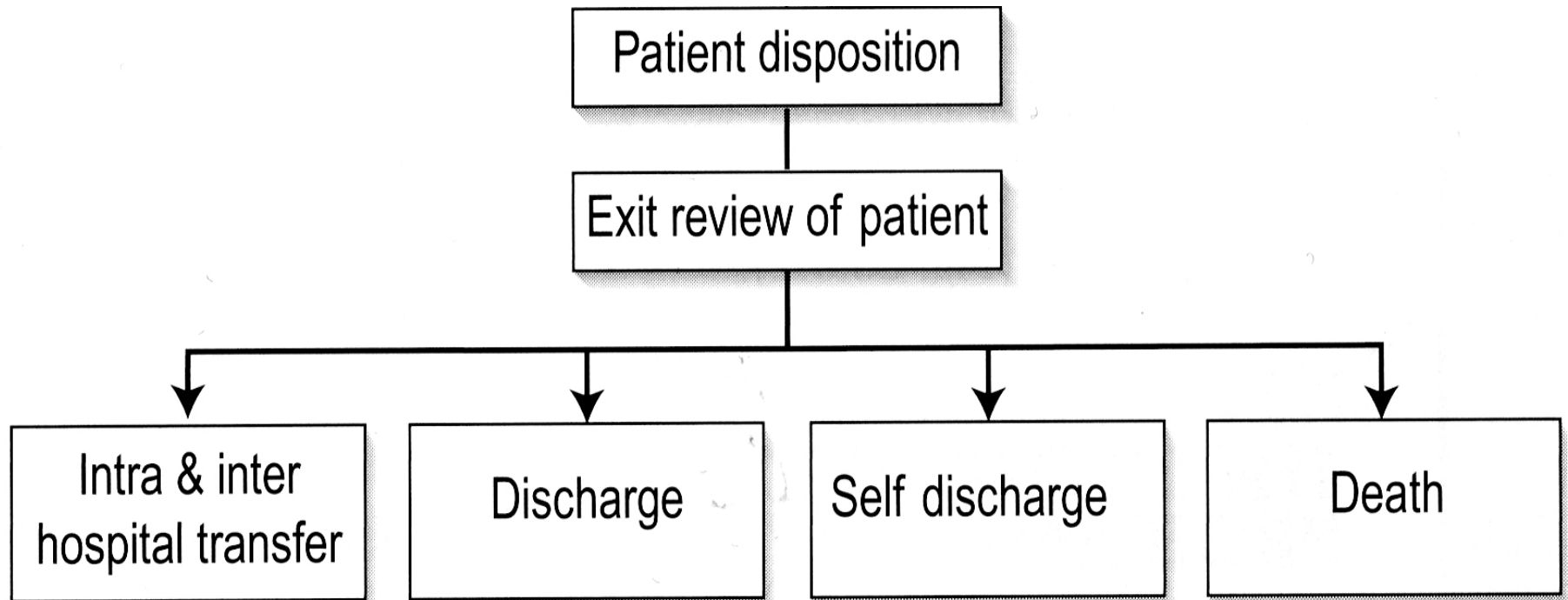
Exit review of patient

Intra & inter  
hospital transfer

Discharge

Self discharge

Death



## IF THE PATIENT IS NOT BEING ADMITTED, IS THE DISPOSITION SAFE AND ADEQUATE FOR THE PATIENT?

***More frequently than not, patients are discharged home from the ED.***

However, many patients do not receive a specific diagnosis, and some symptoms may persist.

Recommend appropriate follow-up and provide written discharge instructions.

Invite the patient back. Instruct the patient when to return for further evaluation should symptoms change or worsen.

Provide the patient with information regarding treatment and diagnosis as well.



## Risk assessment and disposition of the critically ill patient

*is guided by impression of clinical trajectory as well as presumed diagnosis.*

While diagnosis is often based on historical information and on physician experience and intuition,

the clinical picture is dictated by the state of tissue perfusion and the patient's ability to compensate for physiologic perturbations.

*For example:*

- a patient with a positive troponin, ST changes, and a mean pressure of 65 mm Hg may be having a simple myocardial infarction, while another patient with similar findings may be in cardiogenic shock.*
- low blood pressure (BP) in one patient may result from therapeutic lowering of vascular tone (e.g., heart failure), while the same BP in a different individual may signify distributive shock.*

Differentiating these possibilities enables appropriate disposition and treatment and is essential to the practice of emergency medicine

**Organ dysfunction arising from emergency critical illness can be traced to abnormalities in either one or both of the following physiologic relationships:**

The relationship between organ blood flow and mean arterial pressure (MAP)

The relationship between the supply of oxygen to tissues (oxygen delivery or  $DO_2$ ) and oxygen consumption (demand or  $VO_2$ )

Evaluating these two key homeostatic relationships

- MAP/blood flow and - oxygen supply/demand ( $VO_2/DO_2$ )

is essential in any patient exhibiting distress, organ dysfunction, or hemodynamic instability.

Failure to do so commonly results in misdiagnosis and delayed recognition of clinical deterioration.

## Oxygen consumption or demand ( $\dot{V}O_2$ )

is determined by physical activity,  
temperature,  
and body mass,

## Oxygen delivery ( $\dot{D}O_2$ )

is the product of cardiac output (CO)  
and the content of arterial oxygen ( $CaO_2$ ).

CO is in turn the product of stroke volume (SV)  
and heart rate (HR),

arterial oxygen content ( $CaO_2$ )  
is primarily determined by hemoglobin concentration  
and saturation.

## Evaluation of Low Oxygen Delivery

**Low MAP** and physical exam findings consistent with a high SVR and low CO (i.e., increased vascular tone, cool extremities) should prompt to consider the determinants of CO.

A key point differentiating causes of low SV is the overall volume status

**Low SV** can result from frank hypovolemia as in hemorrhage and severe dehydration,  
or can exist with euvoolemia or hypervolemia where the low SV results from precardiac obstruction of ventricular filling, poor pump function, postcardiac obstruction, or valvular regurgitation

•  
With hypovolemia, central veins will be collapsed, and peripheral veins may be difficult to locate.

Low SV from all other causes will be accompanied by normal to large central veins;  
enlarged central veins should prompt a thorough examination of the chest and echocardiographic examination of the heart.

## Evaluation of Low Blood Pressure

A low MAP results from either a low CO or low SVR.

Thus, the etiology of a low MAP can often be inferred by an exam that differentiates between high and low SVR :

- *Cold extremities, weak pulses with narrow pulse pressures, and delayed capillary refill suggest a low CO and a high SVR.*
- *Warm extremities with brisk capillary refill and bounding pulses indicate a normal or high CO and a low SVR.*

Low MAP and physical exam findings consistent with low vascular tone (i.e., low SVR) are suggestive of distributive shock.

In these patients, attention centers on differentiating neurologic injury from the other etiologies of low vascular tone, such as anaphylaxis and sepsis



## Evaluation of Hemorrhage

In a patient in whom blood loss has occurred more than 30 minutes prior to laboratory analysis, interstitial-to-vascular fluid shifts will result in hemodilution and produce an accompanying drop in hematocrit.

In this setting, the presence of an elevated lactate or evidence of an imbalance in  $\text{DO}_2/\text{VO}_2$  would clearly be due to hemorrhage.

In hemorrhage, physical exam findings include:

- a weak pulse, - narrow pulse pressure, - delayed capillary refill, and
- cold extremities, which suggest that MAP is maintained by high SVR.

In case of low CO suspected to be occult hemorrhage (retroperitoneal bleeding, aneurysm rupture,...) clinical assessment could still uncover the presence of hemorrhage.



The ED is a recognized high-risk environment 'perfectly designed' for errors to occur.

The random presentation of a broad spectrum of undifferentiated conditions of varying acuity from trivial to immediately life-threatening is unique to the practice of emergency medicine (EM)

Clinical risk management of necessity needs to be part of the day-to-day activities within the ED.

The emergency department (ED) environment is complex, time-pressured and dynamic

Nowhere else in medical practice are staff required to make critical decisions with high levels of uncertainty, minimal information and significant time pressure.

Attending to multiple patients simultaneously in a noisy ever-changing environment with constant interruptions and the frequent need to interrupt what one is doing in order to attend to a new arrival or the sudden deterioration of an existing patient leads to the creation of **an environment of error.**

## Hierarchy of Factors Influencing Safety of Clinical Practice:

- institutional context ( *economy, regulations, conflicting policy,...*)
- organization and management(*structure, priorities, leadership..*)
- work environment ( *staffing skills,shift patterns, high workload,..*)
- team factors (*communication between staff, supervision, support..*)
- individual staff factors ( *competence, training, knowledge,...*)
- task factors ( *design, protocols clarity, results accuracy,...*)
- patient factors ( *acuity, language and communication,...*)



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