

Chapter 9: Assessment of the critically ill

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Introduction

During your run in ICU, one of the key skills that you will acquire is the assessment of sick patients. It is very important to know that assessment of the critically ill is not just about looking at an abnormal vital observation or laboratory results, but assessing the patient as a whole. The questions that needs to be answered include:

- What is the problem and is it reversible
- Does the patient has a reasonable chance of good recovery
- What therapies are required and where is the best place to deliver this

Outline of the assessment

Initial resuscitation

Reason for referral and referrer

Background:

- Medical
- Social
- Functional

Sequence of events

Examination

- Acute physiology
- Signs of acute disease
- Signs of chronic disease

Investigations

- Blood test
- Imaging
- Investigations for chronic diseases: Echo, pulmonary function tests etc

Your preliminary plan

Initial resuscitation

First assess the airway, breathing and circulation of the patient. Initiate the supportive measures to maintain these in the first instance e.g. fluids, boluses of vasopressors, oxygen therapy, airway management. In many instances, you will only have ward based therapies available to you unless you are in the ED. If the patient needs immediate admission, obtain the basic medical story and

functional background where possible and consult your consultant. If ABCs are manageable in the ward, then a careful assessment should be undertaken.

Referral reason and referrer

It is important to know the medical problem that has initiated the referral e.g. hypotension, airway or ventilation issue. The reason they have referred the patient is also important, as often it is not just about ICU admission.

A variety of reasons they may refer including:

- Wants an admission
- Wants on-going review +/- possible admission
- Wants advice or discussion about management
- Wants a refusal +/- discussion with the family

If they want an admission, it is helpful to ascertain what they want specifically, particularly with patients who are likely to have limitations to intensive therapies. E.g. monitoring, inotropes, NIV, ventilation and dialysis

Ensure that referrals are made by registrars. This is so that the right information can be obtained and that senior medical staff responsible for the patient is part of the decision making. House surgeon referrals that need urgent attention should be managed immediately, but otherwise referrals needs to be made by senior medical staff.

Background

Knowing the patient's background include finding out their comorbidities, functional and social history. These will have bearing on the potential cause of the acute medical problem, as well as an idea of their functional reserve to survive the acute illness.

Medical background

Common places that these can be obtained through clinical letters, admission notes, patient and history from the family and discharge letters. It is also important to determine the severity of their chronic illnesses by looking for previous/current investigations e.g. spirometry, echo, angiograms, previous hospital admissions as well as medications that their on e.g. chronic steroids in COPD. Many of these comorbidities will cause other organ dysfunction, e.g. renal failure in diabetes, heart failure in chronic lung disease, and so it pays to assess for these also.

Functional and social history

This is to assess their physical reserve and has correlation with prognosis. The very basics of function is their ability to do activities of daily living (ADLs) such as cooking, showering etc. However, be very wary of an assessment of being "independent" especially by other clinicians. It is very important to ascertain exactly what they can do. Activities outside the house is also important, such as shopping, sports, and a quantitative assessment of their exercise tolerance e.g. can they walk up a flight of stairs, how far can they walk. Tied into the functional history is their living situation e.g. are they living alone, rest home or private hospital. Are they still working and if so, what is their occupation.

Sequence of events

This is the immediate history of this hospital admission. Questions that needs to be answered include:

- What brought the patient into hospital, and the history of his presenting complaint
- How long is the hospital stay so far
- What investigations and treatment they have had so far
- What has prompted this referral

This is to establish potential causes of the referring problem. Note also the plan of the referring team.

Physical exam

The initial priority is to assess for ABCs. If that is manageable then it is important to look at the end of the bed: is the patient acutely unwell, do they look frail, super obese? A good examination of the system in question should also be done e.g. respiratory exam in pneumonia. In addition you need to determine if the patient have any evidence of organ dysfunction:

- Are they mentating well, confused or in a coma
- Are they in respiratory distress
- Are they peripherally cold and shutdown
- Are they still passing urine
- Do they have evidence of significant chronic disease e.g. barrel chested, clubbing, pitting peripheral oedema, cachexia
- Abdominal tenderness/peritonism/distension
- What are the trends in their observations

Investigations

Investigations done so far by the team should be reviewed. This should hopefully include investigations looking into the cause of the acute problem. In addition, to gauge severity and therapies needed, an assessment of organ dysfunction should be undertaken e.g. renal function, liver function, coagulation, lactate, ABG.

Making a plan

When possible, before consulting your consultant, you should formulate a potential plan for the patient. Questions that need to be answered include:

- Is this patient an ICU candidate
- Does this patient need an ICU admission
- Does the patient need further investigations or interventions prior to making a decision for admission
- If the patient is admitted, what is the management plan

- If the patient stays on the ward, will there be further ICU follow up and what are the ward based therapies that need to be given