Neurological assessment is essential in the assessment of the acutely ill patient (NICE, 2007; Resuscitation Council UK, 2006). As a problem with airway, breathing or circulation can lead to altered level of consciousness, initial priorities include ensuring a clear airway, and adequate breathing and circulation.

This article, the first in a four-part series on neurological assessment, describes assessment of level of consciousness.

**CONSCIOUSNESS**

Consciousness is defined as the state of being aware of physical events or mental concepts. Conscious patients are awake and responsive to their surroundings (Marcovitch, 2005).

The level of consciousness has been described as the degree of arousal and awareness. A manifestation of altered consciousness implies an underlying brain dysfunction. Its onset may be sudden, for example following an acute head injury, or it may occur more gradually, such as in hypoglycaemia.

**Causes of altered consciousness**

A range of situations can lead to altered consciousness. These include: profound hypoxaemia; hypercapnia; cerebral hypoperfusion; stroke; convulsions; hypoglycaemia; recent administration of sedatives or analgesic drugs; drug overdose; subarachnoid haemorrhage; and alcohol intoxication (Resuscitation Council UK, 2006; Wyatt et al, 2006).

**ABCDE ASSESSMENT**

The Resuscitation Council UK (2006) recommends the ABCDE approach:

- Airway;
- Breathing;
- Circulation;
- Disability;
- Exposure.

Evaluating ‘disability’ involves assessing the level of consciousness (using the AVPU scale), pupillary assessment, and sometimes the Glasgow Coma Scale. Staff caring for a patient with a head injury admitted for observation should all be able to assess:

- Respiratory rate; heart rate; temperature; blood pressure; blood oxygen saturation;
- Glasgow Coma Scale (GCS);
- Pupil size and reactivity;
- Limb movements (NICE, 2007).
LEVEL OF CONSCIOUSNESS

It is not possible to directly assess the level of consciousness – it can only be assessed by observing the patient’s behavioural response to different stimuli.

During the initial rapid assessment of the critically ill patient, it is helpful to use the AVPU scale, with an examination of the pupils; the GCS should be used in the full assessment (Smith, 2003). NICE (2007) recommends using GCS to assess all patients with head injuries.

Before assessment, ascertain the patient’s acuity of hearing, medical history and any indications that may affect level of consciousness.

AVPU

The AVPU scale is a quick and easy method to assess level of consciousness. It is ideal in the initial rapid ABCDE assessment:

- Alert;
- Responds to voice;
- Responds to pain;
- Unconscious (RCUK, 2006).

AVPU is incorporated into many early-warning score systems for critically ill patients, as it is simpler tool than GCS, but is not suitable for long-term observation.

The procedure

- Explain the procedure to the patient.
- Assess the level of consciousness using the AVPU scale; if fully awake and talking to you, they are A (alert). If they respond but appear confused, try to establish whether this is a new or a long-standing problem; causes of recent onset confusion include neurological pathology and hypoxia.
- If the patient is not fully awake, check if they respond to your voice, for example by opening their eyes, speaking or moving; if they do, they are V (responds to voice).
- If the patient does not respond to voice, administer a painful stimulus such as a trapezium squeeze (Fig 1) and check for a response (eye opening, verbal such as moaning, or movement); if there is a response, they are P (responds to pain). Those who do not respond are U (unresponsive).
- Record the AVPU reading on the patient’s observation chart (Fig 2).
- The patient may need to be in the lateral position to help keep the airway patent; oxygen may need to be administered (Fig 3).
- Try to establish a cause of altered consciousness. Check the medical history and presenting complaint. Check for a medical alert bracelet or similar (Fig 4).
- Check the medication chart (Fig 5) as some medications can affect consciousness.
- To further establish the cause, perform bedside glucose assessment to exclude hypoglycaemia and hyperglyaemia (Fig 6).
- Check for evidence of alcohol intake, such as a smell on the breath. Check for signs of a head injury.

REFERENCES


