Nursing the unconscious patient

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Summary

Unconscious patients are nursed in a variety of clinical settings and therefore it is necessary for all nurses to assess, plan and implement the nursing care of this vulnerable patient group. This article discusses the nursing management of patients who are unconscious and examines the priorities of patient care.

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Aim and intended learning outcomes

The aim of this article is to explore the long-term care needs of the unconscious patient and the related nursing management. It will also discuss the emergency priorities that may arise. After reading this article you should be able to:

- Define consciousness and have an understanding of the related anatomy and physiology.
- Discuss the various levels of impaired consciousness.
- List the causes of unconsciousness.
- Identify the needs of the unconscious patient.
- Prioritise patient care, recognising the skills required for the assessment, planning and implementation of nursing care.
- Reflect on how the nursing skills needed to care for the unconscious patient can be used to enhance practice in other areas of nursing.

Introduction

Nursing the unconscious patient can be a challenging experience. Unconscious patients have no control over themselves or their environment and thus are highly dependent on the nurse. The skills required to care for unconscious patients are not specific to critical care and theatres as unconscious patients are nursed in a variety of clinical settings. Nursing such patients can be a source of anxiety for nurses. However, with a good knowledge base to initiate the assessment, planning and implementation of quality care, nursing patients who are unconscious can prove highly rewarding, and the skills acquired can promote confidence in the care of all patients.

Unconsciousness spans a broad spectrum (Hickey 2003a), from momentary loss of consciousness as seen with fainting, to prolonged coma that may last weeks, months or even years. The causes of unconsciousness will dictate the length of the coma and the prognosis. Yet the immediate and ongoing needs of the unconscious patient are similar, whatever the underlying cause.

Time out 1

In your own words describe the function of the reticular activating system and define consciousness.

Defining consciousness and aspects of anatomy and physiology

To understand consciousness it is necessary to have an appreciation of the complexity of the related anatomy and physiology, as normal conscious behaviour is dependent on an intact

and fully functioning brain (Pemberton 2000). Therefore, the manifestation of impaired or absent consciousness points towards an underlying brain dysfunction.

Consciousness is a function of the reticular formation (RF), which has its origins in the brainstem (Barker 2002). The RF is a network of neurones that connect with the spinal cord, cerebellum, thalamus and hypothalamus. All sensory pathways link into the RF (Fitzgerald 1996). The reticular activating system (RAS) is a feature of the RF and is responsible for arousal from sleep and maintaining consciousness (Fitzgerald 1996). The RAS has a large number of projections that are linked to the cerebral cortex (Pemberton 2000) and are concerned with the arousal of the brain during sleep and wakefulness (Fitzgerald 1996) (Figure 1). Awareness is the result of the combined activity of the RF, RAS and higher cortical function. The two main identified parts of the RAS are the mesencephalon (upper pons and mid-brain) and the thalamus. Signals from specific parts of the thalamus initiate activity in specific parts of the cerebral cortex, as opposed to the diffuse flow of impulses from the mesencephalon that causes generalised cerebral activity (Pemberton 2000). This process of selection prevents the cerebral cortex from receiving too much information at once, thus possibly playing a part in directing an individual's attention to specific mental activities (Hickey 2003b).

The arousal reaction is dependent on the stimulation of the RAS. The RAS receives input signals from a wide range of sources, including the senses (Pemberton 2000). The RAS serves as a point of convergence for signals from our external environment and our internal thoughts and feelings. For example, when an individual is in a deep sleep the RAS is in a dormant state. However, a loud noise or noxious stimulus will wake us. Our emotional response and reasoning to such a stimulus will 'modify' the RAS positively or negatively as the RAS is also stimulated by the cerebral cortex (Pemberton 2000).

There are many pathways from the cerebral cortex that concern sensory and motor function, as well as emotions and reasoning. Whenever these areas become excited impulses are transmitted to the RAS, further increasing the level of activity, and in turn the RAS stimulates the cerebral cortex, thus increasing the excitation of both regions. The number of pathways that become activated is also related to the level of consciousness. If one pathway is activated the degree of consciousness may be minimal, however, if many pathways are activated simultaneously then this may result in a high level of consciousness. Consciousness demonstrates that the RAS is functioning and is capable of the screening and discrimination of information (Pemberton 2000).

Consciousness can be defined as a state of awareness of one's self and the environment (Barker 2002). A conscious person is capable of responding to sensory stimuli. Alternatively, coma is a total absence of awareness of one's self and the environment. A person in a coma is unrousable and unresponsive to external stimuli. For example, when a person is asleep he or she can be aroused by external stimuli, but this does not occur when a person is in a coma. This suggests that consciousness depends on whether the individual can be aroused to wakefulness. However, between the poles of consciousness and unconsciousness there is a continuum of differing states of impaired consciousness.

Time out 2

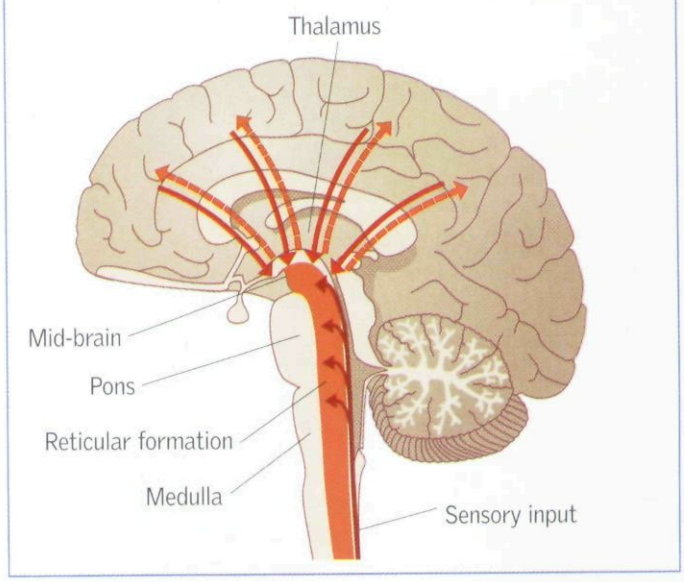
Think of a patient with impaired consciousness you have nursed. Reflect on your experience and the underlying causes that led to impairment in that patient's consciousness. Describe the patient's physical and emotional behaviour. What did you find challenging about nursing this patient?

Impaired consciousness

There are acute and chronic states of impaired consciousness. Acute states are potentially reversible, whereas chronic states indicate underlying brain damage and hence are irreversible (Pemberton 2000). Acute states are

FIGURE 1

A mid-sagittal view of the reticular activating system and related structures



generally caused by metabolic upsets, such as hypoglycaemia or drug intoxication, which alter brain function.

A clouding of consciousness suggests interference with the integrity of the RAS, with a resultant effect on the arousal response. This can cause unusual behaviour, ranging from irritability and confusion, to poor concentration and drowsiness (Pemberton 2000). The changes can be subtle at first and difficult to recognise. Delirium is similar to clouding of consciousness, although a person who is delirious may also present with psychological manifestations, such as illusions, hallucinations and delusions.

A shadow on the wall that takes the form of an animal, or a noise that is misinterpreted as a stranger coming to cause harm, are examples of illusional states (Pemberton 2000). Hallucinations are defined as the sight or sound of something in the absence of any sensory stimuli, such as hearing voices or seeing objects that do not exist. Delusions are more persistent misperceptions that are held to be real, however illogical they may seem (Hickey 2003b). Lethargy is characterised by slow and sluggish speech, mental processes and motor activities. The obtunded patient may be readily rousable but can only respond verbally with a word or two, and can only follow simple commands. Stupor describes a state of near unrousability that requires vigorous or repeated stimulus to illicit a response (Hickey 2003b).

The categorisation of the different graduations of coma is not universally accepted. The difference between each definition is the degree and presentation of response to painful stimuli (Hickey 2003b). However, terms such as semi-coma and deep coma are still used in clinical practice.

Assessment of consciousness

A variety of scales have been devised to describe patients' level of consciousness (Barker 2002). However, the Glasgow Coma Scale (GCS) (Jennett and Teasdale 1977) is the most universally accepted tool, which decreases the subjectivity and confusion associated with assessing levels of consciousness (Hickey 2003b). The GCS has been used as a prognostic device during immediate assessment following a head injury. The lower the score the poorer the prognosis. The GCS gives practitioners an internationally accepted format that assists communication, minimises user interpretation, and rapidly detects change in the patient's condition (Howarth 2004). National guidelines indicate that the GCS should be used to assess all brain-injured patients (National Institute for Clinical Excellence (NICE) 2003).

The GCS forms a quick, objective and easily interpreted mode of neurological assessment, avoiding subjective terminology, such as 'stupor' and 'semi-coma'. As it is the internationally agreed common language in neurological assessment, it is essential that it is completed accurately, and that any uncertainties are reported immediately (Hickey 2003b). The GCS measures the degree of consciousness under three distinct categories, and each category is further subdivided and given a score as shown in Box 1 (see also the version adapted by NICE 2003).

The regularity with which observations should be undertaken is determined by the severity of the patient's condition (Cree 2003). Guidelines for the head-injured patient are geared towards identification of any potentially rapid deterioration and suggest that observations should be undertaken every 30 minutes until the

BOX 1

The Glasgow Coma Scale

Eye opening (score)

Spontaneous (4)

To speech (3)

To pain (2)

No eye opening (1)

Verbal response

Orientated (5)

Confused (4)

Occasional words (3)

Incomprehensible sounds (2)

No response (1)

Best motor response

Obeys commands (6)

Localising (5)

Normal flexion (4)

Abnormal flexion (3)

Extension to pain (2)

No response (1)

Each category is further subdivided and given a score:

15 = Maximum score for an alert individual

3 = Lowest possible score for the unconscious patient

Less than 8 = Cause for concern

(Jennett and Teasdale 1977)

GCS reaches 15 or the patient's condition stabilises (NICE 2003). After this, observations should continue hourly for four hours, returning to every 30 minutes if the patient's condition deteriorates. If the patient remains stable on hourly GCS assessment for four hours, the observations can be reduced to every two hours (NICE 2003). However, these recommendations cannot be generalised and each patient needs to be individually assessed. The GCS may be misleading in patients who are hypoxic, haemodynamically shocked, fitting or post-ictal, showing little or no response. Therefore, it is important to re-evaluate patients once any underlying acute condition has been corrected (Dawson 2000).

The accuracy of the GCS is dependent on the assessor using and interpreting it correctly. The nurse must become familiar with the tool and studies suggest that its use should be taught in detail to ensure accuracy of rating by nurses (Heron *et al* 2001). The reader should refer to the referenced literature for more information and seek to gain practical experience in the clinical environment (Shah 1999, Cree 2003, Howarth 2004).

Time out 3

Reflect on your experience of the Glasgow Coma Scale. How confident do you feel in using the tool in practice? What policies are available in your workplace to assist and guide its application? Do they meet the NICE (2003) guidelines?

Causes of unconsciousness

There are many different causes of unconsciousness. Some examples are shown in Box 2; however, these are by no means exhaustive. The causes of unconsciousness may dictate the length of the coma and the prognosis (Mallett and Dougherty 2000). Unconsciousness occurs when the RAS is damaged or inhibited, thus affecting the normal arousal mechanism (Pemberton 2000). Intrinsic factors that affect the nervous system directly can be seen as primary causes. Secondary causes most often involve other body systems compromising metabolic and endocrine homeostasis. Unconsciousness may be sudden, for example, following an acute head injury, or it may be gradual, for example, with the onset of poisoning or a deranged metabolism, as in hypoxia or hypoglycaemia.

It is also important to remember that unconsciousness may be induced, for example, the use of anaesthetics for surgical or medical intervention. Another example of this is in critical care units, such as intensive care, where an anaesthetist will intervene and induce unconsciousness pharmacologically to allow for emergency intervention to stop a decline in a patient's condition.

Emergency priorities

The unconscious patient will require skilled emergency management. As a patient starts to become unconscious he or she loses control of his or her ability to maintain a safe environment. It cannot be stressed enough that the nurse has a crucial responsibility to anticipate, where possible, deterioration in a patient's condition (Nursing and Midwifery Council (NMC) 2004). Thus, in relation to consciousness, the nurse has an essential role in the assessment of the central nervous system using the GCS, monitoring vital signs, pupillary reaction and limb movements. Such skills will provide information that can allow for interventions to arrest a life-threatening deterioration and potentially avert a decline to unconsciousness. The A (airway), B (breathing), C (circulation), D (disability) approach to resuscitation should be adopted, and the maintenance of a clear airway is the first priority (Colquhoun *et al* 2004). Noisy snoring or harsh breathing sounds may be a sign that the airway is being compromised.

If the patient is still breathing spontaneously and does not require further resuscitation then appropriate positioning of the patient, using the recovery position, will prevent vomit or any secretion from obstructing the airway, potentially causing aspiration (Colquhoun *et al* 2004). The use of an artificial airway, such as a Guedel, and the removal of secretions through suction will ensure that the airway remains patent (Pemberton 2000).

The unconscious patient is a medical emergency (Pemberton 2000). The nurse needs to work closely

BOX 2

Causes of unconsciousness

- **Poisons and drugs:** alcohol, general anaesthetics, overdose of drugs – legal and illicit, gases (carbon monoxide), heavy metals (lead poisoning).
- **Vascular causes:** post-cardiac arrest, ischaemia, haemorrhage (subarachnoid), acute hypovolaemia, for example, in trauma.
- **Infections:** sepsis, viral causes (human immunodeficiency virus), meningitis, protozoan infections (malaria), fungal (aspergillosis).
- **Seizures:** idiopathic or post-traumatic epilepsy, eclampsia.
- **Metabolic disorders:** hypoglycaemia, hypoxia, renal failure, hepatic failure.
- **Other causes:** neoplasm – primary or secondary, trauma, degenerative disease.

(Adapted from Mallett and Dougherty 2000)

with the medical team to ensure that the right pathways of medical management are applied appropriately. The possible underlying cause will dictate immediate medical management which may include: the administration of oxygen to maintain tissue perfusion; fluids to support cardiovascular function and correct metabolic derangement; and the administration of intravenous (IV) medications, such as phenytoin in the presence of seizures. The nurse skilled in phlebotomy will be required to take blood for laboratory tests that will ascertain the presence of drugs if overdose is suspected.

Physical examination can give many clues as to the cause of unconsciousness. For example, a bitten tongue may indicate an epileptic seizure, or needle marks on the lower limbs or abdomen could be because the patient has insulin-dependent diabetes (Fuller 2004). A patient's medical history is of vital importance and, if not already known, friends and relatives can be of assistance in this endeavour. Many people who have life-threatening conditions that can precipitate unconsciousness, such as epilepsy or allergies to penicillin, may be wearing bracelets that inform medical practitioners (Fuller 2004).

Anyone accompanying an unconscious patient to hospital will require support and information. Witnessing the events leading to someone losing consciousness can be very distressing. A nurse not involved in the immediate care of the patient should be allocated to take responsibility for providing this support (Pemberton 2000).

If the patient does not regain immediate consciousness then his or her ongoing needs will need to be assessed. This may demand that the patient be moved to an intensive care unit (ICU) to allow for critical management. Whether the patient is in a critical care bed or on the ward, the ongoing needs and priorities remain unchanged.

Time out 4

Read the case example in Box 3. List the immediate nursing priorities.

BOX 3

Case study 1

Andrew is known to have insulin-dependent diabetes and is being treated for uncontrolled blood glucose levels on your unit. It is early morning and breakfast has not yet been served. Andrew has been to the bathroom to have a wash and is returning to his bed when he stumbles and falls to the ground. On immediate examination he is seemingly conscious, but is pale, clammy and not responding coherently to questions.

Ongoing nursing management

The human body is designed for physical activity and movement; thus, physiological changes will occur in the unconscious patient, which will be exacerbated by the length of immobility, cause of unconsciousness and the quality of care (Dougherty and Lister 2004). Thus, in addition to managing the underlying cause of unconsciousness, the nurse should also implement a framework of care that seeks to prevent further complications. To do this he or she needs to understand the effects of prolonged immobility on the main systems of the body.

Effects of prolonged immobility The morbidity of immobility is directly associated with the length of time the patient is immobile and other underlying patient risk factors (Hickey 2003a), such as incontinence, poor nutrition, hypotension, infection, obesity, old age and organ failure (Wunderlich 2002a, Hickey 2003a). Older patients in particular are vulnerable to the detrimental effects of prolonged immobility. Physiological changes that occur over short periods of immobility are less severe and potentially reversible. Prolonged periods result in increased pathophysiological changes associated with increased morbidity and permanent disabilities (Hickey 2003a). Thus, the effects of immobility give rise to many of the complications in the unconscious patient, hence the need for the implementation of a broad range of nursing skills.

Respiratory function Maintaining a patent airway and promoting adequate ventilation are nursing priorities. Assessment of the mouth and teeth is also important. Dentures should be removed and note made of any loose teeth or crowns that may become dislodged and compromise the airway. The inability to maintain a patent airway means that aspiration of fluids, from oral secretions, blood in the presence of trauma, or vomit is a potential risk that may cause further complications, for example, chest infection. The insertion of a nasogastric tube in the early stages of unconsciousness will allow removal of gastric contents, thus reducing the risk of aspiration.

Oropharyngeal airways, such as the Guedel airway, have many benefits (Pemberton 2000). They are easy to insert, prevent the tongue from obstructing the airway, provide a passage that allows the patient to breathe, and allows the nurse to remove secretions from the trachea through suctioning. A nasopharyngeal airway also allows the clearance of secretions using suction (Moore 2004), can be inserted if the use of an oropharyngeal airway is contraindicated, for example, in patients with trauma to the mandible or oral cavity. Suctioning should be undertaken with care, following appropriate

patient assessment to establish the need for intervention. Suctioning has associated contraindications and unwanted effects, for example, a rise in intracranial pressure (Moore 2004). The reader should refer to the article by Moore (2004) to gain a better understanding of this skill.

Positioning the patient is important and will facilitate the drainage of secretions. The supine position compromises the mechanics of breathing and lung volumes (Hickey 2003a). Tidal volumes – the volume of air that passes in and out of the lungs during normal quiet breathing – may not be compromised, depending on any underlying respiratory pathology, but generally lying flat causes a reduction in the residual volume and functional residual capacity of the lungs (Hickey 2003a). This can lead to partial or complete collapse of parts of the lung (atelectasis), as well as poor ventilation, which can result in hypoxia. The accumulation of secretions over time can contribute to the development of atelectasis and hypostatic pneumonia (Hickey 2003a). Correct positioning of the unconscious patient also minimises the risks associated with immobility in terms of circulation and the musculoskeletal system (Wunderlich 2002b).

To maintain a patent airway the lateral recumbent position is advised (Allan 2002) with the head of the bed slightly tilted upwards, about 10-30 degrees (Pemberton 2000) (Figure 2). It is important to recognise that such positioning is the ideal and may be contraindicated by an underlying condition, for example, a spinal or an underlying brain injury. Wherever there is a threat to the airway that cannot be resolved by repositioning and the clearance of secretions, the insertion of an endotracheal tube will be necessary, to protect the airway from aspiration and the associated risk of infection (Pemberton 2000). If unconsciousness is prolonged and an artificial airway is still required then a tracheostomy should be considered (Hooper 1996).

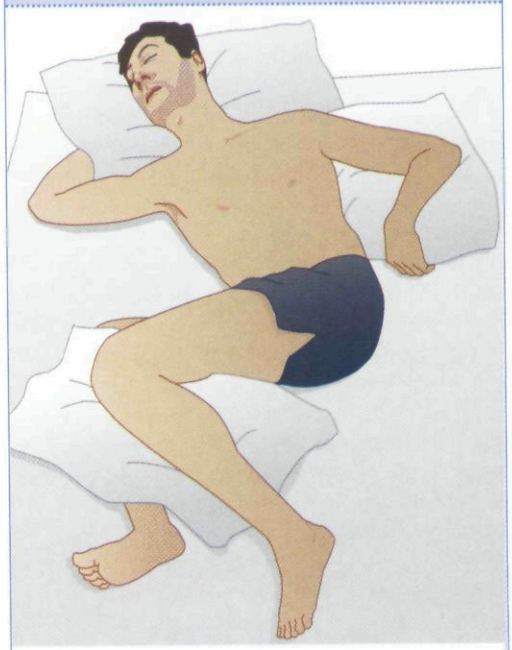
The patient may require the administration of oxygen therapy. Oxygen can be delivered using different types of equipment and humidification is advised, where possible, to warm and moisten its delivery and to prevent drying of secretions (Dougherty and Lister 2004). Physiotherapy is important to encourage lung expansion, assist the removal of secretions and help in the prevention of complications. Atelectasis and pneumonia are long established consequences of prolonged bedrest (Hickey 2003a). The pooling of secretions leads to hypostatic pneumonia which creates an ideal environment for the growth of bacteria (Hickey 2003b). The collapse of lung tissue and the effects of secretions will impair gaseous exchange.

Pulse oximetry will aid the ongoing monitoring of respiratory function. Oxygen saturation is a measure of the percentage of haemoglobin molecules that combine with oxygen. Pulse oximetry assists in monitoring the effectiveness of oxygen therapy (Dougherty and Lister 2004). Changes in the pattern of breathing may indicate a developing respiratory failure, or a disorder of the respiratory control centre in the brain (Dawson 2000). Close monitoring of the patient's respiratory function is important and any changes should be reported.

Cardiovascular function Monitoring the cardiovascular function in unconscious patients is of high importance. Alterations in blood pressure need to be viewed in relation to pulse

FIGURE 2

Positioning the unconscious patient



Attention is given to good body alignment, to help prevent contractures, foot and wrist drop, muscle strain, joint injury and interference with circulation and chest expansion.

Care needs to be taken to ensure that the head and neck are aligned with the spine. The arm that is uppermost is flexed at the elbow and rested on a pillow to prevent drag on the shoulder and wrist drop. The arm that is down is drawn slightly forward from under the body, bent at the elbow to lie on the bed parallel with the neck and head, or across the chest. The lower limb that is uppermost is flexed at the hip and knee, and supported by a pillow with the other lower limb slightly flexed.

To avoid foot drop the feet are positioned at a 90 degree angle to the leg with care taken to avoid any unnecessary pressure. A pillow at the foot of the bed can facilitate this position (Allan 2002, Wunderlich 2002b).

rate, pulse quality and pulse pressure (Hickey 2003a). For example, a low blood pressure in the presence of a tachycardia with a pulse that feels weak on palpation may indicate hypovolaemia. Change can be indicative of neurological deterioration and such observations need to be balanced with neurological assessment to obtain a more accurate evaluation. Hypotension is rarely characteristic of brain injury alone, except in the terminal stages of herniation (Dawson 2000), and changes in vital signs can be related to other physiological factors, for example, hypovolaemia, sepsis or cardiogenic shock. However, the effects of immobility can cause changes in cardiovascular function with increased cardiac workload and central fluid shifts from the legs to the thorax and head (Dougherty and Lister 2004).

The risk of venous thromboembolism and pulmonary emboli from the effects of immobility is well recognised (Dougherty and Lister 2004). The use of antiembolic stockings should be considered once the risk of venous thromboembolism has been identified (Bryne 2002). Thrombus formation is caused by venous stasis, decreased vasomotor tone, pressure on the blood vessels and a hypercoagulable state (Hickey 2003a). Antiembolic stockings increase the velocity of flow not only in the legs but also in the pelvic veins and inferior vena cava, particularly when thigh-length stockings are used (Hayes *et al* 2002). Liaison with the physiotherapist will also be of benefit, as the introduction of passive limb movements will encourage blood flow back to the heart as well as having positive musculoskeletal effects. The administration of an anticoagulant will also reduce the risks of venous thromboembolism (Casey 2003).

Nutrition and hydration Nutrition is a fundamental human need and yet evidence suggests that up to 40 per cent of hospital patients remain malnourished (Pearce and Duncan 2002). The unconscious patient is dependent on the healthcare team to deliver the correct nutritional requirements. Therefore, regular blood and urine tests to monitor electrolyte and metabolic changes are essential to promote accurate assessment of each individual patient.

Obtaining a 24-hour urine collection is an important means of assessing the protein needs of the unconscious patient. Nitrogen is lost from the body when protein is broken down. If nitrogen loss exceeds supply then catabolism (muscle breakdown) occurs. If uncorrected this will compromise breathing by wasting respiratory and skeletal muscles (Woodrow 2004).

Immobility also alters glucose-insulin intolerance. An IV insulin sliding-scale regimen may be required to maintain blood glucose levels within the normal range of 4-7mmol/l (Cowan 1997). Close monitoring of glucose levels is essential to ensure that this range is maintained. Another example of altered metabolism is the increased excretion of calcium from bones as a result of reduced weight bearing and inactivity (Hickey 2003a).

The delivery of nutritional requirements is best achieved enterally as the parenteral route has the disadvantages of expense, increased risk of infection from IV cannulation, and gut atrophy and translocation of gut bacteria from non-use of the digestive tract (Woodrow 2004). Enteral feeding can prevent this by averting atrophy of the villi that absorb nutrients and produce protective mucus and immunoglobulins. Any enteral feeding regimen should encompass a rest period to allow for gastric acidity to return to its normal level (approximately pH 4.0), thus reducing the risks of bacterial colonisation (Woodrow 2004).

Enteral feeding can be administered in a variety of ways and the most appropriate means needs to be decided following assessment of the unconscious patient. Nasogastric feeding is the most commonly used method and is recommended for short-term feeding (less than four weeks) (Dougherty and Lister 2004). Fine bore tubes should be used where possible as they are associated with a lower incidence of complications, such as rhinitis, oesophageal irritation and gastritis , than wide bore tubes (Payne-James *et al* 2001). It is important to remember that unconscious patients will not be able to communicate whether a feeding tube is in the wrong place. Therefore, care must be taken to ensure that it has been inserted correctly. A chest X-ray is required to confirm the position of the guide wire, to confirm that it has not been inadvertently inserted into the lungs (Dougherty and Lister 2004).

Nasoduodenal, nasojejunal, percutaneous endoscopic gastrostomy or jejunostomy tubes may be indicated if the patient's condition contraindicates direct gastric feeding, for example, acute pancreatitis (Pearce and Duncan 2002). A gastrostomy may be more appropriate if enteral feeding is required for longer periods, thus removing the risks associated with nasally inserted tubes. Percutaneous endoscopically guided gastrostomy tubes are the most common of this type (Payne-James *et al* 2001).

Nutritional requirements may be affected by underlying conditions that increase normal metabolic demand or require further supplements, for example, sepsis, loss of fluids and electrolytes

from diarrhoea or drainage, or tissue repair following trauma (Woodrow 2004). Liaison with dieticians will assist in the ongoing assessment and planning the patient's nutritional needs.

Water has many functions within the body that are essential to maintaining health and sustaining life, for example, giving form to body structures and acting as a medium for nutrients and electrolytes. Therefore, accurate fluid balance should be monitored and recorded to allow the identification of potential fluid or electrolyte imbalances (Gobbi and Torrance 2000).

Gastrointestinal function Bowel action is likely to become irregular in the unconscious patient, thus monitoring and observation are important. Loose stool can be a result of poorly tolerated enteral feeding. Diarrhoea is caused when there is more fluid entering the bowel than the bowel can absorb during transit. Increased water in the gut or a decreased ability to absorb fluid can result in diarrhoea. Antibiotics can exacerbate this by destroying gut commensals (Woodrow 2004).

Constipation and faecal impaction are also common in immobile, unconscious patients as normal stimulants to peristalsis, such as physical activity, are absent. Constipation not only causes discomfort, but also increases intra-abdominal pressure which will result in an unwanted rise in intracranial pressure and the potential of further neurological impairment (Cree 2003). Enteral feeding will not stimulate peristalsis (Hickey 2003a). Consequently, the introduction of a regular laxative is often required to assist evacuation of the bowel contents (Pemberton 2000).

Monitoring bowel function with the use of a chart will help to assess the need for intervention. Enteral laxatives on their own may not be sufficient and the introduction of rectal preparations such as suppositories and enemas may be necessary. Manual evacuation (the digital removal of faecal matter) is an invasive intervention that is now considered a nursing role. However, it is not without risks. For example, stimulation of the vagus nerve in the rectal wall can slow the patient's heart (Powell and Rigby 2000). There is minimal information on this invasive procedure in the nursing literature. However, Fader (1997) suggests that manual evacuation should only be undertaken when other methods of bowel evacuation have failed. Nurses are accountable for their practice and appropriate training should be undertaken before this procedure is carried out.

Genitourinary function An unconscious patient will be incontinent of urine. A urinary catheter should be considered if the state of unconsciousness is not resolved quickly. This helps to retain patient dignity, allows close monitoring of urinary output and prevents skin breakdown. However, introduction of a urinary catheter increases the risk of infection (Getliffe 1996). Bed rest also increases urinary stasis in the renal pelvis and urinary bladder further exacerbating the risk of urinary tract infection (Hickey 2003a). Alternatives to managing incontinence should be considered, for example, the use of a urinary sheath or incontinence pads. However, it is important that the benefits of these interventions are considered against the associated risks of compromised skin integrity and poor fluid monitoring.

Hygiene needs and skin care Attending to the hygiene needs of the unconscious patient should never become ritualistic, and despite the patient's perceived lack of awareness, dignity should not be compromised. Personal hygiene is considered part of *The Essence of Care* (Department of Health (DH) 2001a) and needs to be carried out to an uncompromising standard. Involving the family – whether to assist with hygiene practices or in helping to gain an understanding of the patient's personal hygiene requirements – can help to turn the routine of bed bathing into an opportunity to reflect on the patient's individual needs.

The skin forms a protective barrier against infection and regulates body temperature. It also provides some cushioning to bony prominences. Sustained pressure from immobilisation remains the most important cause of skin breakdown (Hickey 2003a). Correct positioning, regular turning and use of a pressure-relieving mattress will help to reduce these risks (Dougherty and Lister 2004). Incontinence, perspiration, poor nutrition, obesity and old age also contribute to the formation of pressure ulcers. Therefore, an assessment tool, such as the Waterlow scale, should be used to aid early identification of the risks (Waterlow 1991, 1998).

Care should be taken to examine the skin properly, noting any areas which are red, dry or broken. Following any washing procedure, it is important to ensure that the skin is dry as this will minimise the risk of loss of skin integrity. Fingernails and toenails also need to be assessed for length and cleanliness, and ongoing care may require consultation by a chiropodist. Ensuring that the skin is dry between the toes will help to minimise fungal infection. It is important to remember that chronic illnesses, such as diabetes, can increase the risk of ulceration in the extremities (Tyrrell 2002).

Minimum standards and methods of oral hygiene have been debated in the literature (Evans 2001). Research focusing on oral problems associated with cancer suggests a minimum of four-hourly interventions to reduce the potential of infection from micro-organisms. Hourly interventions will help to moisten the

membranes of patients who mouth breathe or require oxygen therapy (Krishnasamy 1995). The literature suggests that using a toothbrush and toothpaste is the most effective way of removing dental plaque but care should be taken not to damage the gingiva by using excessive force (Dougherty and Lister 2004).

The delicate surfaces and structures of the eye are protected by tears that maintain moisture, however, the unconscious patient is at risk of drying of the eye. In assessing the eyes, observe for signs of irritation, corneal drying, abrasions and oedema. Gentle cleaning with gauze and 0.9% sodium chloride should be sufficient to prevent infection. Artificial tears can also be applied as drops to help moisten the eyes (Dougherty and Lister 2004).

Gentle cleaning of the nasal mucosa with gauze and water will help remove the build up of debris and maintain a moist environment. If a nasogastric tube is inserted attention should be paid to the surrounding area as damage to the mucosa from pressure can occur (Bonomini 2003). Gauze and water can also be used to clean around the aural canal, although care must be taken not to push anything inside the ear. The nurse should give proper attention to the hygiene needs of the unconscious patient to promote comfort. In so doing the nurse should be able to provide a clear rationale for all care procedures.

BOX 4

Case study 2

Beatrice, who is 77 years old, is transferred to a medical ward following a long admission on the intensive care unit (ICU). During her stay on the ICU she had a cardiac arrest which resulted in her sustaining a hypoxic brain injury. For several weeks her Glasgow Coma Scale (GCS) score has been stable at 9. Her eyes open spontaneously giving a score of 4. She has a tracheostomy tube in situ and makes no effort to communicate orally (1). She flexes her limbs in response to painful stimuli, but is unable to localise the source of the stimuli (4). She also has a generalised weakness in her limbs with a more pronounced hemiparesis on the right side of her body. Her vital signs – blood pressure, heart rate, temperature and respiratory rate – are stable. She is expectorating copious secretions from her tracheostomy, and requires frequent suctioning to maintain a patent airway. She is obese and is at high risk of developing pressure ulcers. She has a urinary catheter *in situ* and has been treated for a urinary tract infection while on the ICU. Beatrice is receiving enteral feeding via a percutaneous endoscopic gastrostomy. Laxatives are prescribed to help maintain regular bowel function.

Time out 5

Read the case study in Box 4. Using a nursing model familiar to your clinical area write a care plan that addresses Beatrice's needs. Try to be holistic in your approach. You may wish to refer to Box 5.

Communication *The NHS Plan* (DH 2001b) calls for the further development of communication skills among healthcare professionals as the need for effective communication is increasingly recognised. Communication between individuals is a broad and varied experience. Active listening is one of the most important communication skills in the healthcare setting (Bailey and Wilkinson 1998, McConnell 2001).

Although verbal communication with an unconscious patient is a one-sided experience, the nurse needs to be perceptive of the patient's non-verbal signals. Elliott and Wright (1999) concluded from their studies of nurse-patient communication that the nurse's level of interaction with patients is determined by the level of the patient's responsiveness. They encourage healthcare practitioners to maintain verbal communication with the unconscious patient.

Studies exploring the recollection of the unconscious patient following a return to consciousness are predominantly concerned with sedated critical care patients, for example, Green (1996). However, there is evidence that patients can recall with accuracy conversations that have taken place while unconscious (Pemberton 2000). Nurses should be verbally reassuring and explain all procedures to unconscious patients.

It is not only the content of what is said that is important but also how it is said. Tone of voice conveys the emotion that is behind what is being communicated. The nurse should be aware of betraying, through his or her tone of voice, feelings and opinions that may intimidate or diminish the patient (Webb 1994).
Non-verbal communication, such as facial expression, eye contact, posture, personal space and bodily contact, is important in social interaction. Non-verbal cues are often the first elements of communication that help us to form immediate impressions about someone (Webb 1994). For patients with impaired consciousness touch, combined with kind and comforting words, can be a valuable means of providing reassurance. However, as with any aspect of care, this needs to be assessed individually as touch can also be interpreted as invasive or threatening (Woodrow 2000).

Understanding a patient's perception and interpretation of his or her experience when

consciousness is impaired is not always possible. However, reported experiences describe threatening and frightening hallucinations. This may explain why patients with impaired consciousness sometimes display inappropriate behaviour such as fear and/or aggression (Woodrow 2000). Gauging appropriate communication requirements demands an understanding of the patient, hence the patient's family can be a valuable resource in helping the nurse to become more informed about the patient's life, his or her personality, and his or her wishes and desires. Communicating with relatives can aid and enhance the nurse-patient relationship by fostering understanding and empathy. A brief summary of the nursing management of the unconscious patient is provided in Box 5.

BOX 5

Nursing management of the unconscious patient

Neurological status: Regular Glasgow Coma Scale assessment should be recorded, including pupil and limb assessment. Increase or decrease the frequency of observations as indicated by the patient's condition.

Respiratory function: Position the patient in the lateral recumbent position to prevent the occlusion of the airway from the tongue falling back against the pharyngeal wall. Elevate the head of bed to 30 degrees to facilitate the drainage of secretions from the mouth. Avoid feeding orally. Remove excess oral secretions with suction to avoid aspiration. Consider the use of an oral or nasopharyngeal airway, to maintain patency of the airway and to aid removal of secretions. Monitor and record respiratory function, including oxygen saturations, respiratory rate, depth and regularity.

Cardiovascular function: Monitor heart rate and rhythm, blood pressure and temperature. Be aware of any changes in vital signs that indicate further neurological deterioration. Observe the patient for any changes in colour, for example, pallor or cyanosis, including the peripheries. Observe for signs of infection, including pyrexia, tachycardia and hypotension.

Immobility: Reposition the patient regularly following assessment of pressure areas and respiratory function. Assess Waterlow score and monitor skin integrity. Consider the use of anti-embolism stockings and anticoagulants for venous thromboembolism prophylaxis.

Pain: Observe for signs of pain or discomfort. Aim to alleviate, consider repositioning the patient or administering analgesia as prescribed. Monitor the effectiveness of any intervention.

Renal function: Insert a urinary catheter to avoid urinary stasis. Monitor urine output hourly.

Nutrition and hydration: Consider enteral feeding to provide nutritional support. Monitor and record fluid balance and administer intravenous fluids as prescribed.

Gastrointestinal needs: Monitor and record bowel function, observing for and reporting diarrhoea or constipation. Consider the use of laxatives to prevent faecal impaction.

Hygiene needs: Regular skin care including eye, mouth and catheter care, as well as care of any invasive sites.

Psychosocial needs: Ensure all procedures are explained to the patient. Liaise with family members regarding the patient's condition and encourage appropriate interaction and involvement in care.

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Time out 6

Reflect on what you have learnt about the nursing management of unconscious patients. Discuss how such skills could be used to enhance the general nursing care of conscious patients in your clinical area.

Conclusion

The unconscious patient places a demand on resources, notably time and staff. Juggling such demands while ensuring that a safe and caring environment is maintained are managerial challenges. Completion of a risk assessment may help to highlight any potential compromise to the maintenance of a safe environment.

Depending on the underlying condition, the unconscious patient may never fully recover or may die from complicating factors. This can be demoralising for the nurse, especially after a long period of committed nursing care. However, the patient may recover fully which can be a rewarding and uplifting experience. Either way, a committed focus on maintaining a high standard of care and promoting dignity throughout, regardless of the outcome, remain paramount **NS**

Time out 7

Now that you have completed this article, you might like to write a practice profile. Guidelines to help you are on page 68.

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