Lecture# 6
semester# 1

Management of Unconscious Patient

:by
lecturer
Dr. Sadiq Salam H. AL-Salih

Al-Mustaqbal University
Nursing College
4th Class
Critical Care Nursing

UNCONSCIOUSNESS

- **Unconscious Patient:** is the state of depressed cerebral function.
- **Altered level of consciousness (LOC):** Present when the patient is **not oriented, does not follow commands**, or **needs persistent stimuli** to achieve a state of alertness. LOC is gauged on a continuum, with a **normal state of alertness** and full cognition (consciousness) **on one end** and **coma on the other end.**
- **Alert/Oriented: It (full conscious)** is a condition that the patient is able to identify the **place, person and time**.
- **Coma (comatose):** prolonged state of unconsciousness and no responses to internal or external stimuli.

Etiology

STRUCTURAL OR SURGICAL UNCONSCIOUSNESS

- Trauma
- Epidural / Subdural hematoma
- Brain contusion
- Hydrocephalus
- Stroke
- Tumor

METABOLIC OR MEDICAL UNCONSCIOUSNESS

- Infection
- Meningitis
- Encephalitis
- Hypo/hyperglycemia
- Hepatic encephalopathy
- Hyponatremia
- Drug /alcohol overdose
- Poisoning /intoxication

Pathophysiology

Damage to the brain and skull

↓

Inflammation, edema and hemorrhage

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Increased ICP

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Diffused damage to the cerebral tissues

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Blocks the signal to the RAS (Reticular activating system)

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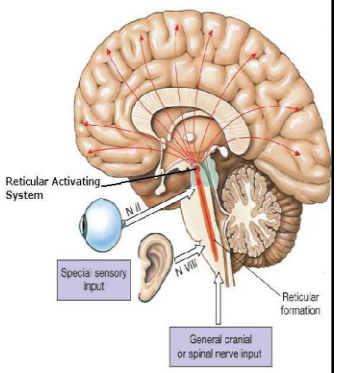
UNCONSCIOUSNESS



Signs and Symptoms

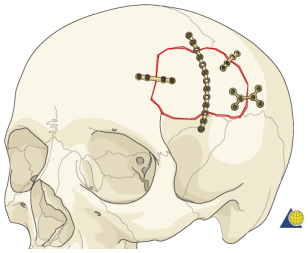
- The person will be unresponsive (does not respond to activity, touch, sound, or other stimulation).
- Makes no purposeful movements
- Does not respond to questions or to touch
- Confusion
- Drowsiness
- Inability to speak or move parts of his or her body
- Loss of bowel or bladder control (incontinence)
- Stupor
- Respiratory changes (Cheyne Stokes Respirations, hyperventilation)
- Abnormal pupil reactions

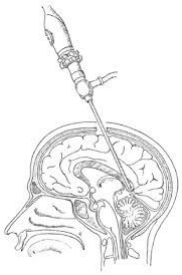
Medical management

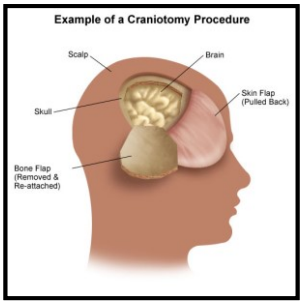
1. Obtain and maintain a **patent airway**.
2. **Orally or nasally intubated**, or a tracheostomy may be performed.
3. a **mechanical ventilator** is used to maintain adequate oxygenation and ventilation.
4. Th**e circulatory status** (blood pressure, heart rate) is monitored to ensure adequate perfusion to the body and brain.
5. An **intravenous (IV) catheter** is inserted to provide access for IV fluids and medications.
6. **Neurologic care** focuses on the specific neurologic pathology, if known.
7. **Nutritional support**, via a feeding tube or a gastrostomy tube.
8. **Other medical interventions** are aimed at pharmacologic management and prevention of complications.

Surgery if necessary

- Craniotomy
- Cranioplasty
- Burr-hole







Nursing Assessment

- Nurses frequently need to **monitor the conscious level** as impairments may **complicate the existing condition** and may cause **complications and further deterioration.**

❑**GLASGOW COMA SCALE.**

- **The Glasgow Coma Scale (GCS**) **A neurological scale** – Gives a **reliable**, **objective** record of the **level of consciousness (LOC)** of a person, for initial as well as continuing assessment.

The nurse observes and describes three aspects of the patients behavior:

- Eye opening response
- Verbal response
- Motor response.

Glasgow Coma Scale

The Glasgow Coma Scale is a tool for assessing a patient's response to stimuli. Scores range from 3 (deep coma) to 15 (normal).

Eye-opening response	Spontaneous	4
	To voice	3
	To pain	2
	None	1
Best verbal response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	None	1
Best motor response	Obeys command	6
	Localizes pain	5
	Withdraws	4
	Flexion	3
	Extension	2
	None	1
Total		3 to 15

- **Interpretation of GCS:**

✓ Highest score is 15/15 – **Good orientation**

✓ Lowest score is 3/15 - **Deep coma**. Considered brain dead if client dependent on a ventilator

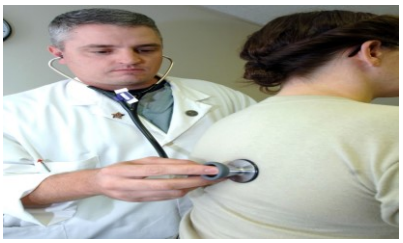
✓GCS ≤ 8 – **Severe brain injury**

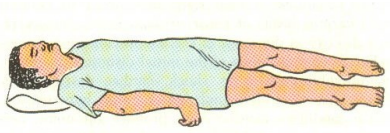
✓GCS 9 – 12 - **Moderate brain injury**

✓GCS ≥ 13 – **Mild brain injury.**

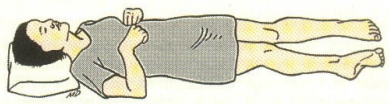
Physical Assessment

- Voluntary movement – Strength and asymmetry in the upper extremities
- Deep tendon Reflexes – biceps, triceps and patella
- Posture – Decerebrating and Decorticating
- Pupillary light reflex (pupil size)
- Corneal blink reflex
- Gag swallowing reflex





A. Extension posturing (decerebrate rigidity)



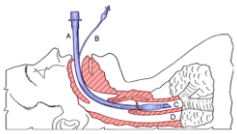
B. Abnormal flexion (decorticate rigidity)

Nursing Diagnosis

- Ineffective airway clearance
- Ineffective cerebral tissue perfusion
- Risk for increased ICP
- Imbalanced fluid volume
- Impaired skin integrity
- Self care deficit
- Imbalanced nutrition
- Incontinence : bowel and /or bladder
- Risk for aspiration
- Risk for contractures
- Altered family process

Maintaining a patent airway

- The **breath sounds must be assessed every 2 hourly.**
- **ABG results** must be interpreted to determine the degree of oxygenation provided by the ventilators or oxygen.
- **Assess for cough and swallow reflexes**



- Use **an oral artificial airway** to maintain patency، **Tracheostomy or endotracheal intubation** and **mechanical ventilation** maybe necessary

❑ **PREVENTING AIRWAY OBSTRUCTION:**

- **Position on alternate sides 2-4 hrs** to prevent secretions accumulating in the airways on one side. Maintain the neck in a neutral position

CONT.

- ✓ **Oro-nasopharyngeal suction equipment** may be necessary to aspirate secretions.
- ✓ If **facial palsy or hemiparalysis** is present the affected side must be kept the uppermost.
- ✓ **Chest percussion and postural drainage** may be prescribed to assist in the removal of tenacious sections.
- ✓ **Dentures are removed**
- ✓ **Nasal and oral care** is provided to keep the upper airway free of accumulated secretions debris
- ✓ **Monitoring neurological signs** at intervals determined by their condition
- ✓ Document these results and compare with previous assessments

Ineffective cerebral tissue perfusion

- Assess the **GCS, SPO2 level and ABG** of the patient.
- Monitor the vital signs of the patients **(increased temperature)**
- **Head elevation of 30 degrees maintained to facilitate venous drainage.**
- **Reduce agitation** .(Sedation.)
- **Reduce cerebral edema** (Corticosteroids, osmotic or loop diuretics.) **Generally peaks within 72 hrs after trauma and subsides gradually.**

•**Schedule care** so that harsh activity [suctioning bathing, turning] are not grouped together, with breaks between care for recovery.

•Administer **laxatives, antitussives and antiemetics** as ordered

•**Manage temperature with antipyretics** and cooling measures. **Prevent seizure** with ordered dilantin.

•**Administer mannitol** 25-50 g IV bolus if ICP >20, as prescribed.

Risk for increased ICP.

- **Assess the GCS score**, assess signs of increased ICP .
- **Head elevation of 30 degrees** to facilitate venous drainage and prevent aspiration.
- **Pre-oxygenation before suctioning** should be mandatory , and each pass of the **catheter limited to 10 seconds**, with appropriate sedation to limit the rise in ICP.
- **Insertion of an oral airway** to suction the secretions.
- As **fluid intake is restricted** and glucose is avoided to control cerebral edema.

❑**Signs of increased ICP :**

✓**Restlessness**

✓ **headache**

✓**pupillary changes: ASSESS every hourly**

✓**respiratory irregularity**

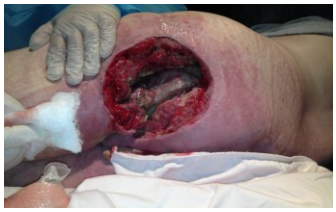
✓**widening pulse pressure, hypertension and bradycardia. (CUSHING'S TRIAD)**

✓**NORMAL ICP : 5 TO 15 mm of Hg**

Imbalanced fluid and electrolyte

- **Intake-Output chart** should be meticulously maintained.
- **Daily weight** should be taken.
- Assess and document **symptoms** that may indicate fluid volume overload or deficit.
- **Diuretics** may be prescribed to correct fluid overload and reduce oedema.
- **Overhydration and intravenous fluids with glucose are always avoided** in comatose patients as cerebral oedema may follow.

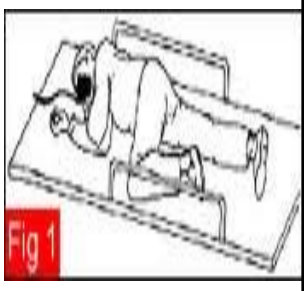
Impaired skin integrity



- The nurse should provide intervention for all self-care needs including **bathing, hair care, skin and nail care.**
- **Frequent back care** should be given.
- **Comfort devices** should be used.
- **Positions** should be changed.
- **Special mattresses or airbeds** to be used.
- Adequate **nutritional and hydration status** should be maintained.
- Patient's **nails should be kept trimmed**.
- Keep the **lips coated with a water-soluble lubricant** to prevent encrustation, drying, cracking. **Inspect the paralyzed cheek.**
- **Nasal passages** may get occluded so they may be cleaned with a cotton tipped applicator.

PROPER POSITIONING

- **Lateral position** on a pillow to maintain head in a neutral position
- **Upper arm positioned on a pillow to maintain shoulder alignment**
- **Upper leg supported on a pillow to maintain alignment of the hip**
- Change position to lie on alternate sides every 2-4hrs
- **For hemiplegia –** position on the affected side for brief periods, taking care to prevent injury to soft tissue and nerves, oedema or disruption of the blood supply



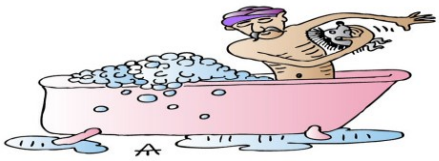
- Maintaining correct positioning enables secretions to drain from the client's mouth, the tongue does not obstruct the airway and postural deformities are prevented.

Self care deficit

- **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.
- **Involving the family in self care needs.**
- **Incontinence, perspiration, poor nutrition, obesity and old age also contribute to the formation of pressure ulcers.**
- Care should be taken to examine the skin properly, noting any areas which are **red, dry or broken.**
- **Fingernails and toenails** also need to be assessed
- Chronic illnesses, such as diabetes needs more attention

❑Bathing:

- Minimum two nurses should bathe an unconscious patient as turning the patient may block the airway.
- Proper assessment of the condition of the skin must be done when giving a bed bath.
- Hair care should not be neglected.



❑Oral Hygiene:

- A **chlorhexidine based solution** is used.
- **Airway should be removed when providing oral care**. It should be cleaned and then reinserted.
- If the patient has **an endotracheal tube the tube should be fixed alternately** on each side.
- **Minimum of four-hourly oral care** to reduce the potential of infection from micro-organisms.
- Also not to damage the gingiva by using excessive force.

❑Eye Care:

✓In assessing the eyes, observe for **signs of irritation, corneal drying, abrasions and edema.**

✓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.**

✓Corneal damage can result if the eyes remain open for a longer time.

✓**Tape can be used to close the eyes**.

❑ Nasal Care:

➢Cleaning of the nasal mucosa with gauze and water

➢Nasogastric tube placement damage to the nasal mucosa

❑Ear Care:

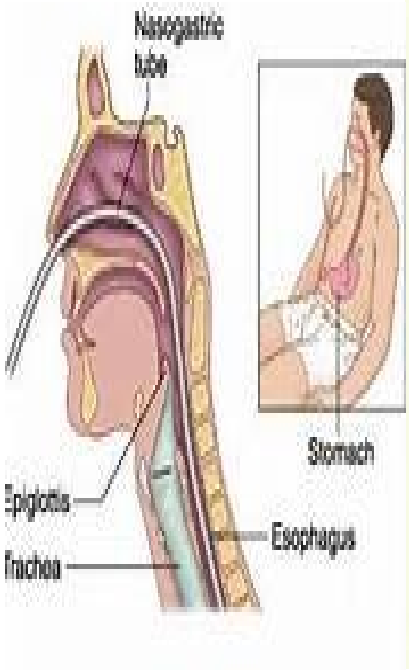
➢Clean around the aural canal, although care must be taken not to push anything inside the ear.

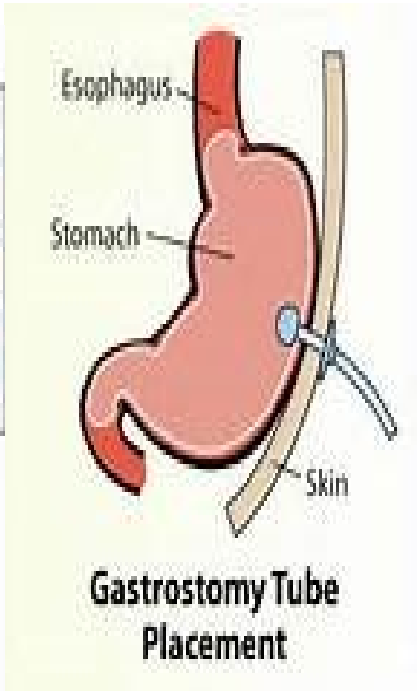
Imbalanced nutrition

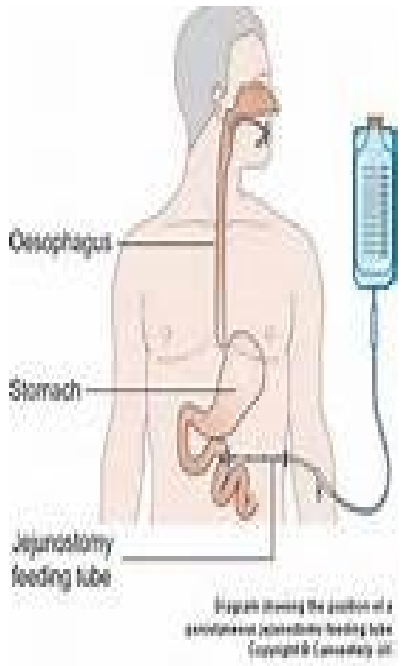
❑Diet prescribed nutrition based on individuals requirements specifically to meet energy needs, tissue repair, replace fluid loss to maintain basic life functions

❑**METHODS**

- TPN (Total parenteral nutrition)
- Enteral feeding via Nasogastric, nasojejunal OR PEG tube
- Intravenous fluids are administered for comatose patients.
- As fluid intake is restricted and glucose is avoided to control cerebral oedema and intravenous infusion cannot be considered as a nutritional support.
- Total parentral nutrition, i.e. TPN is considered for prolonged unconsciousness.
- Naso-gastric feedings are given.

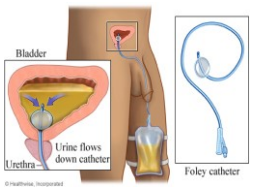






Impaired bowel/ bladder functions

- **Assess for constipation and bladder distention.**
- **Auscultate bowel sounds**.
- **Stool softeners or laxatives** may be given.
- **Bladder catheterization** may be done.
- **Meticulous catheter care** must be provided under aseptic techniques.
- Monitor **the urine output** and color.
- **Initiate bladder training** as soon as consciousness has regained.



Sensory stimulation

- Brain needs sensory input
- Widely believed that hearing is the last sense to go
- **Talk, explain to the patient what is going on**
- Upon waking many clients remember….. and will accurately recall events and processes that happened while they were "sleeping". (unconscious)
- Some have reported they longed for someone to talk **to** them and not **about** them.
- **Encourage stimulation by:**
- Massage
- Combing/washing hair
- Playing music/radio/CD/TV
- Reading a book
- Bring in perfumed flowers
- Update them with family news

Altered family process

- Include the **family members in patient's care.**
- **Communicate frequently** with the family members.
- The family members should be allowed to stay with the patient when and where it is possible.
- Use **external support systems** like professional counsellors, religious clergy etc.
- **Clarifications and questions should be encouraged.**