



Brain death :

- **Brain death is irreversible brain stem damage**
- **Brain stem :is responsible for enter & exit of information , awareness ,movement & consciousness of the human .**
- **It's a part of brain in site of connection of spinal cord to the brain .**
- **Its center of : breathing , heart beating , blood pressure , swallowing .**
- **Brain death is exactly brain stem death**

What are the causes of brain stem death ?

Cessation of O₂ or blood in :

Heart attacks ,head trauma , brain CVA , brain stem hemorrhage, brain tumor , encephalitis .

What happen with brain stem damage to the patient ?

- **Un conscious**
- **Irreversible damage**
- **Brain stem core affected**
- **Clinically dead**
- **Legally dead**
- **Artificial respiratory control**
- **Apnea ,coma, no neurological reflexes , fixed dilated pupils**

What is the vegetative state ?

- **Brain stem affected by any factor of above ,but the core is**



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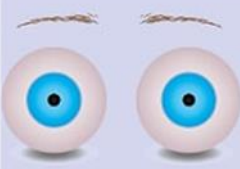


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not affected , so there is a hope of recovery

- Spontaneous ventilation or assisted ventilation
- Some response to surrounding
- Some neurological reflexes
- Pupil React to light
- Causes could be drugs over dose , opioid ,anesthetic drugs or partial brain stem hemorrhage that not affect the brain stem core .

Coma : a case of unconsciousness , no or partial breathing & neurological reflexes according to the severity of the injury .

Glasgow coma scale :it describe the extent of impaired consciousness in all types of acute neurological medical or trauma patient .

Behaviour	Response
 Eye Opening Response	<ol style="list-style-type: none">4. Spontaneously3. To speech2. To pain1. No response
 Verbal Response	<ol style="list-style-type: none">5. Oriented to time, person and place4. Confused3. Inappropriate words2. Incomprehensible sounds1. No response
 Motor Response	<ol style="list-style-type: none">6. Obeys command5. Moves to localised pain4. Flex to withdraw from pain3. Abnormal flexion2. Abnormal extension1. No response



Ramsay score

it describe the level of sedation of the patient in the RCU who was awake but un cooperative ,agitated or anxious , near respiratory failure , for any medical reason.

Sedation Response score

1	Anxious and agitated or restless or both
2	Co-operative, oriented and tranquil
3	Responding to commands only
4	Brisk response to light glabellar tap or loud auditory stimulus
5	Sluggish response to light glabellar tap or loud auditory stimulus
6	No response to stimulus

Intracranial pressure ICP :

- Pressure exerted by the CSF on brain & skull
- Supine normal adult 17-5 mmhg
- It increase as in pathology or idiopathic :
- Inflammation , infectious , tumor , chronic uncontrolled HT , hydrocephaly , aneurysm or idiopathic
- It cause : severe headache ,nausea, vomiting, blurring of vision , seizure ,change in mental behavior .
- Its management by underlying cause , anti-hypertensive , sedatives ; diuretics , or drainage of specific amount of CSF by lumber puncture or shunt .

THANK YOU