

**INTERVENTION**



# SIMPLIFYING SEIZURES



**SEIZURE  
ACTIVITY**

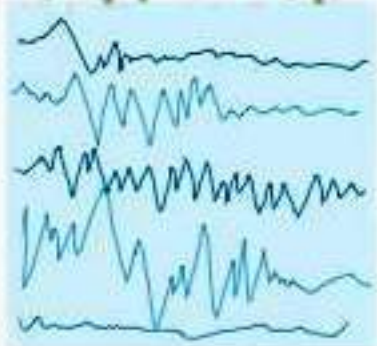
**Brain  
tumor**



**PARTIAL  
(FOCAL)  
SEIZURE**



**E  
E  
G**



## RED ALERT



THE CONTENT OF THIS PROGRAM IS INTENDED TO HELP NURSES WHO ARE NEW AND INEXPERIENCED. IT IS IN NO WAY INTENDED TO BE USED AS A SUBSTITUTE FOR YOUR INSTITUTION'S POLICIES AND PROCEDURES OR DOCTOR'S ORDERS. I HOPE YOU ENJOY LEARNING!

# THE BRAIN AND ITS FUNCTIONS

DIFFICULTY WITH MOTOR ACTIVITY,  
BLADDER CONTROL,  
SOCIAL BEHAVIOUR  
AND PERSONALITY

**frontal  
lobe**

**parietal  
lobe**

DIFFICULTY WITH  
READING, WRITING,  
MATH CALCULATION,  
DISTINGUISHING  
RIGHT FROM LEFT

**Broca's  
area**

SPEECH PRODUCTION-  
DIFFICULTY EXPRESSING  
WORDS

**occipital  
lobe**

VISUAL  
DISTURBANCES

**temporal  
lobe**

DIFFICULTY WITH  
MEMORY, HEARING  
AND SPOKEN  
LANGUAGE

**pons**

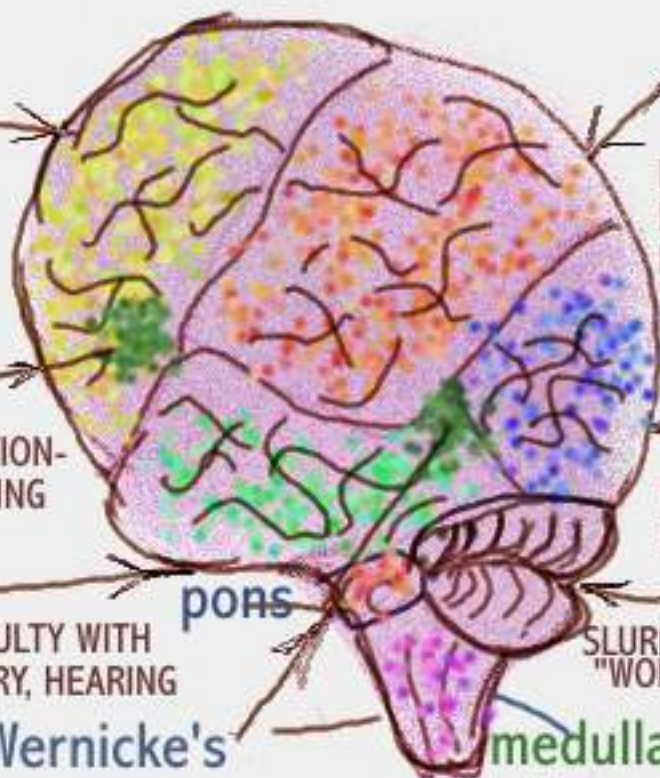
**cerebellum**

SLURRED SPEECH,  
"WOBBLY" WALK,  
SHAKY HANDS

**Wernicke's  
area**

SPEECH  
COMPREHENSION-  
DIFFICULTY UNDERSTANDING  
WHEN SPOKEN TO

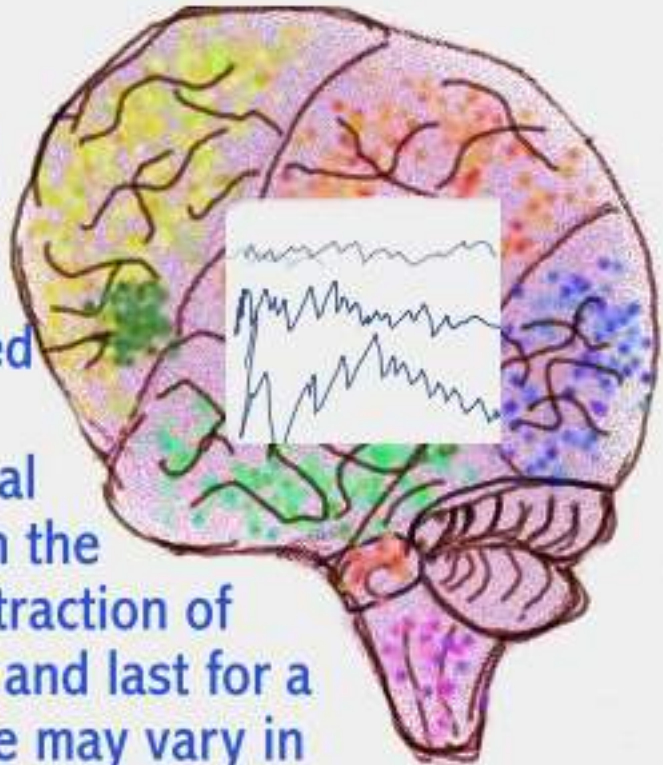
**medulla  
oblongata**



# SEIZURES

Q-What is a seizure ?

A- A seizure for the most part, is considered to be a sudden, uncontrollable, electrical outburst of neurons in the brain. Involuntary contraction of muscles usually occur and last for a short period. A seizure may vary in duration and frequency.



**CAUSES :** Seizures may or may not have a specific cause. Causes include, but are not confined to :- high fever, trauma, electrolyte imbalances, stroke, subarachnoid hemorrhage, brain tumors, meningitis and more.

## SEIZURE ACTIVITY



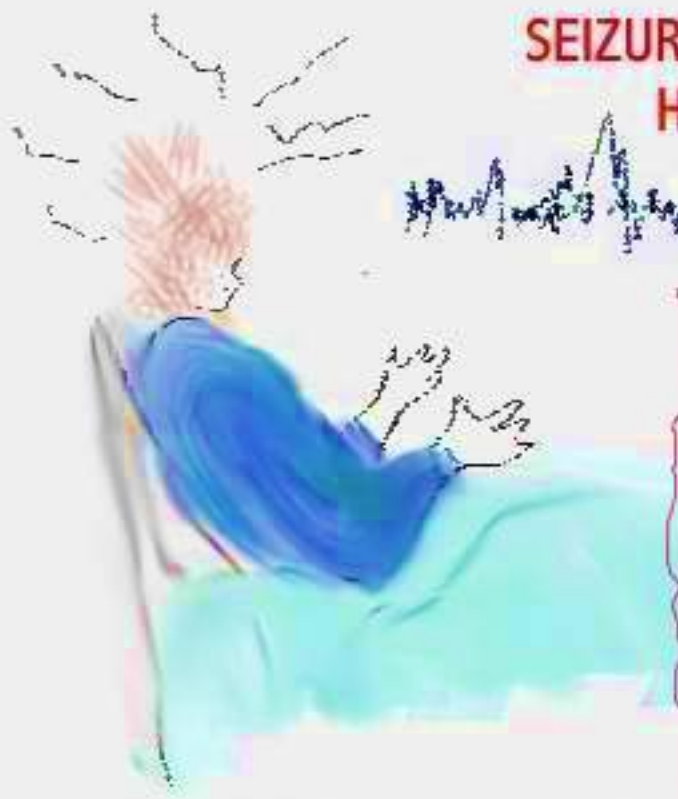
Mrs.S was involved in a car accident a week ago and has no prior history of seizures.  
She now has generalized seizures about twice a day.



## SEIZURES

## HYPONATREMIA

( Electrolyte imbalance)



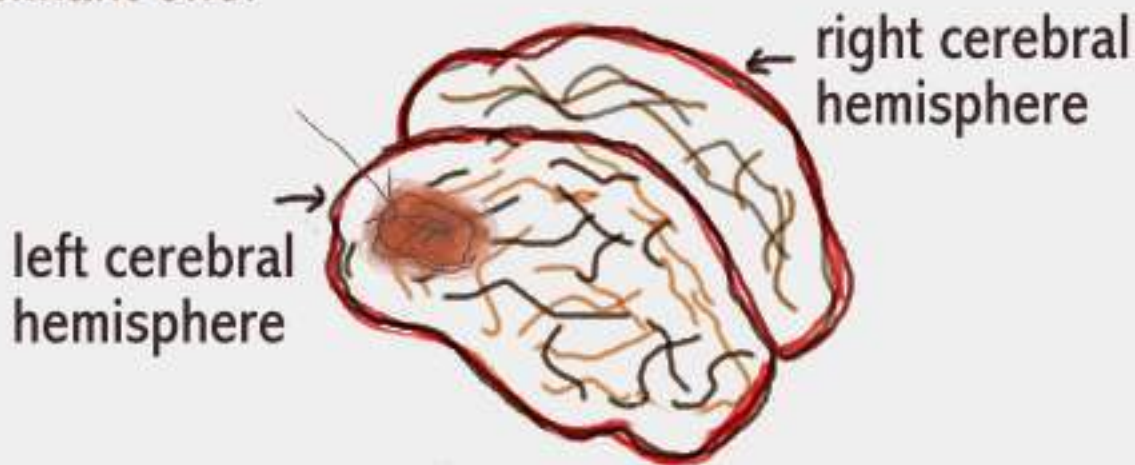
NORMAL  
SALINE 3%  
AT  
20CC/HR.

IV SITE  
CLEAR.

Chuck is a 34 year old male who was admitted for brain tumor resection. Lab values prior to surgery shows a sodium =122. Normal sodium =135-145. He is having a seizure due to low sodium.

Chuck's sodium was corrected with an MD order of Normal Saline3% to run at 20cc/hr. He is no longer having seizures.

Each brain has 2 cerebral hemispheres ( right and left). In most people the left hemisphere is the dominant one.

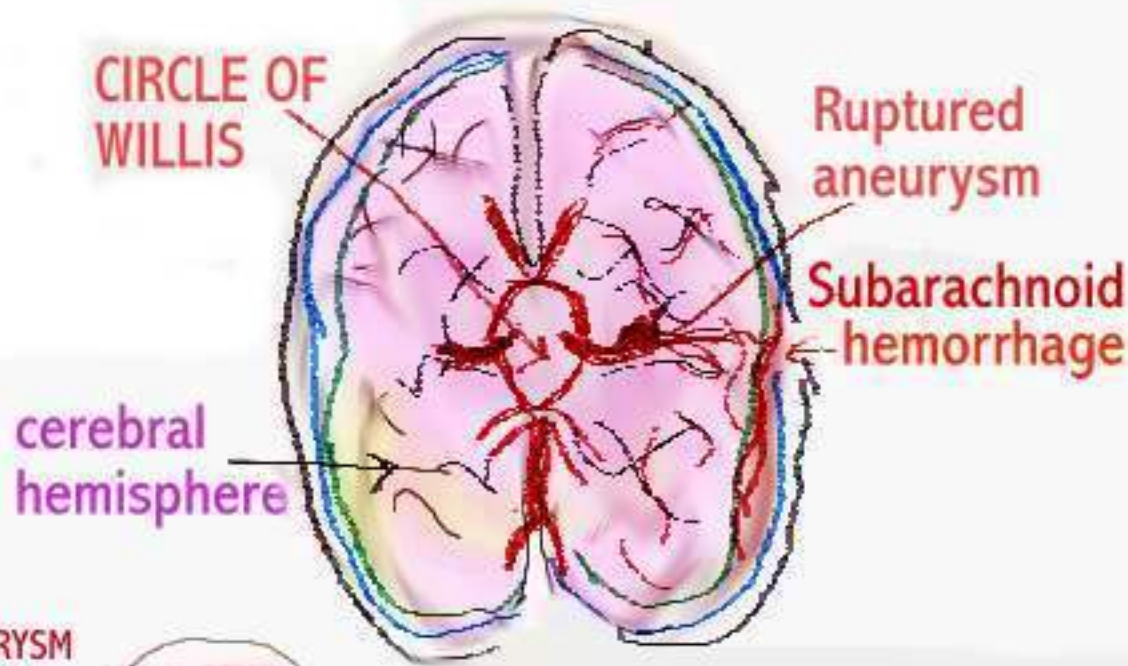


PARTIAL  
( FOCAL)  
SEIZURE



Tom has a tumor in the left cerebral hemisphere. Depending on the way he moves his right arm, he may have a partial or focal seizure.

## RUPTURED ANEURYSM

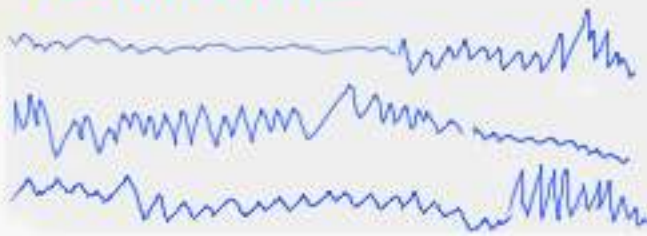


## ANEURYSM



REPAIR OF AN ANEURYSM BY CLIPPING

SEIZURE ACTIVITY MAY RESULT AFTER A PATIENT HAS A SUBARACHNOID HEMORRHAGE.



# SIMPLIFYING SEIZURES

Seizures may be generalized ( grand mal) or partial (focal seizure).

When a patient has a generalized seizure, violent contraction of the muscles resulting from sudden, outbursts of electrical discharge from the brain can be seen as jerky movements throughout the body. Types of generalized seizures include : tonic, clonic and myoclonic. The patient experiences loss of consciousness and may fall to the ground, without warning.

**Generalized seizure**



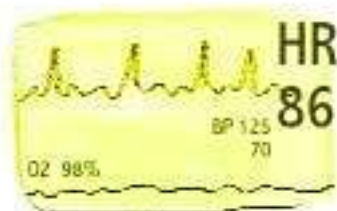
**PARTIAL ( FOCAL) SEIZURE**



A partial seizure (focal ) is also sudden and is confined to one area of the brain, thus may affect only one part of the body.

# SEIZURE INTERVENTION

**SECURE AIRWAY!** Turn the head to one side, to prevent the tongue obstructing.



**BOTH PATIENTS ARE AT RISK FOR SEIZURES**

**This patient has a history of ischemic stroke.**



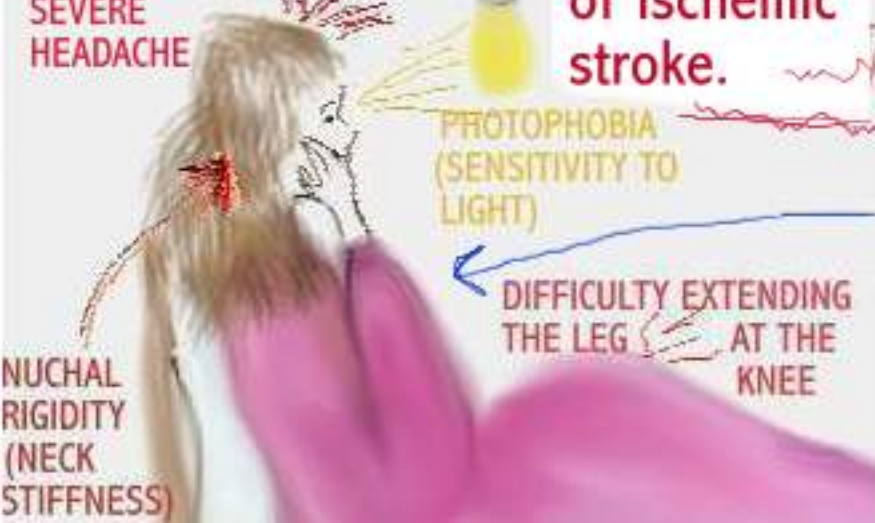
**SEVERE HEADACHE**

**PHOTOPHOBIA (SENSITIVITY TO LIGHT)**

**DIFFICULTY EXTENDING THE LEG AT THE KNEE**

**THIS PATIENT HAS A DIAGNOSIS OF BACTERIAL MENINGITIS**

**NUCHAL RIGIDITY (NECK STIFFNESS)**



**NEVER** put a tongue blade or artificial airway into the mouth of a patient having a seizure



**INTERVENTION**

**HELPFUL HINT**

Ask someone to stay with the patient while you notify the doctor and receive further orders.



**SEIZURES**

**HYPONATREMIA**

**ASSESSMENT**

If you suspect there is seizure activity, here are some helpful hints:

- check for airway patency
- remove any object that may cause injury

**After the seizure:**

- give O<sub>2</sub> if necessary
- assess level of consciousness
- check vital signs (pulse, BP and respirations)
- assess and document the character and duration of the seizure

## ELECTROENCEPHALOGRAM (EEG)

is a diagnostic study done to monitor seizures activity.



Some patients may have an "aura" such as bright lights, prior to a generalized seizure. During a grand mal seizure, incontinence of the bladder or bowel may occur.

TREATMENT of seizures will depend on the cause. The doctor will decide what type of seizure management is necessary. Anticonvulsant drugs are used in the treatment of seizure control.

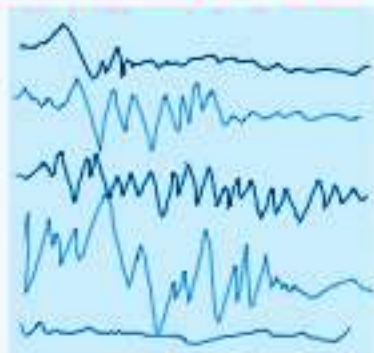
Valporic acid, Carbamazepine, Dilantin, Clonazepam and Phenobarbital are some of the drugs used.

Lab values are monitored to maintain therapeutic levels.

Dilantin may cause hyperplasia of the gums



## SAMPLE OF EEG



Q- WHAT IS THE NORMAL DISTANCE FOR TESTING VISUAL ACUITY?

A- 14 INCHES



WORD SALAD

A COLLECTION OF SPOKEN WORDS, THAT HAVE NO REAL MEANING.

Q- WHAT IS STEREOGNOSIS?

A - THE NORMAL ABILITY TO IDENTIFY OBJECTS BY TOUCHING.



Q- WHAT PART OF THE BRAIN IS RESPONSIBLE FOR BALANCE AND COORDINATION?

A- THE CEREBELLUM, WHICH LIES BELOW THE CEREBRUM.



cerebellum

SLURRED SPEECH,  
"WOBBLY" WALK.



ANISOCORIA-  
UNEQUAL PUPILS,  
OCCURS NATURALLY IN  
ABOUT 20% OF THE  
POPULATION.  
CONDITIONS SUCH AS  
HEAD INJURY, MENINGITIS,  
TUMORS AND GLAUCOMA  
MAY ALSO CAUSE THIS  
CONDITION.

Today my assignment was so terrible,  
if I had wings like a bird I would fly away.



Dear nurses,

Hope the simple explanations and scenarios have been helpful in giving you the basic understanding of seizures.

