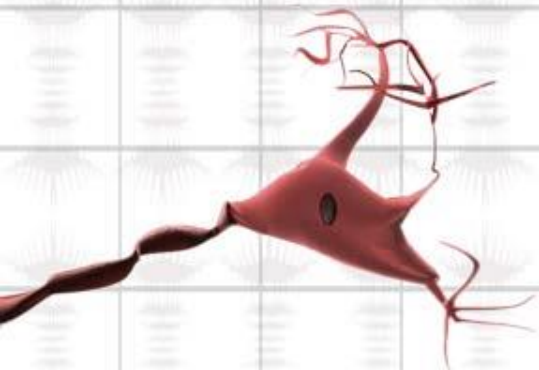


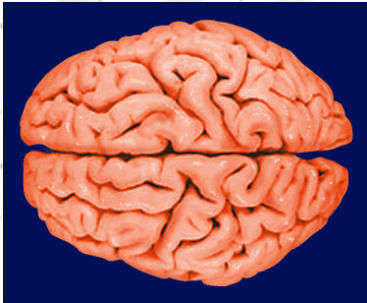
# CENTRAL NERVOUS SYSTEM (ONS)



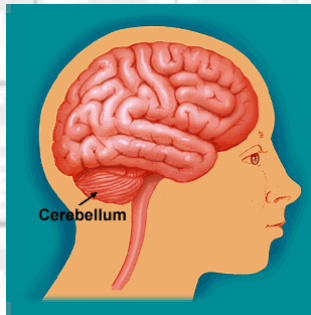
# STRUCTURE OF NERVOUS SYSTEM

**cognitive**  
our ability (or lack of) to think, learn, and memorize

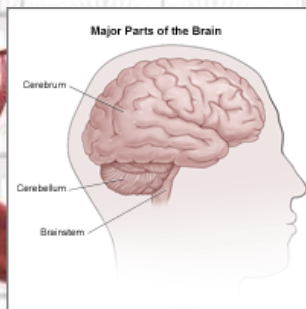
- brain



- **encephal/o** = brain
- coordinates all body activities
- **cephal/o** = head, crown
- **crani/o** = skull



- **cerebell/o** = cerebellum
  - located in lower back of cranium
  - responsible for balance and coordination

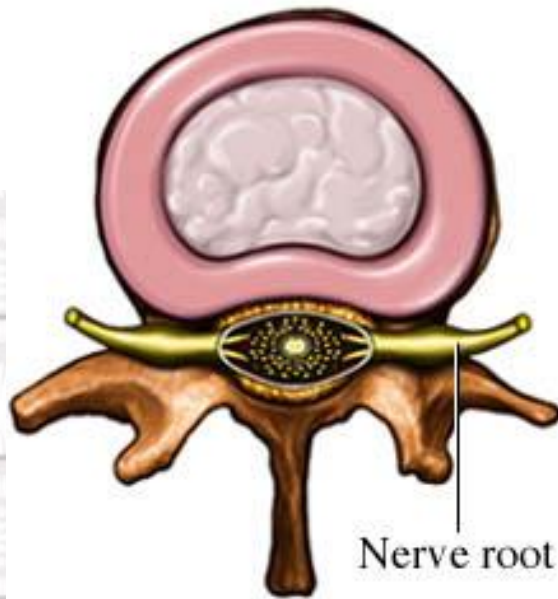


- **cerebr/o** = cerebrum
  - largest, upper-most portion of brain
  - “thinking” part of the brain

# STRUCTURE OF NERVOUS SYSTEM



Normal disc



## meninges

- mening/o, mening/i
- layers around the brain and spinal cord

## nerve root

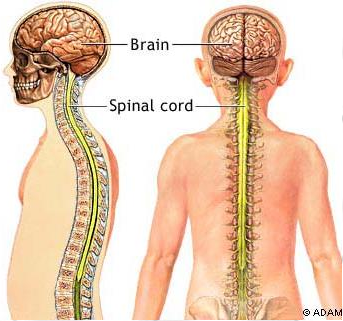
- radic/o, radicul/o, rhiz/o

## mononeuropathy

- mon/o = one, single
- neur/o = nerve
- -pathy = abnormal condition
- “condition that affects a single nerve”



# NERVOUS SYSTEM STRUCTURE



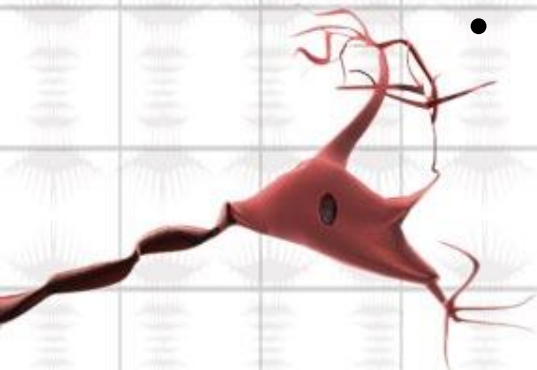
- **myel/o**
  - spinal cord or bone marrow
  - pathway for nerve impulses between brain, limbs, and lower body



- **neur/o**
  - nerves
  - receives and transmits message to and from all parts of the body

- **Sensory Organs**

- ears, eyes, nose, skin (touch), tongue

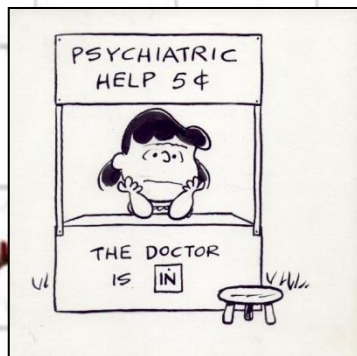


# MEDICAL SPECIALTIES...

- anesthesiologist
  - **an-** = without
  - **esthesi/o** = feeling
  - **-ologist** = specialist



- psychologist (not MD)
  - **psych/o** = mind, emotions



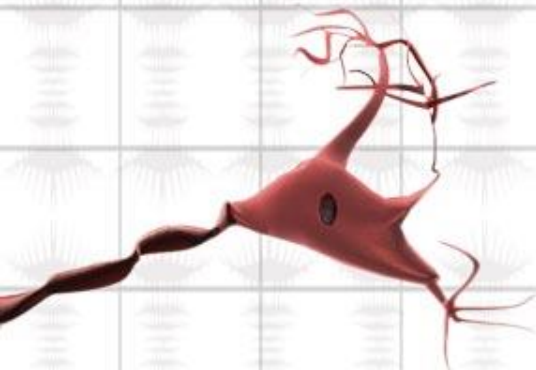
- psychiatrist (MD, like Jay in video...)
  - **-iatrist** = specialist
  - **-iatry** = study of, field of

# PATHOLOGY OF NERVOUS SYSTEM

- **conscious**
  - being alert, awake, aware, responsive
  - **A&O** = alert and oriented



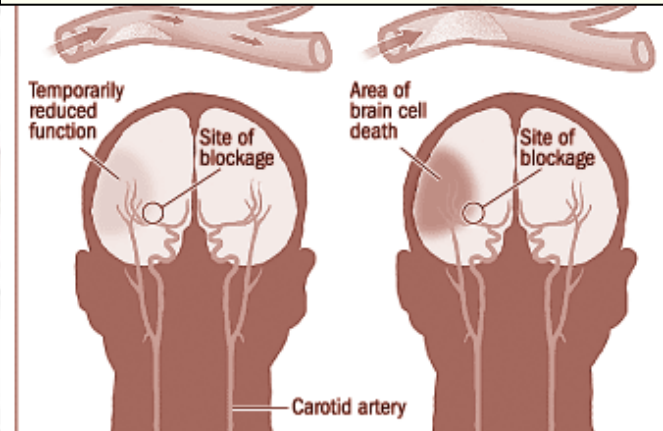
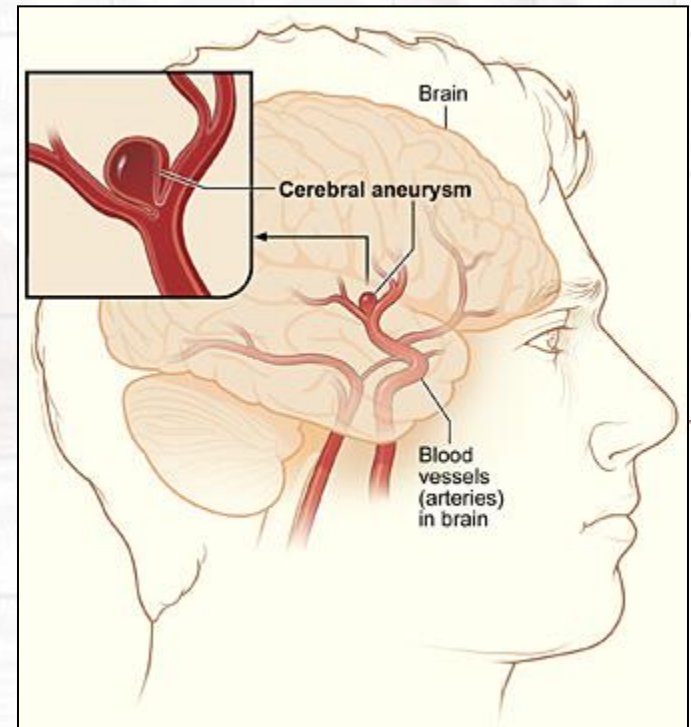
- **syncopal episode**
  - fainting spell
  - brief loss of consciousness
  - **LOC** = loss of consciousness or level of consciousness



- **coma**
  - deep state of unconsciousness
  - no response to pain, no speech...

# PATHOLOGY OF NERVOUS SYSTEM

- **aneurysm**
  - localized weak-spot or balloon-like enlargement of the wall of an artery
  - often fatal if ruptures
- **stroke**
  - damage to brain that occurs when blood flow to brain is disrupted (blockage or rupture)



# PATHOLOGY OF NERVOUS SYSTEM

- TIA
  - transient ischemic attack
  - “little” strokes; warning...
- aphasia
  - a- = without
  - **-phasia** = speech
  - loss of ability to speak, write, comprehend language
  - often due to brain damage associated with stroke

Remember **-phagia** means to swallow



**F**ace  
Does the face look uneven?  
Ask the person to smile.

**A**rm  
Does one arm drift down?  
Ask the person to raise both arms.

**S**peech  
Does their speech sound strange?  
Ask the person to repeat a simple phrase, for example, "The sky is blue."

**T**ime  
If you observe any of these signs, then it's time to call 9-1-1.

**Learn these signs of stroke.**

Be a hero. Save a life.

**Call 9-1-1**

STROKE HEROES ACT FAST

Face  
Arm  
Speech  
Time

My blink a frown.

AMBULANCE 911



# PATHOLOGY OF NERVOUS SYSTEM

## First Aid for Seizures

(Convulsions, generalized tonic-clonic, grand mal)



Cushion head



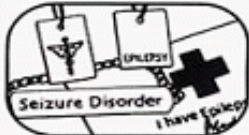
Loosen tight neckwear



Turn on side



Nothing in mouth



Look for I.D.



Don't hold down



As seizure ends



... offer help

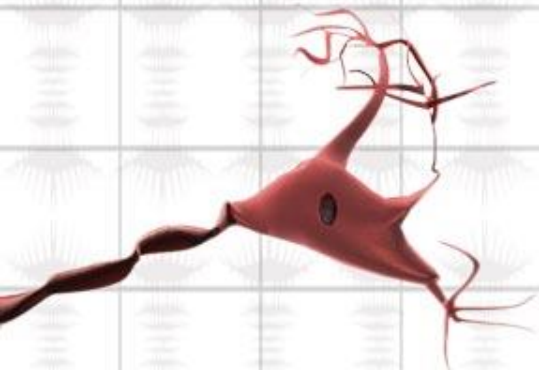
- hyperesthesia
  - **hyper-** = excessive, increased
  - **-esthesia** = feeling, sensation
- **seizure**
  - **convulsion, -ictal**
  - sudden, violent, involuntary contraction of a group of muscles caused by a disturbance in brain function
    - preictal = time before a seizure
    - postictal = time after a seizure



# PATHOLOGY OF NERVOUS SYSTEM

- **CP**
  - cerebral palsy

I am not broken,  
I am beautiful.  
I am different,  
not less  
I am challenged,  
not challenging  
I'm not a burden,  
I am blessed  
Cerebral Palsy is not a choice,  
but Acceptance is.



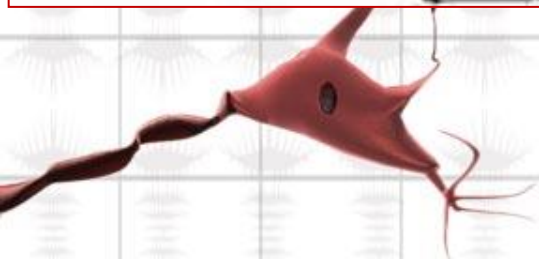
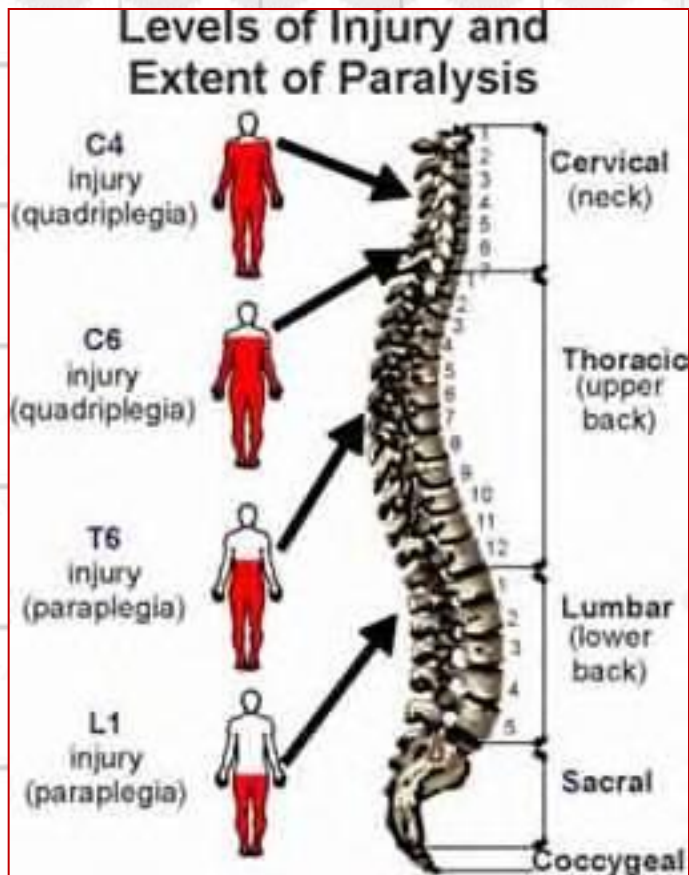
# PATHOLOGY OF NERVOUS SYSTEM

- **sciatica**
  - pain affecting the back, hip, and outer leg caused by the compression of the spinal nerve root in the lower back



# PATHOLOGY OF NERVOUS SYSTEM

- **paralysis**
- **-paresis, -plegia**
  - loss of sensation and voluntary muscle movement
- **hemiparesis or hemiplegia**
  - paralysis on one side of the body
- **paraplegia**
  - paralysis of both legs & lower body
- **quadriplegia**
  - paralysis of all four extremities
- **monoplegia**
  - paralysis of one limb (arm) or area



# PATHOLOGY OF NERVOUS SYSTEM

- **ADD**

- attention deficit disorder

- **ADHD**

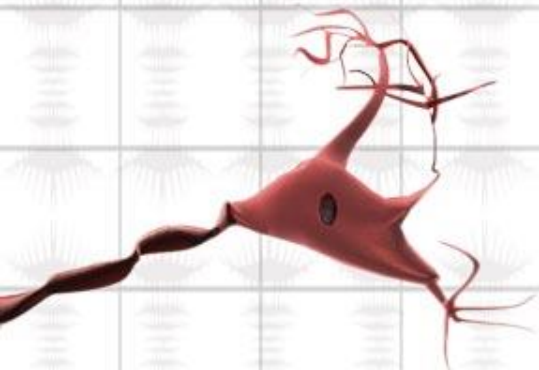
- attention deficit/hyperactivity disorder

- **concussion**

- violent shaking or jarring of the brain

- **A + O x 3**

- alert and oriented times three (person, place, and time)

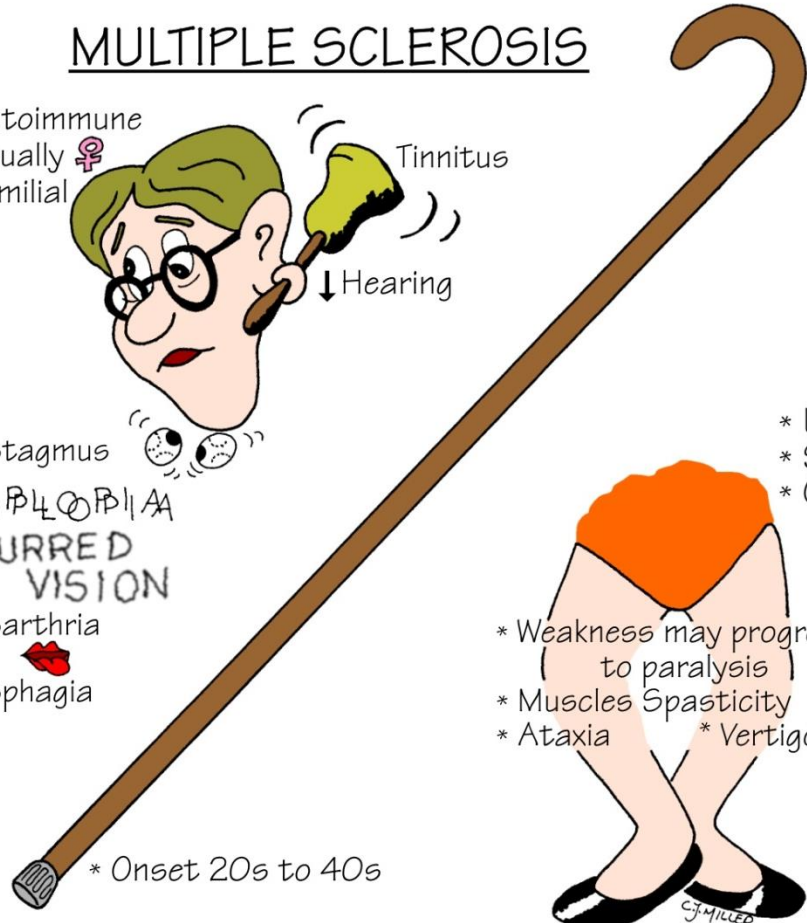


# PATHOLOGY OF NERVOUS SYSTEM

- MS = multiple sclerosis

MULTIPLE SCLEROSIS

- \* Autoimmune
- \* Usually ♀
- \* Familial



Tinnitus  
↓ Hearing

- \* Nystagmus
- \* ~~DIPL~~ ~~OP~~ ~~BLIA~~
- \* BLURRED VISION
- \* Dysarthria
- \* Dysphagia

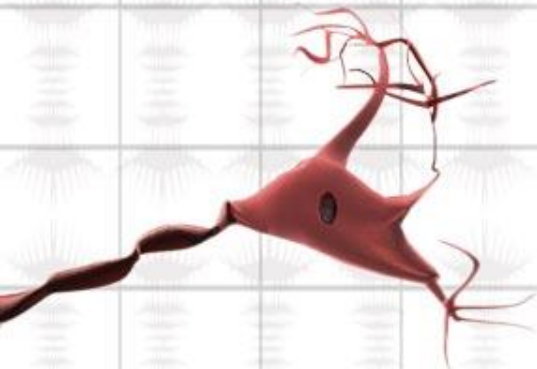
- \* Urinary Retention
- \* Spastic Bladder
- \* Constipation

Weakness may progress to paralysis  
Muscles Spasticity  
Ataxia

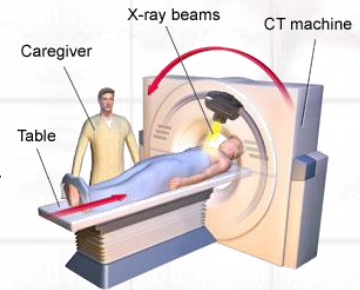
Vertigo

\* Onset 20s to 40s

C.J. MILLER



# DIAGNOSTIC & TREATMENT PROCEDURES OF NERVOUS SYSTEM



Computerized Axial Tomography Scan

- **CAT**
  - computed axial tomography
- **PERRLA**
  - pupils are equal, round, responsive to light and accommodation

## analgesic

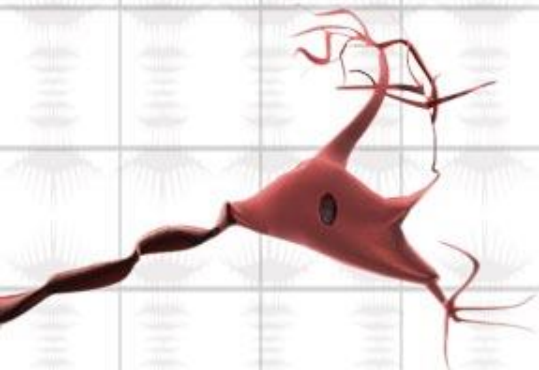
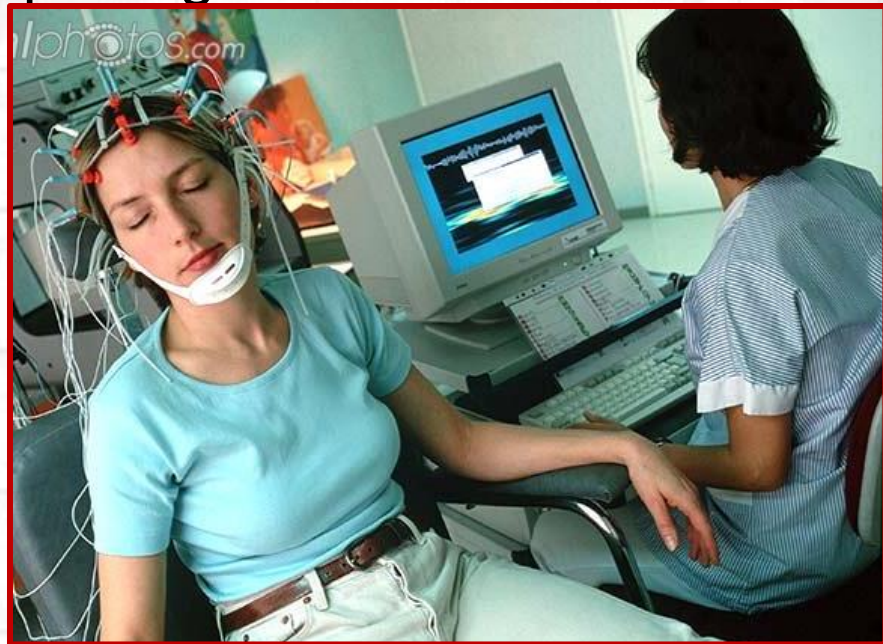
- drug that relieves pain without affecting consciousness

## anesthesia

- an- = without, no
- -esthesia = feeling
- absence of normal sensation, especially pain

# DIAGNOSTIC & TREATMENT PROCEDURES OF NERVOUS SYSTEM

- **MRI**
  - magnetic resonance imaging
- **EEG**
  - electroencephalogram
- **HA**
  - headache





# REVIEW...

- cerebral contusion
- cranial hematoma
- encephalitis
- neurologist
- Alzheimer's
- cephalalgia
- myelitis
- poliomyelitis
- myelosis
- neuropathy
- neurorrhaphy
- electroencephalography
- neurectomy
- neurotomy
- neuroplasty
- addiction
- MRI
- echoencephalography
- psychology
- myoparesis

