52a Kinesiology Quiz and Pathology: Nervous System

52a Pathology: Nervous System

Class Outline

5 minutes	Attendance, Breath of Arrival, and Reminders
30 minutes	Quiz
35 minutes	Lecture:
60 minutes	Total

52a Pathology: Nervous System

Class Reminders

ABMP Exam Coach

- "Access your ABMP account" using instructions on page A-74
- Familiarize yourself with the ABMP Exam Coach "Study Subjects" section
- Preview the preparation assignments for MBLEx Prep classes (74a, 75a, 80a, 81a, 84a, 86a, 87a)

Assignments:

- 53a Internship Review Questions - due before class starts
- 55a Review Questions – due before class starts

Quizzes and Exams:

- 52a Kinesiology Quiz **– NOW!!**
- 57a Quiz (45a/b, 47a, 48a, 49a, 50a/b, 51a/b, 52a, 54a, 55a, and 56a/b)
- 60a Exam

Preparation for upcoming classes:

- 53a Deep Tissue: Introduction
  Trail Guide: quadratus lumborum.
  Packet D: 5-10.
- 53b Deep Tissue: Technique Demo and Practice - Posterior Upper Body
  Packet D: 11-14.
- 56a/b Internship: This class cannot be made up in the make-up room. To schedule a sit-in, please contact the Student Administrator.

Classroom Rules

Punctuality - everybody's time is precious

- Be ready to learn at the start of class; we'll have you out of here on time
- Tardiness: arriving late, returning late after breaks, leaving during class, leaving early

The following are not allowed:

- Bare feet
- Side talking
- Lying down
- Inappropriate clothing
- Food or drink except water
- Phones that are visible in the classroom, bathrooms, or internship

You will receive one verbal warning, then you'll have to leave the room.

52a Pathology: Nervous System

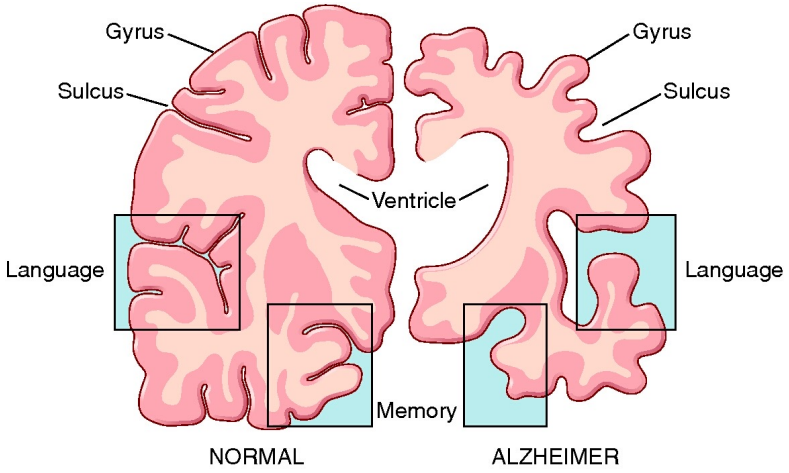
Packet E - 117

Chronic Degenerative Disorders

Alzheimer disease
ALS
Huntington disease
Peripheral neuropathy

Chronic Degenerative Disorders

Alzheimer disease Progressive and fatal degenerative disorder. Shrinkage and death of neural brain tissues. Causes memory loss and personality changes.

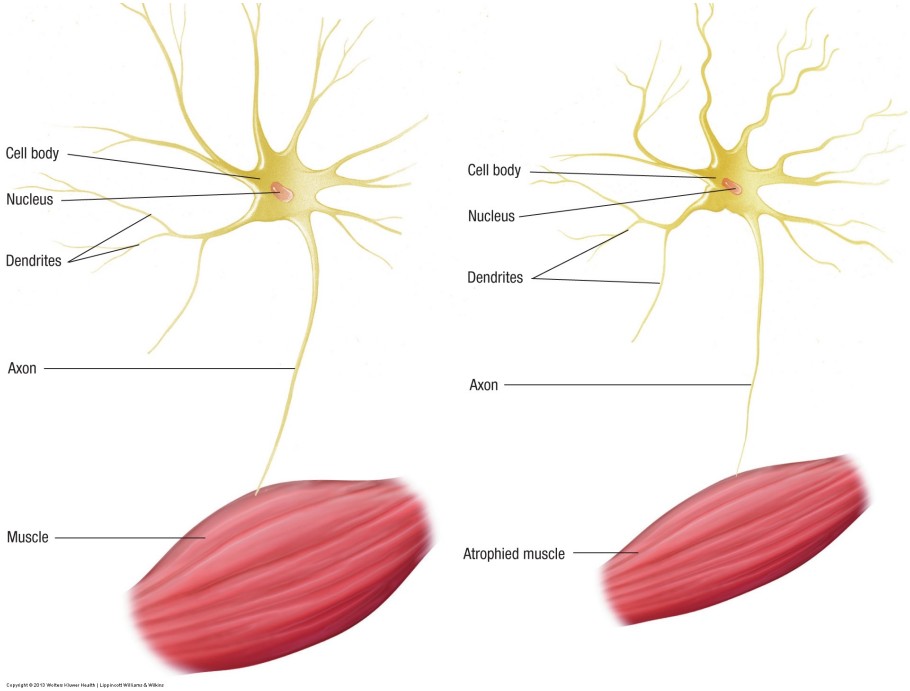



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Chronic Degenerative Disorders

Amyotrophic Lateral Sclerosis (AKA: ALS or Lou Gehrig disease)

Progressive and fatal degenerative disorder. Destruction of motor neurons in the central and peripheral nervous systems. Causes atrophy of muscles.



Chronic Degenerative Disorders

Huntington disease Progressive and fatal genetic disorder. Destruction of certain neurons in the brain, leading to changes in motor function, emotional stability, and cognition.

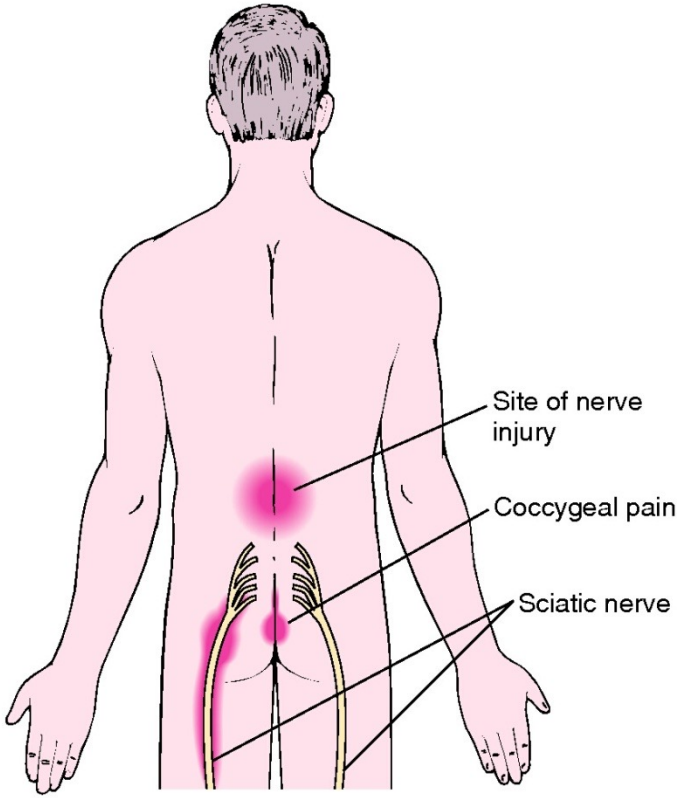
Chronic Degenerative Disorders

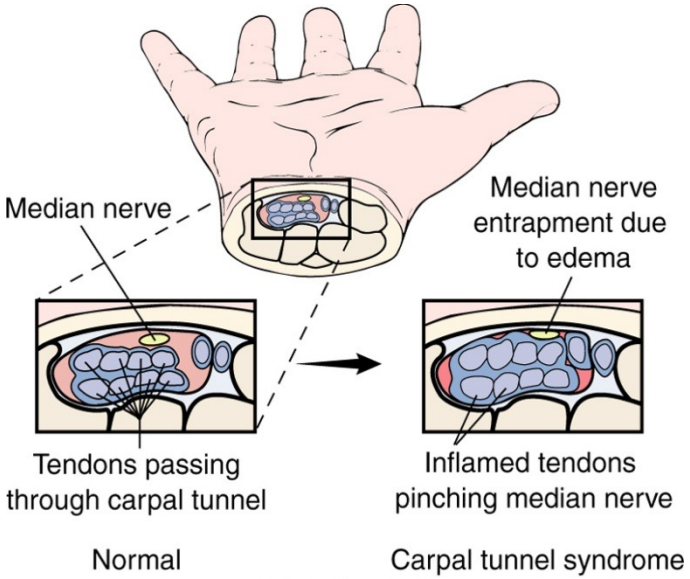
Peripheral neuropathy Damage to peripheral nerves, either singly or in groups, caused by lack of circulation, chemical imbalance, trauma, or other factors. Damage to autonomic nerves could include problems with digestion, heart rate, breathing, or other issues. Signs and symptoms may include:

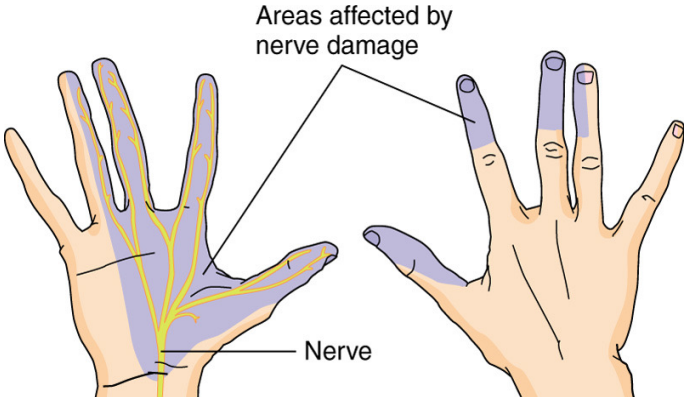
- Burning pain or tingling in hands or feet, spreading proximally into limbs and trunk
- Hypersensitivity to touch or reduced sensation
- Muscle twitching, cramps, or atrophy.

Chronic Degenerative Disorders

Peripheral neuropathy







Movement Disorders

Dystonia
Parkinson disease
Tremor

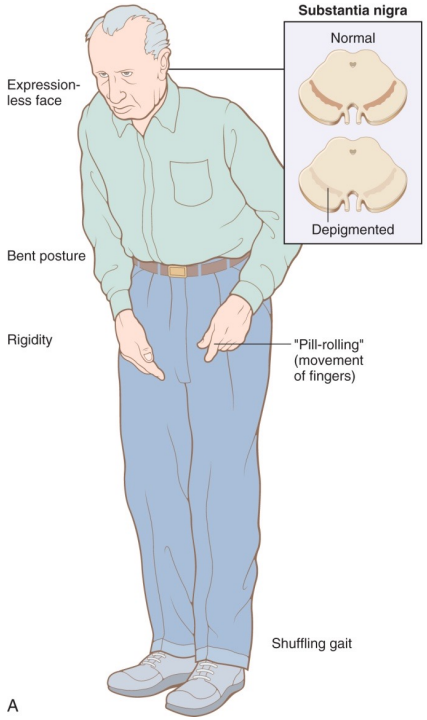
Movement Disorders

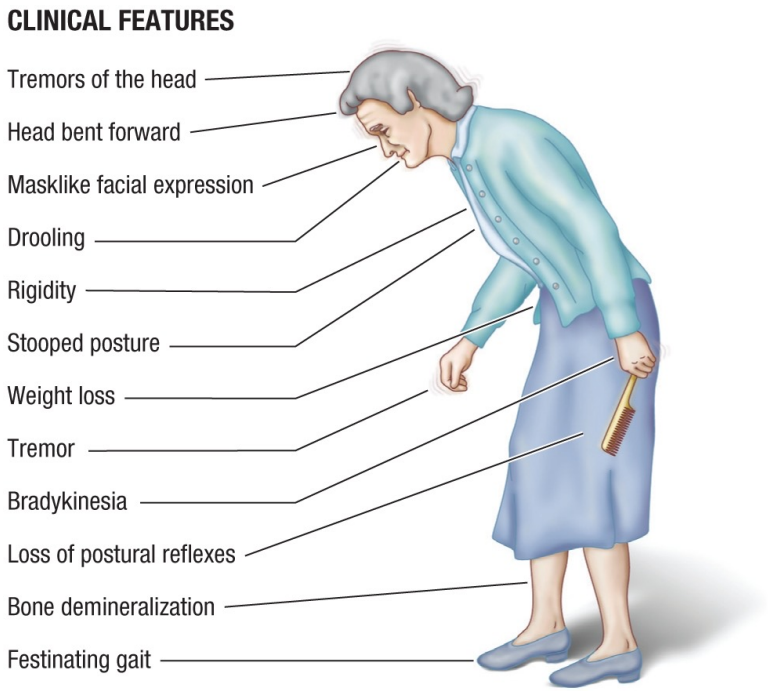
Dystonia Repetitive, predictable, but involuntary muscle contractions in any plane.

- **Spasmodic torticollis (AKA: cervical dystonia)** Most common form of dystonia. Unilateral contractions of neck rotators, usually sternocleidomastoid.

Movement Disorders

Parkinson disease Degenerative movement disorder caused by loss of dopamine production in the brain. Symptoms include resting tremor, rigidity, weakness, fatigue, and depression.





Movement Disorders

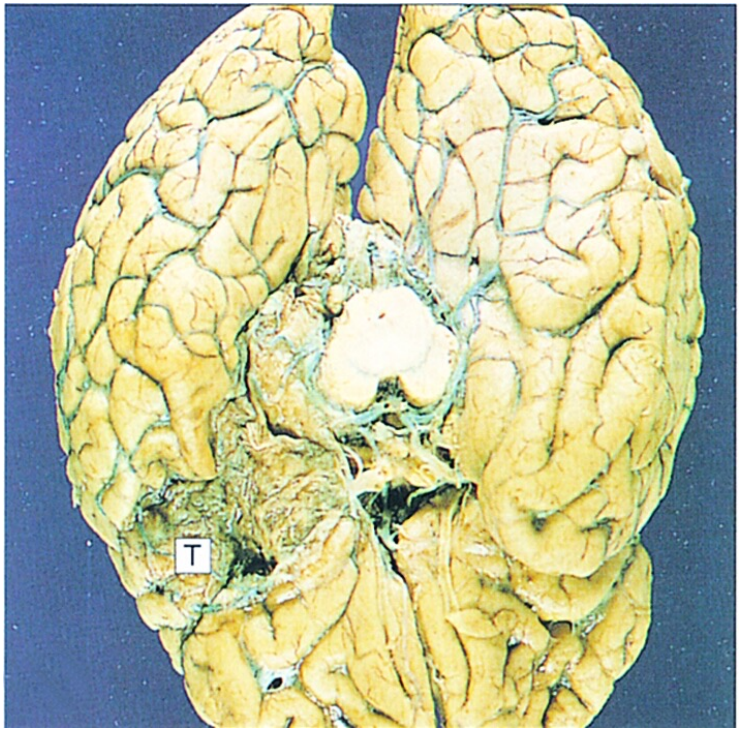
Tremor Involuntary and rhythmic oscillations of antagonistic muscle groups in a fixed plane.

Infectious Disorders

Encephalitis
Herpes zoster
Meningitis
Polio
Postpolio syndrome

Infectious Disorders

Encephalitis Infection of the brain – may be viral, bacterial, or fungal. Symptoms range from fever with headaches, drowsiness, irritability, and disordered thought process to stupor, coma, convulsions, and paralysis.



Infectious Disorders

Herpes Zoster Infection of sensory neurons with the varicella zoster virus, causing painful, fluid-filled blisters on all nerve endings of a dermatome. Causes chicken pox first, and sometimes *shingles* later.



Infectious Disorders

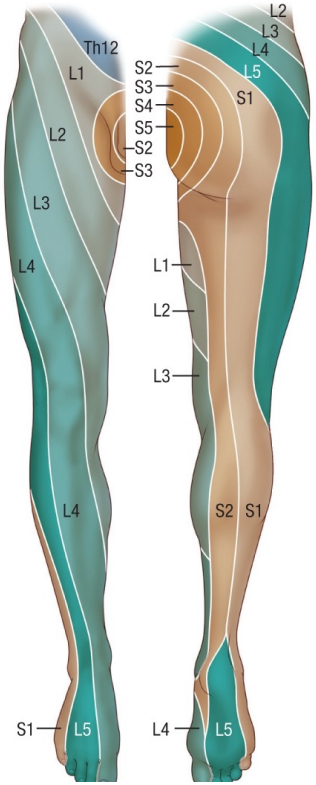
Meningitis Infection causing inflammation of the meninges, mostly the pia mater. Symptoms include rapid onset of high fever and chills, rash, extreme headache, among others.

Infectious Disorders

Polio Viral infection first of the intestines, then of the motor neurons of the anterior horn, where they leave the spinal cord, leading to atrophy and paralysis of muscles.

Infectious Disorders

Postpolio syndrome Group of symptoms suffered by survivors of polio. Progressive muscular weakness develops 10-40 years after initial infection.



Nervous System Injuries

Bell palsy

Complex regional pain syndrome

Spinal cord injury

Stroke

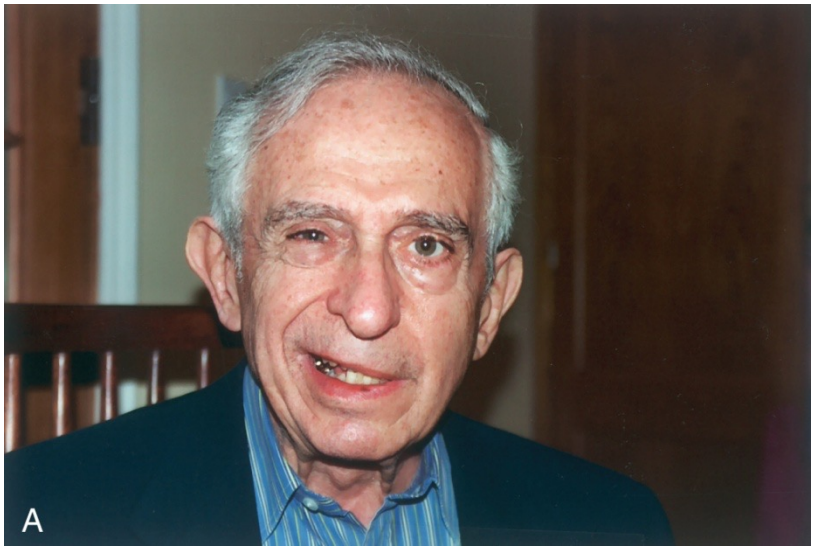
TBI

Trigeminal neuralgia

Nervous System Injuries

Bell palsy Flaccid paralysis of one side of the face, caused by inflammation of the Facial nerve (Cranial Nerve VII).



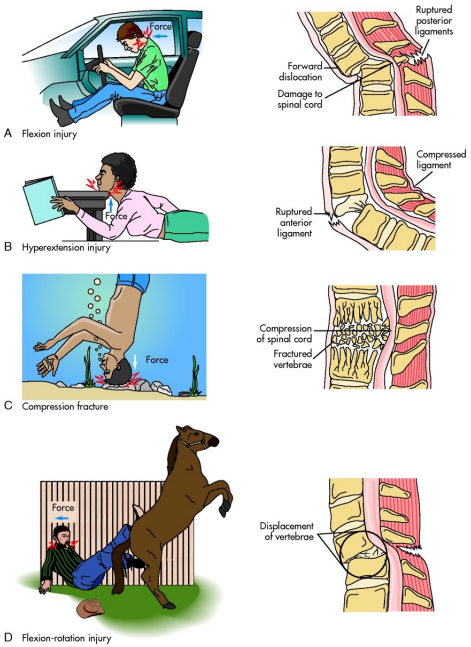


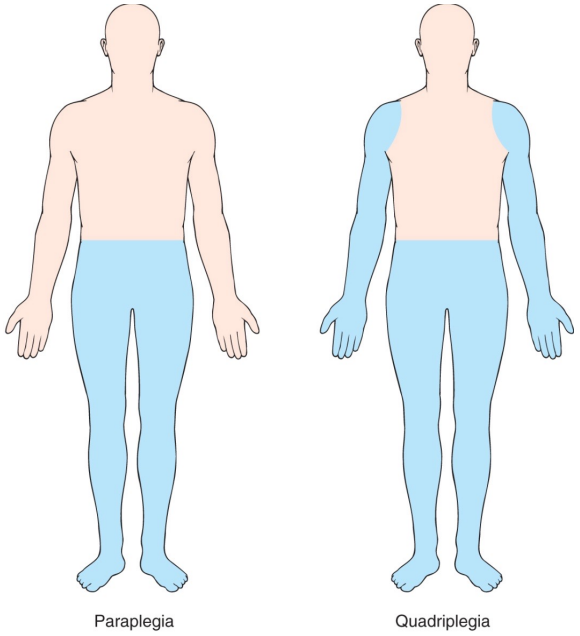
Nervous System Injuries

Complex regional pain syndrome Chronic, progressive condition. An initial trauma causes pain that is more severe and self-sustaining than is reasonable to expect, usually to the distal part of an arm or leg.

Nervous System Injuries

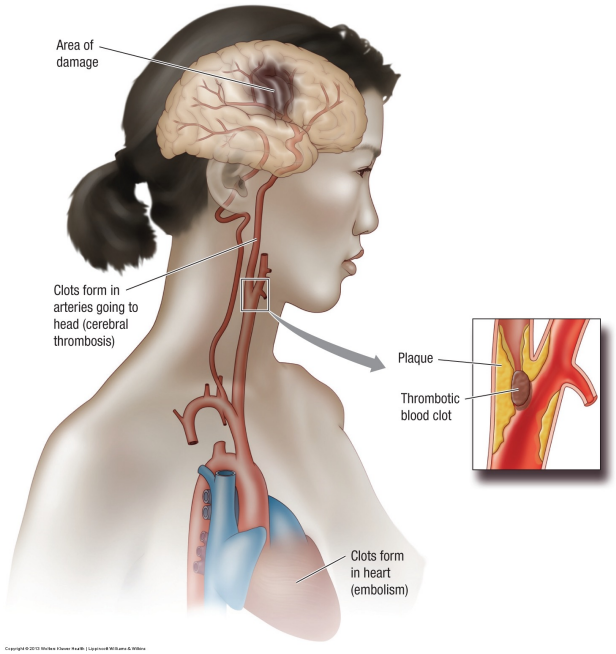
Spinal cord injury Damage to some or all of the spinal cord fibers, caused by trauma, tumors, or bony growths. May cause loss of sensory and/or motor functions (temporary to permanent) - specifics of resulting conditions depend on location and severity of injury.





Nervous System Injuries

Stroke (AKA: cerebrovascular accident, or brain attack) Damage to brain tissue due to oxygen deprivation. Caused by blockage in blood flow or by an internal hemorrhage. Results in temporary or permanent loss of sensory and/or motor function.





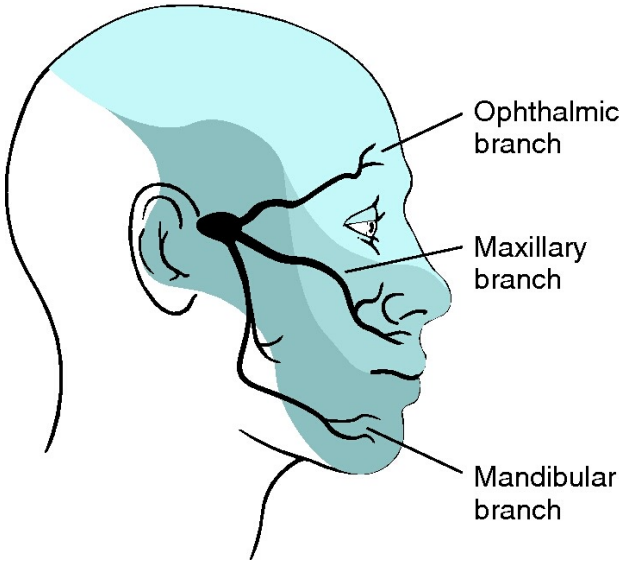
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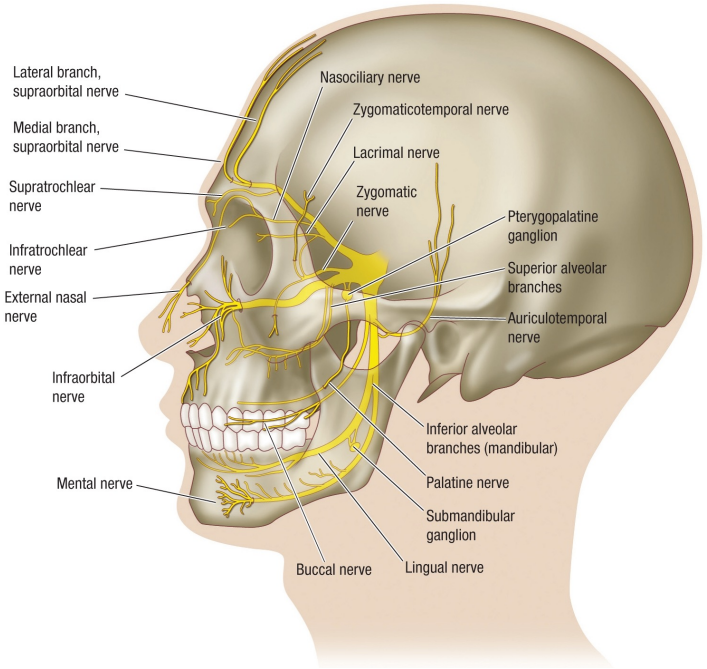
Nervous System Injuries

Traumatic brain injury (AKA: TBI) Brain damage caused by trauma.

Nervous System Injuries

Trigeminal neuralgia (AKA: tic douloureaux) Sharp, stabbing pain in the lower face or jaw due to irritation of the Trigeminal nerve (Cranial Nerve V).





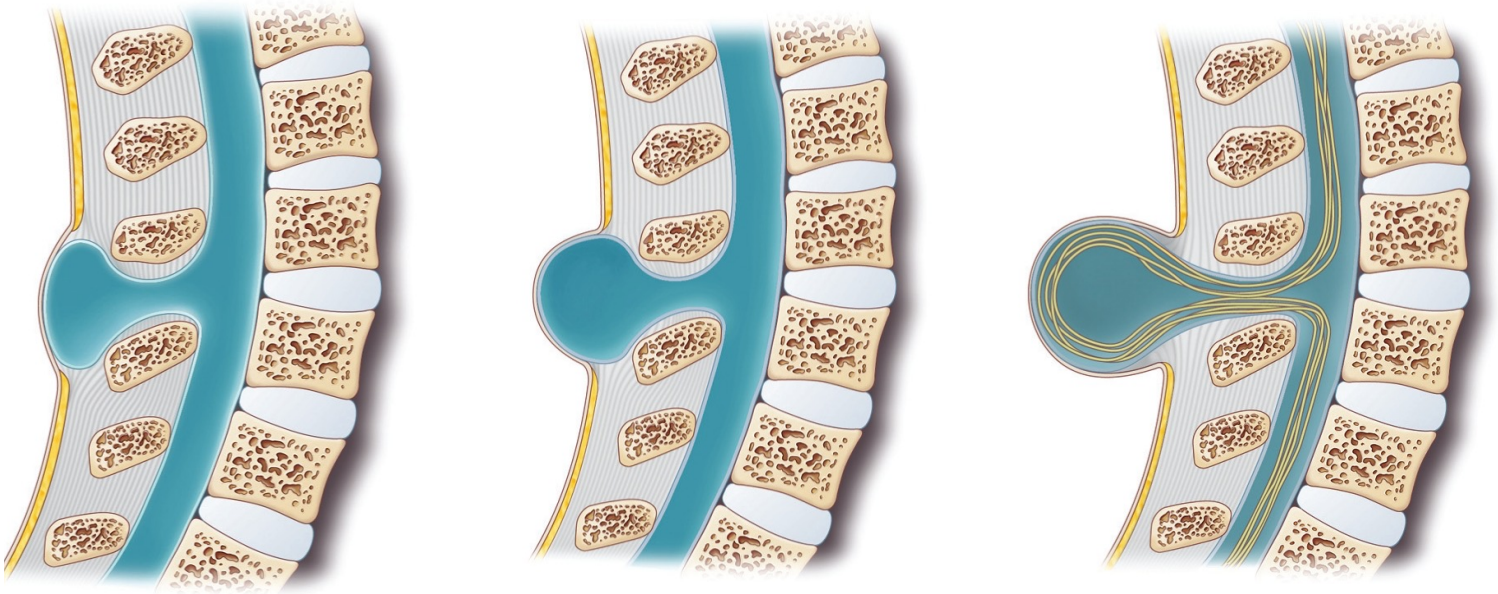
Nervous System Birth Defects

Spina bifida

Cerebral palsy

Nervous System Birth Defects

Spina bifida Neural tube defect, which results in an incompletely formed vertebral arch, damage to the meninges and/or spinal cord, and a high risk of distal paralysis and infection.



Nervous System Birth Defects

Cerebral palsy Collective term for CNS injuries that may occur prenatal, at birth, or in early infancy, resulting in motor impairment possibly leading to sensory and cognitive problems.



Other Nervous System Conditions

Fibromyalgia

Meniere disease

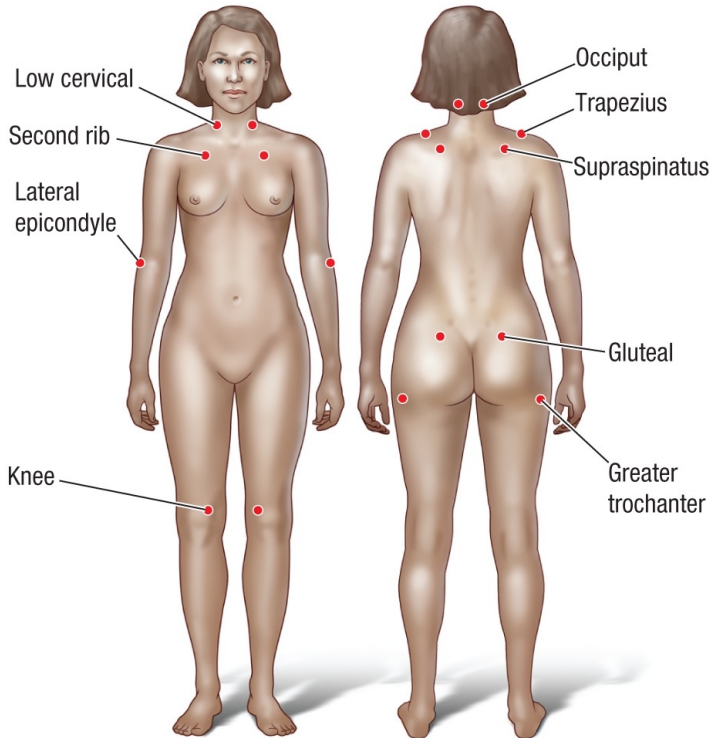
Epilepsy

Sleep disorders

Vestibular balance disorder

Other Nervous System Conditions

Fibromyalgia Chronic pain syndrome. Neuroendocrine disruption, sleep disorders, predictable patterns of tender points in muscles and other soft tissues.

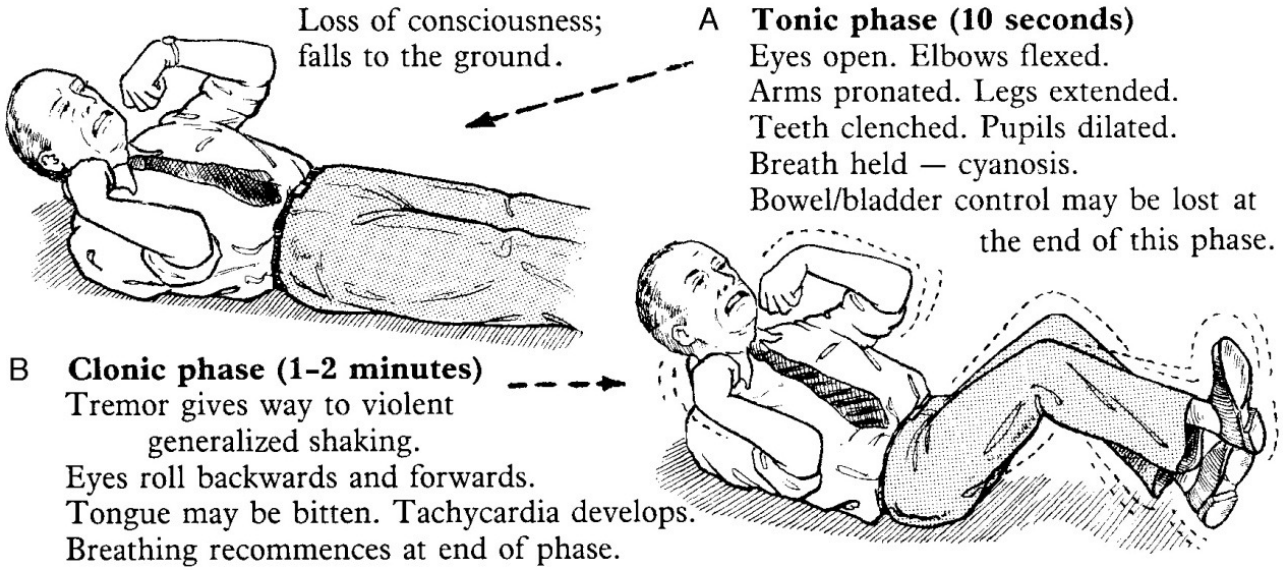


Other Nervous System Conditions

Meniere disease Idiopathic condition affecting the inner ear, causing vertigo, tinnitus, and hearing loss.

Other Nervous System Conditions

Epilepsy Seizure disorder involving 2 or more seizures in a 24 hour period. A seizure is uncoordinated neuronal activity in the brain that allows electrical activities to become increasingly extreme, sometimes to the point of collapse or loss of consciousness.

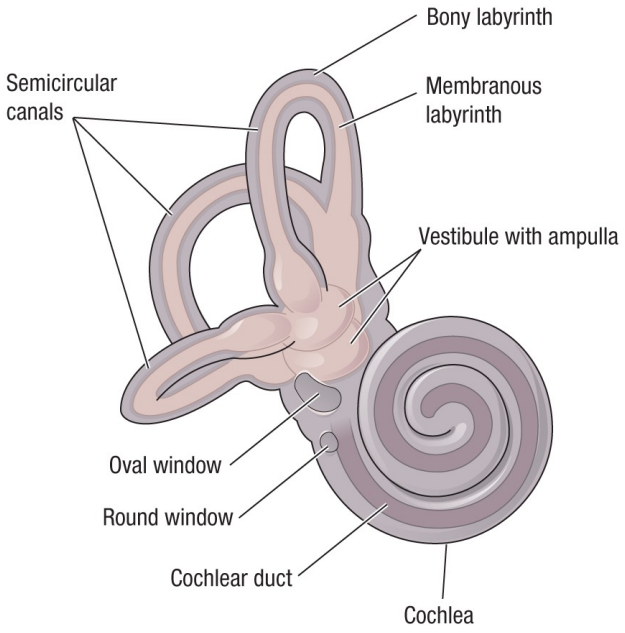


Other Nervous System Conditions

Sleep disorders Collection of problems that make it difficult to get enough sleep or to wake up feeling rested and refreshed. They include insomnia, sleep apnea, restless leg syndrome, narcolepsy, and circadian rhythm disruption.

Other Nervous System Conditions

Vestibular balance disorder Group of conditions (infection, inflammation, or tiny calcium deposits) that can cause malfunction of the vestibular branch of the Vestibulocochlear nerve (Cranial Nerve VIII), causing vertigo, dizziness, lightheadedness, blurred vision, nausea and GI upset.



52a Kinesiology Quiz and Pathology: Nervous System