**Nervous System Vocabulary**

**Central Nervous System (CNS)** – Consists of the brain and spinal cord. Control center of the nervous system.

**Peripheral Nervous System (PNS)** – Consists of nerves that extend from the brain to the spinal cord. Nerves serve as communication lines that link all parts of the body to the CNS.

**Efferent (Motor)** – Impulses activate muscles to contract and glands to secrete to bring about a motor response.

**Somatic** – voulentary nervous system; we can control our skeletal muscles.

**Autonomic** – Automatic impulses (breathing, digesting, etc.)

**Sympathetic** – ‘Fight or Flight’ response.

**Parasympethetic** – Resting impulses

**Neuroglia** Cells – Support the neurons

**Types of neuroglia cells**

1. Astrocytes – Star shaped. Connect nerves to each other. Belong to CNS.
2. Microglial – Closest to immune system. Form a barrier when epidymal cells are broken. Part of the CNS.
3. Shwan Cells – Responcible for myalin sheets around PNS nerve fibers. Part of PNS system.
4. Oligodendrocytes – Form myalin sheets around CNS fibers. Part of CNS system.
5. Satellite cells – Part of the PNS. ‘Unknown fuction’ . Has many of the same functions as astrocytes.
6. Ependymal cells – Cells that line the cerebral spinal fluid cavities. Part of the CNS system.

NEURONS

Currents – the flow of electrical charge from one point to another.

Voltage – The measure of postential engergy generated by a separate charge.

Resistance – The hinderence to charge flow provided by substances through which the current has passed.

Depolarization – Reduction in the membrane potential (the inside of the membrane becomes less negative than the resting potential). Sodium gates open and sodium floods cell, then close.

Absolite Refractory Period – The resting state of sodium channels. (NA+)

Resting Membrance Potential – When the membrane is polarized. Cells contain less sodium on the outside and more potassium on the inside. Sodium potassium pumps in play.

Depolarization – Reduction in the membrane potential (the inside of the membrane becomes less negative than the resting potential). Sodium gates open and sodium floods cell, then close.

Repolarization – Decline of sodium permability and more permeable to potassium. Potassium gates will open – potassium flows out of the cell.

HYperpolarization – Membrane potential increases, becoming more negative due to using too much potassium. Potassium gates are too slow to close.

Action potential – Breif reversal of membrane potential. Causes a neuron to fire neurotransmitter signal.

NEUROTRANSMITTERS

Asetylcholine – translates intention into action between neuron and muscle fiber.

Dopamine – ‘Pleasure chemical’ of brain.

Serotonin – ‘Calming chemical’. Mood modulating affects. Effective with sleep.

Oxytocin – Responsible for contractions of the uterus and stimulation of the mammary glands during lactation period.

**PARTS OF THE NEURON**

Soma – Cell body.

Dendrites – Receptive regions coming out of the soma.

Axon – Impulse generating and conducting region.

Axon Hillock – Connects Soma to the Axon.

Myelin – Protects the Axon.

Terminal Branches – Secretory region.

SYNAPS

Synaps – A unite junction that mediates info flow from one neuron to another or effector cell.

Upregulation – Cells become more responsive to stimuli by increasing the number of receptors on the surface of the cell.

Pre-Synaptic Neuron – Neuron that gives off the signal to the post-synaptic neuron. Carries impulse towards the synaps.

Post-Synaptic Neuron – Neuron that receives the signal from the pre-synaptic neuron.

Re-update Channels – Neurons are taking backup into the pre-synaptic neuron (coccain blocks re-update channels).

Synaptic Cleft – The space in between the pre/post synaptic neuron where neurotransmitters are exchanged.

Excidetory Post-Synaptic Potentials (EPSP’s) – Cause nerve cells to depolarize and tell neuron to fire.

Inhibitory Post-Synaptic Potentials (IPSP’s) – cause hyper polarization and tells neurons not to fire.

PELVIC GIRDLE

Pelvic girdle-the skeletal structure to which the lower limbs in man, and the hind limbs or corresponding parts in other vertebrates, are attached

also called bony pelvis

connects the trunk and legs



Contains

Ilium

Iliac crest

Acetabulum

Ischium

Pubis

The hip is symmetrical, everything on one side is the same as the other

Difference between male and female:

Male hip:

Narrower

more heart shaped

taller

female hip:

rounder

broader

The Heart vocabulary

Mediastinum- the medial cavity of the thorax

Pericardium- double wall sac the heart is enclosed in

Fibrous pericardium- the loosely fitting superficial part of the sac

Serous pericardium- a thin slippery two layer serous membrane

Parietal layer- lines the internal surface of the fibrous pericardium

Pericardial cavity- contains a serious membrane, between the parietal and visceral layer

Myocardium- the layer that contracts, the middle layer

Fibrous skeleton of the heart- reinforces the myocardium internally and anchors the cardiac muscle fibers

Endocardium- a glistening white sheet of endothelium resting on a thin connective tissue layer

Four chambers – left atrium, left ventricle, right atrium, right ventricle

Aorta- major systematic artery it arises from the left ventricle of the heart

Pulmonary veins – vessels that deliver fresh blood from the respiratory of the lungs to the heart

Inferior vena cava – the vein that returns blood from body areas below the diaphragm

Superior vena cava – vein that returns blood from body areas superior the diaphragm

SA node- located in the right atrial wall, it’s inferior to the entrance to superior vena cava

AV node- the impulse is delayed for about 0.1s, allowing the atria to respond and complete their contraction before the bentricles contract

Muscle: bundle of fascicle

Fiber: bundle of myofibrils

Fascicle: bundle of muscle fiber

Myofibril: bundle of myofilaments

Myofilament: made of amino acid

Sarcomere: smallest contractile unit

Sarcoplasmic reticulum: surrounds muscle fibers

Thick filament: run entire length of A Band

Myosin: the fibrous protein that forms together with actin

Actin: A protein that forms with myosin that contractile filaments of muscle cells

Troponin : a protein involved in muscle contraction

Tropomyosin : a globular protein complex involved in muscle contraction

Eye

Eye- a sphere with a diameter of about 2.5 centimeters

Lacrimal apparatus- consists of the lacramole gland and the ducts that drain lacramole secretions into the nasal cavity

Sclara-forming the posterior portion and the bulk of the fibrous layer; glistening white and opaque

Cornea- bulges anteriorly from the junction with the sclara; forms a window that lets light enter the light; major part of the light bending apparatus of the eye

Cilliary Body- a thickened ring of tissue that encircles the lense

Iris-The visible colored part of the eye; most anterior portion of the vascular layer; lies between cornia and the lense

Pupil- central opening allowing light to enter the eye

Retina- inner most layer where cones and rods are found

Cone- vision receptors for bright light and provide high resolution color vision

Rods- dim light and peripheral vision receptors; more numerous and far more sensitive to light than cones

Lense- flexible structure that can change shape to focus light on the retina

Focal Point- where all light focuses

Near sighted- have trouble seeing things farther away; longer eye; light travels too far into the eye to make farther objects appear blurry

Far sighted- have trouble seeing things closer to you; short eye; lights cannot bend as well causing blurry vision to things that are closer

Vitreous humor- transmitts light; supports posterior surface of the lense and holds the neural layer of the retina firmly against the pigmented layer;contribues to intraocular pressure, helping to counter act the pulling force of the extrinsic eye muscles

Glaucoma- when pressure within the eye may increse to dangerous levels and compress the retina and optic nerve; eventually resulting in blindness

Cataract-clouding of the lense that causes the world to appear distorted

Ear

Malleus/Incus/Stapes- main bones of the ear; named for their shape

Cochlea- spiral bony chamber about the size of a split pea; extends from the anterior part of the vestibule and coils for about two and a half turns around a bony pillar called the modiolus

Vestibule- central egg shaped cavity of the bony labyrnth

Brain jake and wason

Frontal lobe- frontal area of the brain prefrontal cortex the desion maker

Occipital lobe- controls the vision

Surperior colliculi- controls reaction to sounds outside of field of vision

Inferior colliculi controls reactions to sounds inside the freild of vision

Broceas area cotrol special motor speech

Hypothalamus signal for different hormones to be released

-autonomic control center

-center for emotional response

-body tempature regulation

-regulation of food intake

-regulation of water balance

-regulate sleep wake cycle

-Control of endocrine

Pituitary gland releases the hormones

Cerebrial cortex were the conses mind is found

Temporal lobes

Porital lobes

Visual association area converts chemical signals into sight

Auditory association area converts chemicla signals into sounds

White matter largly myelinated

Grey matter not myelinated at all

Diencephalon- Thalamus, Hypothalamus, Corpus Callosum, amygdala

Midbrain- between diencephalon and Pons

Pons- bulging brainstem region between midbrain and medulla oblongata

Medulla Oblongata- most inferior spot of brain stem, controls fight or flight reactions and connects brain to sponal cord

Cerebellum-dorsal to the pons and medulla, Back part of the brain

Cerebrum- biggest part of brain, consists of the top and the middle part of the brain.

Precentral Gyrus- volintary movement

Postcentral Gyrus- interprets somatic sensations and converts them to feelings

Premotor cortex -learned skills

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Muscle Contraction

Power Stroke – the myosin head pivots changing from its high-energy configuration to its bent, low-energy shape, which pulls on the thin filament.

Cross Bridge – the activated myosin heads are strongly attached to the exposed binging sites on actin, and cross bridges form.

## Tropomyosin – A protein of muscle that forms a complex with [troponin](http://www.merriam-webster.com/dictionary/troponin) regulating the interaction of actin and myosin in muscular contraction.

Myosin -a fibrous globulin of muscle that can split ATP and that reacts with actin in muscle contraction to form actomyosin

ATP(Adenosine Triphosphate) – Energy source for all cells.

ADP(Adenosine Diphoshate) – Lower energy molecule. Half charged battery. Creatine phospate used to make it Adenosine Triphoshate again.

Actin – Actin is a [globular](http://en.wikipedia.org/wiki/Globular_protein) multi-functional [protein](http://en.wikipedia.org/wiki/Protein) that forms [microfilaments](http://en.wikipedia.org/wiki/Microfilament).

Tryponin –

Sarcoplasmic Reticulum –

T tubule –

Load –