

Nerves of the Head, Face, and Neck
Vocabulary List & Facts
Institute of Epidermal Cell Therapy

Auriculotemporal nerve-

Definition: Nerve that affects the external ear and skin above the temple, up to the top of the skull. Originates from the back part of the mandibular nerve.

Benefit: affects the ear and skin above the temple and the top of skull

Fact: The auriculotemporal nerve passes between the neck of the mandible and the sphenomandibular ligament

Autonomic nervous system –

Definition: Abbreviated ANS; the part of the nervous system that controls the involuntary muscles; regulates the action of the smooth muscles, glands, blood vessels, and heart. It is responsible for control of bodily functions.

Benefit: controls bodily functions.

Fact: This system is the primary mechanism in control of the fight-or-flight response.

Axon

Definition: The extension of a neuron through which impulses is sent away from the cell body to other neurons, glands, or muscles. a long slender projection of a nerve cell.

Benefit: Projection of nerve cells.

Fact: Axons are covered by a membrane known as axolemma and the cytoplasm of axon is called axoplasm.

Brain

Definition: The brain is part of the central nervous system contained in the cranium; largest and most complex nerve tissue; controls sensation, muscles, glandular activity, and the power to think and feel. It is an organ of soft nervous tissue contained in the skull of vertebrates.

Benefit: in the cranium and is the largest and most complex nerve tissue.

Fact: It is made up of more than 100 billion nerves that communicate in trillions of connections called synapses.

Brain stem

Definition: It is a structure that connects the spinal cord to the brain. It contains the medulla oblongata, pons, and midbrain.

Benefit: connects the spinal cord to the brain.

Fact: The brainstem also plays an important role in the regulation of cardiac and respiratory function.

Central nervous system

Definition: Abbreviated CNS; cerebrospinal nervous system; consists of the brain, spinal cord, spinal nerves, and cranial nerves. Complex nerve tissue that controls activities of the body.

Benefit: Nerve tissue that controls activities of the body.

Fact: The CNS is contained within the dorsal body cavity, in the brain which is housed in the cranial cavity and the spinal cord in the spinal canal.

Cerebellum

Definition: It lies at the base of the cerebrum and is attached to the brain stem; this term is Latin for "little brain. It coordinates and regulates muscular activity.

Benefit: regulates muscle activity and is attached to the brain stem

Fact: The cerebellum does not initiate movement, but contributes to coordination, precision, and accurate timing

Cerebrum

Definition: It makes up the bulk of the brain and is located in the front, upper part of the cranium.

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It is responsible for complex sensory and neural functions and the initiation and coordination of voluntary activity in the body.

Benefit: Responsible for complex sensory and neural function.

Fact: The cerebrum is the largest part of the brain.

Cervical cutaneous nerve

Definition: It is the nerve located at the side of the neck that affects the front and sides of the neck as far down as the breastbone.

Benefit: affects the front and sides of neck and breastbone.

Fact: the cervical cutaneous nerve arises from the second and third spinal nerve.

Cervical dystonia

Definition: It is a neurological disorder involving painful spasms of the neck muscles, also called spasmodic torticollis.

Benefit: disorder involving painful spasms of neck muscles.

Fact: Most patients first experience symptoms midlife.

Cervical nerves

Definition: They are nerves that originate at the spinal cord, whose branches supply the muscles and scalp at the back of the head and neck; affect the side of the neck and the platysma muscle.

Benefit: branches supply muscles and scalp at the back of the head and neck.

Fact: If a cervical vertebra is fractured by trauma, such as in a car accident, a fall, a diving accident that jars the head, or any other significant cervical injury, the spinal cord can be damaged.

Diencephalon

Definition: Located in the uppermost part of the midbrain; consists of two main parts the thalamus and the hypothalamus. Part of the forebrain.

Benefit: two main parts are the thalamus and the hypothalamus.

Fact: The diencephalon relays sensory information between brain regions and controls many autonomic functions of the peripheral nervous system.

Dendrites

Definition: A type of process of the neuron which are branched uncovered. Short branch extension of the nerve cell.

Benefit: short branch extension.

Fact: Certain classes of dendrites contain small projections referred to as dendritic spines that increase receptive properties

Digital nerve

Definition: Sensory-motor nerve that, with its branches, supplies impulses to the fingers. Superficial branch of the ulnar nerve.

Benefit: Supplies impulses to the fingers.

Fact: The superficial branch of the ulnar nerve divides into a proper palmar digital nerve

Dynamic movement

Definition: It is movement caused by active movement of muscles and nerve impulses. It improves muscle activation.

Benefit: Active movement of muscles and nerve impulses.

Eleventh cranial

Definition: Also known as accessory nerve; a motor nerve that controls the motion of the neck and shoulder muscles. Formerly thought to originate in part of the brain.

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Benefit: Controls the motion of the neck and shoulder muscles.

Fact: The accessory nerve supplies the sternocleidomastoid and trapezius muscles

Fifth cranial nerve

Definition: Also known as trifacial or trigeminal nerve; it is the chief sensory nerve of the face, and it serves as the motor nerve of the muscles that control chewing. It consists of three branches. It transmits sensations from the face to the brain.

Benefit: chief sensory nerve of the face.

Fact: It functions both as the chief nerve of sensation for the face and the motor nerve controlling the muscles of chewing.

Greater auricular nerve

Definition: Nerve at the sides of the neck affecting the face, ears, neck, and parotid gland. It originates from the cervical plexus.

Benefit: nerves at the sides of the neck

Fact: composed of branches of spinal nerves C2 and C3.

Greater occipital nerve

Definition: The nerve is located in the back of the head, affects the scalp as far up as the top of the head. This is a spinal nerve.

Benefit: located in the back of the head

Fact: It innervates the scalp at the top of the head, over the ear and over the parotid glands.

Infraorbital nerve

Definition: This is the nerve that affects the skin of the lower eyelid, side of the nose, upper lip, and mouth. This is a sensory nerve.

Benefit: affects the skin of the lower eyelid, nose, upper lip, mouth.

Fact: There is a cross innervation of this nerve on the other side of jaw.

Infratrochlear nerve

Definition: The nerve that affects the membrane and skin of the nose. It supplies sensory fibers to the face and the vicinity of the eyes and nose.

Benefit: affects the skin of the nose

Fact: Infratrochlear means below the trochlea.

Mandibular nerve

Definition: Branch of the fifth cranial nerve that supplies the muscles and skin of the lower part of the face; also, nerve that affects the muscles of the chin and lower lip. It's the largest of the 3 divisions of the trigeminal nerve.

Benefit: affects the muscles of the chin and lower lip

Fact: The nerve then divides into a small anterior and large posterior trunk.

Maxillary nerve

Definition: Branch of the fifth cranial nerve that supplies the upper part of the face. Its function is the transmission of sensory fibers from the maxillary teeth and from the sinuses and nasal cavity.

Benefit: supplies the upper part of the face.

Fact: Its function is the transmission of sensory fibers from the maxillary teeth

Median nerve

Definition: A nerve, smaller than the ulnar and radial nerves that supplies the arm and hand. It's one of the 5 main nerves originating from brachial plexus.

Benefit: supplies the arm and the hand

Fact: The median nerve originates from the lateral and medial cords of the brachial plexus

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Mental nerve

Definition: Nerve that affects the skin of the lower lip and chin. Sensory nerve providing sensations to the front of the chin and the lower lip.

Benefit: front of the chin and lower lip.

Fact: the nerve emerges at the mental foramen in the mandibula, and divides beneath the Depressor anguli oris muscle.

Motor nerves

Definition: Also known as efferent nerves; carry impulses from the brain to the muscles or glands. These transmitted impulses produce movement. carry impulses from the brain or spinal cord to a muscle or gland.

Benefit: carries impulses from the brain to the muscles

Fact: Motor nerves are often paired with sensory nerves, which are bundles of afferent nerve fibers

Nasal nerve

Definition: Nerve that affects the point and lower sides of the nose. Supplies branches to the mucus membrane in the nasal cavity.

Benefit: affects the point and sides of the nose.

Fact: are terminal branches of the anterior ethmoidal nerves.

Nerve tissue

Definition: Tissue that controls and coordinates all body functions. The main tissue component of the two parts of the nervous system.

Benefit: coordinates all body functions.

Fact: Nervous tissue is made up of different types of nerve cells

Nerves

Definition: Whitish cords made up of bundles of nerve fibers held together by connective tissue, through which impulses are transmitted. bundles of fibers that transmit impulses of sensation to the brain or spinal cord.

Benefit: bundles of nerve fibers

Fact: A nerve provides a common pathway for the electrochemical nerve impulses

Nervous system

Definition: Body system composed of the brain, spinal cord, and nerves; controls and coordinates all other systems and makes them work harmoniously and efficiently. The network of nerve cells and fibers.

Benefit: composed of brain spine and nerves

Fact: The brain and spinal cord form the control center known as the central nervous system

Neurology

Definition: The scientific study of the structure, function, and pathology of the nervous system. The study of the nervous system.

Benefit: study of the nervous system.

Fact: Neurology deals with the diagnosis and treatment of all categories of conditions and disease involving the central and peripheral nervous system

Neuron or nerve cell

Definition: The basic unit of the nervous system, consisting of a cell body, nucleus, dendrites, and axon. Electrically excitable cell that processes and transmits information through electrical and chemical signals.

Benefit: basic unit of the nervous system

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Fact: Neurons can connect to each other to form neural networks.

Ophthalmic nerve

Definition: Branch of the fifth cranial nerve that supplies the skin of the forehead, upper eyelids, and interior portion of the scalp, orbit, eyeball, and nasal passage. carries information to the face

Benefit: supplies skin of forehead upper eyelids and interior portion of the scalp.

Fact: It carries sensory information from the face and scalp and sympathetic fibers for pupil dilation

Parasympathetic division

Definition: Part of the autonomic nervous system, it operates under normal non stressful situations, such as resting. It also helps to restore calm and balance to the body after a stressful event. Gets the body ready for action

Benefit: helps restore calm and balance to the body.

Fact: Nerve fibers of the parasympathetic nervous system arise from the central nervous system.

Peripheral nervous system

Definition: Abbreviated PNS; system of nerves and ganglia that connects the peripheral parts of the body to the central nervous system; has both sensory and motor nerves. Nervous system outside of the brain and spinal cord

Benefit: It has both sensory and motor nerves.

Fact: The peripheral nervous system is divided into the somatic nervous system and the autonomic nervous system.

Posterior auricular artery

Definition: Artery that supplies blood to the scalp, behind and above the ear. it arises from the carotid artery.

Benefit: supplies blood to the scalp

Fact: The auricular branch supplies the auricularis posterior and the intrinsic muscles on the cranial surface.

Radial nerve

Definition: Nerve that, with its branches, supplies the thumb side of the arm and back of the hand. Innervate the triceps and the anconeus muscles.

Benefit: supplies the thumb and side of the arm and back of the hand.

Fact: The radial nerve and its branches provide motor innervation to the dorsal arm muscles wrists and hands.

Sensory nerves

Definition: Also known as afferent nerves; carry impulses or messages from the sense organs to the brain, where sensations such as touch, cold, heat, sight, hearing, taste, smell, pain, and pressure are experienced. Sensory nerve endings called receptors are located close to the receptors are located close to the surface of the skin. It allows us to feel sensations.

Benefit: carry impulses or messages to the brain.

Fact: Afferent nerve fibers are often paired with efferent nerve fibers from the motor neurons

Seventh cranial nerve

Definition: Also known as facial nerve; it is the chief motor nerve of the face. It emerges near the lower part of the ear and extends to the muscles of the neck.

Benefit: facial nerve

Fact: It also supplies preganglionic parasympathetic fibers to several head and neck ganglia.

Smaller occipital nerve

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Definition: Also known as lesser occipital nerve; located at the base of the skull, affects the scalp and muscles behind the ear.

Benefit: affects the scalp and the muscles behind the ear.

Fact: The lesser occipital nerve is one of the four cutaneous branches of the cervical plexus.

Spinal cord

Definition: Portion of the central nervous system that originates in the brain, extends down to the lower extremity of the trunk, and is protected by the spinal column. connects almost all parts of the body to the brain

Benefit: originates in the brain.

Fact: The spinal cord functions primarily in the transmission of nerve signals from the motor nerves to the body

Supraorbital nerve

Definition: Nerve that affects the skin of the forehead, scalp, eyebrow, and upper eyelid. Terminal branch of the frontal nerve.

Benefit: affects the skin of the forehead scalp eyebrow and upper eyelid

Fact: It ascends on the forehead, and ends in two branches

Supratrochlear nerve

Definition: Nerve that affects the skin between the eyes and upper side of the nose. It comes from the ophthalmic division.

Benefit: affects the skin between the eyes and upper side of the nose.

Fact: Supratrochlear means above the trochlea.

Sympathetic division

Definition: Part of the autonomic nervous system that stimulates or speeds up activity and prepares the body for stressful situations, such as in running from a dangerous situation, or competing in a sports event. gets the body ready for action

Benefit: prepares the body for stressful situations.

Fact: There are two kinds of neurons involved in the transmission of any signal through the sympathetic system which are pre-ganglionic and post-ganglionic.

Temporal nerve

Definition: Nerve affecting the muscles of the temple, side of the forehead, eyebrow, eyelid, and upperpart of the cheek. Branch of the facial nerve.

Benefit: nerve affecting the muscles of the temple, forehead, eyebrow, eyelid, upper cheek.

Fact: The temporal branch acts as the efferent limb of the corneal reflex.

Tibial nerve

Definition: Division of the sciatic nerve, passes behind the knee; subdivides and supplies impulses to the knee, the muscles of the calf, the skin of the leg, and the sole, heel, and underside of the toe.

Benefit: division of sciatic nerve

Fact: The tibial nerve continues its course down the leg, posterior to the tibia. During its descent, it supplies the deep muscles of the posterior leg.

Ulnar nerve

Definition: Sensory-motor nerve that, with its branches, affects the little-finger side of the arm and palm of the hand. runs near the ulna bone

Benefit: affects little finger and side of the arm

Fact: This nerve is directly connected to the little finger, and the adjacent half of the ring finger

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Zygomatic nerve

Definition: Nerve that affects the skin of the temple, side of the forehead, and upper part of the cheek. Branch of maxillary nerve that helps supply skin over zygomatic and temporal bones.

Benefit: affects the skin of the temple, side of the forehead, and upper cheek.

Fact: enters the orbit and helps to supply the skin over the zygomatic and temporal bones.

Acetylcholine (ach)

Definition: a neurotransmitter widely found in body tissues; its primary function is to mediate synaptic activity of the nervous system and skeletal muscles. organic chemical that functions in the brain

Benefit: mediate synaptic activity of the nervous system.

Fact: acetylcholine receptors are classified according to their pharmacology.

Innervation

Definition: the distribution or supply of nerves or nerve impulses in a particular body part. the supply of nervous energy or of nerve stimulation sent to a certain part.

Benefit: supply of nerves or nerve impulses

Fact: The nerve supply, usually to a specific part of the body.

Neuromuscular junction

Definition: the region surrounding the point of contact between two neurons, across which nerve impulses are transmitted. Chemical synapse formed by the contact between a motor neuron and a muscle fiber.

Benefit: region surrounding the point of contact between two neurons

Fact: It is at the neuromuscular junction that a motor neuron is able to transmit a signal to the muscle fiber, causing muscle contraction.

Neurotransmitter

Definition: a chemical that modifies or causes the transmission of nerve impulses across synapses to act on or inhibit a target cell.

Benefit: Chemical that modifies the transmission of nerve impulses.

Fact: Many neurotransmitters are synthesized from amino acids.

Stimulus

Definition: anything that excites or incites an organ or other part to function, become active, or respond. It raises physiological or nervous activity.

Benefit: creates an organ to function

Fact: something that excites an organism or part to functional activity.

Synapse

Definition: the transmission of nerve impulses across a synaptic gap. junction between 2 nerve cells.

Benefit: junction between two nerve cells.

Fact: introduced in 1897 by the English neurophysiologist Charles Sherrington

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Wikipedia.com

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NERVES OVERVIEW

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#	Name of Nerves	Type	Sensory Function	Motor Function
I	Olfactory	Sensory	Sense of smell	None
II	Optic	Sensory	Sight	None
III	Oculomotor	Motor	None	Movement of eyeball
IV	Trochlear	Motor	None	Movement of eyeball
V	Trigeminal	Mixed	Sensation from face	Chewing movements
VI	Abducent or Abducent	Motor	None	Movement of eyeball
VII	Facial	Mixed	Sense of taste	Movement of facial muscles
VIII	Auditory	Sensory	Sense of hearing	None
IX	Glossopharyngeal	Mixed	Sense of taste	Secretion of saliva
X	Vagus	Mixed	Sensation from multiple organs	Stimulates secretory glands and smooth muscles
XI	Accessory	Motor	Movement of head, shoulders, pharynx, and larynx	
XII	Hypoglossal	Motor	None	Movement of tongue

NERVOUS TISSUE	
Neuron or Neurone	Nerve cells, specifically adapted to generate and transmit electrochemical impulses, Its consists of a cell body and processes on either end of the body, cell body is similar to other cells but are highly specialized and do not undergo mitosis after birth
Neuroglia	Cells which do not conduct an impulse but are supporting cells of the nervous system. They are glacial cells.
Dendrites	A type of process of the neuron which are branched and uncovered. Short branched extension of a nerve cell.
Axons	Long slender and unbranched processes of the neuron. Thread like part of a nerve cell which impulses are conducted from the cell body to other cells.
Myelin	Sheath around axons which enhance pulse conduction. mixture of proteins and phospholipids that form something around the nerve that increase speed
Synapses	Junctions where the axon connection to other tissue, which use chemical transmitters to cross a minute gap. junction between two nerves.
Neuro-muscular junction	A junction with muscle
Axon terminal applied to an area of muscle cell	End of the axon with is closely sarcolemma
Motor end plate	Area of muscle cell sarcolemma
Motor nerve	Nerves that transmit from the CNS to the PNS
Sensory nerves	Nerves of sensory organs such as taste, touch, smell, hearing and sight
Mixed nerves	Nerves with have some sensory fibers and some motor fibers

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