

Medical Terminology Sensory System

Directions:

1. Print cards double sided and cut vocabulary cards
2. Choose an activity method for learning vocabulary words

Class method

- Read the vocabulary word aloud and ask for volunteers to provide the definition
or
- Read the definition aloud and ask for volunteers to provide the vocabulary word

Small group method

1. Divide the class into small groups
2. Give each group a set of the cards
3. Have one person pick a card and read it aloud to the group
4. The first person in the group to get it right gets a point and is the next person to read a card

Concentration method

1. Pair the students up
2. Give each pair a set of cards
3. Lay the vocabulary cards on a table with the definition side down
4. Each player takes a turn reading a word and saying the definition
5. If the definition is correct, the player picks up the card and keeps it as a point
6. If the definition is incorrect, the next player takes a turn
7. Continue until all cards are drawn



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01/2024 | 1068005-02



VISION (SIGHT)

AUDITION (HEARING)

SOMATOSENSATION (TOUCH)

EQUILIBRIUM (BALANCE)

OLFACTION (SMELL)

GUSTATION (TASTE)

SOMATOSENSORY/ TACTILE RECEPTORS

MECHANORECEPTORS

This sense is the perception of compressed air within a certain spectrum of vibration, which we perceive as sound. Human verbal communication depends on audition

This sense is the ability to perceive images of the world by interpreting the input of reflected and generated visible light (a narrow spectrum of electromagnetic radiation). Our perception of the spectrum of colors and brightness depends on vision and enables us to detect shapes and patterns from a distance

Sense that enables us to perceive head and body position and movement to maintain an upright posture as well as carry out activities of daily living

Also known as tactile perception, this sense is our perception of how things feel and depends on neuronal receptors that respond to pressure, light touch, pain, and temperature both internally and externally

Sense that enables us to detect the taste of ingested material, typically food, through receptors that pick up on qualities such as sweetness, bitterness, and saltiness

Sense that enables us to detect different scents or odors, both pleasant and unpleasant, through chemical receptors

These include Meissner's and Ruffini corpuscles in the skin. Meissner's corpuscles are receptors for fine, discriminative touch near the skin's surface, while Ruffini's corpuscles convey information about deeper pressure sensation

These are receptors that convey the sense of touch, or how something feels. While these receptors are primarily located in the skin and hair follicles, they are also in the tongue, throat, and the mucosal lining of hollow organs

THERMORECEPTORS

NOCICEPTORS

EYE

CONJUNCTIVA

CORNEA

AQUEOUS HUMOR

PUPIL

IRIS

Receptors that are free nerve endings for conveying pain sensation

Receptors that are free nerve endings for conveying temperature sensation

Thin membrane that lines the eyelid and a section of the eyeball covered by the eyelid

This is the special sense organ that gathers light from the environment and focuses it to construct images that are then transformed into electrical signals by photoreceptor neurons in the back of the eye. Processing of images takes place in the occipital lobes, at the back of the brain

Clear, gelatinous fluid that permeates the space between the cornea and iris

This is the central anterior section of the outer layer of the eyeball that is completely transparent to light. It serves as a protective barrier and contributes to focusing light by bending it (a process called refraction)

Colored part of the eye that surrounds the pupil and is composed of muscles that dilate and constrict the pupil

Circular opening in the iris that lets light into the interior of the eye

LENS

VITREOUS HUMOR

RETINA

ROD CELLS

CONE CELLS

OPTIC NERVE

EAR

TYMPANIC MEMBRANE (EARDRUM)

Gelatinous fluid that fills the interior of the eye behind the lens and helps to maintain the overall contour and dimensions of the eyeball

Clear, curved, dome-like structure behind the pupil that further focuses light onto the back of the eye, creating an upside-down image

Photoreceptors throughout the retina that respond only to light intensity (not to color)

Layer of photoreceptors at the back of the eye that translates images composed of light into electrical signals that can then be communicated to the brain

Nerve at the back of the eye that transmits the electrical signals produced by photoreceptors in the retina to the brain

Photoreceptors located in the center of the retina (called the fovea) that respond to color, making them responsible for color vision

Transmits vibrations from incoming sound waves to the bones of the inner ear

Organ that detects sound

MIDDLE EAR

BONY LABYRINTH

COCHLEA

VESTIBULE

OTOLITH ORGANS

SEMICIRCULAR CANALS

AUDITORY NERVE

VESTIBULAR NERVE

Network of bony tubes filled with fluid, located deep to the middle ear within the temporal bone of the skull

The middle ear consists of three tiny bones called the malleus, incus, and stapes. The vibration pattern from the tympanic membrane gets transmitted through the bones of the middle ear to the fluid-enclosed sensory receptors in the inner ear

Part of the bony labyrinth adjacent to the cochlea that mediates balance, equilibrium, and posture

This is a snail-shaped bony coil containing mechanoreceptors, called hair cells. The hair cells detect fluid movements that correspond with the vibrations transmitted through the middle ear bones. These movements are converted into electrical signals

The semicircular canals are bony loops that project off the vestibule. They detect rotational head movements

These are a grouping of receptor hair cells within the vestibule that contain tiny stones called otoliths. The otolith organs detect both head tilt and acceleration of head movement vertically and horizontally

Transmits vestibular information (regarding head position and movement) from the otolith organs and semicircular canals to the brain's coordination center, the cerebellum

Transmits auditory information from the cochlea to the brain's auditory processing center, the auditory cortex

TONGUE

PAPILLAE

TASTE BUDS

FACIAL AND GLOSSOPHARYNGEAL NERVES

NOSE

OLFACTORY RECEPTOR NEURONS

OLFACTORY BULB

OLFACTORY TRACT

Bumps on the tongue that contain taste buds

Muscular organ that aids in food consumption and communication, also contains chemoreceptors that mediate the sense of taste

Transmit taste perception information to the brain for the anterior two thirds of the tongue and the posterior one third of the tongue, respectively

Structures embedded in papillae that contain chemoreceptors for translating gustatory stimuli into electrical signals

Chemoreceptors that convert olfactory information into electrical signals

Olfactory perception occurs in the olfactory mucosa in the nose's upper nasal cavity

Transmits olfactory information received in the olfactory bulb to the brain's olfactory processing center, the olfactory cortex

Electrical signals from the olfactory receptors are transmitted to the olfactory bulb, which lies within the skull above the cribriform plate (an area of the skull with tiny holes that lies above the nasal mucosa). These tiny holes provide an opening for processes that branch off olfactory receptor neurons, enabling them to communicate with neurons in the olfactory bulb

ANOSMIA

RHINITIS

OTALGIA

OTITIS EXTERNA

OTITIS MEDIA

TINNITUS

OTOSCLEROSIS

PRESBYCUSIS

Condition characterized by inflammation of the nasal mucosa

Loss of the sense of smell, which can result from traumatic brain injury and other neurologic diseases, such as Parkinson's disease

Inflammation of the outer ear canal due to infection, often referred to as "swimmer's ear" because of its association with swimming

Medical term for ear pain

Medical term to describe ear ringing

Inflammation of the middle ear canal due to infection (viral or bacterial), which is very common during childhood

Otherwise known as age-related hearing loss, this condition is characterized by the progressive loss of hearing in both ears. There are many potential causes, with the biggest one being loss of sensory hair cells (mechanoreceptors) in the inner ear

Condition characterized by bony overgrowth of the middle ear bones that results in conductive hearing loss

MYOPIA

HYPEROPIA

PRESBYOPIA

AGE-RELATED MACULAR DEGENERATION (AMD)

CATARACT(S)

CONJUNCTIVITIS

RETINOPATHY

DIABETIC RETINOPATHY

This is the medical term for being far-sighted. Near objects appear blurry without vision correction

This is the medical term for being near-sighted. Distant objects appear blurry without vision correction

This condition is the leading cause of blindness in the Western Hemisphere and has no cure. It occurs when the macula, a centrally located section of the retina responsible for high-resolution visual acuity, slowly degenerates due to being cut off from its nutritional support system, a layer of cells known as the retinal pigment epithelium

Condition associated with aging that is characterized by progressive loss of the ability to focus on near objects due to loss of elasticity in the lens of the eye

Inflammation of the conjunctiva, which can be due to many causes, including allergens, foreign bodies, chemicals, and infections

Corruption in the lens of the eye, wherein the lens becomes cloudy or foggy

Retinopathy caused by damage to the tiny blood vessels in the retina from diabetes

General term for a disease process affecting the retina of the eye

GLAUCOMA

NYSTAGMUS

PHOTOPHOBIA

STRABISMUS

DACRYOADENITIS

DIPLOPIA

ANESTHESIA

PARESTHESIA

Involuntary rhythmic movements of the eye due to many different medical conditions, including vestibular disorders

Condition characterized by increased pressure within the eye (intraocular pressure), which will damage the optic nerve and cause vision loss if left untreated

This is a condition characterized by misalignment of the eyes. If left uncorrected, it can lead to one eye becoming dominant and the other eye losing vision, a condition called amblyopia, commonly known as "lazy eye"

Oversensitivity to light, which can be associated with multiple conditions, such as traumatic brain injury and migraine headache

Commonly known as "double vision," this condition results from misalignment of the eyes causing the perception of two (usually overlapping) images

Inflammation of the lacrimal (tear) gland

Numbness and tingling in an extremity, which could be due to peripheral nerve or nerve root (the nerve as it comes off the spinal cord) injury

Loss of tactile perception in a part of the body (or the whole body in the case of general anesthesia), which can be due to disease or induced medically

DYSGEUSIA

LABYRINTHITIS

MENIERE'S DISEASE

VERTIGO

ACOUSTIC NEUROMA (AKA VESTIBULAR SCHWANNOMA)

RETINOBLASTOMA

INTRAOCULAR MELANOMA

TONGUE CARCINOMA

Inflammation of the bony labyrinth of the inner ear

Describes loss or alteration of the sensation of taste

Medical term used to describe a sensation of motion or spinning accompanied by loss of balance, often referred to in layman's terms as dizziness

Condition thought to be related to fluid accumulation in the inner ear that results in symptoms such as vertigo (a sense of spinning), tinnitus (ear ringing), and hearing loss

This type of tumor develops from the retinal cells in the eye and usually affects children less than 5 years of age. It is an uncommon tumor that is sometimes hereditary and can affect one or both eyes. Only one eye is affected more than half of the time

This is a benign (noncancerous) tumor that forms on the vestibular or cochlear nerves (which join to form one nerve, the vestibulocochlear nerve); these nerves connect the inner ear to the brain. This tumor typically grows slowly

This type of cancer affects the anterior two thirds of the tongue and usually forms from squamous cells, the scaly, flat cells that line the tongue. It is the most common type of mouth cancer

This is a rare, malignant cancer that develops from melanocytes in the part of the eye that includes the iris. Melanocytes are cells that produce pigment, most often found in the skin and hair (but also present in the iris)

OROPHARYNGEAL CARCINOMA

OLFACTORY NEUROBLASTOMA

OTORHINOLARYNGOLOGIST

OPTOMETRIST

OPHTHALMOLOGIST

NEURO-OTOLOGIST

FLUORESCEIN ANGIOGRAPHY

OPHTHALMOSCOPY

This is a rare form of cancer that develops on the olfactory nerve, usually at the roof of the nasal cavity around the cribriform plate. Symptoms include anosmia and pain around the eyes, amongst many others

This type of cancer includes the posterior two thirds of the tongue and is usually formed from squamous cells. The greatest risk factors for both oropharyngeal and tongue carcinoma include tobacco use, alcohol use, and human papillomavirus (HPV) infection

This is the term for an eye care provider who received training in the diagnosis of eye diseases and writes prescriptions for corrective lenses after vision testing. Optometrist training is distinct from medical school

Physician who specializes in the diagnosis and treatment of diseases affecting the ears, nose, and throat and commonly referred to as an ENT doctor

Neurologist or otolaryngologist who receives advanced training in treating disorders that cause vertigo, imbalance, and disequilibrium

Physician who received specialty training after medical school to treat eye diseases both medically and surgically

Procedure that involves visualizing the interior of the eye through the pupil using an instrument called an ophthalmoscope to evaluate for eye disease

Imaging technique used to visualize the blood vessels that supply the retina at the back of the eye using a yellowish fluorescent dye called fluorescein

PUPILLARY LIGHT REFLEX

REFRACTION TESTING

RETINOSCOPY

TONOMETRY

VISUAL FIELD TESTING VERSUS VISUAL ACUITY TESTING

AUDIOLOGY TESTING

ELECTRONYSTAGMOGRAPHY (ENG)

MRI OF THE INTERNAL AUDITORY CANAL, LABYRINTH, AND MIDDLE EAR (IAC)

Also called “vision testing,” this evaluation tests vision in each eye under different lens shapes, allowing an eye care provider to write a prescription for lenses (either glasses or contacts) to properly correct a person’s vision

Procedure that involves evaluating the constriction and dilation of the pupils in response to light

Procedure that tests intraocular pressure, which can be used to diagnose glaucoma

Procedure performed using an instrument called a retinoscope to determine the refractive error of the eye (how near-sighted or far-sighted it is)

Measures hearing acuity in each ear

Visual field testing evaluates the area visible to one eye in a fixed position, while visual acuity testing measures how sharply one can see written material at a fixed distance

This imaging test measures movement of molecules from tissue within a magnetic field to evaluate the internal acoustic canal (IAC). The IAC is the canal that the vestibulocochlear nerve travels through on its way to the brain

This test evaluates vertigo symptoms by measuring small electrical field changes within the eye as it responds to different stimuli. It detects nystagmus

COMPUTED TOMOGRAPHY (CT) OF THE SINUSES

CATARACT EXTRACTION

COCHLEAR IMPLANTATION

CRYORETINOPEXY

EPLEY MANEUVER

INTRAOCULAR LENS IMPLANTATION

IRIDOTOMY

LASER-ASSISTED IN SITU KERATOMILEUSIS (LASIK)

Surgical removal of a cataract

Imaging technique that uses multiple X-ray slices and computer processing to create three-dimensional images of tissue (in this case, the sinuses)

Procedure that uses extreme cold to seal up a torn or detached retina

Surgical procedure during which a neuroprosthetic device is implanted that directly stimulates the auditory nerve, bypassing the cochlea

Procedure where an artificial lens is implanted to replace the natural one, as might be necessary following cataract extraction or phacoemulsification

This is a maneuver that involves turning your head while on your side and then sitting up. It is used to treat a condition called benign paroxysmal positional vertigo (BPPV), which is caused by the otoliths in the inner ear becoming dislodged

This is a procedure that uses a laser to alter the shape of the cornea. It can at least partially reverse refractive errors caused by a misshapen eyeball, such as occurs in myopia (eyeball grows too long) and hyperopia (eyeball grows too short), or a misshapen cornea, which causes astigmatism

This is a procedure that involves cutting into the iris of the eye, usually with a laser, to remove aqueous humor fluid. It is used to decrease elevated intraocular pressure from glaucoma

PHACOEMULSIFICATION

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RETINAL PHOTOCOAGULATION

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Procedure that uses a laser to reseal a
torn or detached retina

This is a procedure that involves
breaking up a cataract into tiny pieces
with ultrasound waves. The pieces are
suctioned out of the eye