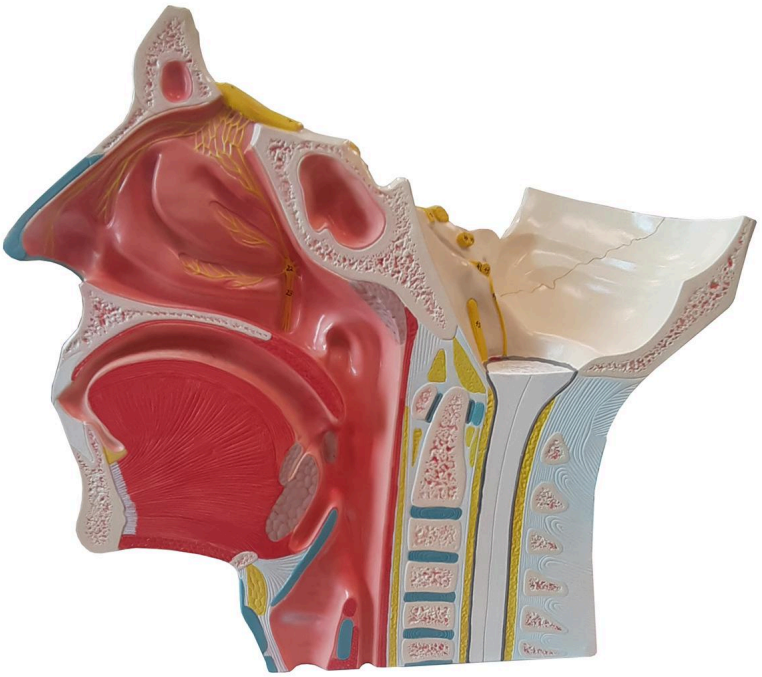
MG29868 | HEAD MUSCLES WITH AUTONOMOUS NERVES

Nasco
HEALTHCARE



This anatomical model features a detailed dissection of half of a human head, magnified 2.5 times the natural size for in-depth study. It accurately displays the 12 cranial nerves, their collateral branches, and autonomic nerves, and reveals the median section of the upper respiratory tract and pharynx. For ease of examination, the eyeball is removable, and the structures are numbered and color-coded.

Applications:
This model is ideal for advanced teaching and learning of human anatomy, neurology, and physiology. It is particularly suited for students of medicine, dentistry, physiotherapy, and other health-related fields, as well as for professionals seeking continuous improvement and detailed clinical demonstrations in academic and clinical settings.

Technical Differentiators:
* 2.5 times magnification of natural size, allowing visualization of microscopic details.
* Complete representation of the 12 cranial nerves, including collateral branches and autonomic nerves.
* Dissection of the median section, exposing the upper respiratory tract and pharynx.
* Removable eyeball for in-depth analysis of internal structures.
* Numbered and colored structures for easy identification and understanding.
* Made of highly durable synthetic material.

* Mounted on a robust polymer base with support for stability and display.

3D Technology and Augmented Reality:
Our anatomical models offer an innovative visual complement through information cards that activate 3D models viewable in augmented reality (AR). This exclusive interactive platform stimulates learning, allowing for comparative analysis of anatomical structures and offering opportunities for continuing education in anatomy, physiology, and pathophysiology.

Technical Specifications:
* Scale: 2.5 times natural size.
* Main material: Durable synthetic.
* Base: Durable polymer with support.
* Removable components: Eyeball.

Main Structures:

olfactory nerve (I): The olfactory nerve is the first pair of cranial nerves, responsible exclusively for the function of olfaction. It is composed of axons of olfactory receptor neurons that originate in the nasal mucosa and pass through the cribriform plate of the ethmoid to synapse in the olfactory bulb.

optic nerve (II): The optic nerve is the second pair of cranial nerves, responsible for transmitting visual information from the retina of the eye to the brain. It emerges from the posterior part of the eyeball, passes through the optic canal, and joins the nerve from the other eye at the optic chiasm, where some of the fibers decussate.

oculomotor nerve (III): The oculomotor nerve is the third pair of cranial nerves, which controls most of the extrinsic muscles of the eye (superior, inferior, medial rectus, and inferior oblique), being essential for eye movements. It also innervates the levator palpebrae superioris muscle and carries parasympathetic fibers for pupil constriction and lens accommodation.

trigeminal nerve (V): The trigeminal nerve is the fifth and largest cranial nerve, possessing sensory and motor components. It divides into three main branches: ophthalmic (V1), maxillary (V2), and mandibular (V3), being responsible for the sensitivity of the face and head, as well as for the innervation of the muscles of mastication.

trigeminal ganglion: The trigeminal ganglion, also known as the Gasserian ganglion, is a sensory ganglion located in the middle cranial fossa. It houses the cell bodies of the sensory neurons of the trigeminal nerve (V), which transmit tactile, pain, and temperature information from the face to the central nervous system.

facial nerve (VII): The facial nerve is the seventh pair of cranial nerves, which has motor,

sensory, and parasympathetic functions. It controls the muscles of facial expression, taste sensation of the anterior two-thirds of the tongue, and innervates the lacrimal and salivary glands (submandibular and sublingual).

glossopharyngeal nerve (IX): The glossopharyngeal nerve is the ninth pair of cranial nerves, with mixed functions. It is responsible for the sensitivity of the pharynx, soft palate, and tonsils, for taste in the posterior third of the tongue, for the innervation of the stylopharyngeus muscle (important in swallowing), and for parasympathetic fibers to the parotid gland.

vagus nerve (X): The vagus nerve is the tenth pair of cranial nerves and the longest, with extensive motor, sensory, and parasympathetic functions. It innervates the pharynx, larynx, heart, lungs, and most abdominal organs, playing a crucial role in regulating autonomic functions such as heart rate, digestion, and breathing.

hypoglossal nerve (XII): The hypoglossal nerve is the twelfth pair of cranial nerves, predominantly motor. It is responsible for the innervation of all the extrinsic and intrinsic muscles of the tongue, with the exception of the palatoglossus, being essential for tongue movements involved in speech and swallowing.

inferior alveolar nerve: The inferior alveolar nerve is a branch of the mandibular division (V3) of the trigeminal nerve. It runs through the mandibular canal and is responsible for the sensitivity of the lower teeth, the buccal gingiva, and the lower lip and chin, through its terminal branches (incisive nerve and mental nerve).

Other structures can be verified directly on the physical piece or in the interactive 3D model.

Smart Tags:
Designed to provide comprehensive training in the healthcare area, with interactive simulations covering Retina and Pulse exams. This solution assists in the development of diagnostic skills in different clinical scenarios, allowing professionals and students to explore and enhance their skills with greater safety and accuracy.

Retinal exams: Simulate 39 retinal conditions, from normal and diabetic retinopathy (various stages) to rare diseases like retinitis pigmentosa and macular degeneration.
- Normal
- Tessellated Fundus
- Large Optic Disc Cupping
- DR1 (Diabetic Retinopathy - Stage 1)
- DR2 (Diabetic Retinopathy - Stage 2)
- DR3 (Diabetic Retinopathy - Stage 3)
- Branch Retinal Vein Occlusion (BRVO)
- Central Retinal Vein Occlusion (CRVO)

- Retinal Artery Occlusion (RAO)
- Rhegmatogenous Retinal Detachment
- Central Serous Chorioretinopathy (CSCR)
- Vogt-Koyanagi-Harada Disease (VKH)
- Maculopathy
- Epiretinal Membrane (ERM)
- Macular Hole (MH)
- Pathological Myopia
- Possible Glaucoma
- Optic Atrophy
- Severe Hypertensive Retinopathy
- Optic Disc Swelling and Elevation
- Displaced Optic Disc
- Congenital Optic Disc Anomaly
- Retinitis Pigmentosa
- Bietti's Crystalline Dystrophy
- Peripheral Retinal Degeneration and Tear
- Myelinated Nerve Fibers
- Particles in Vitreous
- Fundus Neoplasia
- Massive Hard Exudates
- Yellowish-White Spots (Flecks)
- Cotton Wool Spots
- Vessel Tortuosity
- Chorioretinal Atrophy - Coloboma
- Preretinal Hemorrhage
- Fibrosis
- Laser Marks
- Silicone Oil in Eye
- Blurred Fundus Without PDR (Proliferative Diabetic Retinopathy)
- Blurred Fundus With Suspected PDR (Proliferative Diabetic Retinopathy)

Virtual Patient Monitor: Provides an immersive and realistic training environment for healthcare students. It allows instructors to customize parameters for various vital signs, empowering students to interpret signals, develop critical thinking, and enhance their clinical reasoning skills through realistic scenarios.

Customizable Vital Signs

- Blood Pressure
- SpO2
- Heart Rate

ECG Interpretation: Train on 18 diverse ECG scenarios, including: Atrial Fibrillation, Ventricular Tachycardia and Heart Blocks. The monitor also simulates synchronized pulses

with ECG for truly realistic cardiology training.

ECG Patterns

- Sinus Rhythm
- Atrial Extrasystole
- Atrial Flutter
- Atrial Fibrillation
- Paroxysmal Supraventricular Tachycardia (PSVT)
- Ventricular Extrasystole
- Ventricular Tachycardia (VT)
- Ventricular Fibrillation (VF)
- First-Degree Atrioventricular Block (AVB)
- Second-Degree Atrioventricular Block
- Third-Degree Atrioventricular Block (Complete Block)
- Long QT Syndrome
- ST Segment Elevation
- ST Segment Depression
- T Wave Inversion
- Left Ventricular Hypertrophy (LVH)
- Right Ventricular Hypertrophy (RVH)
- Wolff-Parkinson-White Syndrome (WPW)

Breathing Patterns

- Normal
- Dyspnea
- Apnea
- Cheyne-Stokes
- Biot
- Kussmaul

About Anatomical Models:
They are developed with resin replication technology, addressing the scarcity of natural anatomical pieces for teaching and research. They present all the essential morphological characteristics with excellent cost-benefit, resistance, manual painting, and numbering for precise identification of structures.

List of all visible structures:

- olfactory bulb
- olfactory tract
- olfactory nerve (I)

- optic nerve (II)
- oculomotor nerve (III)
- trochlear nerve (IV)
- trigeminal nerve (V)
- trigeminal ganglion
- ophthalmic nerve
- maxillary nerve
- mandibular nerve
- zygomatic nerve
- pterygopalatine nerve
- pterygopalatine ganglion
- greater and lesser palatine nerves
- posterior superior alveolar nerve
- middle superior alveolar nerve
- infraorbital nerve
- anterior superior alveolar nerve
- superior dental plexus
- auriculotemporal nerve
- buccal nerve
- lingual nerve
- submandibular ganglion
- inferior alveolar nerve
- chorda tympani
- deep petrosal nerve
- inferior alveolar nerve
- mental nerve
- facial nerve (VII)
- geniculate ganglion
- glossopharyngeal nerve (IX)
- accessory nerve (XI)
- hypoglossal nerve (XII)
- carotid nerve
- vagus nerve (X)
- Pterygopalatine ganglion
- greater and lesser palatine nerves
- abducens nerve (VI)
- vestibulocochlear nerve
- facial nerve (VII)
- Glossopharyngeal nerve (IX)
- vagus nerve (X)
- accessory nerve (XI)
- hypoglossal nerve (XII)
- frontal nerve

- supratrochlear nerve
- supraorbital nerve
- lacrimal nerve
- nasociliary
- long ciliary nerve
- ciliary ganglion
- short ciliary nerve