

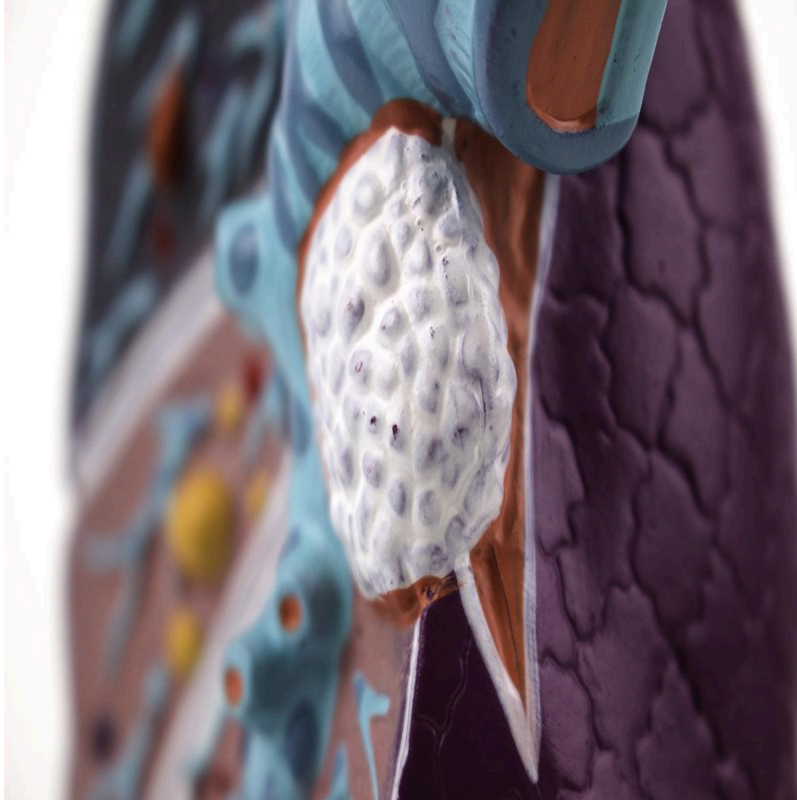


MG30885 | HUMAN LUNG WITH PATOLOGY



Nasco
HEALTHCARE





This anatomical model, scaled to 1.5 times life-size, illustrates in detail various pathologies of the pulmonary system, including lung abscess, pneumonia, and tuberculosis, as well as a cancerous tumor. Its black surface simulates a smoker's lung, offering a realistic and separate representation of each pathological morphology for in-depth study.

Applications:

- * In-depth study of pulmonary pathologies such as abscess, pneumonia, tuberculosis, and cancer.
- * Visual demonstration of the effects of smoking on the lungs.
- * Educational tool for students and healthcare professionals in anatomy, physiology, and pathophysiology.

Technical Differentiators:

- * 1.5 times life-size scale for enlarged visualization of structures and pathologies.
- * Detailed and realistic representation of multiple pulmonary pathologies.
- * Black surface that simulates a smoker's lung, highlighting the effects of smoking.
- * Pathologies displayed separately on the model for easy comparative study.
- * Manufactured in highly durable synthetic material.

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 comparative analysis of anatomical structures and offering opportunities for continuing education in anatomy, physiology, and pathophysiology.

Technical Specifications:

* Scale: 1.5 times life-size

* Material: Durable synthetic

Main Structures:

Trachea: A cartilaginous and membranous tube that extends from the larynx to the main bronchi, serving as the main airway for the passage of air to the lungs. It is lined with ciliated epithelium and contains hyaline cartilage rings that keep it open.

Bronchus: The main branches of the trachea that conduct air to the lungs. The right and left main bronchus divide into lobar bronchi and, subsequently, into segmental bronchi, distributing air to the different pulmonary regions.

Tracheal bifurcation: Also known as the Carina, it is the point where the trachea divides into its two main bronchi, the right main bronchus and the left main bronchus. It is a sensitive area and important for cough reflexes.

Squamous cell carcinoma: A common type of non-small cell lung cancer that originates from the squamous cells lining the airways. Frequently associated with smoking, it tends to grow near the main bronchi.

Lower lobe: The lowest portion of both lungs, extending to the base of the diaphragm. Like the other lobes, it contains bronchi and alveoli for respiratory function.

Tuberculosis: An infectious disease caused by the bacterium *Mycobacterium tuberculosis*, which mainly affects the lungs but can spread to other parts of the body. It is characterized by the formation of granulomas and can cause chronic cough, fever, and weight loss.

Middle lobe: Present only in the right lung, it is one of the three main anatomical compartments of the lung, located between the upper lobe and the lower lobe.

Upper lobe: The highest portion of each lung, responsible for a significant part of gas exchange. The right lung has three lobes (upper, middle, lower), while the left has two (upper and lower).

Pneumonia: An inflammation of the air sacs (alveoli) in the lungs, which can fill with fluid or pus, causing cough, fever, chills, and difficulty breathing. It is usually caused by bacterial,



viral, or fungal infections.

Smoker's lung: Refers to a lung that exhibits pathological changes resulting from prolonged exposure to tobacco smoke, such as emphysema, chronic bronchitis, lung cancer, and changes in coloration due to the accumulation of tar and other substances.

Smart Tags:

Designed to provide comprehensive training in the healthcare field, with interactive simulations covering Lung exams. This solution assists in the development of diagnostic skills in different clinical scenarios, allowing professionals and students to explore and improve their competencies with greater safety and accuracy.

Lung sound recognition: Recognize 15 lung sounds and breathing pattern analysis.

- Agonal Breathing
- Asthma Wheezing
- Bronchial
- Bronchovesicular
- Crackles - Coarse
- Crackles - Fine
- Crackles - Pulmonary Edema
- Crackles - Bronchiectasis
- Death Rattle
- Inspiratory Stridor
- Pleural Rubs
- Rhonchi - Low-Pitched Wheezes
- Vesicular - Normal
- Wheeze
- Wheeze-COPD

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 the 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:

- Lymphatic channels
- Trachea
- Constricted airway
- Bronchus
- Tracheal bifurcation
- Squamous cell carcinoma



- Tertiary bronchus
- Lower lobe
- Tuberculosis
- Middle lobe
- Upper lobe
- Pneumonia
- Pleura
- Emphysema
- Smokers lung