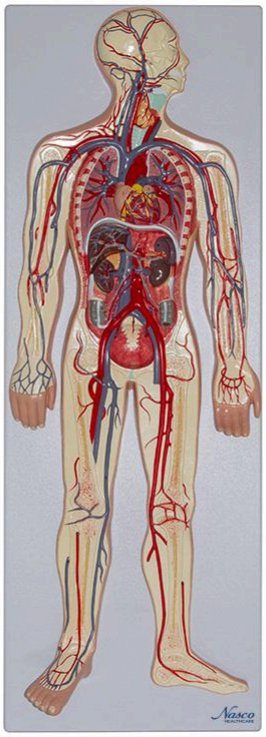
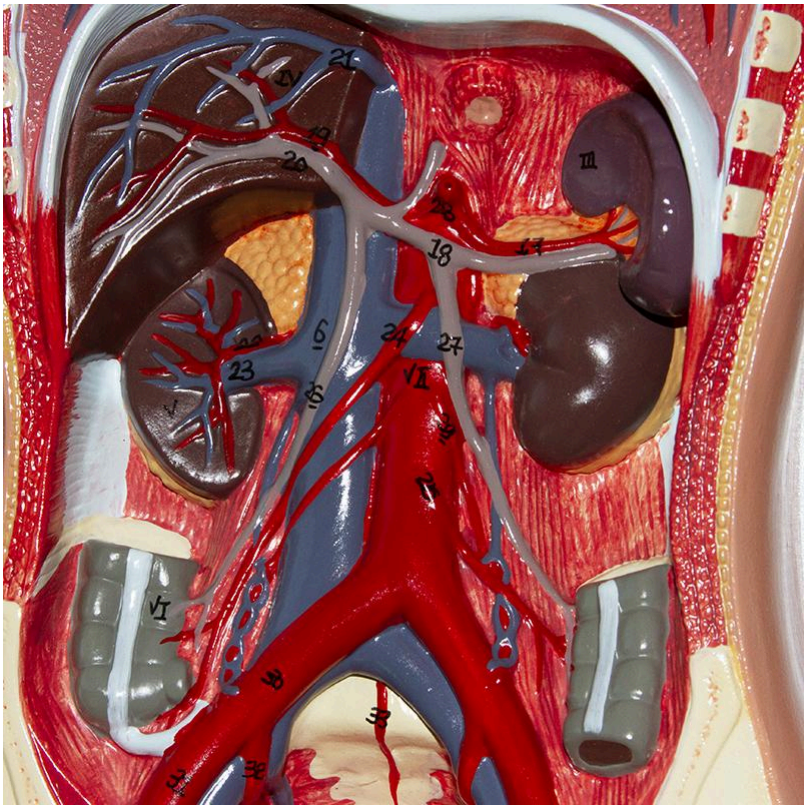
MG31304 | HUMAN CIRCULATORY SYSTEM



Nasco HEALTHCARE



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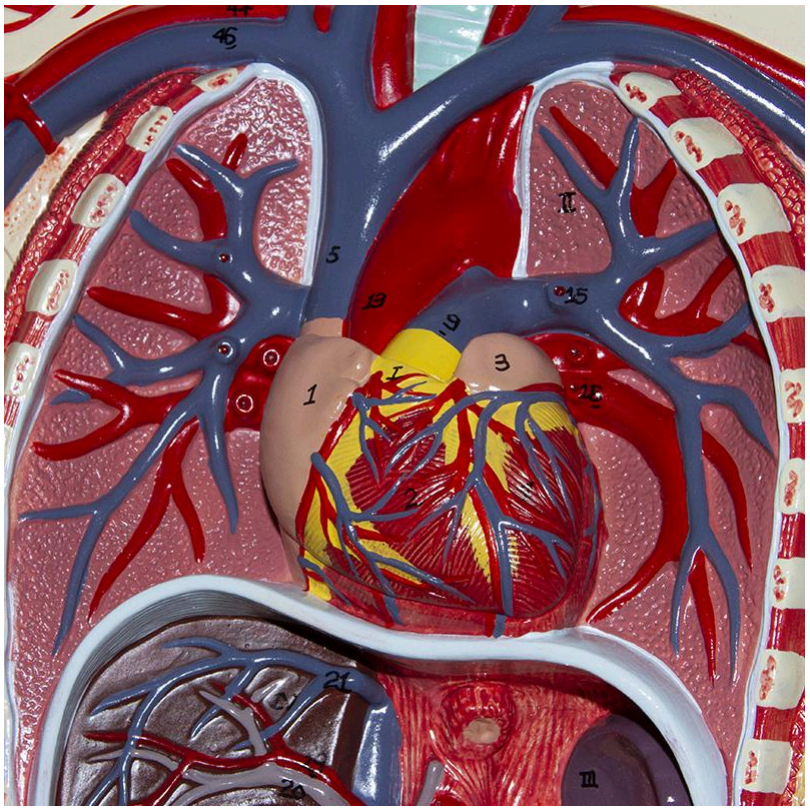
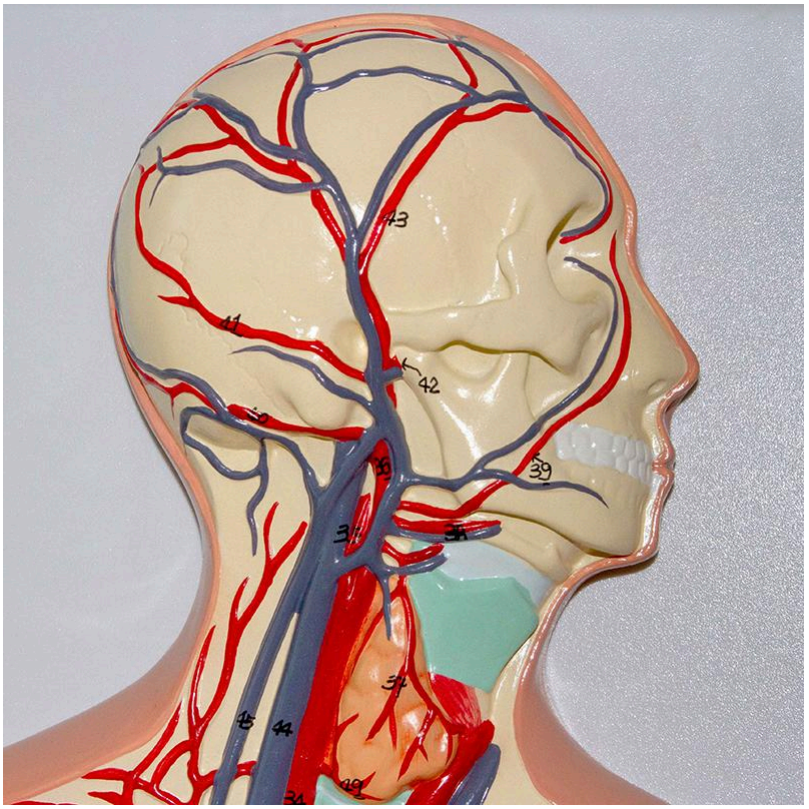
HEALTHCARE





This anatomical model offers a detailed and comprehensive representation of human circulation, ideal for in-depth study of the cardiovascular system. It includes the heart, segmented into two parts for easy internal viewing, the lungs, liver, spleen, and kidneys, along with all relevant connections of the pulmonary and systemic circulatory pathways.

Applications:
This model is an exceptional teaching tool, suitable for:
* Encouraging and optimizing learning in anatomy and physiology.
* Supporting comparative analysis of anatomical models, enabling detailed study of individual organs and their structures.
* Platform for continuing education, enhancing knowledge in anatomy, physiology, and pathophysiology.

Technical Differentiators:
The model stands out for its faithful and comprehensive representation of human circulation, integrating vital organs and their vascular interconnections. The segmentation of the heart into two parts offers a valuable internal perspective for studying its chambers and valves.

3D Technology and Augmented Reality:
Our anatomical models offer an innovative visual complement through informative 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:
* Heart: 2 parts

Main Structures:

Left atrium: Upper left chamber of the heart that receives oxygenated blood from the lungs through the pulmonary veins and pumps it to the left ventricle.

Right ventricle: Lower right chamber of the heart that receives deoxygenated blood from the right atrium and pumps it to the pulmonary artery, which carries it to the lungs for oxygenation.

Aorta: The largest artery in the body, originating from the left ventricle of the heart and distributing oxygenated blood to all parts of the body through its branches.

Superior vena cava: One of the two largest veins that return deoxygenated blood from the upper parts of the body (head, neck, upper limbs, and thorax) to the right atrium of the heart.

Pulmonary trunk: Large blood vessel that emerges from the right ventricle of the heart and bifurcates into the right and left pulmonary arteries, carrying deoxygenated blood to the lungs.

Common carotid artery: Main artery located in the neck that divides to supply the head and neck with oxygenated blood.

Brachial artery: Main artery of the arm, extending from the shoulder to the elbow, responsible for supplying oxygenated blood to the arm and forearm.

Internal jugular vein: One of the main veins that drains deoxygenated blood from the brain, face, and neck, converging into the subclavian vein.

Liver: Largest glandular organ in the body, with multiple metabolic functions, including bile production, detoxification, and processing of nutrients absorbed by the intestine, receiving a dual blood supply.

Hepatic portal vein: Blood vessel that carries nutrient-rich (and toxin-rich) blood from the gastrointestinal tract, spleen, and pancreas to the liver for processing, before the blood returns to systemic circulation.

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

Customizable Skin Tones:
This anatomical model offers the option of choosing between three skin tones to better represent human diversity and meet different educational and clinical needs. It is possible to choose between light skin, medium tone, and dark skin, providing greater realism and inclusion during training and demonstrations.

Smart Tags:
Designed to provide comprehensive training in the healthcare field, with interactive simulations covering Pulse, Heart, and Lung 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.

Heart sound recognition: Recognize 23 unique heart sounds with different patient postures and tools.
- Apex, Normal S1 S2, Supine, Bell
- Apex, Split S1, Supine, Bell
- Apex, S4, LLD, Bell
- Apex, Mid Systolic Click, Supine, Bell
- Apex, S3, LLD, Bell
- Apex, Early Systolic Murmur, Supine, Bell
- Apex, Mid Systolic Murmur, Supine, Bell
- Apex, Late Systolic Murmur, Supine, Bell
- Apex, Holosystolic Murmur, Supine, Bell
- Apex, Systolic Click & Late Systolic Murmur, LLD, Bell
- Apex, S4 & Mid Systolic Murmur, LLD, Bell
- Apex, S3 & Holosystolic Murmur, LLD, Bell
- Apex, OS & Diastolic Murmur, LLD, Bell
- Aortic, Normal S1 S2, Sitting, Bell
- Aortic, Systolic Murmur & Absent S2, Sitting, Bell
- Aortic, Early Diastolic Murmur, Sitting, Bell
- Aortic, Systolic & Diastolic Murmur, Sitting, Bell
- Pulmonary, Single S2, Supine, Diaphragm
- Pulmonary, Split S2 Persistent, Supine, Diaphragm
- Pulmonary, Split S2 Transient, Supine, Diaphragm
- Pulmonary, Ejection Systolic Murmur & Transient Split S2, Supine, Diaphragm
- Pulmonary, Split S2 & Ejection Systolic Murmur, Supine, Diaphragm
- Pulmonary, Ejection Systolic Murmur & Single S2 & Ejection Click, Supine, Diaphragm

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 Anatomical Models:
They are developed with resin replication technology, addressing the scarcity of natural anatomical parts 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:

- Left atrium
- Right ventricle
- Right atrium
- Pulmonary trunk
- Superficial temporal artery
- Maxillary artery
- Facial artery
- Posterior auricular artery
- External carotid artery
- Internal carotid artery
- External jugular vein
- Subclavian vein
- Subclavian artery
- Inferior thyroid artery
- Superior thyroid artery
- Inferior thyroid artery
- Common carotid artery
- Internal jugular vein
- Occipital artery
- Brachial artery
- Brachial artery
- Aorta

- Superior vena cava
- Basilic vein
- Proper hepatic artery
- Hepatic portal vein
- Hepatic vein
- Liver
- Spleen
- Median cubital vein
- Ulnar artery
- Radial artery
- Inferior vena cava
- Renal vein
- Superior mesenteric vein
- Abdominal aorta
- Superior mesenteric artery
- Inferior mesenteric vein
- Splenic vein
- Intestine
- Common iliac artery
- External iliac artery
- Internal iliac artery
- Median sacral artery
- Radial artery
- Ulnar artery
- Median cubital vein
- Basilic vein
- Femoral artery
- Deep femoral artery
- Superficial palmar arch
- Deep palmar arch
- Femoral artery
- Deep femoral artery
- Great saphenous vein
- Posterior tibial artery
- Popliteal artery
- Small saphenous vein
- Posterior tibial artery
- Anterior tibial artery
- Basilic vein
- Dorsal artery of the foot