

**MG23165 | MICRO ANATOMY OF ARTERY AND VEINS, ENLARGED 20 TIMES**



*Nasco*  
HEALTHCARE





Anatomical model of artery and vein microanatomy, magnified 20 times, representing in detail the internal structures of an artery and two veins. One of the veins shows a longitudinal section, displaying open and closed venous valves. The artery and one of the veins are sectioned, allowing for easy identification of layers such as the media, elastic membrane, and adventitia.

**Applications:**

Ideal for study in schools and universities; surgical dissection training; medical and scientific education; classrooms; patient education and procedure demonstration; circulatory system study.

**Technical Advantages:**

- \* High fidelity in anatomical representation;
- \* High-quality natural molding;
- \* Manufactured from stable synthetic material and resin approved in toxicological tests;
- \* Precise replicas;
- \* Numbered and hand-painted;
- \* Includes an information card with related structures;



\* Model mounted on a polymer base with support.

### **3D Technology and Augmented Reality:**

Our anatomical models offer a visual complement through information cards that activate 3D models viewable in augmented reality (AR). This interactive platform assists learning, allowing for comparative analysis of anatomical structures and offering resources for continuing education in anatomy, physiology, and pathophysiology.

### **Technical Specifications:**

\* Scale: 20x life size

\* Material: Synthetic resin

### **Main Structures:**

**Venous valve:** Structures present inside many veins, mainly in the lower limbs, that act as one-way valves, preventing blood reflux and assisting venous return to the heart. The arrangement of these valves, in a pocket shape, ensures that blood flows only towards the heart.

**Lumen:** The hollow internal space of a blood vessel (artery or vein), through which blood circulates. Its diameter can vary depending on the state of vasoconstriction or vasodilation of the vessel and also on the anatomical location.

**Endothelium:** The innermost layer of the blood vessel wall, composed of flattened, closely apposed endothelial cells. The endothelium plays a crucial role in regulating blood flow, blood coagulation, and the immune response.

**Subendothelial layer:** Loose connective tissue located just below the endothelium, containing collagen and elastic fibers, as well as smooth muscle cells. Its function is to provide structural support to the endothelium.

**Internal elastic membrane:** A layer of elastic fibers that separates the tunica intima from the tunica media in arteries. It contributes to arterial elasticity and distensibility, allowing arteries to expand and contract with the pulse.

**Tunica media:** The intermediate layer of the blood vessel wall, composed mainly of smooth muscle cells and elastic fibers. In arteries, it is the thickest layer, responsible for regulating vascular diameter through the contraction and relaxation of smooth muscle.

**External elastic membrane:** A layer of elastic fibers that separates the tunica media from the tunica adventitia in arteries. It helps maintain the structural integrity of the arterial wall.



**Tunica adventitia:** The outer layer of the blood vessel wall, composed of loose connective tissue, containing collagen and elastic fibers, blood vessels (vasa vasorum), and nerves. It anchors the vessel to adjacent tissues.

**Artery:** A blood vessel that carries oxygen-rich blood (except for the pulmonary artery) from the heart to the body's tissues. Its walls are thick and elastic to withstand high blood pressure.

**Veins:** A blood vessel that carries oxygen-poor blood (except for the pulmonary vein) from the body's tissues to the heart. Its walls are thinner than arteries and have valves to prevent blood reflux.

**Adipose tissue:** Connective tissue specialized in fat storage. In blood vessels, it may be present in the tunica adventitia, providing thermal insulation and structural support.

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

#### **About the Anatomical Models:**

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

Acquire your anatomical model and provide an enhanced and interactive learning experience at your institution. Contact us to

#### **List of all visible structures:**

- Venous valve
- Lumen
- Endothelium
- Subendothelial layer
- Internal elastic lamina
- Tunica media
- External elastic lamina
- Tunica adventitia
- Artery
- Veins
- Adipose tissue