

# Zygote Human Anatomy Version 5.0 Upgrades

## Upgrade 5.0: Skeleton System

With the last release of the Zygote Anatomy Collections, a completely new skull was introduced. It includes an Interior Cranium, Sinuses, and intricate details such as foramina, sutures, and auditory ossicles. In the newest release of the Zygote Skeleton, the remaining bones of the skeleton have been entirely replaced with new bones developed from CT scans. With geometric and texture details to match the highest accuracy standards set with the new skull, each new bone is extremely detailed and matches the intense fidelity of the skull.

The new skeleton is perfect for ultra-high resolution renders. Each bone has been painstakingly textured from high resolution photographs of each bone resulting in region-specific cortical textures that are true to life. Ten high-resolution texture maps were needed to create the ultimate surface and color detail. The end result is awe inspiring geometry coupled with amazing texture maps that will help your project be superior.

## Upgrade 5.0: Muscles

In this new version of the Zygote Anatomy Collections, an overhaul of the naming convention makes finding and selecting muscles more quick and easy. Because muscle names are no longer abbreviated, even the nomenclature novice will easily avoid confusion while searching for specific structures. The entire Muscle System has been refitted to integrate with the new Skeletal System. Completely new or improved models include:

- \* Genioglossus
- \* Styloglossus
- \* Hyoglossus
- \* Geniohyoid
- \* Mylohyoid
- \* Internal Pterygoideus
- \* External Pterygoideus
- \* Intercostals

## Upgrade 5.0: Connective Tissues

A complete refitting of the Connective Tissue System was required with the addition of the new Skeleton. Each joint capsule, ligament, bursa, and cartilage tissue has been either rebuilt or reshaped to integrate with the new Skeleton.

## Upgrade 5.0: Lymphatic System

Along with adding a lot of realism and detail, the Lymphatic System has been rebuilt to better suit animation. Each lymph node connects seamlessly with lymph ducts so that the entire model can be deformed without any separation between individual components of the system. Detailed lymph tissue models

of the abdomen, thorax, pelvis, and neck in the Lymph System have been added. Details showing proper synchronization between the Lymphatic System and the Circulatory System are also included.

### **Upgrade 5.0: Organs**

Every organ has been adjusted to fit properly within the new Skeleton model. Nomenclature has been revised to eliminate abbreviation and make selection simpler than ever.

### **Upgrade 5.0: Nervous System**

The Nervous System has been refined and has undergone a major upgrade. The entire model has been rebuilt to better enable deformation during animation. Closer integration of the Nervous System with other systems of the body and higher levels of nerve detail and branching throughout the body are new features of this version. Abbreviations within the naming convention have been replaced with expanded nerve names for expedient selection. An increased number of named nerves allows easy identification and focusing for more convenience working with the models.

*New nerves added include:*

- \* Suprascapular Nerve
- \* Medial Antebrachial Cutaneous Nerve
- \* Medial Brachial Cutaneous Nerve
- \* Axillary Nerve
- \* Posterior Brachial Cutaneous Nerve
- \* Lateral Antebrachial Cutaneous Nerve
- \* Palmar Branch of Ulnar Nerve
- \* Common and Proper Palmar Digital Branches of the Median Nerve
- \* Superficial Branch of the Radial Nerve
- \* Dorsal Digital Branches of the Radial Nerve
- \* Iliohypogastric Nerve
- \* Ilioinguinal Nerve
- \* Genitofemoral Nerve
- \* Obturator Nerve
- \* Pudendal Nerve
- \* Saphenous Nerve
- \* Plantar Nerve

### **Upgrade 5.0: Circulatory System**

The Circulatory System has been improved by creating a single-mesh treatment of the geometry. This enables more drastic deformation without interpenetration of blood vessels, and a more natural treatment of bifurcations of arteries and veins. New blood vessel branching in almost every region of the body significantly increases the detail of the model. Thorough grouping and naming of segments of circulation enables quick focusing on, and isolation of specific portions of the Circulatory System.

*Completely new blood vessels include:*

- \* Transverse Cervical Artery
- \* Suprascapular Artery
- \* Subscapular Artery
- \* Deep Brachial Artery
- \* Acromial Branch of Thoracromial Artery
- \* Inferior Phrenic Arteries
- \* Esophageal Arteries
- \* Transverse Branch of Lateral Circumflex Femoral Artery
- \* Articular Branch of Descending Genicular Artery
- \* Medial Superior Genicular Artery
- \* Lateral Superior Genicular Artery
- \* Lateral Inferior Genicular Artery
- \* Medial Inferior Genicular Artery
- \* Anterior Recurrent Tibial Artery
- \* Circumflex Fibular Artery
- \* Anterior Recurrent Tibial Artery
- \* Lateral Circumflex Femoral Vein
- \* Anterior Femoral Cutaneous Vein
- \* Accessory Saphenous Vein