

Activity 3 – Amazing Anatomy



Centre for Anatomy and
Human Identification
University of Dundee

One of the ways we can help people to understand the 3D shape of the organs and structures of the human body is to use modern methods such as 3D models and animations.

We have included some of the models we use here as an activity for you to learn about some structures of the body.

By clicking on each link you will be taken to an external website called Sketchfab, which hosts many of our 3D models

Have a look at each of the models, rotate them, click on the annotations to learn something about them if you wish. Feel free to explore other models in the collection while you are there.

All of the models in the CAHID collection on Sketchfab have been created by Staff and Students of CAHID for the purposes of teaching anatomy.

If you are lucky enough to own a VR headset, or have a VR app on your phone, some of the models can be viewed in VR by clicking on the VR headset symbol in the bottom right of the model screen and following the instructions.

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Model 1 – Anatomy of the Inner Ear

<https://sketchfab.com/3d-models/anatomy-of-the-inner-ear-04bc5ef6fcea4c4cb66003ed2c55a7ef>

- Follow the pathway of sound waves through the ear canal, to the ear drum, here they will vibrate the ossicles (ear bones) which in turn will stimulate the inner ear to detect the movements, sending signals to the brain to be interpreted as sound.
- The small tube or canal you can see in the bone labelled 10, connects the middle ear to the throat – this is why if you have an ear infection it can travel to the throat and vice versa, or why you will feel pain in your ears when you have a throat infection, or again vice versa.

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Model 2 - Dental Nerve Block

<https://sketchfab.com/3d-models/inferior-alveolar-nerve-block-f69b8c78e4ad4e699a4e8afb2f15a133>

- This model demonstrates the technique used when giving an anaesthetic injection for dental surgery. It is important that dentists know the anatomy of the mouth and surrounding structures so that they know where to place the needle and give the injection.
- If you zoom in and rotate the model to look at it from above, you can see exactly where the dentist is aiming for – the yellow nerve structure which will help to numb the mouth ready for the dental care to begin.

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Model 3 - Abdominal Organs

<https://sketchfab.com/3d-models/the-human-digestive-system-peristalsis-854775b61faa4825975180a2fc4092d7>

- This model demonstrates the abdominal organs. Click through the different annotations to identify all of the organs
- The movement you can see happening is called peristalsis (peri – stal – sis). This is when the muscle in the walls of the intestines squeeze so that food and liquid is pushed along the intestines to the next area, being digested and broken down as it moves along before being absorbed into the body in the form of fuel.

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Model 4 - Heart Model

<https://sketchfab.com/3d-models/normal-tex3-a8145cab83834fab969e6117717eb675>

- This model demonstrates the heart. You are looking at it from the back in this image, rotate it around so that you are looking at the blue coloured structures and you can only see a small bit of red, as shown in this image:
- The blue parts represent the right side of the heart, which carries relatively de-oxygenated (low-oxygen levels) blood, while the red side represents the left side which carries relatively oxygenated (oxygen rich) blood.
- This model has been designed to let people visualise the four chambers of the heart through the muscle, which is clear in this model. As you rotate the model you may be able to make out the arteries lying on the surface of the heart. These arteries supply blood to the heart tissue itself. If they become block then the result is a 'heart attack'.

