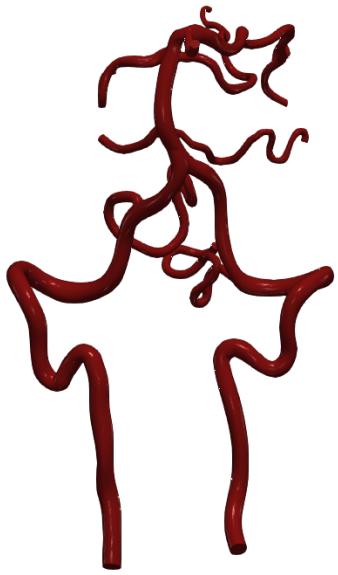
Vascular Model Repository Specifications Document



0167_0001

Species	Human
Anatomy	Vertebral
Disease	Healthy
Procedure	-

Clinical Significance and Background

Vertebral

The vertebral arteries run through the spinal column in the neck to provide blood to the brain and spine. They provide 20% of blood flow to the brain while the carotid arteries supplies the other 80%. The vertebral arteries have many small branches. The largest branch, the posterior inferior cerebellar artery, is one of three main arteries that provide the cerebellum with blood. Part of the brain, the cerebellum plays a key role in balance, movement, speech and vision.

The two vertebral arteries start at the subclavian arteries. The subclavian arteries sit below the collarbone (clavicle). They arise from the aorta, the body's largest blood vessel, which carries blood from the heart. Specifically, the right subclavian arises from the brachiocephalic artery, which arises from the aorta. The left subclavian arises directly from the aorta. The vertebral arteries run separately inside the left and right sides of the spinal column in the neck. The suboccipital muscles at the base of the skull cover the vertebral arteries. This area is the suboccipital triangle.

Clinical Data

General Patient Data

Age (yrs)	24
Sex	Female

Notes

See below for information on the image data and boundary conditions associated with the model.

Image Modality: MR

Image Type: DICOM

Image Source: UCSD

Image Manufacturer: GE MEDICAL SYSTEMS

Publications

See the following publications which include the featured model for more details:

Bockman, M.D., Kansagra, A.P., Shadden, S.C. et al. Fluid Mechanics of Mixing in the Vertebrobasilar System: Comparison of Simulation and MRI. Cardiovasc Eng Tech 3, 450-461 (2012).
https://www.doi.org/10.1007/s13239-012-0112-8

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