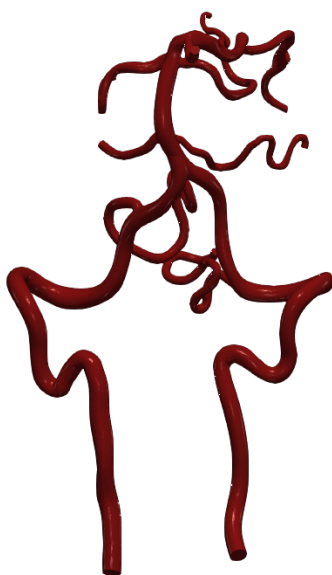


# Vascular Model Repository

## Specifications Document



0167\_0001

<b>Species</b>	Human
<b>Anatomy</b>	Vertebral
<b>Disease</b>	Healthy
<b>Procedure</b>	-

# 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>

# License

Copyright (c) Stanford University, the Regents of the University of California, Open Source Medical Software Corporation, and other parties.

All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this data to use the data for research and development purposes subject to the following conditions:

The above copyright notice and the README-COPYRIGHT file shall be included in all copies of any portion of this data. Whenever reasonable and possible in publications and presentations when this data is used in whole or part, please include an acknowledgement similar to the following:

"The data used herein was provided in whole or in part with Federal funds from the National Library of Medicine under Grant No. R01LM013120, and the National Heart, Lung, and Blood Institute, National Institutes of Health, Department of Health and Human Services, under Contract No. HHSN268201100035C"

AND/OR

N.M. Wilson, A.K. Ortiz, and A.B. Johnson, "The Vascular Model Repository: A Public Resource of Medical Imaging Data and Blood Flow Simulation Results," J. Med. Devices 7(4), 040923 (Dec 05, 2013) doi:10.1115/1.4025983.

AND/OR

Reference the official website for this data: [www.vascularmodel.com](http://www.vascularmodel.com)

THE DATA IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE DATA OR THE USE OR OTHER DEALINGS IN THE DATA.