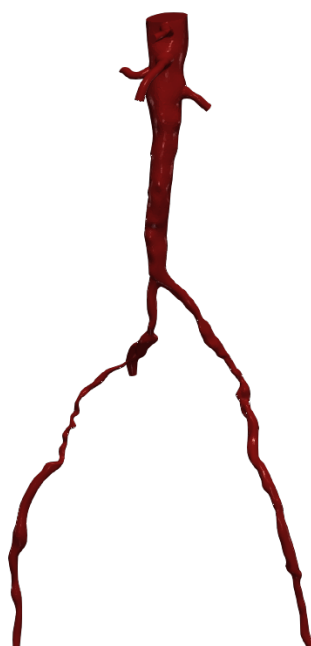


Vascular Model Repository

Specifications Document



0162_3001

Species	Human
Anatomy	Aortofemoral
Disease	Aortofemoral Peripheral Occlusive Disease
Procedure	-

Clinical Significance and Background

Aortofemoral

The largest blood vessel and the human body's primary artery, the aorta is responsible for carrying oxygenated blood pumped from the heart to rest of the body. The aorta is divided into four sections: the ascending aorta, the aortic arch, the thoracic aorta, and the abdominal aorta.

The last section of the aorta, the abdominal aorta, starts at the diaphragm and ends just above the pelvis. This section is responsible for supplying blood to the stomach, kidneys, liver, and intestines. Past the abdominal aorta, the artery branches into two separate iliac arteries, one for each leg, which are responsible for supplying oxygenated blood to the legs and lower half of the body.

Each iliac artery, in turn proceeds to branch into the external and internal iliac arteries, the former of which then becomes the main femoral artery. Again, the femoral arteries are a major component in supplying oxygenated blood to the legs and lower body. When the femoral arteries are included with the abdominal aorta, the whole system is referred to as the aortofemoral system.

Aortofemoral Peripheral Occlusive Disease

A buildup of fatty deposits in your artery is called atherosclerosis. It's called peripheral artery disease (PAD) when atherosclerosis affects the arteries leading to your arms, legs, stomach, or head. It usually affects the arteries leading to your legs. Aortofemoral peripheral occlusive disease is a manifestation of peripheral arterial disease (PAD) in which obstructing plaques caused by atherosclerotic occlusive disease occur in the infrarenal aorta and iliac arteries, ultimately resulting in partial or total vascular occlusion. The atherosclerotic plaques may induce symptoms either by obstructing blood flow or by breaking apart and embolizing atherosclerotic and/or thrombotic debris to more distal blood vessels. If the plaques are large enough to impinge on the arterial lumen, reduction of blood flow to the extremities occurs.

Clinical Data

General Patient Data

Age (yrs)	55
-----------	----

Sex	Male
-----	------

Notes

Same patient from model 0163_0001, but pre-operation of Aortofemoral Bypass Graft Surgery. See [DOI](#) for more details. See below for information on the image data and boundary conditions associated with the model.

Image Modality: MR

Image Type: DICOM

Image Source: TLAB

Image Manufacturer: GE MEDICAL SYSTEMS

Publications

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

Nathan M. Wilson, Frank R. Arko & Charles A. Taylor (2005) Predicting changes in blood flow in patient-specific operative plans for treating aortoiliac occlusive disease, *Computer Aided Surgery*, 10:4, 257-277
<http://www.doi.org/10.3109/10929080500230445>

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

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.