

Vascular Model Repository

Specifications Document



0047_H_ABAO_AIOD

Legacy Name: 0161_0001

Model added: 27 Dec 2021

Species	Human
Anatomy	Abdominal Aorta
Disease	Aortoiliac Occlusive Disease
Procedure	Aortofemoral Bypass Graft Surgery

Clinical Significance and Background

Abdominal Aorta

The largest blood vessel and the primary artery of the human body, the aorta, carries oxygenated blood pumped from the heart to the 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 is 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. The femoral arteries are a major component in supplying oxygenated blood to the legs and lower body.

Aortoiliac Occlusive Disease

A buildup of fatty deposits in your arteries is called atherosclerosis. When these fatty deposits accumulate and narrow or block the iliac arteries, arteries that bring blood to the legs and lower body, it is known as aortoiliac occlusive disease (AIOD). The resulting symptoms may include pain, cramping, or numbness in the lower limbs as well as gangrene in the feet and erectile dysfunction in men.

Clinical Data

General Patient Data

Age (yrs)	67
Sex	Female

Notes

Same patient from model 0046_H_ABAO_AIOD, but post-operation of Aortofemoral Bypass Graft Surgery. \nSee [paper](#) for more details. See below for information on the image data.

Image Modality: MR

Image Type: VTI

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>

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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

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