



Arteriovenous Malformation

Arteriovenous malformation, a rare condition that can develop in the spine, disrupts the connection between veins and arteries.

Q: What is arteriovenous malformation (AVM)?

Arteriovenous malformation is an abnormal tangle of blood vessels flowing from an artery directly into the veins rather than through the capillaries. AVMs occurring around the spinal cord can cause compression and restrict blood flow, resulting in hemorrhage or damage to the cord.

Q: What causes this condition?

AVM is caused by abnormal connections between arteries and veins, but the reason this abnormality occurs is unknown.

Q: What are the symptoms of AVM?

Individuals with spinal AVMs may experience neurological symptoms that come and go, including pain and stiffness in the neck, back, or lower back; burning pain that radiates from the arms, buttocks, or down into the legs; numbness, cramping, or weakness in the arms, hands, or legs; difficulty with bladder and bowel movements; lost sensation in the feet; and diminished hand coordination.

AVMs can rupture, causing sudden neurologic impairment and intense back pain. Severe headache, stiff neck, and impaired consciousness may be a sign of a rare, high-cervical level AVM.

Contact your doctor if any symptoms occur.

Q: How is AVM diagnosed and treated?

AVM is diagnosed using magnetic resonance imaging (MRI) that targets blood vessels.

Treatment will depend on the location and severity of symptoms. Sometimes AVMs will be monitored to assess changes. If spinal cord function is at risk, AVMs will be removed through surgery, nonsurgical radiation therapy, and/or a procedure that cuts off the blood supply to the affected area.

Q: How common is AVM?

AVMs are rare but affect men and women equally. Symptoms usually develop when people are in their 20s, though almost 20% of cases are diagnosed in individuals under the age of 16.

Sources: Merck Manual, Mayo Clinic, Johns Hopkins Medicine, Cleveland Clinic.

Need to talk to someone?

Our Information Specialists are available to answer your questions.

Call toll-free 1-800-539-7309 Mon-Fri, 9 am-8 pm EST.

Or [schedule a call](#) or [ask a question online](#)

Resources for AVM:

National Institute of Neurological Disorders and Stroke (NINDS): Arteriovenous Malformation Information Page

<http://www.ninds.nih.gov/disorders/all-disorders/arteriovenous-malformation-information-page>

National Institute of Neurological Disorders and Stroke (NINDS): Arteriovenous Malformation Information Fact Sheet

<https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Arteriovenous-Malformation-Fact-Sheet>

National Institute of Neurological Disorders and Stroke (NINDS): Arteriovenous Malformations (AVM) booklet

<https://catalog.ninds.nih.gov/publications/arteriovenous-malformations-and-other-vascular-lesions-central-nervous-system>

The Aneurysm and AVM Foundation (TAAF)

<https://www.taafonline.org/>

TAAF is dedicated to bettering the lives, support networks, and medical care of those affected by aneurysm and other types of vascular malformation of the brain.

AVM Survivors' Network

<http://www.avmsurvivors.org/>

Cincinnati Children's Hospital: Vascular Malformations

<https://www.cincinnatichildrens.org/health/v/malformation>

Hemangiomas and vascular malformations: conditions and diagnoses

Cleveland Clinic: Arteriovenous Malformation

<https://my.clevelandclinic.org/health/diseases/16755-arteriovenous-malformation-avm>

Massachusetts General Hospital: Central Nervous System Vascular Malformations

<https://www.massgeneral.org/neurosurgery/treatments-and-services/vascular-malformations-patient-guide>

Includes an introduction to vascular malformations of the brain and spine (AVMs, cavernous malformation or cavernous angioma, venous anomaly or venous malformation, and telangiectasia)

Mayo Clinic: Spinal Arteriovenous Malformation

<https://www.mayoclinic.org/diseases-conditions/spinal-arteriovenous-malformation/symptoms-causes/syc-20355613>

National Organization of Rare Disorders (NORD): AVM

<https://rarediseases.org/rare-diseases/arteriovenous-malformation/>

The information contained in this message is presented for the purpose of educating and informing you about paralysis and its effects. Nothing contained in this message should be construed nor is intended to be used for medical diagnosis or treatment. It should not be used in place of the advice of your physician or other qualified health care provider. Should you have any health care related questions, please call or see your physician or other qualified health care provider promptly. Always consult with your physician or other qualified health care provider before embarking on a new treatment, diet or fitness program. You should never disregard medical advice or delay in seeking it because of something you have read in this message.

This publication is supported by the Administration for Community Living (ACL), U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$10,000,000 with 100 percent funding by ACL/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by ACL/HHS, or the U.S. Government.