

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: AVM: SURGERY FIXES LEAKING BLOOD VESSELS IN THE BRAIN
REPORT: MB #5127

BACKGROUND: An arteriovenous malformation (AVM) is an abnormal tangle of blood vessels connecting arteries and veins, which disrupts normal blood flow and oxygen circulation. Arteries are responsible for taking oxygen-rich blood from the heart to the brain. Veins carry the oxygen-depleted blood back to the lungs and heart. When an AVM disrupts this critical process, the surrounding tissues may not get enough oxygen. AVM affects males and females in equal numbers. The best estimates for new detection of an AVM are one per 100,000 population per year (about 3,000 new cases detected per year in the U.S.) The population prevalence is about 10 per 100,000, i.e., there are probably about 30,000 individuals in the U.S. who harbor an AVM or have had an AVM that was treated. They occur throughout life, but the peak onset of symptoms is 35-40 years of age.

(Sources: [https://www.mayoclinic.org/diseases-conditions/arteriovenous-malformation/symptoms-causes/syc-20350544#:~:text=An%20arteriovenous%20malformation%20\(AVM\)%20is,to%20the%20lungs%20and%20heart.](https://www.mayoclinic.org/diseases-conditions/arteriovenous-malformation/symptoms-causes/syc-20350544#:~:text=An%20arteriovenous%20malformation%20(AVM)%20is,to%20the%20lungs%20and%20heart.)
<https://rarediseases.org/rare-diseases/arteriovenous-malformation/#:~:text=The%20best%20estimates%20for%20new,an%20AVM%20that%20was%20treated.>)

DIAGNOSING: You may or may not have symptoms if you have an arteriovenous malformation. Up to 15% of people with AVMs don't have symptoms. Often, the first sign you have an AVM is after it bleeds. AVMs can also irritate the surrounding tissue, causing neurologic symptoms, including seizures with or without loss of consciousness, headache, muscle weakness or complete paralysis, nausea and vomiting, numbness, or tingling sensation, and/or problems with movement, speech, memory, thinking, balance, or vision. Imaging tests used to detect arteriovenous malformations include an MRI, computed tomography, catheter angiography, or an ultrasound.

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

NEW TECHNOLOGY: Determining the optimal treatment strategy requires detailed understanding of an AVM's anatomy. Mayo Clinic uses the latest imaging technology, including 3D modeling software and augmented reality visualization, to guide decision-making. "When surgery is indicated, these imaging modalities help us to find a safe corridor and complete the surgery in an elegant fashion," says Chandan Krishna, M.D., a neurosurgeon at Mayo Clinic's campus in Arizona. "AVM is a pathology that requires not just one set of eyes, or clinicians working in silos, but a team approach."

(Source:

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com