

PRINT-Lindsey Graham's death highlights rare heart emergency

The death of U.S. Senator Lindsey Graham from an aortic dissection has brought renewed attention to a rare but life-threatening medical emergency that doctors say requires immediate diagnosis and treatment to improve the chance of survival.

An aortic dissection occurs when a tear develops in the wall of the aorta, the body's largest artery, allowing blood to separate the layers of the vessel wall. Bill Novak, MD, a cardiologist at OSF HealthCare, says it's like a crack in a pipe and it can get bigger and create a tear with increased pressure, including from high blood pressure. Although uncommon, with about 3 to 3.5 per 100,000 people, aortic dissection can quickly become fatal if it is not recognized and treated.

"The aorta is the main artery that leaves your heart, and if you have a tear in the aorta, it can be potentially life-threatening. It can cause a heart attack. It can cause stroke. It can cause heart failure, rupture of the aorta, and sudden death."

Many aortic dissection symptoms overlap with other medical emergencies. Actor John Ritter died after his aortic dissection was misdiagnosed and it was treated as a heart attack.

Challenge to diagnose

"It's dangerous because it's relatively uncommon," says Dr. Novak. "It can sometimes be a challenge to diagnose since a lot of the symptoms overlap with heart attack and other conditions such as pulmonary embolism, and it's obviously a potentially life-threatening type of a problem."

Diagnosis requires immediate emergency imaging such as an MRI or an echocardiogram.

Anyone experiencing sudden, excruciating pain or other unexplained symptoms to seek emergency care immediately. Dr. Novak says while severe chest or back pain is often considered the hallmark symptom, people can also experience shortness of breath, fainting, heart failure or reduced blood flow to the arms or legs.

Treatment varies depending on the location and severity of the tear. Some patients require emergency surgery, either through an open surgical procedure or an endovascular approach, while others can be managed with medications (like beta-blockers) to strictly lower blood pressure and reduce the force of heart contractions. Surgery or stent placement may be needed if complications arise.

Dr. Novak says people at the greatest risk include older adults.

Know the risks

"How old you are is important. That increases your risk. If you smoke, that's going to increase your risk and obviously treating your cholesterol is going to reduce the chance you're going to develop certain types of plaque in your arteries which can also put you at a higher risk for having this problem."

Senator Graham had a history of atherosclerosis (plaque build-up), also known as hardening of the arteries.

There are other people Dr. Novak points out who need to be monitored regularly, including those with conditions such as [Marfan syndrome](#), [Ehlers-Danlos syndrome](#), and [Loeys-Dietz syndrome](#) which weaken blood vessel walls and are the primary cause of aortic dissection in younger individuals.

"If you do have some risk factors such as a bicuspid valve, connective tissue disease, or an aneurysm, those things do have to be monitored on a regular basis."

An aneurysm is a bulging, weak area in the wall of a blood vessel. While it can occur in any blood vessel, it most often develops in an artery rather than a vein. An aortic aneurysm is the most common type.

While aortic dissection remains relatively rare, physicians say the national attention surrounding Graham's death serves as a reminder that recognizing warning signs and seeking emergency medical care without delay can save lives. Also, family history is important. If you have a close relative who has suffered from an aortic aneurysm or sudden arterial dissection, early testing and genetic counseling can be lifesaving.

Dr. Bill Novak is a cardiologist at OSF Cardiovascular Institute in Bloomington.