

Amphetamine use increases risk of aortic tears in young adults

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Young adults who abuse amphetamines may be at greater risk of suffering a tear in the main artery leading from the heart, UT Southwestern Medical Center researchers have found.

In the study, published in the August issue of *American Heart Journal*, researchers examined medical records from nearly 31 million people between 18 and 49 years old hospitalized from 1995 to 2007 and found that amphetamine abuse was associated with a threefold increase in the odds of aortic dissection.

"Aortic dissection in young people is rare, but it frequently can lead to death," said Dr. Arthur Westover, assistant professor of psychiatry at UT Southwestern and the study's lead author. "Doctors should screen young adults with aortic dissection for amphetamine abuse in searching for a potential cause."

Individual case reports have suggested a link between aortic dissection and amphetamine abuse, but this is believed to be the first epidemiological study of a large group of people on the issue, Dr. Westover said.

The [aorta](#) stems from the heart and is the largest artery in the body. Dissection occurs when a tear develops in the inner layer of the aorta, allowing blood to separate, or dissect. The blood can eventually cause a rupture in the aortic wall, often resulting in death.

[Amphetamines](#) are stimulants that can be used to treat medical conditions such as attention-deficit disorder. They also are abused illegally as [recreational drugs](#) or performance enhancers. Researchers note that the abuse of amphetamines - including methamphetamines, or "meth" - significantly increased among hospitalized young adults from 1995 to 2007.

Amphetamines act on the body in similar ways as cocaine, which also is associated with adverse effects on the heart. Medically, amphetamines are known to increase blood pressure, and hypertension is a known trigger of aortic dissection.

Researchers also analyzed medical data for more than 49 million people 50 years or older from the same time period.

"We found that the frequency of aortic dissection is increasing in young adults but not older adults," Dr. Westover said. "It is not yet clear why."

Researchers noted that in California, Hawaii, Oregon and Washington state, the percentage of aortic dissection cases linked to amphetamine abuse among [young adults](#) during the study period was three times greater than the national figure.

"This illustrates that in areas where amphetamine abuse is more common, there are greater public health consequences," Dr. Westover said.

Dr. Westover's research previously has linked amphetamine abuse to stroke and heart attack.

"This adds to our growing understanding of the cardiovascular risks associated with abuse of amphetamines," said Dr. Paul Nakonezny, associate professor of clinical sciences and psychiatry at UT

Southwestern and an author on the paper.

Provided by UT Southwestern Medical Center

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