

# Coronary Artery Vasculopathy

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A type of coronary (heart) artery disease that can occur after a transplant is known as coronary artery vasculopathy (CAV).

CAV causes arteries in your heart to thicken and narrow. It is believed to be a form of chronic (long-term) heart rejection. It is the most common cause for getting another heart transplant (known as re-transplantation).

## How Often CAV Occurs

Here is how common CAV is after transplant:

- 1 year: 8 in 100 people (8%)
- 5 years: 30 in 100 people (30%)
- 10 years: 50 in 100 people (50%).

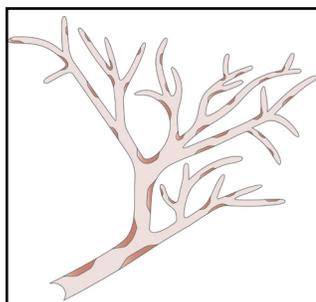
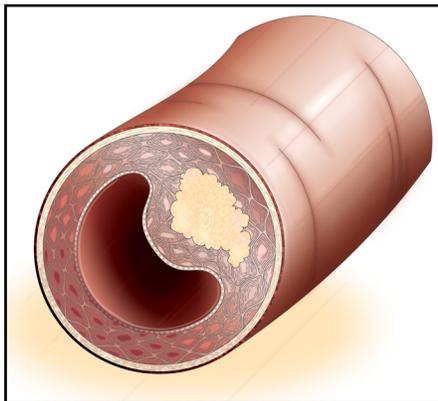
## Causes of CAV

The exact cause of CAV is unknown. You are at risk for CAV if you:

- have donor-specific antibodies (These are antibodies made by your immune system to attack your donor heart.)
- do not take your immunosuppression medicine or have low immunosuppression medicine levels outside of your goal range
- have an acute (sudden) rejection of the donor heart (This can happen at any time. It's important you take your immunosuppression medicines as directed and do not miss a dose.)
- have high blood pressure, high lipids or high cholesterol
- have a viral infection.

**(over)**

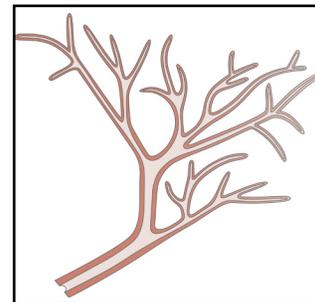
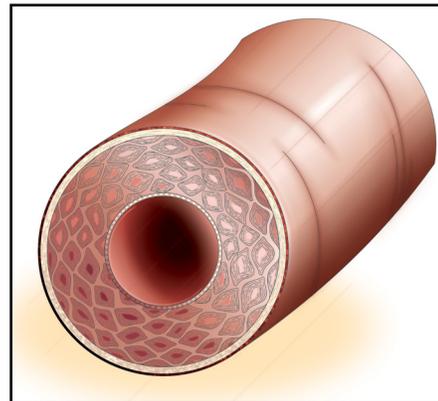
## Atherosclerosis (Found in Non-transplanted Hearts)



**Atherosclerosis is a blockage of the arteries and is most often caused by a gradual build-up of plaque (fatty deposits) inside the arteries.**

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## Vasculopathy (Found in Transplanted Hearts)



**Vasculopathy is the thickening and narrowing of the arteries in your heart.**

## How to Prevent CAV

Members of your transplant team will talk with you about how to prevent CAV.

Your options may include:

- maintaining a healthy weight
- treating high blood pressure (may include medicine)
- treating high cholesterol (may include medicine)
- treating diabetes
- taking aspirin every day
- not using any tobacco products
- getting regular exercise
- having exams every year
- taking vitamin E and C.

## How to Treat CAV

Members of your transplant team will talk with you about your options such as:

- changes to your medicine: sirolimus (Rapamune®) or everolimus (AFINITOR®) to slow the progression of CAV (keep it from getting worse)
- high-intensity exercises to slow the progression of CAV
- percutaneous coronary angioplasty if the CAV causes lack of blood flow to certain areas of you heart
- re-transplantation (another heart transplant).

It is possible to live with vasculopathy as long as it does not get worse.

## How Your Transplant Team Will Screen You

You will have screening tests every year.

- **Angiogram:** This X-ray imaging scan looks at your heart and the arteries that supply your heart with blood. This is the main test.
  - You will have an **intravascular ultrasound** during your first 2 angiograms to measure the thickness of the arteries in your heart.
- **PET (positron emission tomography) scan:** This creates a 3-D view of your heart. It looks at the perfusion in your heart to make sure there is enough blood and oxygen flowing through your heart tissues.
- **CT (computed tomography) angiography:** This imaging uses a CT scan to look at your heart and blood vessels.