



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

Coming to the Heart
Institute

Clinics & Programs

Diseases & Conditions

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Spontaneous Coronary Artery Dissection

Spontaneous coronary artery dissection (SCAD) is a rare emergency condition that occurs when a tear forms in one of the blood vessels in the heart. This tear can slow or block blood flow to the heart which can cause damage to the heart muscle or affect the normal heart rhythm.

SCAD occurs most often in people aged 30 to 50 and affects women more often than men. People who develop SCAD often have no known risk factors for coronary artery disease.

SCAD is a serious medical condition. Prompt treatment is necessary to decrease the risk of irreversible damage.

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Causes

Risk factors for SCAD include:

- **Female gender:** SCAD can occur in both men and women but affects women more often.
- **Child birth:** Some women with SCAD have recently given birth. SCAD has been found to occur most often in the first few weeks after delivery.
- **Irregular growth of cells in the artery walls:** A condition called fibromuscular dysplasia (FMD) causes the irregular growth of cells in the walls of one or more arteries. This irregular growth can weaken the artery walls and reduce blood flow. FMD can also cause high blood pressure, stroke and tears in other blood vessels. The condition occurs more often in women than in men.
- **Extreme physical exertion**
- **Diseases that cause inflammation of the blood vessels:** Conditions such as lupus and polyarteritis nodosa have been associated with SCAD.
- **Inherited connective tissue diseases:** Genetic conditions that cause problems with the body's connective tissues, such as Ehlers-Danlos syndrome (vascular EDS) and Marfan syndrome, have been found to occur in some people with SCAD.
- **Very high blood pressure:** Untreated, severely high blood pressure is associated with SCAD.
- **Cocaine use**



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Symptoms

Signs and symptoms of SCAD include:

- Chest pain
- A rapid heartbeat
- Pain in your arms, shoulders or jaw
- Shortness of breath
- Sweating
- Unusual, extreme tiredness
- Nausea
- Dizziness

Treatment

The goal of treatment for SCAD is to repair the tear in the damaged artery and restore blood flow to your heart.

Treatment depends on your specific condition, including the size of the tear in your artery and its location, as well as the symptoms you're experiencing. Whenever possible, doctors allow the damaged artery to heal on its own, rather than repairing it through invasive procedures.

Medications

Your doctor may recommend medications to restore blood flow and promote healing. These can include:

- **Platelet Inhibitors:** Drugs that reduce the number of blood-clotting platelets in your blood to reduce the risk of a clot forming in your torn artery.
- **Aspirin:** Works with platelet inhibitors to decrease the activation of platelets
- **Beta blockers:** Drugs used to decrease the heart rate and force of contraction of your heart. These

actions decrease the pressure on the torn vessel which promotes healing.

- **ACE inhibitors:** Drugs used to open up the blood vessels leading out of the heart in order to decrease the work load of the heart muscle.

Medications may relieve symptoms and promote healing without further treatment. If chest pain or other symptoms continue, further treatment may be needed.

Percutaneous Coronary Intervention (PCI)

If your SCAD has blocked blood flow to your heart or if medications don't control your chest pain, your doctor may recommend placing a tiny mesh tube called a stent inside your artery to hold it open. A stent helps restore blood flow to your heart muscle.

To place the stent, doctors insert a long, thin tube (catheter) into an artery—usually in your leg or wrist—and thread the tube to the arteries in the heart. The catheter is guided to your damaged artery using X-rays or other imaging tests.

A wire with a deflated balloon is passed through the catheter to the tear in the artery. The balloon is then inflated, expanding the stent against your artery walls. The stent is left in place to hold the artery open. If this treatment is recommended for you, further information will be provided.

Cardiac Surgery

If other treatments haven't worked or if you have more than one tear in an artery, surgery may be the best treatment. A coronary artery bypass graft (CABG) is done to create a new passage for blood to reach your heart.

The procedure involves removing a blood vessel from another part of your body, such as your chest wall or leg. That blood vessel is stitched onto the coronary artery so that it bypasses blood flow around your

damaged artery. If this treatment is recommended for you, further education will be provided.

Follow-up and Continuing Care

Physical Activity: Resume usual activities of daily living in a gradual fashion over the first week. Do not lift more than 10 lbs for the first two weeks after discharge. Avoid strenuous activities like aerobic workouts until you have been cleared to do so by your cardiologist.

Driving: Do not drive for one month if you have a private driving licence or three months if you have a professional driving licence.

Pregnancy: Use birth control (as advised by your doctor) to prevent pregnancy after discharge until you have discussed the risks of future pregnancy with your cardiologist.

Sexual Activity: Refrain from sexual activity for two months post-discharge or until cleared by your cardiologist.

After your treatment for SCAD, you will need to have follow-up appointments with a cardiologist. Your cardiologist may recommend other types of care to help you recover and to prevent further health problems. These may include:

- **Cardiac rehabilitation:** Cardiac rehabilitation is a program of exercise and education designed to help you recover. Cardiac rehabilitation often includes monitored exercise, nutritional counseling, stress management and education about good self-care.
- **Review of family medical history:** Some inherited conditions have been found to occur in people who experience SCAD. Genetic testing may also be recommended to help diagnose any underlying disease.
- **Imaging of other blood vessels:** Your doctor may

recommend a CT scan to look for weaknesses or abnormalities in other blood vessels, such as those in your neck and abdomen.

- **Angiogram:** A repeat angiogram may be performed to assess how well the artery is healing.
- **Cardiac CT:** A cardiac CT scan may be another option to assess how well the artery is healing.
- **Consultations with other specialties.** Depending on the results of your tests, you may be advised to see other specialties such as a rheumatologist, geneticist or neurologist.

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