

SPONTANEOUS CORONARY ARTERY DISSECTION (SCAD)

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Key Points

- Spontaneous coronary artery dissection (SCAD) is a condition where a tear occurs in a coronary artery preventing normal blood flow to the heart.
- SCAD symptoms can include chest pain, dizziness, nausea, and breathlessness. If you have these symptoms, call 999 immediately.
- SCAD is not closely associated with the usual heart disease risks, like having obesity, high cholesterol, smoking, or age. It mostly affects women and is the leading cause of heart attack in women under 50.
- Treatments include medication, cardiac rehabilitation and, in some cases, surgical procedures.
- Most people who have had SCAD will need to take care in the future and avoid certain physical stresses, like pregnancy or very high-intensity exercise.

What is SCAD?

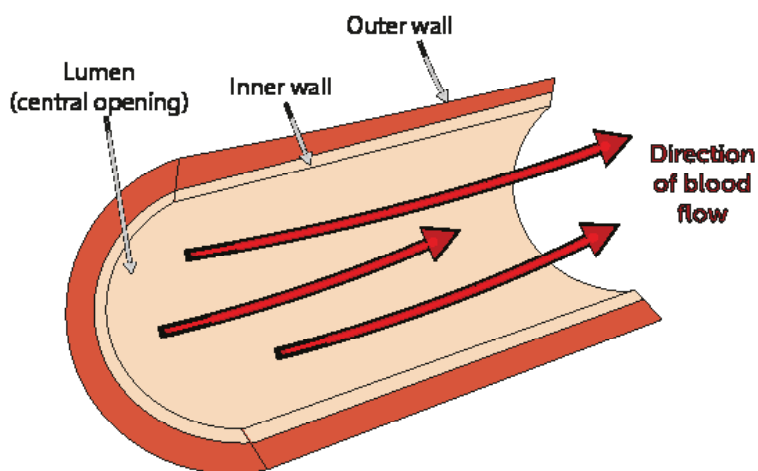
Arterial dissection is a technical term for any condition where an artery tears, releasing blood into the tissues around it. Spontaneous coronary artery dissection is when this happens to the coronary arteries - the blood vessels that carry blood to the heart itself.

In most cases of SCAD, this tear happens in one layer of the arterial wall, which leads to blood flowing between the layers of the wall. This creates a bulge in the wall and disrupts the normal flow of blood to the heart. Take a look at the diagram on page 3 for an illustration of this happening.

Spontaneous	Sudden, without a direct cause
Coronary artery	Any artery that supplies blood to your heart
Dissection	Tearing, rupturing

Healthy artery

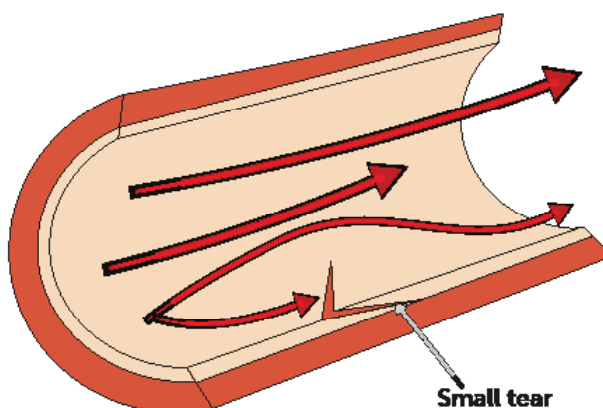
An artery has a lumen (the space which blood passes through), an outer wall, and an inner wall.



SCAD

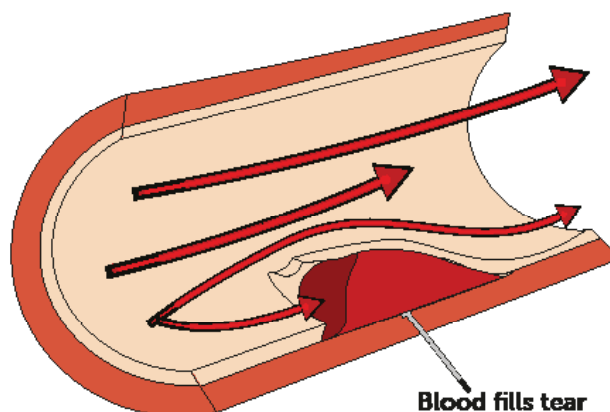
Stage 1:

A small tear or separation appears in the inner layer of the artery.



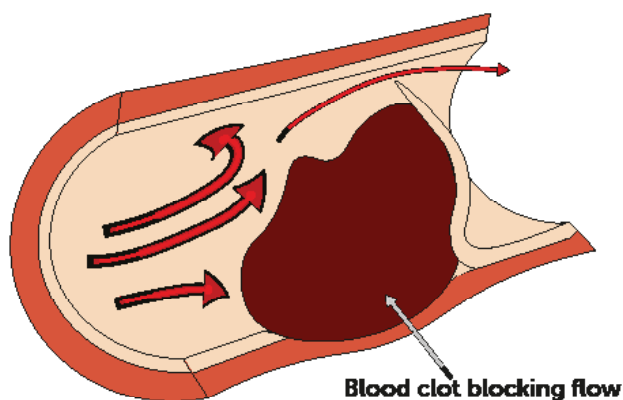
Stage 2:

The blood flows into the space underneath the tear. It becomes trapped between the layers of the artery.



Stage 3:

The trapped blood clots and solidifies. This blocks more and more of the blood flow through the artery.



What does SCAD do?

The blockage of blood to the heart can cause a lot of complications, including:

- Chest pain / angina
- Heart attack or cardiac arrest
- Heart failure

SCAD is a medical emergency, and if you experience any of the following symptoms, you should call 999 as soon as possible:

- Chest pain
- Numbness or unusual feelings in your arm or left side
- Nausea, sickness, or vomiting
- Sweating or clamminess
- Dizziness or shortness of breath

Who has a SCAD?

Anyone can experience a spontaneous coronary artery dissection. However, it mostly affects women, who make up nine out of every ten cases of diagnosed SCAD.

SCAD does not seem to be affected by the usual risk factors for coronary heart disease as much as other heart conditions such as heart attack or angina. These usual risk factors for coronary heart disease are high cholesterol, smoking, obesity, or diabetes. It is most common around the menopause or after giving birth.

It can affect people of any age, and is one of the leading causes of heart attack in young women.

What causes SCAD?

Patients with SCAD may have an underlying health condition that affects their blood vessels. Common conditions associated with SCAD include:

- Recent or current **pregnancy or menopause**.
- **High blood pressure**.
- **Hormonal treatment**: birth control, HRT, testosterone, oestrogen, or progesterone.
- **Fibromuscular dysplasia**, a disease that affects the walls of blood vessels.
- **Connective tissue disorders** like: Ehlers-Danlos Syndrome, Marfan Syndrome, polycystic kidney disease, or Loeys-Dietz syndrome.
- **Inflammatory conditions** like: Crohn's disease, lupus, ulcerative colitis, or rheumatoid arthritis.

SCAD may be triggered by stressful life events, like:

- Giving birth.
- Serious emotional stress.
- Intense physical activity.
- Severe coughing or vomiting.
- Taking certain recreational drugs, such as cocaine, amphetamines, or methamphetamines.

In some cases, the cause of SCAD is not clear, and you may need further tests or investigations to explore this.

How is SCAD diagnosed?

If you are showing symptoms of SCAD, you will probably be offered one or more of the following tests:

- **Blood tests**, especially for troponin - a protein that is found in your muscle. Troponin is released into your blood when your heart is injured.
- **Electrocardiogram (ECG)** shows the electrical activity in your heart, and highlights any unusual changes in your heartbeat.
- **Coronary angiogram** looks at the blood supply of your heart. It helps identify if your coronary arteries have narrowed.

When you get a coronary angiogram, you will have to be injected with a special dye to make your arteries clearer in the image. This might be done through a catheter in your wrist or groin.

An X-ray will take a series of images of your arteries. The dye will show if there are any narrowed areas or blockages in your arteries in these X-ray photos.

- **CT coronary angiogram (CTCA)** is a special type of X-ray which shows your coronary arteries and if there is any damage.

A CT coronary angiogram is less invasive than a coronary angiogram as it does not involve a catheter.

These tests will allow your doctor and medical team to see whether you have arterial damage. Imaging, such as angiograms, also mean that they will be able to see exactly where the damage is.

The European Society of Cardiology recommends that you should have a full "head to hip" CTCA or Magnetic Resonance Angiography (MRA) scan after a SCAD. This scan will check for any other issues with your blood vessels.

How is SCAD treated?

The main aim of SCAD treatment is to restore blood flow to the heart, manage chest pain, and support healing. This can be done through medication, surgery, or cardiac rehabilitation.

In many cases, SCAD will get better on its own, and can be managed with lifestyle changes and medication.

The main types of medications which are prescribed for SCAD are:

- **Medications to stop blood clots forming**, such as aspirin and clopidogrel.
- **Blood pressure medications**, particularly beta-blockers, which reduce the amount of blood your heart needs.
- **Medications to manage persistent chest pain.**

However, in some cases you may need a **surgical intervention**. There are two main surgical procedures used to treat SCAD:

Stent insertion

A stent is a small mesh tube that is inserted into the artery, then expands, holding the artery open to allow blood flow. The stent will be left in place to keep the artery open.

Coronary artery bypass surgery

Coronary artery bypass surgery (also called coronary bypass, coronary artery bypass graft, or CABG) is used when the artery cannot heal.

A blood vessel is taken from somewhere else in your body and inserted into the heart. This is usually taken from your leg, although if this is inappropriate blood vessels in the arm can be used instead. This replaces the damaged artery and provides your blood with another way to get to the heart.

Cardiac rehabilitation

Cardiac rehabilitation is another treatment you may be offered in the longer run. This is an individual treatment programme made up of exercises and education. It can help you make lifestyle changes to reduce the likelihood of a future SCAD incident.

Cardiac rehabilitation can also be a source of support with the emotional and mental stress of surviving SCAD.

To find out whether there are cardiac rehabilitation services near you, you can search local services by postcode at: www.cardiac-rehabilitation.net/cardiac-rehab.htm*.

**Although the link above is produced by NHS England, it does also cover Scottish postcodes and services.*

Managing chest pain

Between six and nine out of every ten people who have a SCAD, experience chest pain and fatigue afterwards. In most cases, this pain gets better over time.

Chest pain often comes in cycles. If you menstruate it may be experienced just before your period. Your pain may or may not respond to medication. Ask your doctor whether there is anything you can do to try to relieve it.

It can help to keep a journal of when you experience pain, any triggers you have noticed, and how bad it is. This helps with avoiding triggers, and can also be a way of recognising when your pain starts to reduce.

Some people also find that mindfulness, meditation, and breathing exercises can help. These do not necessarily reduce pain, but may make it easier to manage.

Chest pain can have an effect on your mental wellbeing. For more information on managing your thoughts and feelings, see CHSS' booklet on **Mental Wellbeing**.

Life after SCAD

Most people who experience a SCAD recover. Recent studies suggest 93 out of every 100 patients survive for at least ten years following SCAD.

You may be advised to avoid high-intensity exercise after your SCAD. This is because, in some cases, this kind of activity can trigger another arterial dissection by putting stress on your heart.

Pregnancy is another common trigger for SCAD, and if you have experienced one arterial dissection, you are at higher risk for another. You may therefore be advised to avoid getting pregnant in the future.

You might be asked to return for regular stress tests after your discharge from hospital. This is to make sure that your healing is going as planned, and that any complications are picked up early.

Further information and advice

For direct support services and personalised advice and support get in touch with our **Advice Line Practitioners**:

Tel: 0808 801 0899

Text: ADVICE 66777

Email: advice@chss.org.uk

Website: www.chss.org.uk

Some other groups and organisations who offer support, help, and information about the physical and emotional consequences of SCAD include:

The British Heart Foundation

A UK-wide charity which provides information, support, and research about heart health, including SCAD.

www.bhf.org.uk

Heart Helpline: 0808 802 1234

Beat SCAD UK

A charity that specialises in SCAD. They provide information, advocacy, and peer support forums.

beatscad.org.uk

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