

## Angina

The word angina comes from the Latin *angerer*, which means to strangle. That's because it describes the pain and sometimes breathlessness or a choking feeling associated with narrowing of an artery that supplies blood to the heart.

Angina affects about one in 50 people and can have different causes. It can often be controlled with a combination of medication, and lifestyle changes. Angina pain typically first starts during exertion - when doing exercise, or even just walking up a hill. It may be felt like a heavy weight or a tightening across the upper chest. It is especially likely to occur when walking after a meal or in cold, windy weather. Anger or stress makes it worse.

The pain can move to the neck, throat or arms - making you feel that you are choking or that both arms are dead weights. The pain doesn't usually last for more than a few minutes and disappears fairly quickly after resting. Along with the pain, you may feel breathless, sweaty and frightened.

### Causes

Most angina is due to disease of the coronary arteries (atherosclerosis) that results when the arteries become furred up with fatty deposits. This means the heart muscle cannot receive enough blood (and therefore oxygen), especially when extra demands are made on it through exertion. However, other problems may also be the cause. These include:

- narrowing of the aortic heart valve
- anaemia
- fast, abnormal heart rhythms
- diseases of the heart muscle (myocardium) itself

### Types of angina

There are three main types of angina.

- Stable angina

Stable angina is associated with coronary heart disease, and is brought on by exertion. In this case, the angina pain usually lasts for only a few minutes. After stopping the exertion, the pain subsides, but it will usually return when the effort begins again.

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With this type of angina, the pain comes on with a little effort (for example, just taking a few steps) or even when the person is resting. It is usually the result of a very severe narrowing (stenosis) in a coronary artery.

If a coronary artery becomes completely blocked, the section of heart muscle supplied by that artery will die, unless the blockage is relieved quickly. This is a heart attack (myocardial infarction), and the pain that is more severe and prolonged. Someone having a heart attack will also feel sick, breathless and sweaty, and may vomit.

- Variant angina

This type of angina occurs without warning, usually in women. It is due to spasm of a coronary artery. A doctor may need to make detailed investigations to diagnose this type of angina. During an attack, there can be irregularities in the heart's normal rhythm.

### Who gets angina?

Angina occurs more often in older people. When it occurs in the younger people (under age 50), it's more common in men than women. People who are more prone to angina are those who:

- smoke
- have a high cholesterol level
- have high blood pressure
- have diabetes
- do little physical exercise

In some cases, angina runs in families, so if close relatives have had angina, you may be at a greater risk of getting it too.

### Diagnosis

If you have developed a pain in the chest, especially if it fits the description at the beginning of this fact sheet, you should visit your physician as soon as possible.

Your physician will ask you all about the pain and will examine you, feel pulses in your legs, look for swelling in your ankles, listen to your heart and chest, and check your blood pressure. He or she will also look for any signs that you have a high cholesterol level or that you are anaemic.

## Further investigations

You may also need to have some hospital tests before you can be sure your symptoms are caused by angina. These can include:

- an ECG (electrocardiogram), where your heart's electrical activity is measured, when you are lying down or when you are exercising on a treadmill
- an echocardiogram, where an ultrasound probe is run over your chest so the heart's chambers and valves can be seen working
- an angiogram, where dye is injected into the coronary arteries to look for any blockages

## Treatment

Medicines are usually the first step in treating angina. A small daily dose of aspirin is often prescribed as it cuts the risk of having a heart attack. Glyceryl trinitrate (GTN) is prescribed for relief during attacks. This comes as a spray (used in the mouth) or tablets placed under the tongue. Other treatments to prevent an angina attack are:

- "long-acting" nitrates such as isosorbide mononitrate, which widen the coronary arteries to improve blood flow and oxygen supply to the heart
- beta-blockers such as atenolol, which slow the heart rate and the pumping power of the heart
- calcium channel blockers such as nifedipine, which relax the coronary arteries and other blood vessels and reduce the force of the contraction of the heart

For people with severe angina, surgery may be needed. There are several possible procedures, including:

- angioplasty. With this procedure, a collapsed balloon is threaded through the blood vessels until it reaches the arteries of the heart. The balloon is inflated to widen the blocked coronary artery. A 'stent' (flexible mesh tube) may be inserted to help keep the artery open afterwards. A laser may be used to open up a fatty deposit for the balloon to pass through
- coronary artery bypass graft (CABG). This is where vessels from the legs or the chest are used to bypass the blockage. This is open-heart surgery and needs a longer stay in hospital. For more information, see a separate factsheet "Heart bypass operation"

## Prevention

There are several practical steps you can take to prevent angina:

- if you smoke, give it up
- maintain a healthy blood pressure - have it checked at least every year
- eat a low-fat, high-fibre diet, rich in fruit and vegetables
- try to eat oily fish such as sardines or fresh tuna twice a week
- have your cholesterol level checked - if it is high, ask your doctor about the options for reducing it
- if you have diabetes, you should rigorously follow treatment
- take regular exercise. Walking briskly for half an hour every day is a good example

## Further information

### The British Heart Foundation

<http://www.bhf.org.uk/hearthealth/index.asp>

### American Heart Association

<http://www.americanheart.org>

### National Heart Foundation of Australia

<http://www.heartfoundation.com.au>

### Healthwise (Health Information Resource Centre)

Tel : (852) 2849 2400

Fax : (852) 2849 2900

Email : [info@healthwise.org.hk](mailto:info@healthwise.org.hk)

Homepage : [www.healthwise.org.hk](http://www.healthwise.org.hk)

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