Balfour Beatty
Rail

# Occupational Health & Wellbeing

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## What causes Coronary Heart Disease?

Coronary Heart Disease (CHD) is arguably the UK's biggest killer. CHD develops when the blood supply to the muscles and tissues of the heart become obstructed by the build-up of fatty materials inside the walls of the coronary arteries.


### What is coronary heart disease?

Your heart is a pump the size of a fist that sends oxygen-rich blood around your body. The blood travels to the organs of your body through blood vessels known as arteries, and return to the heart through veins. Your heart needs its own blood supply to keep working. Heart disease occurs when the arteries that carry this blood, known as coronary arteries, start to become blocked by a build up of fatty deposits.

**How common is CHD?**

- CHD causes around 71,000 deaths each year. That's an average of 200 each day
- In the UK, there are an estimated 2.3 million people living with the condition
- About one in six men and one in nine women die from the disease
- In the past couple of decades, deaths from CHD have nearly halved due to better treatments

The inner lining of the coronary arteries gradually becomes furred with thick, porridge like sludge of substances known a plaques, and formed from cholesterol. The clogging up process is known as atherosclerosis.

The plaques narrow the arteries and reduce the space through which blood can flow. They can also block nutrients being delivered to the artery walls which mean arteries lose their elasticity. In return, this can lead to high blood pressure, which also increases the risk of heart disease. The same process goes on in the arteries throughout the body, and can lead to high blood pressure which puts further strain on the heart.
If your arteries are partially blocked you can experience angina – severe chest pains that can spread across your upper body – as your heart struggles to keep beating on a restricted supply of oxygen. You are also at greater risk of a heart attack.

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Some people have a higher risk of developing atherosclerosis due to genetic factors – one clue to this is a family history of heart disease in middle age. Lifestyle factors that increase the risk include unhealthy diet, lack of exercise, diabetes, high blood pressure and, most importantly, smoking.

**What happens during a heart attack?**

A heart attack happens when one of the coronary arteries becomes completely blocked. This usually happens when a plaque, which is already narrowing an artery, cracks or splits open. This triggers the formation of a blood clot around the plaque, and its this blood clot that then completely blocks the artery.

With the supply of oxygen completely blocked, the heart muscle and tissue supplied by that artery dies. Emergency medical intervention is needed to unblock the artery and restore blood flow. This may consist of treatment with drugs to dissolve the clot or thrombus, or a small operation done through the skin and blood vessels to open up the blocked artery.

The outcome of a heart attack hinges on the amount of muscle that dies before it is corrected. The smaller the area affected, the greater the chance of survival and recovery.

While a heart attack will always cause some permanent damage, some areas may be able to recover if they are not deprived of blood for too long. The sooner a heart attack is diagnosed and treated, the greater the chance of recovery.

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