

Keyhole saphenous vein harvesting for coronary artery bypass grafting

Information for the public

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What has NICE said?

This procedure is safe enough and works well enough for use in the NHS.

NICE is asking health professionals to send information about everyone who has the procedure and what happens to them afterwards to the [UK Central Cardiac Audit Database](#), so that the safety of the procedure and how well it works can be checked over time.

What does this mean for me?

Your health professional should fully explain what is involved in having this procedure, and discuss the possible benefits and risks with you. You should also be told how to find more information about the procedure. All of this should happen before you decide whether you want to have this procedure or not.

Your health professional should ask you whether details of your procedure can be collected.

Other comments from NICE

NICE said that training and regular experience is important for any clinician doing this procedure. NICE also noted positive comments from patients about their experiences of the procedure.

The condition

Coronary artery disease is when 1 or more of the arteries that carry blood to the heart muscle (coronary arteries) become narrowed or blocked by the build-up of fatty deposits. It can cause chest pain (angina), heart attack and heart failure.

Coronary artery bypass grafting (sometimes called CABG) is 1 way of treating it. A healthy blood vessel is taken from another part of the body and attached to the diseased artery in the heart so that blood flow to the heart muscle bypasses the blockage. The [saphenous vein](#) in the leg is the most commonly used blood vessel. Usually, the saphenous vein is removed by making 1 or more long cuts along the leg (an 'open' technique).

NICE has looked at using [keyhole saphenous vein harvesting](#) as another way of removing the vein.

NHS Choices (www.nhs.uk) may be a good place to find out more.

The procedure

Keyhole [saphenous vein](#) harvesting is done under general anaesthesia at the same time as coronary artery bypass grafting. An endoscope (a thin flexible tube with a camera on the end) is inserted through a small cut near the knee. Carbon dioxide gas is sometimes blown under the skin to help make space around the vein. The clinician then uses the endoscope to see the vein and remove it with as little damage to the leg as possible. A compression bandage is applied to the leg to minimise bleeding and bruising. The rest of the operation is done in the same way whichever way the vein is removed.

Benefits and risks

When NICE looked at the evidence, it decided that the procedure works well and is safe enough to be used in the NHS. The 9 studies that NICE looked at involved a total of 271,018 patients.

Generally, they showed the following benefits with keyhole saphenous vein harvesting:

- less leg pain than with the 'open' technique.

Overall, in terms of death in the medium term, the need for repeated grafting and heart attacks, the results were very similar whether the 'open' or keyhole technique was used for vein graft harvest.

The studies showed that the risks of keyhole saphenous vein harvesting included:

- leg wound infections, but fewer than with the 'open' technique
- wound complications that needed further treatment, but less frequently than with the 'open' technique
- rarely, problems caused by large bubbles of carbon dioxide in the body, which all resolved with treatment.

If you want to know more about the studies see the [guidance](#). Ask your health professional to explain anything you don't understand.

Questions to ask your health professional

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

Medical terms explained

Saphenous vein

The vein that runs up the leg from the ankle to the groin.

About this information

NICE [interventional procedures guidance](#) advises the NHS on the safety of a procedure and how well it works.

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Accreditation

