

Patient information factsheet

Great saphenous vein harvesting for a coronary artery bypass graft (CABG)

We have given you this factsheet because your doctor has referred you for a coronary artery bypass graft (CABG) (also known as heart bypass surgery). Part of this procedure usually involves having a secondary procedure called 'great saphenous vein harvesting' at the same time.

This factsheet explains what great saphenous vein harvesting is and what the procedure involves, so you know what to expect. Please read this factsheet alongside the separate patient information leaflets we have given you about having a CABG. We hope that together they will help to answer some of the questions you may have. If you have any further questions or concerns, please speak to a member of our team.

What is a coronary artery bypass graft (CABG)?

A CABG is a surgical procedure used to treat coronary heart disease (also known as coronary artery disease). Coronary heart disease is the term that describes what happens when your heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries (the two large blood vessels that supply oxygen-rich blood to your heart).

A CABG involves taking a blood vessel from another part of your body (usually your chest wall, leg or arm) and attaching it to the coronary artery above and below the narrowed area or blockage to allow the blood to flow round it. This new blood vessel is known as a graft. The number of grafts needed will depend on how severe your coronary heart disease is and how many of your coronary arteries are narrowed.

What is vein harvesting?

Vein harvesting is a surgical procedure that involves removing (harvesting) a 'spare' healthy blood vessel from another part of your body (in this case, your legs) and using it as a graft in your heart bypass surgery. The blood vessel discussed in this factsheet is the great saphenous vein (a long blood vessel in both of your legs that runs from your ankle to your groin).

Why do I need to have this procedure?

By diverting (bypassing) blood around the narrowed or blocked parts of your coronary arteries, a graft can improve the blood flow and oxygen supply to your heart, managing the symptoms of coronary heart disease and reducing your chances of having serious health problems, such as angina (chest pain that happens when the supply of oxygen-rich blood to the heart becomes restricted) or a heart attack.

How should I prepare for the procedure?

There is no additional preparation needed for the vein harvesting part of the procedure. You will be given specific instructions about how to prepare for the CABG during your pre-operative assessment appointment. This appointment is a good opportunity for you to ask any questions you may have about preparing for your procedure.

What will happen before the procedure?

We will usually ask you to come into hospital the day before your procedure. When you arrive, a member of our surgical team will meet you and explain the procedure (including vein harvesting) to you in more detail. This is another good opportunity to ask any questions you may have. If you're happy to go ahead with the procedure, we will ask you to sign a consent form.

We will then take you to a ward and give you a hospital gown to change into. We will then examine your legs to check for:

- varicose veins (swollen and enlarged veins)
- scars (from previous procedures)
- redness
- swelling
- other skin conditions (such as ulcers, lesions, eczema, and dermatitis)

We may also perform a vein map. A vein map is a painless, non-invasive test that involves moving an ultrasound probe (a device that uses high-frequency sound waves to create an image of part of the inside of the body) over your skin to produce a 'map' of your leg veins. It is a safe and effective way to assess whether a vein is suitable to be used in a CABG. If needed, a member of our team will perform this test on the ward or in an operating theatre. If neither of your great saphenous veins are suitable, we will explain why and discuss the alternatives with you.

To prepare your body for the procedure, we will also shave or clip the hair around your chest, legs and groin (the places we will operate on).

What will happen during the vein harvesting part of the procedure?

The two procedures will be done at the same time in an operating theatre. The whole procedure will be done under a general anaesthetic (medicine used to send you to sleep), so you will not be aware of anything or feel any pain.

Vein harvesting can take between 30 and 60 minutes depending on how many grafts are needed and a CABG can take up to five hours in total. For more information about what will happen during the procedure, please read our 'Coronary Artery Bypass Graft' factsheet. We will give you a copy of this during your pre-operative assessment appointment.

There are two different ways to remove a vein:

Open vein harvesting (also known as traditional vein harvesting)

For this method, we will make a large cut (approximately 25cm long) in your leg. We will then use surgical instruments to remove a section of the vein. We will then repeat this for each graft needed. To finish the procedure, we will sterilise nearby tissue and close the wound with dissolvable stitches, before covering it with a dressing and a bandage.

This method of vein harvesting can leave a visible scar on your leg.

Endoscopic vein harvesting (also known as keyhole surgery)

This is a less invasive method of removing the veins from your legs. Rather than making a large cut in your leg, we will make a small cut (approximately 2cm long) near your knee. We will then insert a special device called an endoscope (a thin, long flexible tube with a light source and video camera at one end) into the cut. The images produced by the endoscope will appear on an external television monitor, allowing us to locate your great saphenous vein. We will then pass surgical instruments along the endoscope to remove a section of the vein. To finish the procedure, we will sterilise nearby tissue and close the wounds with dissolvable stitches, before covering the area with a dressing and a bandage.

Which type of vein removal method we recommend for you will be based on your general health and medical history. In some cases, we may need to convert from the endoscopic method to the open method mid-procedure. If this is the case, we will explain why we had to do this after your procedure.

What will happen after the procedure (vein harvesting specific)?

After your procedure, we will initially take you to either the intensive care unit or high dependency unit to recover, before moving you on to a ward.

If we inserted a leg drain (a thin plastic tube) during your procedure, we will remove this, along with the bandages covering your wounds, one or two days after your procedure. We will also check your leg wound and dressings on a daily basis until you are well enough to go home.

For a couple of weeks after your procedure, you may experience some mild pain, redness and swelling around your leg wound. This is normal and will usually get better on its own. If necessary, you can take some over-the-counter pain relief medication to ease your pain, such as paracetamol. Always read the label or instructions before taking medications.

For more general information about recovering from cardiac surgery, please read our 'Cardiac surgery' booklet, which can be downloaded from: www.uhs.nhs.uk/Media/UHS-website-2019/Patientinformation/Heartandlungs/Cardiacsurgery-1362-PIL.pdf

Will I need any follow-up care?

If your leg wound is still oozing when you are ready to leave hospital, we may refer you to the care of our daily wound clinic and/or to the care of your GP or district nurses.

We will arrange for you to have a follow-up appointment in your local hospital. This will usually be six to eight weeks after your procedure.

Are there any risks associated with vein harvesting?

Vein harvesting is generally a very safe procedure, but like any type of surgery, it does carry a risk of complications, including:

- wound infection
- collection of blood outside of the blood vessels or under the skin (haematomas)
- bleeding
- temporary or permanent numbness of the skin on your legs (due to sensory nerve damage)

The risks associated with both methods of vein harvesting are the same.

Patient information factsheet

When should I seek medical advice?

Contact your GP for advice if you have:

- worsening pain in or around your leg wound
- worsening redness and swelling around your leg wound
- pus or blood coming from your leg wound
- a very high temperature or you feel hot and shivery

Call NHS **111** or contact your local out-of-hours service if you're unable to contact your GP.

When will I be able to resume my normal daily activities?

For advice about resuming your normal daily activities, such as driving and going back to work, please read our 'Cardiac surgery' booklet, which can be downloaded from: www.uhs.nhs.uk/Media/UHS-website-2019/Patientinformation/Heartandlungs/Cardiacsurgery-1362-PIL.pdf and the 'Everyday life in the weeks after your operation' section in the British Heart Foundation's 'Having heart surgery' booklet, which can be downloaded from: www.bhf.org.uk/information-support/publications/heart-conditions/having-heart-surgery

Will the vein that has been removed grow back again?

No, the section of vein that has been removed won't grow back. Other blood vessels in your leg will compensate for the loss of the vein after the procedure.

Contact us

If you have any questions or concerns about vein harvesting or a CABG, please contact us.

Cardiac surgical care practitioner team

Email: cardiacscpteam@uhs.nhs.uk

If you have any concerns about your wound or you would like to make an appointment for your wound to be checked, please contact our wound clinic.

Wound clinic (E2 ward)

Telephone: **023 8120 6473**

Useful links

www.nhs.uk/conditions/coronary-heart-disease

www.nhs.uk/conditions/coronary-artery-bypass-graft-cabg

www.bhf.org.uk/information-support/treatments/coronary-bypass-surgery

www.bhf.org.uk/information-support/heart-matters-magazine/activity/get-in-shape-for-surgery

www.uhs.nhs.uk/Media/UHS-website-2019/Patientinformation/Heartandlungs/Cardiacsurgery-1362-PIL.pdf

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