

Live bone donation

Hip replacements are a fairly common operation, where a patient has the ball joint at the top of their thigh bone removed and replaced with an artificial one. The bone removed would normally be discarded after surgery, but it can also be used to treat other patients. Therefore, if the operation takes place in a hospital that has a bone donation programme, the patient may sometimes be asked if they would like to donate their bone. Bone donation will only go ahead if the patient confirms they are willing to donate the bone, and gives consent for it to be used.

Donated bone can be used in several different types of operations such as:

- helping to heal fractures which have not mended by themselves
- helping to straighten a child's curved spine.

However, as with all donations from other humans, it is important to make sure the bone is unlikely to pass on infection or disease, such as cancer. To minimise the risk of this, everyone who agrees to donate bone is carefully assessed, similar to the assessment that happens when someone donates blood.

Patients considering donating their bone are asked a number of questions to assess their medical, travel and lifestyle history, and a sample of their blood is tested for a number of infections such as HIV, hepatitis, HTLV and syphilis.

If the patient is confirmed as suitable to be a bone donor (and gives consent for the donation), the bone tissue is saved in a sterile jar at the time of the operation. It is then frozen and stored until all necessary tests are completed. It is possible to store bone in a frozen state for a number of years before it is used for another patient, depending on the clinical need.

Live bone donation: Frequently asked questions

How can someone become a bone donor in life?

Patients who need a primary (first) hip replacement are sometimes approached about the possibility of bone donation. As part of this operation the 'femoral head' (the ball joint at the top of the thigh bone, which has been causing the discomfort) is removed and replaced with an artificial joint. The removed femoral head is usually discarded; however when patients agree to donate their bone, it is saved in a sterile pot, frozen, and stored for future use in a different patient.

Can any patient having bone surgery donate?

No, only patients booked in for a primary hip replacement are approached about potentially donating bone from their operation. A number of checks need to take place to make sure the donated bone is unlikely to pass on either infection or disease (such as cancer).

Do I have to donate bone?

No, not at all. If you would rather not donate bone, that is absolutely fine and will not affect your care or management in any way.

Why do you need to ask so many questions before I can donate my bone?

Any donation from another human being can pass on either infection or disease, and it is important to minimise this risk. Potential bone donors (similar to blood donors) are asked questions about their health, travel and lifestyle history to assess the risk of passing on infection or disease (such as cancer).

What happens if my bone is considered to be unsuitable for donation?

If something in your medical history reveals that your bone would not be suitable for use, we would thank you for considering bone donation, but would not proceed with bone donation.

Will bone donation take place even if I decide I don't want to donate it?

No, if you tell us you don't want to donate bone, then your bone will not be collected. This decision will not change your treatment in any way.

Can I change my mind?

Yes, if you have told us you want to donate bone but then change your mind, you can withdraw consent right up to the point the bone is used for another patient.

If you do change your mind about bone donation, *we will need you to give us your new decision in writing.* Your care and management will not be affected in any way.

What tests will you do on my blood sample?

It is important to minimise the risk of passing on infection or disease to other patients, so we'll check for a number of infections that could be passed on through donated bone, for example HIV, hepatitis, HTLV and syphilis. We will also check your blood group, as this influences which patients may be able to receive your bone.

What if you find an infection when my blood sample is tested?

In the unlikely event that we find an infection, we'll get in touch with you (either directly, through your hospital doctors or through your GP) to let you know about the result. This will allow your doctors to treat you if treatment is required.

What quality checks are done on the bone before it is used to treat other patients?

Before being used to treat other patients, the bone must pass a number of safeguard checks:

- Your medical, travel and lifestyle history information is reviewed by a specialist nurse; this may include review of your health records.
- Your blood test results are reviewed to confirm there are no infections.

- A sample of the bone you donate is sent for testing to confirm the bone has not been contaminated, either from the environment or from your bloodstream at the time of your operation.

Your bone will only be released for the treatment of other patients once it passes these quality checks.

What if my donated bone doesn't pass all the quality checks?

If any of the checks carried out reveal potential issues (for example, contamination is identified or there is history of cancer), the bone will not be released to treat patients. If you have agreed that the bone can be used for research, quality assurance, performance assessment or research, it may be released for one of these activities; otherwise it will be disposed of in a legal manner using locally agreed procedures.

How long will the bone be stored before it is used to treat other patients?

The bone will be stored frozen as soon as possible after donation, and held in quarantine until all safety checks have been carried out. These checks take a minimum of three weeks, sometimes longer, to be completed. If your bone passes all the safety checks, it will then be released for use. Depending on medical need, the

donation could be used fairly quickly or remain in storage for some time. Bone can stay in storage for a maximum of five years.

What information will be stored about me?

A specialist nurse will ask you a number of questions about your medical, travel and lifestyle history to assess the risk of infection or disease. All this information, together with the results of your blood tests, will be confidentially stored by SNBTS. We are legally required to keep this information for at least 30 years after the donation has been used to treat a patient. As with all NHS held information, the information will be treated in a confidential manner.

Can I find out where my bone has been used?

SNBTS has a duty of confidentiality both to its donors and its patients. We take this duty very seriously and would never release information about a patient who has received a particular bone donation. We can, however, let you know whether the bone you donated remains in storage or whether it has been used to treat a patient.

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