



NATL 010 03
Relates to NATS CLS 026
BONE MARROW HARVEST
(OR BMH)



INFORMATION LEAFLET FOR RELATED DONORS

This leaflet has been especially written for people who are about to undergo a bone marrow harvest as a method of collecting stem cells for transplantation to a relative. This may be because of the blood disorder your relative has, where stem cells collected from the bone marrow are thought to be best for them. It may also be because you have decided that you would prefer to have your stem cells collected from your bone marrow rather than peripheral blood, or because it has not been possible to collect enough stem cells from your blood, so a marrow harvest is needed to make sure enough stem cells are collected overall. We hope the leaflet and a discussion with the nursing and medical staff of the stem cell Collection Facility (CF) will help you understand this procedure and what it involves.

What are stem cells and how can they be collected?

In this leaflet, the phrase 'stem cells' means the immature "parent" cells in the bone marrow that grow and divide into mature red blood cells, white blood cells, or platelets. The type of blood cell a stem cell develops into is determined by the particular needs of your body.

These stem cells are normally found inside the bone marrow. There are two ways of collecting them.

The first way is to collect them directly from the bone marrow using a needle and syringe, while you are asleep under a general anaesthetic. This is called a bone marrow harvest.

The second way involves stimulating the stem cells in the bone marrow using a drug, so that they increase in number. Lots of them then spill over into the blood that circulates in the veins, where they are called 'peripheral blood stem cells' or PBSC. The PBSC can be collected using a machine. This method of collection has now to a great extent replaced the older method of getting stem cells from the marrow via a bone marrow harvest. However, sometimes a bone marrow harvest may still be better because of the blood disorder your relative has, as stem cells collected from the bone marrow are thought to be best for some disorders, such as aplastic anaemia. Bone marrow harvest is also sometimes done because the donor prefers this method of collection, or occasionally because not enough stem cells can be collected from the blood.

Why does my relative need a stem cell transplant?

Your relative's doctor has recommended a stem cell transplant as an appropriate treatment for them. This involves giving them a high dose of chemotherapy.



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The use of high dose chemotherapy dampens down the bone marrow's normal function of making stem cells for many weeks, during which time your relative would be prone to infection and bleeding, and need blood transfusions. To help to reduce this unwanted side effect of the high dose chemotherapy, stem cells can be given to restore bone marrow function. This means that your relative gets the benefits of the high dose chemotherapy while reducing that unwanted side effect.

A specific number of stem cells will be collected from you and given to your relative within a few days of collection.

After the stem cells are transfused to your relative, they migrate to the bone marrow and once there, begin the process of creating new blood cells by growing and dividing into mature red blood cells, white cells and platelets.

Do I need any tests prior to having a marrow harvest?

Yes. You will need some blood tests to make sure that you are fit to go ahead with the harvest. We also need to assess whether you have been exposed to infectious agents such as HIV, hepatitis, HTLV and syphilis before we are able to collect stem cells from you. This is also done by a blood test. The implications of any abnormal test results will be discussed with you before the tests are done, and you will be told the results of all of these tests, If any of the tests are abnormal, we will arrange for you to be seen by an appropriate hospital specialist, who will then arrange any other tests or investigations that are needed.

How do we collect bone marrow?

Bone marrow is collected whilst you are under a general anaesthetic, which usually lasts about an hour. The bone marrow is taken from the back of your pelvis using a number of needles. You will have two or more holes in the skin over each side of your pelvis. Because there will be holes in the bone underneath this, these sites are a bit tender for several days after the operation.

How long will I be in hospital for?

You will be in hospital for two nights. You will be admitted to the ward in the late afternoon of the day before your marrow harvest. The bone marrow will be collected first thing (around 8.30am) the next morning, and you will be discharged the following morning, all being well.

How long does the bone marrow collection take?

It usually takes around an hour, but can sometimes take a little longer.



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Where will the bone marrow collection take place?

Bone marrow collection is done in the operating theatre whilst you are under a general anaesthetic.

Are there any immediate side effects?

After the procedure, when you have woken up, you may feel a little nauseated. This is often related to the general anaesthetic and soon wears off. Having about one litre of bone marrow taken away can make you feel weak and tired following the collection. You may be prescribed intravenous fluids to help overcome this.

Although we remove about a litre of marrow, this is still only a small proportion of all of your bone marrow, and your body will naturally replace this within a few days, but there is a small risk (less than 1 per cent) of needing a blood transfusion afterwards. It is more likely that you will be given a short course of iron tablets.

We will arrange for you to have blood test quite soon after the procedure to ensure all your blood cells have recovered to original values.

Some people get back discomfort after the collection, due to pressure on the pelvis and lying face-down during the operation.

The bone marrow puncture sites may bleed a little. This is kept to a minimum by putting a tight plaster over the puncture sites.

Will the harvest be painful?

Following the harvest you may experience some discomfort or aching around the puncture sites in the pelvis. A long acting painkiller will be put into the areas where the bone marrow is removed from, whilst you are under the anaesthetic. You will also be prescribed pain relief to have on return to the ward should you require it. The discomfort may persist for a few days after you have donated your bone marrow. In a very small number of people it may last a few weeks.

Am I allowed to eat before the collection?

No. As the collection is done under a general anaesthetic, you will not be allowed to eat in the 6-8 hours prior to the collection.



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How long will I need to be off work?

You will need to be off work for the duration of your hospital stay. It is also advisable that you take a few days off after this so that you are fully recovered before you return to work. You will be able to complete your own sick leave certificate if you are off work for up to seven days. In the unlikely event that you are off work for more than seven days, your GP will give you a certificate to cover the additional days you take off after the first week.

Who can I contact if I have more questions?

You'll be given a 'contacts' card when you visit the CF so you can phone the unit if you have any questions after your visit.