



NATL 009 01
Relates to CLS 025
BONE MARROW HARVEST
(OR BMH)



INFORMATION LEAFLET FOR PATIENTS

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 their own treatment. This may 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 Unit (SCCU) 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, bone marrow harvest is still sometimes done because the donor prefers this method of collection, or because it has not been possible to collect enough stem cells from the blood.

Why is a stem cell collection necessary for my treatment?

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

The use of high dose chemotherapy dampens down the bone marrow's normal function of making stem cells for many weeks, during which time you 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 you get the benefits of the high dose chemotherapy while reducing the unwanted side effect.



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When you have the bone marrow harvest, a specific number of stem cells will usually be collected from your marrow and frozen for storage, then given back at a later date.

After the stem cells are transfused to you, 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.

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.



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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.

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.

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. The ward staff can give you a certificate for your employers for the time you are in hospital. Your GP will be able to give a certificate to cover the few days you take off after the harvest.

Who can I contact if I have more questions?

You'll be given a 'contacts' card when you visit the SCCU so you can phone the unit if you have any questions after your visit. You can also ask the doctors or nurses looking after you.