

Bone Marrow Aspiration and Trephine Biopsy

Information and advice for patients

Haematology

This information leaflet explains what happens when you have a bone marrow test. If you have any questions, please do not hesitate to speak to the doctor or nurse looking after you.

What is a bone marrow biopsy?

It is a procedure to remove a small sample (biopsy) of bone marrow so we can examine it. Bone marrow is the soft part inside your bone which makes your blood cells.

We take one or more samples including:

- **Bone marrow aspirate** – this is where we take a small sample of fluid from inside your hipbone (pelvis). We will put this sample into tubes and place this onto slides. These samples can then be looked at under a microscope and further tests can be done to look at the proteins on the cells and genetic material within them.
- **Bone marrow trephine** – this is where we take a small sample (core) of your bone marrow using a hollow needle. This is then processed and sliced very thinly. It can then be looked at under a microscope to see how the cells lie within the bone marrow.

Why do I need this test?

You may need a bone marrow test because:

- We have found a problem with your blood count. By looking closely at your bone marrow we may be able to find out why your blood is not normal.
- If you are already receiving treatment for a blood disorder, we can tell by looking at your bone marrow how well you are responding.

What are the benefits?

It helps to:

- Make a diagnosis and start you on the right treatment.
- Find out how well you are responding to treatment.

What are the risks?

Bone marrow tests are low risk. But there are a few risks of having the test.

You may have some bleeding in the area where the needle is put in. This usually stops when pressure is put on the site.

You may develop an infection. This is rare. If you develop a high temperature, pain, swelling or redness in the area of your test, please tell the doctor or nurse involved in your care.

It is normal to have some discomfort or pain after the bone marrow test. You can usually ease this by taking paracetamol. But, in a few cases the pain may be more severe and last for a few days. You may need to take stronger painkillers. We advise you to avoid anti-inflammatory/NSAID medications such as Ibuprofen as these can worsen post procedure bleeding and bruising.

You can reduce bleeding and discomfort by avoiding strenuous activity or exercise for 24 hours after your biopsy.

Are there any alternatives?

No. The only way to diagnose a problem in your blood is by looking at where it is made – in your bone marrow. A bone marrow test is required when either a diagnosis has not, or cannot, be made confidently based on blood test results alone.

Do I need to prepare for the test?

Before the bone marrow test we will ask you to have a blood test which we will arrange for you. This is important that this blood test is taken prior to the bone marrow test.

If you are taking warfarin, Apixaban, Dabigatran, Rivaroxaban or any other medicines that thin your blood, such as heparin or Enoxaparin please inform your nurse / doctor as soon as possible.

You may need to stop taking these medicines before you have the biopsy. This is to prevent any extra bleeding during or after the test. Your nurse / doctor will advise you when and for how long you need to stop taking them. If you are taking anti platelet medications such as Aspirin or Clopidogrel you can continue these medications without stopping although please inform your nurse or doctor who may ask you to not take on the day of the procedure. Please note that if you are taking these medications it is not harmful but it may take a little longer for bleeding to stop and may make bruising more prominent afterwards.

If this is your first bone marrow biopsy, we recommend that you try to have it with a local anaesthetic. This means that the area from where we take the sample is numbed but you will be awake during the test. You do not need to prepare for a local anaesthetic.

If you find bone marrow biopsies uncomfortable, you can have gas and air (Entonox). This will help you relax but it will not send you to sleep.

Consent

We must by law obtain your written consent to any operation and some other procedures beforehand. Staff will explain all the risks, benefits and alternatives before they ask you to sign a consent form. If you are unsure about any aspect of the treatment proposed, please do not hesitate to speak with a senior member of staff again.

Research

We may ask you if we can take samples for research. These may be used in a clinical trial which we will have discussed with you before your test, or they may be stored in a tissue bank for use in research at a later date. We will ask you to sign separate consent forms if you agree.

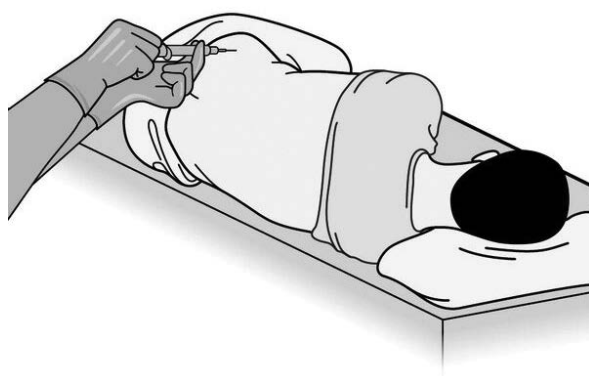
Where is the procedure performed?

Currently we are undertaking planned bone marrow tests in the Haematology and Chemotherapy Day Unit, Sandwell Health Campus just off Little Lane, West Bromwich. If you are an inpatient within Sandwell and West Birmingham Hospitals the procedure will be undertaken from your bed space where you are admitted.

What happens during the procedure?

One of our haematology (blood) doctors or nurses will carry out your bone marrow test in a separate room in the haematology ward / department. You will be asked to loosen your trousers or skirt and pull the waistband of your underwear to about half way down your buttocks. You do not have to take off your underwear but we would ask that you wear loose fitting clothing so we can undertake the test easily.

You will then be asked to lay on a bed on your side with your legs and knees tucked up into your chest. Please tell the doctor or nurse if you find this difficult.



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Once you are in the right position, they will clean the area above your buttock with some antiseptic fluid that may feel cold. They will inject some local anaesthetic (the same as your dentist uses) into the skin to numb the area. This may sting for a few minutes before gradually stopping and feeling numb.

They will inject some more anaesthetic deeper around the bone area. Once the area is completely numb, they will put a needle into your bone and take a small amount of fluid. You may find this uncomfortable and you may also feel a strange sensation in your legs, but this should quickly go away.

They then put a slightly larger needle to take a small piece of bone marrow. You may feel some pushing and pressure. You may also feel a sharp sensation while they take the sample and take out the needle. Please tell the doctor or nurse if you feel very uncomfortable.

Once they have finished they will put a sterile dressing over the area.

How long will it take?

The whole test takes about 15 – 20 minutes. You should expect to be in hospital for about an hour if you are only having a local anaesthetic.

What happens after the procedure?

If you have had a local anaesthetic, you will need to stay in the ward / department for 15-20 minutes after the test to make sure that you feel well enough to go home.

Once you are home and the local anaesthetic has worn off you may feel some discomfort in your back. You can take painkillers such as paracetamol to ease this.

Is there anything else I should do?

You must keep the dressing on for 24 hours and keep it clean and dry, so do not have a bath or shower during that time. After 24 hours, remove the dressing and have a bath or shower. Do not leave a wet dressing on.

It is normal to have some bruising, pain and swelling. However, if you have a high temperature or redness, bleeding, a lot of swelling or you feel generally unwell, tell the medical staff in the ward / department as soon as possible.

What happens to the bone marrow sample and when do I get my results?

We send the bone marrow sample to a laboratory to be looked at under a microscope. A number of tests are done on the cells. If you have given consent, we may also store and use samples for testing and research.

Your results can take up to 2 weeks to come back. Your doctor will discuss them with you at your next clinic appointment. A doctor may contact you if it is urgent.

Who can I contact with queries and concerns?

While you are at Sandwell & West Birmingham Hospitals having your test, please talk to a member of the medical or nursing staff in the ward /department you are invited to have your procedure within.

Before or after your test, you may contact us using the following contact numbers:

Haematology Advanced Clinical Practitioners

(These are the nurses who will carry out your procedure)

Tel: 0121 507 6220

Mobile: 0781 608 3291

Mobile: 0781 270 7797

Email: swbh.haematologyacp@nhs.net

Haematology and Chemotherapy Day Unit

(This is where your procedure will usually take place if you are not an inpatient in hospital)

Tel: 0121 507 8011 / 5883

Other useful Contacts:

Haematology Clinical Nurse Specialists

Tel: 0121 507 3683

Email: swbh.haematologycns@nhs.net

Haematology Secretaries

Email: swbh.haematology-secretaries@nhs.net

If you have feedback or a concern about our services:

1. **Talk to Us** - Talk first to the staff involved.
2. **Informal concern** - If you have a concern and want to talk to someone to help resolve it, please call 0121 507 5836, 10am – 4pm, Monday - Friday or email swb-tr.pals@nhs.net
3. **Complaint** - If we have not been able to resolve your concerns or if you want to make a complaint, please call 0121 507 4080 / 0121 507 5892 or 0121 507 6440, 10am – 4pm, Monday – Friday or email swbh.complaints@nhs.net

More information

Macmillan Cancer Support - Bone Marrow Test

<https://www.macmillan.org.uk/cancer-information-and-support/diagnostic-tests/bone-marrow-test>

Cancer Research UK

This charity has more information about cancer and its care.

www.cancerresearchuk.org (Websites accessed 9 January 2025).

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