

Bone marrow aspiration and trephine biopsy



Information for patients

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.

Confirming your identity

Before you have a treatment or procedure, our staff will ask you your **name** and **date of birth** and check your **ID band**. If you don't have an ID band we will also ask you to confirm your address.

If we don't ask these questions, then please ask us to check.

Ensuring your safety is our primary concern.

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 – a few tablespoons' worth – from inside your hipbone (pelvis)
- bone marrow trephine – this is where we take a small sample (core) of your bone marrow using a hollow needle.

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 us 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 in the outpatient department.

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.

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.

Do I need to prepare for the test?

Please let your doctor know if you are taking warfarin, Apixaban, Dabigatran, Rivaroxaban or any other medicines that thin your blood, such as heparin or clexane, 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 doctor will advise you when and for how long you need to stop taking them.

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.

If you find the test very difficult to tolerate, we may give you a



sedative drug called midazolam. You have it through a small tube (cannula) that we put into a vein in your arm. Midazolam will make you drowsy but you will not fall asleep. Its main effect is to make you forget the procedure.

Some patients cannot have midazolam sedation. For example, you cannot have it if you have a severe respiratory disorder or you are pregnant.

You need to prepare for midazolam sedation:

- do not eat or drink anything (except still/non-fizzy water) for six hours before the biopsy
- arrange for a responsible adult to collect you and take you home by taxi or car. You must not drive or use public transport straight after the test because you will be drowsy.

You must stay in the department for about three hours after sedation and for at least one hour after you have fully woken up. This is to make sure you are fully recovered.

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.



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 outpatient department (HOPD).

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 or fully expose your bottom or genitals.

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.



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 until you lose feeling.

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. If you are having a sedative as well, you may be here for three – four hours because you need time to recover.

What happens after the procedure?

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

If you have had a sedative as well, you will need to stay in the HOPD for up to three hours to make sure 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. But if you have a high temperature or redness, bleeding, a lot of swelling or you just feel generally unwell, tell the medical staff in the HOPD 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. We may also store and use samples for testing and research (see page 5).

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 King's having your test, please talk to a member of the medical or nursing staff in the HOPD.

Before or after your test, please phone the department on:
Tel 020 3299 2963

Sharing your information

We have teamed up with Guy's and St Thomas' Hospitals in a partnership known as King's Health Partners Academic Health Sciences Centre. We are working together to give our patients the best possible care, so you might find we invite you for appointments at Guy's or St Thomas'. To make sure everyone you meet always has the most up-to-date information about your health, we may share information about you between the hospitals.

Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.



PALS

The Patient Advice and Liaison Service (PALS) is a service that offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. The PALS office is located on the ground floor of the Hambleton Wing, near the main entrance on Bessemer Road - staff will be happy to direct you.

PALS at King's College Hospital, Denmark Hill, London SE5 9RS

Tel: **020 3299 3601**

Email: **kch-tr.PALS@nhs.net**

You can also contact us by using our online form at

www.kch.nhs.uk/contact/pals

More information

Macmillan Information and Support Centre

The Macmillan drop-in centre at King's offers help and support to patients, carers, relatives and friends. Tel: **020 3299 5229**

Cancer Research UK.

This charity has more information about cancer and its care.

www.cancerresearchuk.org

If you would like the information in this leaflet in a different language or format, please contact PALS on 020 3299 1844.