

# Having a bone marrow biopsy

This information sheet has been given to you to help answer some of the questions you may have about having a bone marrow biopsy. If you have any further questions or concerns, please speak to the haematology doctor or nurse caring for you.

## What is a bone marrow biopsy?

Bone marrow is the spongy tissue found in the middle of your bone where your blood cells are made. A bone marrow biopsy is a procedure to remove a small sample of this for further examination. Bone marrow tissue is usually taken from a large hip bone in your buttocks (the bone you can feel on each side of your waist). Samples are taken from the part of the bone near to the top of your buttocks where the bone is closest to the surface.

An alternative method (rarely used) is to take the samples from your breastbone (sternum).

There are two parts to the biopsy:

- **Bone marrow aspirate** – this is when a small amount (1–10mls – the equivalent of a few teaspoons) of bone marrow is sucked out through a small hollow needle into a syringe.
- **Bone marrow trephine** – this is when a small core or piece of the bone marrow is removed using a small hollow needle.

Occasionally, only an aspirate sample is needed. Usually you will need to have both kinds of biopsy.

## What are benefits of having a bone marrow biopsy?

Some diseases start in the bone marrow, while others may spread to the bone marrow. A sample of this tissue may give your doctor more information about your disease, such as your diagnosis, or the stage of a disease. Once the diagnosis is confirmed your treatment can be planned.

## What are the risks?

Bone marrow biopsies are frequently performed and are a low risk procedure. The main risks include pain, bleeding and bruising, but these are usually temporary. Developing an infection at the site of the biopsy is extremely rare.

## Are there any alternatives?

Unfortunately there are no alternative methods of accessing your bone marrow.

## How can I prepare for the biopsy?

Before the procedure is planned, please let your doctor know if you are taking an anticoagulant (such as warfarin or rivaroxaban) or any other medicines that thin the blood (such as aspirin or clopidogrel). You will need to stop taking these medicines before you have the biopsy, to

prevent any unnecessary bleeding during or after the procedure. Your doctor will give you advice on when they should be stopped. If you are taking warfarin or certain other similar medicines, you will have your blood clotting (INR) checked just before the procedure at the haematology day unit. Once the procedure is over, you will need to re-start your medicines; the doctor or nurse carrying out the procedure will let you know more about this. If you have not discussed this with your doctor, it is important that you call the haematology day unit for advice on **020 7188 2745 (Monday to Friday, 9am–5pm)**.

If you are having a bone marrow biopsy for the first time, we recommend that you try to have it with a local anaesthetic. This means that the area where the sample is taken from is numbed but you will be awake throughout the procedure. If you are having a local anaesthetic, you do not need to do anything to prepare for it.

If you have found bone marrow biopsies uncomfortable in the past, we can offer you Entonox (medical nitrous oxide and oxygen mixture but also known as 'gas and air') as well. The Entonox will help you relax but it will not send you to sleep. In some cases, we may use midazolam for sedation. In this instance, we will give you the sedation through a cannula (small tube) that we will put into a vein in your arm. Midazolam helps to reduce your anxiety about the procedure but does not send you to sleep. For some patients, midazolam sedation is not appropriate. This may be the case for patients with severe respiratory disorders or patients who are pregnant. Your doctor will discuss this with you further if applicable.

#### **Preparation if you are having midazolam sedation**

- You will not be able to eat or drink anything (except non-fizzy water) for six hours before the biopsy.
- You must arrange for someone to collect you and take you home by car or taxi. You must not drive or use public transport after the procedure due to a high likelihood of drowsiness and a sense of feeling unwell.

You must arrange for someone to escort you home after the procedure and be with you for 24 hours after the procedure. Please tell your doctor or nurse if it is not possible for someone to collect you or stay with you.

#### **Giving my consent (permission)**

We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the treatment and you understand what it involves.

If you would like more information about our consent process, please speak to a member of staff caring for you.

#### **How long does the procedure take?**

The procedure usually takes a maximum of 20 minutes. If you require Entonox, you will be allowed to go home around 30 minutes after the procedure has finished. However, if you are having midazolam sedation you may be in hospital for several hours. This extra time is to ensure you have recovered and are fully awake, so it is safe to go home.

## What happens during the procedure?

The doctor or nurse performing the biopsy will ask you a few questions and make sure you understand what is going to happen. They will ask you to loosen your clothing down to the mid-buttock region to locate the hip bone. You do not have to fully expose your bottom and you can keep your underwear on. Your doctor or nurse will ask you to lie on one side with your knees bent up towards your chest. You will need to stay in that position throughout.

Once you are in the correct position, we will clean your skin with an alcohol solution. Then the local anaesthetic will be injected into the skin over the hip bone until the area is numb. We will tell you when we are about to start the procedure. The aspirate needle will be inserted into the hip bone, which may involve a bit of direct pressure. Once the needle is inserted you may experience a sharp or painful sensation from the hip bone to the thigh bone as the marrow is sucked out. The sensation lasts briefly and then the needle is removed.

If the trephine procedure is needed, another needle is inserted into the same area with direct pressure. You may feel a sharp sensation while the sample is obtained and the needle is removed.

Following the procedure a pressure dressing is applied to the biopsy site to prevent bleeding. You should then lie on the bed for up to thirty minutes to recover and prevent further bleeding. If you get up too quickly there is a risk of bleeding from the site of the biopsy or you may feel unwell.

## What happens afterwards?

Once the doctor or nurse feels that you have recovered, you will be ready to go. If you had sedation, the cannula will be removed. After this you will be able to eat and drink normally and visit the toilet. It is important to keep the dressing dry for 24 hours after the procedure. This is to prevent infection. It is not uncommon for a small amount of blood to stain the dressing. If this happens please apply pressure to the area. Please ask for a spare dressing to take home. If the bleeding continues, please contact the haematology department for advice. After 24 hours you can wash as normal and no further dressing should be needed.

## What happens if I bruise?

Occasionally a bruise may develop afterwards. This is caused by blood leaking into the body tissues around the biopsy site due to the pressure from the biopsy.

Those most likely to be at risk of bruising are patients:

- taking blood-thinning medicines such as warfarin, rivoroxaban, aspirin or clopidogrel
- with a low or high platelet count
- who bruise easily.

## What can be done to prevent bruising?

When the procedure has ended, pressure will be applied to the biopsy site to avoid bruising. If your platelet counts are low, it may cause you to bruise easily. Your doctor or nurse will decide whether it is necessary for you to have a platelet transfusion before the procedure starts.

## When will I get the results of my biopsy?

You will be given a clinic appointment to receive your results and discuss your diagnosis two weeks after the procedure.

## What if I have a problem at home?

Please call the haematology department on **020 7188 2745** if:

- you have persistent pain around the biopsy site or down your leg. You will be advised to take the most suitable pain relief for you
- your wound does not stop bleeding
- the puncture hole appears red and inflamed, as it could be infected.

If these symptoms persist out of hours please inform the on-call haematologist via switchboard on **020 7188 7188**. Alternatively, you can speak to your on-call GP, visit A&E, or go to an NHS walk in centre.

Guy's and St Thomas' hospitals offer a range of cancer-related information leaflets for patients and carers, available at [www.guysandstthomas.nhs.uk/cancer-leaflets](http://www.guysandstthomas.nhs.uk/cancer-leaflets). For information leaflets on other conditions, procedures, treatments and services offered at our hospitals, please visit [www.guysandstthomas.nhs.uk/leaflets](http://www.guysandstthomas.nhs.uk/leaflets)



**Dimbleby Cancer Care** provides cancer support services for Guy's and St Thomas'. We have a drop-in information area staffed by specialist nurses and offer complementary therapies, psychological support and benefits advice for patients and carers.

Dimbleby Cancer Care is located in the Welcome Village of the Cancer Centre at Guy's. **t:** 020 7188 5918 **e:** [DimblebyCancerCare@gstt.nhs.uk](mailto:DimblebyCancerCare@gstt.nhs.uk)

## Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the clinical nurse specialist or other member of staff caring for you or call our helpline.

**t:** 020 7188 8748 9am to 5pm, Monday to Friday

## Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

**t:** 020 7188 8801 (PALS) **e:** [pals@gstt.nhs.uk](mailto:pals@gstt.nhs.uk)

**t:** 020 7188 3514 (complaints) **e:** [complaints2@gstt.nhs.uk](mailto:complaints2@gstt.nhs.uk)

## Language and Accessible Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch:

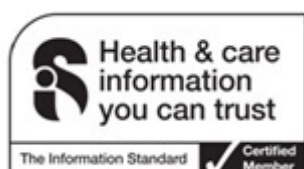
**t:** 020 7188 8815 **e:** [languagesupport@gstt.nhs.uk](mailto:languagesupport@gstt.nhs.uk)

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