

- The test results will all be sent to your treating physician who referred you for the bone marrow aspiration and biopsy. Your treating physician is responsible for discussing the results with you.

What preparation is needed before the test?

- If you take medicines that affect blood clotting such as aspirin (Disprin®, Grandpa®), mini-aspirin (Ecotrin®), Warfarin®, Xeralto® or Pradaxa® you need to inform the laboratory staff when making the appointment. They may advise you to stop taking these, or to reduce the dose, for a time period before the test. (You may need to discuss your medication with your doctor if you take such medicines for other conditions [non-clotting associated conditions]).
- Tell the laboratory staff if you have previously had an allergic reaction to local anaesthetic or plaster.
- You need to sign a consent form at the time of the procedure to say that you understand what it involves.
- If you are having the test under general anaesthesia you will have nothing to drink (including water) or eat for 6 hours before the test.

What are the risks of bone marrow aspiration and biopsy?

Complications are uncommon. In a small number of cases, there is some bleeding from the biopsy site. This is usually minor, and usually stops soon after the procedure. Occasionally, the bleeding is more severe, and rarely does it require a blood transfusion to deal with it. There is a small risk that the small wound will become infected after the biopsy. Rarely, the biopsy needle damages other nearby structures. If any of these side effects are experienced, contact your treating physician immediately.

Note: The information is a general guide only. The arrangements, and the way tests are performed, may vary between different hospitals and doctors. Always follow the instructions given by your local hospital or doctor relating to any test or procedure.

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Bone Marrow Aspiration and biopsy



Bone marrow examinations are mainly used to help diagnose and assess various blood disorders. Establish the indication for doing the bone marrow examination with your treating physician.

What is a bone marrow aspiration and biopsy?

- Bone marrow is the spongy tissue and fluid which is inside the larger bones in the body. The marrow is where blood cells are produced. Blood consists of red blood cells, white blood cells, and platelets. These develop in the bone marrow from cells called 'stem cells'.
- Bone marrow aspiration means the removal of a sample of bone marrow fluid. This can then be stained and looked at under the microscope or used for other tests such as chromosome studies.
- Bone marrow biopsy is when a small sample of bone is removed, processed and examined under the microscope to look for abnormal cells.

When is a bone marrow aspiration and biopsy indicated?

There are a number of reasons why one may be advised to have these examinations. For example, they may be done to:

- Find the reason for a low number of red blood cells (anaemia), a low number of white blood cells (leucopenia), or a low number of platelets (thrombocytopenia) in the blood.

- Also, to find the reason for a high number of these types of blood cells. A number of conditions can cause these blood abnormalities such as:
 - various types of blood disorders
 - various types of leukaemia
- Monitor the response to treatment of leukaemia.
- Determine how far certain lymphomas or cancers have progressed.

How is a bone marrow aspiration and biopsy done?

Bone marrow samples are usually taken from the top of the pelvic bone at the back. This is the bone that you can easily feel just below each side of your waist. Occasionally, other large bones are used such as the breastbone.

You will be asked to lie on a couch on your side or abdomen depending on the exact site the doctor chooses to use. The skin over the bone to be sampled is cleaned with antiseptic. Usually an alcohol-containing mixture is used, which can be quite cold when applied.

Local anaesthetic is then injected into a small area of skin and tissues just over the bone. This stings at first, but then makes the skin numb. (The local anaesthetic is the same as that used by dentists. If you are known to be allergic to this please bring it to the attention of the laboratory staff when your appointment is booked.) If preferred, the examination can also be done under a general anaesthetic. This must be arranged in advance with your physician. There are additional costs for admission to a hospital ward, theatre time and anaesthetic for which you will need pre-authorisation from your medical aid.

- To aspirate bone marrow fluid a needle is pushed through the anaesthetised skin into the bone.

A syringe is used to draw out some liquid bone marrow. As the liquid is withdrawn, you may have brief discomfort.

- To biopsy the bone marrow a hollow needle is inserted into the bone. This may cause some dull pain for a short time

After the biopsy is taken a pressure bandage is applied to prevent bleeding. This can be removed 24-48 hours after the procedure. Please also notify the laboratory staff if you are allergic to Elastoplast®.

After the test

- You will need to lie on a bed and be observed for a while to check that you do not experience bleeding.
- You may have some discomfort and bruising over the test site for a few days which you can ease by taking paracetamol (Panado®). Aspirin containing analgesics are not advised as these interfere with the clotting process and can thus cause additional bleeding.
- If you have had a general anaesthetic you will continue to feel drowsy for several hours. If you are going home after the test and you have had a general anaesthetic:
 - Someone should accompany you home.
 - You should not drive or operate any machinery that needs your careful attention for the rest of the day.
 - If you live alone, it is best that someone stays with you overnight.
- Test results:
 - Results of the bone marrow biopsy takes 36 hours to finalise. Additional tests (eg. chromosomal studies or other genetic tests may take up to one month to complete.