

## Introduction

The marrow is widely distributed throughout the body but functions as a single organ with a total weight of 3-4 kg in adults. It is the site of primary production of peripheral blood cells, namely, the red blood cells for oxygen transport, the white blood cells for body defense and immunity, and the platelets for clotting. Bone Marrow Examination (BME) is therefore an integral part for the diagnosis and management of haematological disorders.

## Indications

1. Unexplained anaemia, decrease in white blood cells or platelets.
2. Suspected leukaemia or marrow infiltration by abnormal cells.
3. Unexplained enlargement of lymph glands, spleen, or liver; and in fever of unexplained origin.
4. Staging of malignant lymphoma.
5. Assessment of marrow status pre and post chemo-radiotherapy, and bone marrow transplantation.

## The Procedure

1. BME is a minor bedside surgical procedure done under local anaesthesia and strict aseptic technique. Discomfort during marrow aspiration is common. Patient should remain calm.
2. The usual site for BME is the posterior iliac crest which is part of the pelvis. Occasionally, the sternum or the tibia (in children) may be chosen.
3. With the patient assuming a comfortable position on his/her side, a special needle is inserted. Only a small amount, i.e. a few mls of marrow blood is aspirated. In some cases, an extra specimen of a small piece of bone is taken.
4. No suture is required at the puncture site.
5. The whole procedure usually takes about 10 minutes.
6. Mild oozing from the puncture wound (iliac crest) can be prevented by lying supine for a while.

## Common Risks and Complications

A dull pain at the puncture site for several days which can be relieved by simple analgesics.

## Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information please contact your doctor. Evangel Hospital reserves the right to amend this leaflet without prior notice. We welcome suggestions or enquiries on the information provided in this leaflet. Please contact our Healthcare professionals so that we could follow up and make improvement.

## Reference

Hospital Authority: *"Bone marrow Aspiration and Biopsy in Children"* (2017)

Smart Patient: [https://www.ekg.org.hk/pilic/public/Paed\\_PILIC/Paed\\_BoneMarrowAspirationBiopsyinChildren\\_0076\\_chi.pdf](https://www.ekg.org.hk/pilic/public/Paed_PILIC/Paed_BoneMarrowAspirationBiopsyinChildren_0076_chi.pdf) (28-07-2023)