

What is LEUKAEMIA?

Leukaemia is a type of blood cancer. It affects white blood cells, an important part of our immune system. Leukaemia is the **most common** form of cancer in children

In leukaemia, the bone marrow (which is the "factory" producing cells in our body) starts to make a lot of abnormal white blood cells, called leukaemic cells or blast. The leukaemic cells will prevent other blood cells from being made in the bone marrow. This will cause a child with leukaemia to be more prone to infection, look pale and bruise more easily.

What CAUSES Leukaemia?

Experts do not know what causes leukaemia. But some factors are known to increase the risk for leukaemia :

- ▶ Genetic conditions eg Down Syndrome
- ▶ Excessive radiation
- ▶ Industrial chemicals

Not proven

- ▶ High power cables
- ▶ Microwave
- ▶ Handphones

Most of the time, children who get leukaemia do not have any risk factors.

TYPE Of Leukaemia

Main types of childhood leukaemia are :

- ▶ Acute Lymphoblastic Leukaemia (**ALL**)
- ▶ Acute Myeloid Leukaemia (**AML**)
- ▶ Chronic myeloid leukaemia (**CML**)

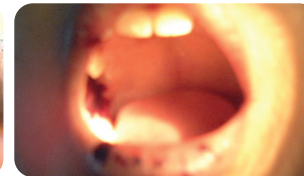
"**acute**" means the disease develops and progresses quite quickly "**lymphoblastic**" and "myeloid" refers to the type of white blood cell affected.

What Are The SYMPTOMS?

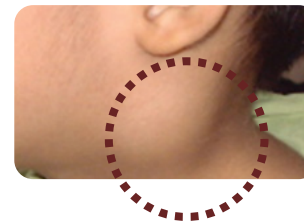
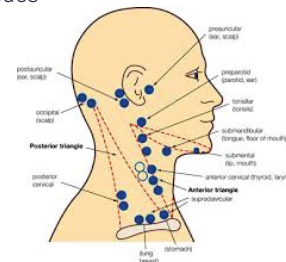
- ▶ Frequent infections due to reduced number of white blood cells which normally fight infection
- ▶ Looking pale, feeling tired and breathless due to a lack of red blood cells



- ▶ Easy bruising or bleeding caused by too few platelets (a type of cell needed to help blood to clot)



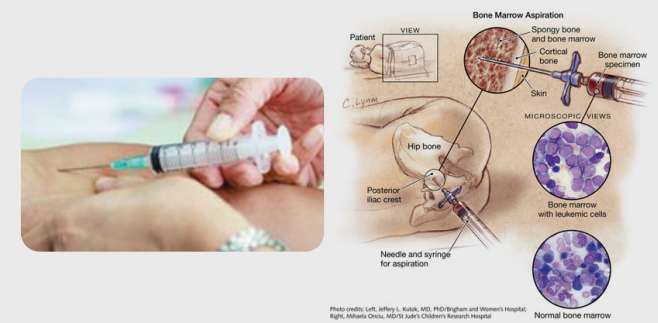
- ▶ Swelling on the neck/groin/armpit due to enlarged lymph nodes



- ▶ Distended abdomen due to a swollen liver or spleen
- ▶ Bone pain due to the bone marrow working very hard and fast forming more and more leukaemic cells
- ▶ If leukaemia has infiltrated the brain, headaches, fits or stroke can happen
- ▶ In boys, the testis can enlarge due to leukaemic infiltration.

HOW IS IT DIAGNOSED?

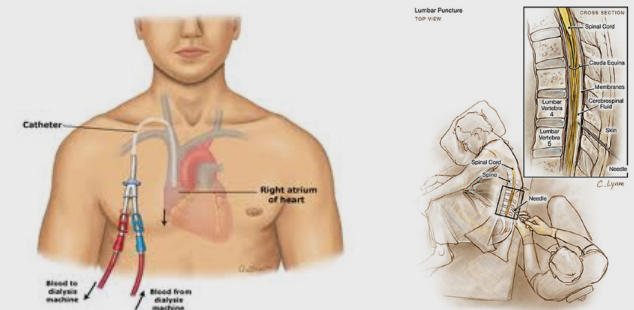
Childhood leukaemia is diagnosed using blood test and also from a bone marrow sample taken from the hipbone. The doctor in charge will explain the tests to you in detail.



Bone marrow aspiration

How Is Leukaemia TREATED?

▶ **Chemotherapy:** This is the main form of treatment whereby anticancer drugs are used to kill cancer cells. These combination of drugs are given in various ways; tablets, injections through the veins, to the muscle and also to the spinal fluid (known as IT).



Using the CVL

Intrathecal (IT)

Special lines known as “central line” or “chemoport” will be inserted to reduce pain while giving chemotherapy and blood taking.



Chemotherapy is given in different phases :

- **Induction phase** : This is the initial intensive treatment which lasts approximately 8 weeks. This aims to kill most of the leukaemia cells. At the end of this phase, there are usually no more leukaemia cells detectable in the bone marrow.

- **Cranial prophylaxis** : This aims to protect the brain from leukaemic cells.

- **Consolidation phase** : This aims to kill the remaining leukaemia cells .

- **Maintenance phase** : This is the last phase, lasting 1-2 years.

► **Bone Marrow Transplantation** : This is applicable to some patients with AML, high risk ALL or a recurrence of ALL. For a transplant to take place, special tests must be done for both patient and siblings to find a matched donor.

► **Supportive therapy**: Other treatment include antibiotics (to fight an infection), blood product transfusion (when there is insufficient red blood cells or platelets).

Side Effects Of CHEMOTHERAPY

Both leukaemia and its treatment will affect the bone marrow, causing a decreased production of blood cells.

- It can affect the bone marrow
 - :: Reduced red cells can cause the child to be pale and tired requiring transfusion
 - :: The drop in white cell counts will cause a suppression of immune system and they will be more prone to infections.
 - :: low platelet will increase risk of bleeding.

Other effects include:

- Hair loss during chemotherapy, but it is only temporary.
- Sometimes mouth ulcers, tummy aches and diarrhoea may also occur. It can be a side effect of the drugs or a sign of infection.
- Allergies

Can The Child Be CURED?

Thousands of patients suffering from leukaemia worldwide have beaten the disease and is now leading a normal life.

We cannot really predict how someone will respond to the disease unless the tests show they have bad genetic markers.

Usually if they have survived more than 5 years- we can consider them as being cured.

Understanding Childhood

LEUKAEMIA

SARAWAK
GENERAL HOSPITAL
PAEDIATRICS DEPARTMENT
In collaboration with
Sarawak Children Cancer Society



For further information, please contact us at :
Paediatric Oncology Ward,
Sarawak General Hospital, Kuching.
Tel : 082-276 481