



Malaysian Society
of Patient Blood
Management

ANAEMIA

KNOWING & CONQUERING
THE DISEASE

What is Anaemia?

Anaemia is a condition in which your body lacks enough healthy red blood cells to carry adequate oxygen to your body's tissues. Having anaemia can make you feel tired and weak as your heart and lungs need to work harder to send oxygen to these tissues.

There are many forms of anaemia, each with its own cause. Anaemia can be temporary or long term, and it can range from mild to severe.

Common causes of Anaemia:

- Iron Deficiency
- Reduced Vitamin B12 / Folate in diet
- Chronic illness, so iron is not available for blood production
- Kidney disease
- Blood loss from injury, menses or ulcers
- Bleeding disorders
- Red blood cells destroyed; example: G6PD deficiency
- Cancer
- Treatment of cancer
- Thalassemia

How do I know if I'm anaemic?

- If you have the risks (causes as mentioned), have signs and symptoms, please check your blood for the level of Haemoglobin (Hb).
- A Hb of below 13g/dL (male) or 12g/dL (female) indicates you have anaemia.



Signs & Symptoms of Anaemia:

- Accelerated heartbeat
- Fatigue / tiredness
- Paleness
- Dizziness
- Difficulty concentrating
- Hair loss



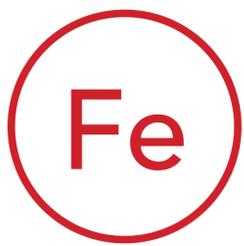
Dangerous Signs of Anaemia:

- Chest pain
- Difficulty breathing
- Fainting

How to treat Anaemia?

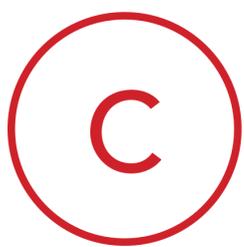
Address underlying cause	Management options with medication:
<p>Iron</p> <ul style="list-style-type: none"> • Essential in building red blood cells • Important for innate immune system • Diagnosis of Iron Deficiency: Serum Ferritin <30ng/mL 	<p>Iron tablets / liquid formulation should contain at least 100mg iron per serving</p> <ul style="list-style-type: none"> • Only 10% of the iron is absorbed • 6-12 months of continuous treatment • To be taken on empty stomach, with water or Vitamin C rich fruit juice. (No coffee, tea or milk) • 30-50% may suffer from gastrointestinal side effects (constipation / diarrhoea) • Advise your doctor of side effects early / to switch to IV iron
	<p>Intravenous (injected into veins to the bloodstream)</p> <ul style="list-style-type: none"> • Correction with a single infusion for most patients • Functional improvements within 48hours • Safe and no gastrointestinal side effects
<p>Vitamin B12 & Folic Acid</p> <ul style="list-style-type: none"> • Important vitamins that also stimulate red blood cell production 	<p>Oral tablet</p> <ul style="list-style-type: none"> • Folic acid • Vitamin B12
	<p>Intramuscular or subcutaneous injection (injected into the muscle or below the skin)</p> <ul style="list-style-type: none"> • Vitamin B12 • More effective than oral tablet especially if are digestive problems
<p>Erythropoietin</p> <ul style="list-style-type: none"> • Hormone that stimulates production of red blood cells in bone marrow 	<p>Subcutaneous injection (injected below the skin)</p> <ul style="list-style-type: none"> • Acts as accelerator with iron as the fuel

Nutritional Tips for Treating Anaemia



Iron Rich Diet

- Meat: beef, chicken, fish, lamb, oysters, liver
- Beans: peas, soybeans, baked beans
- Dried fruits: apricots, prunes, dates
- Enriched grains



It is recommended to consume iron rich food in combination with Vitamin C:

- Spinach, broccoli
- Lemon, orange, lime
- 100% juices of: mango, papaya, kiwi, tomato



Drugs & food that can decrease iron absorption:

- Tea
- Milk
- Calcium Supplementation



Food Rich In Vitamin B12:

- All meat, liver and dairy



Food Rich in Folic Acid:

- Green Vegetables
- Oranges
- Cabbage

Reminders:

1. Anaemia can be safely and successfully treated with medications if detected early and with appropriate action.
2. Blood transfusions do not treat anaemia and should only be used in case of life threatening haemorrhage (bleeding).
3. Are you going for an operation? Know your haemoglobin and key nutritional status (e.g. Serum Ferritin, B12 and Folate). Be prepared for the best outcomes!



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Prepared by Dr Ananthi Krishnamoorthy & Dr Jameela Sathar as part of Malaysia's patient blood management (PBM) education program.

References:

Society for The Advancement of Patient Blood Management (SABM), USA