

# ANAEMIA: MEDICAL MANAGEMENT



Anaemia is a **common blood disorder** that occurs when you do not have enough red blood cells or when your red blood cells do not function properly. There are **400 DIFFERENT TYPES OF ANAEMIA** - many of them are mild and short term. However, anaemia can be severe, long lasting, or even fatal when it's due to an inherited disease, chronic disease, or trauma.

Learn about the most common types of Anaemia, their causes, diagnosis, prevention and treatment.

## 1 IRON DEFICIENCY ANAEMIA

Lack of healthy red blood cells due to insufficient iron in the body.

### CAUSED BY

- Shortage of iron in your body, or an inability to absorb iron from food
- Heavy menstrual bleeding
- Internal bleeding caused by ulcer, cancer
- Regular use of some over-the-counter pain relievers such as aspirin, ibuprofen, and naproxen.

### DIAGNOSIS

Complete blood count (CBC) is used to diagnose iron deficiency anaemia. Additional tests may be ordered to evaluate the levels of serum ferritin, iron, total iron-binding capacity, and/or transferrin.

For an anemic, these tests usually show the following results:

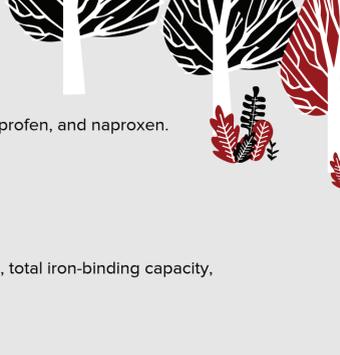
- Low hemoglobin (Hgb) and hematocrit (Hct)
- Low mean cellular volume (MCV)
- Low ferritin
- Low serum iron (FE)
- High transferrin or total iron-binding capacity (TIBC)
- Low iron saturation

The peripheral smear or blood slide may show small, oval-shaped cells with pale centers. In severe iron deficiency, the white blood count (WBC) may be low and the platelet count may be high or low.

### PREVENTION

**Eat iron-rich foods** like red meat, pork, poultry, seafood, beans, dark green leafy vegetables, dried fruit, iron-fortified cereals, breads and pastas, peas.

**Eat foods rich in vitamin C to enhance iron absorption** like broccoli, kiwi, leafy greens, melons, oranges, capsicum, strawberries, tomatoes.



## 2 VITAMIN DEFICIENCY ANAEMIA

The body doesn't have enough of the vitamins needed to produce adequate numbers of healthy red blood cells.

### CAUSED BY

- Deficiency of Folate, Vitamin B 12 or Vitamin C, or an inability to absorb these nutrients from food.
- Smoking interferes with the absorption of nutrients like vitamin C
- Drinking too much alcohol on a single occasion or over time

### DIAGNOSIS

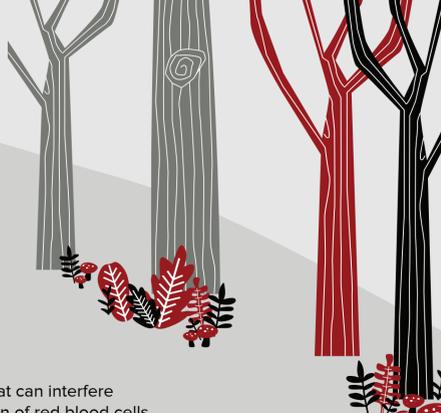
Diagnostic tests will include:

- Complete blood count
- Intrinsic factor antibodies
- Methylmalonic acid level (MMA)
- Vitamin B12 level Test
- Schilling test

### PREVENTION

Choose a healthy diet with:

- Foods rich in folates like dark green leafy vegetables, nuts, bread, cereal, pasta and rice, fruits and fruit juices
- Foods rich in Vitamin B-12 like eggs, breakfast cereals, milk, cheese, yoghurt, red and white meats and shellfish
- Foods rich in Vitamin C like broccoli, kiwi, leafy greens, melons, oranges, capsicum, strawberries, tomatoes
- Reduce Smoking
- Moderate alcohol consumption:
  - Two drinks a day for men till the age of 65 years
  - One drink a day for men older than the age of 65
  - One drink a day for women of any age



## 3 ANAEMIA OF CHRONIC DISEASE

A condition that can be associated with many different underlying disorders.

### CAUSED BY

- Cancer
- Rheumatoid arthritis
- Crohn's disease and other chronic inflammatory diseases
- HIV/AIDS
- Kidney disease
- Other diseases that can interfere with the production of red blood cells

### DIAGNOSIS

- Symptoms and signs of underlying disorder
- Diagnostic tests like CBC and serum iron, ferritin, transferrin, and reticulocyte count

### TREATMENT

- Successfully treating the underlying disease can resolve anemia without direct treatment of its own.
- In rare cases, severe anemia is treated by blood transfusions or drugs.

## 4 APLASTIC ANAEMIA

Develops when damage occurs to your bone marrow, slowing or shutting down the production of new blood cells.

There are two types of aplastic anaemia:

### INHERITED APLASTIC ANAEMIA

Caused by gene defects

### ACQUIRED APLASTIC ANAEMIA

The cause is unclear but it is **linked to:**

- Toxins like pesticides, arsenic and benzene
- Radiation and chemotherapy
- Treatments for other autoimmune diseases
- Pregnancy - Might improve on its own after the woman gives birth
- Infectious diseases, such as hepatitis, Epstein-Barr virus, cytomegalovirus, HIV
- Cancer that spreads to the bone marrow

### DIAGNOSIS

- Blood tests for red blood cells, white blood cells and platelet levels
- Bone marrow biopsy

### TREATMENT

- Medicines to suppress your immune system
- Blood transfusions
- Blood and bone marrow transplant.
- Removing a known cause of aplastic anemia by treating the underlying condition.



## 5 SICKLE CELL ANAEMIA

Red blood cells have an abnormal crescent (sickle) shape due to mutation of haemoglobin.

### CAUSED BY

A mutation in the gene. Both the mother and the father must pass on the defective form of the gene for a child to be affected.

### DIAGNOSIS

- A blood test can check for hemoglobin S — the defective form of hemoglobin leading to sickle cell anaemia.
- Test for low red blood cell count

### TREATMENT

- Bone marrow transplant
- Medications to reduce pain and prevent complications
- Blood transfusions
- Researchers are exploring whether inserting a normal gene into the bone marrow of people with sickle cell anaemia will result in normal haemoglobin.

