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!

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

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
**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

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### 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?

<table>
<thead>
<tr>
<th>Address underlying cause</th>
<th>Management options with medication:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>Iron tablets / liquid formulation should contain at least 100mg iron per serving</td>
</tr>
<tr>
<td></td>
<td>• Only 10% of the iron is absorbed</td>
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<tr>
<td></td>
<td>• 6-12 months of continuous treatment</td>
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<tr>
<td></td>
<td>• To be taken on empty stomach, with water or Vitamin C rich fruit juice (no coffee, tea or milk)</td>
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<tr>
<td></td>
<td>• 30-50% may suffer from gastrointestinal side effects (constipation / diarrhoea)</td>
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<td></td>
<td>• Advise your doctor of side effects early / to switch to IV iron</td>
</tr>
<tr>
<td>Vitamin B12 &amp; Folic Acid</td>
<td>Intravenous (injected into veins to the bloodstream)</td>
</tr>
<tr>
<td></td>
<td>• Correction with a single infusion for most patients</td>
</tr>
<tr>
<td></td>
<td>• Functional improvements within 48hours</td>
</tr>
<tr>
<td></td>
<td>• Safe and no gastrointestinal side effects</td>
</tr>
<tr>
<td>Erythropoietin</td>
<td>Oral tablet</td>
</tr>
<tr>
<td></td>
<td>• Folic acid</td>
</tr>
<tr>
<td></td>
<td>• Vitamin B12</td>
</tr>
<tr>
<td></td>
<td>Intramuscular or subcutaneous injection (injected into the muscle or below the skin)</td>
</tr>
<tr>
<td></td>
<td>• Vitamin B12</td>
</tr>
<tr>
<td></td>
<td>• More effective than oral tablet especially if there are digestive problems</td>
</tr>
</tbody>
</table>

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