Iron and Pregnancy

An essential guide on the importance of iron throughout pregnancy
The Salus guide ‘Iron and Pregnancy’ informs pregnant women as well as health care professionals about the importance of iron for the human body, particularly during pregnancy; how to identify the first signs of an iron deficiency; and what you can do to maintain healthy iron levels before, during and after pregnancy.
## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy and diet</td>
<td>2</td>
</tr>
<tr>
<td>Some foods to avoid</td>
<td>3</td>
</tr>
<tr>
<td>Diet: what your body now needs in particular</td>
<td>4</td>
</tr>
<tr>
<td>The blood</td>
<td>6</td>
</tr>
<tr>
<td>Healthy iron levels</td>
<td>7</td>
</tr>
<tr>
<td>Iron demand during pregnancy and breastfeeding</td>
<td>8</td>
</tr>
<tr>
<td>What are the signs of low iron levels?</td>
<td>9</td>
</tr>
<tr>
<td>Criteria for iron supplements</td>
<td>10</td>
</tr>
<tr>
<td>Who needs iron?</td>
<td>11</td>
</tr>
<tr>
<td>Floradix Liquid Iron Formula – the easy solution</td>
<td>12</td>
</tr>
<tr>
<td>Recommended daily dose</td>
<td>13</td>
</tr>
</tbody>
</table>
The nine months of pregnancy is not always an easy and enjoyable time for the mother. Despite the excitement and anticipation of the new arrival, there are many unpleasant symptoms that can affect a woman during pregnancy, including nausea, tiredness and a lack of energy.

It is essential for the new mother to take extra care of herself as pregnancy requires her body to be at maximum performance levels. It is important to compensate for the extra demand placed on the body by having plenty of sleep, taking sufficient exercise and following a healthy balanced diet, one that meets the changes in demand due to pregnancy.
Foods to be avoided include:
- certain cheeses such as brie, camembert and blue vein
- pâté
- alcohol
- raw or partially cooked eggs, raw and undercooked meat
- shark, swordfish and marlin, raw shellfish
- caffeine (drink no more than 300mg per day)
- products and supplements containing vitamin A
**Calcium**

The increased demand for calcium can be covered by eating a sufficient amount of dairy products including yoghurt, milk and cheese. Almond, rice or soya milk is a good option for those suffering from lactose intolerance.

**Iodine**

Plays an important role in the development of the baby.

Natural sources include:
- sea fish
- kelp
- seaweed
- spirulina

**Folic acid**

Particularly important in the first few months when the neural tube is formed. The NZ Ministry of Health recommends women planning or in early stages of pregnancy, should take 800mg per day.

Natural sources include:
- tomatoes
- broccoli
- green leafy veg
- cauliflower
- lentils
- beetroot
**Iron**

Our bodies need iron for the formation of red blood cells and for metabolism. During pregnancy the iron levels in the blood are monitored regularly as the demand for iron is increased. To help maintain healthy iron levels it is often recommended to take an iron supplement that is gentle on the stomach and absorbed well by the body.

**Fibre**

Helps in the prevention of constipation.

**Natural sources include:**
- wholegrain bread
- pasta
- pulses
- veg, fruits, cereals

**Starches**

Complex carbohydrates such as brown rice, brown pasta and wholemeal bread for a slow energy release.

**Protein**

**Natural sources include:**
- lean meat
- chicken
- fish
- eggs
- pulses
Our blood consists of 52% water. It also contains proteins, nutrients, enzymes, hormones and blood cells (red and white blood corpuscles and blood platelets).

There are approximately 4-6 litres of blood circulating in our body and the quality of this blood is vital for good health.

Iron is very important for the formation of haemoglobin, which is the red pigment of the blood cells and responsible for the transport of oxygen from the lungs to all the body cells. It is also responsible for carrying carbon dioxide back to the lungs where it will be exhaled at the end of this process.

An adult has 25,000 billion red blood cells at their disposal; however, these need to be replaced every four months by a new generation of cells. This tremendous job can only be done if we supply our bodies with sufficient quantities of iron. As our bodies cannot produce iron, we have to get it through the diet. The iron we gain from our diets will then mainly be used for blood formation and the rest goes into storage.
Healthy iron levels

The iron content in a healthy adult averages between 3.5 to 5g. Approximately 65-70% of this is part of the haemoglobin, 25% is part of the iron storage (ferritin) and 5% is part of the functional iron (myoglobin).

A healthy balanced diet containing iron-rich foods can normally provide our bodies with an adequate amount of iron. However there are extra demands placed on a woman’s body which often make it difficult to provide enough iron from food alone.

*During menstruation a woman can lose 2mg a day. The demand for iron increases greatly during pregnancy and breastfeeding as a woman must provide this nutrient for her baby too.*
During pregnancy the iron demand can rise significantly. Iron is essential for the transport of oxygen between the mother and her foetus as well as providing the baby with sufficient iron stores for the first six months following the birth. Iron is also essential for foetal growth, particularly for normal brain development and to help prevent maternal anaemia. The blood volume increases considerably; consequently, more iron is needed to form red blood cells.

As it is difficult to meet this extra demand through a balanced diet alone, it is often recommended to take an iron supplement from week 13 or even earlier.

Unfortunately there is no universally agreed definition of the recommended daily intake of vitamins and minerals in pregnancy. Many individual circumstances of a pregnant woman have to be considered, such as her socioeconomic, cultural and religious background, as well as her eating habits.

Women are generally advised to seek the advice of their GP or midwife before taking supplements during pregnancy.
What are the signs of low iron levels?

A lack of iron is the most common mineral deficiency in the world, according to the World Health Organisation. It happens when the iron supply cannot meet the iron demand.

The following symptoms may signal an iron deficiency and a need to check your iron levels:

- persistent tiredness
- concentration problems
- lack of energy
- low immune system
- reduction in endurance
- pale skin
- brittle hair and nails
When deciding which iron supplement to take, it is important that it contains iron compounds that can be easily absorbed by the body. Our body mainly absorbs iron in bivalent form due to the pH value in the upper small intestine; therefore, pregnant and breastfeeding women should aim to take a supplement that contains bivalent iron (such as iron gluconate). Additionally, the supplement should contain vitamin C as this enhances the iron absorption. Liquid supplements generally are better absorbed than tablets or capsules.

Therefore it is recommended to take iron supplements at least half an hour before meals so as to avoid any negative interactions with other substances. If taken with fruit juice, the absorption of iron will be increased.

**Criteria for iron supplements**

When deciding which iron supplement to take, it is important that it contains iron compounds that can be easily absorbed by the body. Our body mainly absorbs iron in bivalent form due to the pH value in the upper small intestine; therefore, pregnant and breastfeeding women should aim to take a supplement that contains bivalent iron (such as iron gluconate). Additionally, the supplement should contain vitamin C as this enhances the iron absorption. Liquid supplements generally are better absorbed than tablets or capsules.

Therefore it is recommended to take iron supplements at least half an hour before meals so as to avoid any negative interactions with other substances. If taken with fruit juice, the absorption of iron will be increased.

**Substances that enhance iron absorption are:**
- vitamin C
- amino acids

**Substances that reduce iron absorption are:**
- tannins which are contained in coffee or black/green tea
- vitamin E
- calcium (milk products)
- zinc
- oxalic acid (contained in rhubarb)
- phytates (contained in rice and soy)
- antacids
- various pharmaceuticals
As iron is an essential mineral that is involved in many important processes it is needed by babies, children and adults. Of course, depending on age and circumstance, the need for iron can vary greatly.

**Pregnant women**
During pregnancy the body starts to produce more red blood cells and plasma in order to have enough for the foetus. A woman’s iron reserves will become strained, so it is important to provide the body with extra iron to meet this extra demand. It is beneficial to build up iron reserves prior to pregnancy, which will help to maintain healthy iron levels during and after pregnancy.

**Breastfeeding women**
Iron is required to produce the mother’s milk which covers the baby’s demand for iron. Babies absorb approximately 50% of the contained iron.

**Children and adolescents**
Due to the rapid growth that a child’s body goes through, they consume the body’s iron rapidly, which is needed for the formation of blood and body cells.

**Women**
Women in general have twice the demand of men due to blood loss during menstruation.

**Convalescence**
It is often necessary to supply the body with more iron due to blood loss following surgery, accidents, births or blood donations.
Floradix is a time tested liquid iron formula that has been used by millions of women worldwide for more than 40 years. *What makes Floradix so special?*

**The benefits of Floradix:**

- Contains iron gluconate which is absorbed very well by the body
- Non-constipating formula
- Vitamin C and fruit concentrates enhance the iron absorption further
- Herbal extracts, e.g. from nettle, carrots, spinach and ocean kelp, help maintain a healthy digestion and provide further trace elements
- B-vitamins support blood formation and energy release
- Fruit juices give Floradix a pleasant taste
- Floradix is free from chemical preservatives, colourings and flavourings
- Floradix is also free from alcohol, animal derivatives, nuts, lactose and dairy produce
- Floradix is suitable for vegetarians and almost all age groups
As all nutrients are already dissolved in a liquid they are much better absorbed by the body, compared to tablets that must be broken down in the digestive tract.

All this makes Floradix Liquid Iron Formula very gentle to the stomach and avoids constipation – a problem that many women suffer from during pregnancy.

Floravital is the yeast, wheat, and gluten-free version of the product for those people wishing to avoid such ingredients. Floravital contains no honey and is therefore suitable for vegans.

With Floradix or Floravital you can maintain healthy iron levels before, during and after pregnancy – for you and your baby.

**Recommended daily dose**

- **Children aged 1-5 years:** 5ml once daily
- **Children aged 6-12 years:** 10ml once daily
- **Adults:** 10ml twice daily

The adult recommended daily dose provides 15mg of iron. During pregnancy it may be necessary to increase the daily dose; however, this should be discussed with your GP or midwife and only be done under medical supervision.
Would you like to make Red Seal a part of your own healthy lifestyle?

For more information visit redseal.co.nz