**GOOD VEGETARIAN IRON SOURCES**
- nuts
- dried fruits (raisins, dates, apricots)
- pumpkin and sunflower seeds
- basil, parsley (try pesto)
- lentils
- beans (including baked beans)
- split peas
- bean sprouts
- fortified soy and rice milks
- tofu
- dark chocolate
- molasses
- green vegetables
- wheatgerm

**FOODS THAT INHIBIT IRON ABSORPTION**
- tea & coffee (contain tannins)
- cocoa & spinach (contain oxalates – Popeye got it wrong!)
- whole grains and bran products (high in phytates)
- eggs (contain phosvitin)
- dairy products (calcium)

It's a common misconception that vegetarians will have problems with iron deficiency and anaemia. However, there is no evidence that vegetarians are any more likely to be deficient than non-vegetarians.

There are plenty of sources of iron in a vegetarian or vegan diet. The iron is non-heme which is not as easily absorbed as heme iron, but can be enhanced by consuming vitamin C with the meal.

**GOOD SOURCES OF VITAMIN C**
- fruits (especially citrus, berries, kiwifruit)
- vegetables (such as red peppers, tomatoes & broccoli)

*VITAMIN B12 SOURCES*
Sources of vitamin B12 for vegetarians are dairy products (such as milk or vegetarian cheese) and free-range eggs.

The best vegan source of B12 are fortified plant foods. The B12 in fortified plant foods is more easily absorbed than in meat and dairy. Usually, fortified foods contain between 0.5-1µg (mcg) per serve. Check the label to see a food’s vitamin B12 content.

Foods which are typically fortified include yeast spreads (such as Marmite) and plant milks (soy, rice, etc). Some protein foods (such as some vegetarian sausages) and non-dairy ice creams (such as So Good Bliss) are also fortified.

Unfortified plant foods are not a reliable source of active B12. It has been thought that some plant foods, such as fermented soy (tempeh, miso), seaweeds, algae (spirulina), nutritional yeast and mushrooms contain dietary B12 but this is not so. Eating unwashed food also cannot be relied on.

**B12 IS AN EXCEPTIONAL VITAMIN**
It is required in smaller amounts than any other known vitamin. All vitamins except B12 are recognised as being reliably supplied from a varied wholefood plant-based diet. Vitamin B12 is produced by neither plants nor animals but by bacteria. Vitamin B12 does present a genuine nutritional issue but one which is easily dealt with.

**WHAT DOES VITAMIN B12 DO?**
Vitamin B12, or cobalamin, is necessary for the synthesis of red blood cells, the maintenance of the nervous system and growth and development in children. B12 is stored in the liver.

Meat contains vitamin B12 because the animal has eaten food with B12 micro-organisms growing on it. Plant foods can only contain vitamin B12 if they have been fortified with the vitamin, or if they also have these micro-organisms growing. However, these micro-organisms are usually destroyed by pesticides or when preparing food for eating.

*IRON THE VITAMIN C CONNECTION*
Studies have found links between excessive iron intake and heart disease. Consult your doctor before taking iron supplements. Studies have found links between excessive iron intake and heart disease.

TOO MUCH OF A GOOD THING?

Handy Tips
- have some fruit or fresh juice with your meal, or other foods rich in ascorbic acid (vitamin C), eg red pepper or tomato
- store vegetables in a cool, dark place. Buy fresh vegetables and eat them promptly
- steam vegetables to retain as much of the nutrients as possible
- drink tea and coffee between meals rather than during or straight after a meal
- soaking or sprouting beans, grains and seeds can reduce phytate levels
- there is evidence that long term adaptation increases absorption and decreases iron losses

“My children have never had iron deficiency unlike some of their non vegetarian friends.”
- Julia, mother of Natasha (12) and Zoe (10)

Recommended Daily Iron Intakes

<table>
<thead>
<tr>
<th>Infants 0-6 months</th>
<th>0.2 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfed</td>
<td>0.2 mg</td>
</tr>
<tr>
<td>Bottlefed</td>
<td>3.0 mg</td>
</tr>
<tr>
<td>Infants 7-12 months</td>
<td>11 mg</td>
</tr>
<tr>
<td>Children 1-3 years</td>
<td>8-10 mg</td>
</tr>
<tr>
<td>Teenagers 14-18</td>
<td>11-15 mg</td>
</tr>
<tr>
<td>Women 19-54 years</td>
<td>18 mg</td>
</tr>
<tr>
<td>Pregnant (2 &amp; 3 trimester)</td>
<td>27 mg</td>
</tr>
<tr>
<td>Women 54+</td>
<td>8 mg</td>
</tr>
<tr>
<td>Men 19+</td>
<td>8 mg</td>
</tr>
</tbody>
</table>

(Reference: Nutrient reference values for Australia and New Zealand.)

Extra care is required for women of childbearing age, pregnant women and babies (six to twelve months). Iron in breastmilk is highly bioavailable. Following a varied and nutritious vegetarian or vegan diet that includes good amounts of vitamin C is generally all that’s required.

Supplements may be necessary during pregnancy. However this is also common in non-vegetarian mothers.

How Much Vitamin B12?

We only need tiny amounts of this essential vitamin but a deficiency of B12 is serious. An intake of between 2 to 3 micrograms of vitamin B12 for adults, and 1 to 2 micrograms for children, spread over a day should provide all that is necessary. Pregnant and breastfeeding mothers should ensure a daily intake of 3μg (mcg). The B12 needs of babies can be met through breast milk.

Eating fortified foods two or three times a day should supply sufficient amounts for health. If fortified foods are not eaten regularly and daily, take a vitamin B12 supplement.

Only small amounts of vitamin B12 can be absorbed at any time, so small doses daily are best. There is no evidence that sublingual (under the tongue) supplements are better absorbed.

Vitamin B12 Deficiency

Deficiency may be caused by either insufficient vitamin B12 in the diet, or a problem with absorbing it during the digestive process. The elderly are at greatest risk of deficiency as absorption of vitamin B12 can decline with age. Most vegetarians and vegans consume enough vitamin B12 to avoid clinical deficiency, which is extremely rare.

Symptoms such as loss of energy, tingling, numbness, reduced sensitivity to pain or pressure, blurred vision, abnormal gait, sore tongue, poor memory, confusion, hallucinations and personality changes may indicate vitamin B12 deficiency. These symptoms are usually reversible on administration of vitamin B12 (commonly given by injection). Each of these symptoms can also be caused by problems other than vitamin B12 deficiency. If you suspect you have a problem, see a health professional.

Extreme vitamin B12 deficiency may cause anaemia, irreversible nervous system damage and can be life threatening (especially for the young). Therefore, it is vital that everyone, particularly pregnant and breastfeeding mothers, ensures a regular vitamin B12 intake.

References


Websites to Check Out

- www.vegetarian.org.nz
- www.vrg.org
- www.pcrm.org

Leaflet sets available from the NZ Vegetarian Society

Vegetarian Families set (5)
Reasons for Vegetarianism set (2)
Vegetarian Nutrition set (5)
- Overview
- Iron
- Protein
- Vitamin B12
- Calcium & Vitamin D

Websites to Check Out

- www.vegetarian.org.nz
- www.vrg.org
- www.pcrm.org

Leaflet sets available from the NZ Vegetarian Society

Vegetarian Families set (5)
Reasons for Vegetarianism set (2)
Vegetarian Nutrition set (5)
- Overview
- Iron
- Protein
- Vitamin B12
- Calcium & Vitamin D

Websites to Check Out

- www.vegetarian.org.nz
- www.vrg.org
- www.pcrm.org