Key points to remember

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Dietitian's suggestions:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Iron deficiency in children

(8 years or younger)

What is iron?

Iron is a mineral found in food that your body needs. It is bound to hemoglobin, which is an important part of red blood cells. Iron helps carry oxygen to all parts of your body.

Iron is important as it gives your child the energy to run, play, concentrate and learn.

How much iron does my child need?

The amount of iron your child needs depends on his or her age:

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Your baby will get enough iron from breast milk until he or she is 6 months old. After 6 months, your baby's own iron stores will be used up. At this time, the iron from breast milk is not enough. You will need to give another source of iron such as iron fortified formula, pablum or both.
What happens if my child does not get enough iron in the diet?

Low levels of iron in the blood can lead to iron deficiency anemia.

Children with iron deficiency anemia:
- Are often faced with social and mental delays. This can continue even after the child's iron level returns to normal.
- Are more likely to get sick because of decreased immune function.
- May also have poor weight gain and decreased activity levels.

How will I know if my child is iron deficient?

If your child's iron level is low, their blood carries less oxygen to the cells. This may make him or her have these signs:
- tired
- pale
- poor intake of food
- poor concentration
- irritable
- poor growth and development

Why is my child iron deficient?

Iron deficiency is one of the most common nutritional problems in infants and children. It can happen for a number of reasons including:
- Not getting enough foods rich in iron after 6 months of age. Breast milk usually has enough iron to prevent iron deficiency anemia for the first 4 to 6 months. After 6 months, your child will need other sources of iron in their diet to prevent deficiency.
- Children who are picky eaters or are “too busy” to eat usually do not eat enough and miss out on iron rich foods.
- Drinking more than 2 cups (16 oz or 500 ml) of milk a day. This can cause your child to become too full for other iron rich foods. Milk is a poor source of iron and prevents absorption of iron.
- Recent surgery or a large blood loss can lead to iron deficiency in children.

Treatment of iron deficiency

If your child has low iron, the doctor will prescribe an iron supplement. However, your child may have side effects such as constipation, upset stomach, nausea, vomiting and dark coloured stool.

To help prevent or relieve constipation ensure that your child is drinking enough fluids and add foods with fibre to their diet. Examples include prune juice, whole grain breads, fruit and vegetables. Try adding a teaspoon of bran to hot cereals.

Make sure iron supplements are kept out of your child's reach, as they can be toxic in high doses.

In addition to taking an iron supplement, your child will need to increase his or her intake of iron rich foods.

What foods have iron?

There are two types of iron found in food.

1. **Heme iron** is found in animal products such as red meat, fish and poultry.
2. **Non-heme iron** is found in plant products, such as grains, beans, legumes, nuts, vegetables and fruit.

Iron from animal products is better absorbed than iron from plant products.

If your child does not eat any animal products, he or she will need to eat twice as much non-heme iron. See the insert, Sources of Iron, for the foods with iron.

Here are some tips to help absorb the iron from food:
- Combine heme iron rich foods with non-heme iron rich foods when possible.
- Include a source of vitamin C with your meals. Vitamin C helps iron absorption. Some sources of vitamin C include:
  - broccoli
  - green and red peppers
  - cabbage
  - oranges
  - orange juice
  - grapefruit
  - strawberries
  - cantaloupe
  - brussel sprouts
  - potatoes
  - peas
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Include at least one iron rich food and a Vitamin C food at most meals and snacks to help increase iron absorption.
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Sources of Iron

**Note:** Raisins and nuts are a choking hazard for children under 4 years old. Only give raisins and nuts to your child when you or someone is around to watch over or supervise them.

<table>
<thead>
<tr>
<th>Excellent Sources (3.5 mg or more)</th>
<th>Good Sources (2.1 mg or more)</th>
<th>Sources (0.7 mg or more)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heme Iron – animal source</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Beef liver (3 oz)</td>
<td>• Beef, lean (3 oz)</td>
<td>• Corned beef (2 oz)</td>
</tr>
<tr>
<td>• Clams, 4 large or 9 small</td>
<td>• Oysters, 3</td>
<td>• Canned sardines (2)</td>
</tr>
<tr>
<td>• Corned beef (2 oz)</td>
<td>• Egg yolk (1)</td>
<td>• Chicken and turkey (3 oz)</td>
</tr>
<tr>
<td>• Oysters, 3</td>
<td>• Ham, lamb and pork (3 oz)</td>
<td>• Tuna and salmon (3 oz)</td>
</tr>
<tr>
<td>• Clam chowder, canned (1/2 cup)</td>
<td>• Perch, halibut, bass (3 oz)</td>
<td></td>
</tr>
<tr>
<td><strong>Non-Heme Iron – plant source</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tofu, regular or firm (1/4 cup)</td>
<td>• Spinach, cooked (1/2 cup)</td>
<td>• Broccoli (1 cup)</td>
</tr>
<tr>
<td>• Soybeans, white beans, lentils, cooked (1/2 cup)</td>
<td>• Potato with skin (1 medium)</td>
<td>• Green peas (1/2 cup)</td>
</tr>
<tr>
<td>• Blackstrap molasses (1 tbsp)</td>
<td>• Egg noodles, cooked (1 cup)</td>
<td>• Tomato sauce (1/2 cup)</td>
</tr>
<tr>
<td>• Enriched whole grain cold cereals such as Corn Bran™, Raisin Bran™, Shreddies™ (1 cup)</td>
<td>• Pasta, enriched, cooked (1 cup)</td>
<td>• Almonds, cashews, hazelnuts, peanuts (3 tbsp)</td>
</tr>
<tr>
<td>• Enriched hot cereals such as Cream of Wheat™ (instant), Quaker Oatmeal™ (instant) (1 pouch)</td>
<td>• Kidney, chick peas and navy beans, cooked (3/4 cup)</td>
<td>• Prune juice (1/2 cup)</td>
</tr>
<tr>
<td>• Enriched hot cereals such as Clam chowder, canned (1/2 cup)</td>
<td>• Lima beans, cooked (1/2 cup)</td>
<td>• Brown rice, cooked (1 cup)</td>
</tr>
<tr>
<td>• Enriched hot cereals such as Spinach, cooked (1/2 cup)</td>
<td>• Split peas, cooked (1 cup)</td>
<td>• Bread, whole grain (1 slice)</td>
</tr>
<tr>
<td>• Enriched hot cereals such as Sesame seeds (2 tbsp)</td>
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<td>• Dried figs (3)</td>
</tr>
<tr>
<td>• Enriched hot cereals such as Enriched cold cereals such as Prune juice (1/2 cup)</td>
<td>• Cheerios™, Rice Krispies™, Special K™ (1 cup)</td>
<td>• Dried apricots (5)</td>
</tr>
<tr>
<td>• Breakfast bars such as Breakfast bars such as Breakfast bars such as Brown rice, cooked (1 cup)</td>
<td>• Vector Bar™ (1)</td>
<td>• Dried dates (10)</td>
</tr>
<tr>
<td>• Molasses, regular (1 tbsp)</td>
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</table>
Meat  
Chicken  
Fish  
Pasta  . Noodles  
Eggs  
Beans  
Cream of Wheat  
Whole Grain Bread and Cereal  
Nuts  . Peanut Butter  
Raisins  . Prunes  
Dark Green Leafy Vegetables  
Liver