



# NutritionMatters

Nutrition Services | Health Services Department

## Iron Works for Children Too

Healthy, energetic, running and playing is the way we want to see our children. Most of us know that iron is important to keep us energetic, but are surprised when we learn that children are often low in iron. If you are reading this because you need to boost your child's iron intake, here are some helpful tips.



### What is iron?

Iron is a mineral, which we get from the food we eat. It is vitally important to health. Iron has many roles including developing new cells (important in growing children) and carrying oxygen to cells (important for keeping children energetic).

### Why do children need iron?

Iron is needed to carry oxygen to all the body's cells, including muscle cells. Without enough oxygen we feel tired and weak. Lack of iron in the diet can lead to iron deficiency. Iron deficiency in children affects their ability to learn and results in poor school achievement.

### What causes low iron in children?

The most common reason for preschoolers to be low in iron may simply be because some children have poor eating habits or don't like the foods that contain iron.

#### Symptoms of low iron

- ☞ Very tired
- ☞ Muscle weakness
- ☞ Paleness
- ☞ Weight loss or poor weight gain
- ☞ Short attention span (making it hard for children to learn)
- ☞ Poor physical endurance

### How much iron do children need?

| Age (years)             | Amount of iron per day |
|-------------------------|------------------------|
| Children 1-3            | 7 mg                   |
| Children 4-8            | 10 mg                  |
| Vegetarian children 1-3 | 13 mg                  |
| Vegetarian children 4-8 | 18 mg                  |

### Are some iron sources better than others?

Yes, different types of iron in food get absorbed differently. **Heme iron** (heme rhymes with steam) is the easiest form of iron for our bodies to absorb and use. It also helps the body absorb other types of iron. Heme iron is found in meat, poultry and fish.

All other food iron is referred to as 'nonheme' iron. Iron in foods such as vegetables and fruit, whole grains, enriched cereals and pasta, legumes (beans, peas, lentils), dried fruits, nuts and eggs, plus the iron in supplements is not as easily absorbed as heme iron. The absorption of nonheme iron is further reduced by factors in other foods.

### How can iron absorption be increased?

- ☞ Serve meat, poultry or fish with vegetables or grains. The heme iron helps absorb all types of iron in food.
- ☞ Serve foods rich in vitamin C such as strawberries, kiwis, oranges, grapefruits, cantaloupe, 100% fruit juice, broccoli, tomatoes and red and green peppers with iron containing foods. Vitamin C helps the body absorb more iron.



## Do children need a supplement?

For most healthy children, who eat a variety of iron-rich foods, an iron supplement is unnecessary. If you do offer a supplement containing iron, please keep in mind that it is possible to get too much iron this way. As well, the iron in supplements is a poisoning hazard for children.

You can have your child's iron intake checked by your doctor or dietitian and then consult with them about how to boost their iron intake and about offering your child an iron supplement.

## Iron Boosters

- ☞ Use a variety of legumes (beans, peas and lentils) in casseroles, soups and stews or tossed in salads (puree them if needed).
- ☞ Sprinkle wheat germ on cereals or add it to meatloaf, hamburgers, muffins, squares, pancakes and waffles.
- ☞ Add dried fruits, like apricots, cranberries or raisins to cereals and baked goods.
- ☞ Throw in ½ cup of dry infant cereal when making muffins, cake mixes, pancakes, banana bread etc.
- ☞ Choose **enriched** breads, pasta, flours and cereals.
- ☞ Cook foods in an iron skillet, steel wok, or stainless steel cookware.

## Iron in Selected Foods

| Heme sources<br>(better absorbed) | Iron<br>(mg) | Other iron sources                     | Iron<br>(mg) |
|-----------------------------------|--------------|--|--------------|
| <b>Meat</b>                       |              | <b>Meat Alternatives</b>               |              |
| 3 oz/85 g* beef liver             | 5.3          | ¼ cup pumpkin seeds                    | 8.9          |
| 3 oz/85 g lean ground beef        | 2.0          | 80 g firm tofu                         | 8.4          |
| 3 oz/86 g beef                    | 2.0-3.0      | 1 cup baked beans with pork            | 4.4          |
| 3 oz/85 g turkey                  | 2.0          | ½ cup canned white beans               | 4.1          |
| 3 oz/85 g lamb                    | 2.0          | ½ cup almonds                          | 2.8          |
| 3 oz/85 g veal cutlet             | 1.7          | ½ cup cooked kidney beans              | 2.8          |
| 3 oz/85 g pork tenderloin         | 1.3          | 1 large egg                            | 0.6          |
| 3 oz/85 g ham                     | 1.3          |  |              |
| 3 oz/85 g chicken dark meat       | 1.1          | <b>Grain Products</b>                  |              |
| 3 oz/85 g chicken light meat      | 0.9          | 28 g (10 tbsp) infant cereal, rice     | 8.4          |
| ½ cup canned salmon               | 0.7          | 1 cup Nutrios®                         | 7.0          |
| 1 wiener                          | 0.4          | ¾ cup bran flakes with raisins         | 5.5          |
|                                   |              | 1 cup Corn Bran®                       | 5.1          |
| <b>Combination Foods</b>          |              | 1 pouch instant oatmeal                | 3.8          |
| 1 cup spaghetti with meat balls   | 3.4          | 1 cup corn flakes                      | 3.5          |
| 1 burrito with beef               | 3.0          | 1 cup Cheerios®                        | 3.2          |
| ½ cup chili con carne             | 2.7          | 3 animal cracker/ arrowroot cookies    | 2.4          |
| 1 cup split pea soup with ham     | 2.3          | 1 cup cooked enriched pasta†           | 2.1          |
|                                   |              | ¾ cup cooked Cream of Wheat®           | 1.9          |
|                                   |              | 2 slices whole grain or enriched bread | 1.8          |
|                                   |              | 2 tbsp wheat germ                      | 1.4          |
|                                   |              | <b>Vegetables and Fruit</b>            |              |
|                                   |              | ½ cup dried apricots                   | 3.0          |
|                                   |              | 1 baked potato with skin               | 2.7          |
|                                   |              | ½ cup prune juice                      | 1.6          |
|                                   |              | ¼ cup raisins                          | 0.8          |

**Note:** The amount of iron indicated in this table is approximate. **Source:** Nutrient Value of Some Common Foods, 1999.

\*3 oz/85g is about the size of a deck of cards, and is 2-3 child-sized servings of meat.

† Many imported brands of pasta are not enriched, so try to choose enriched pasta.