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Iron needs of babies and children

Our bodies need iron to make hemoglobin, which takes oxygen through the blood to all the cells. Hemoglobin is what gives colour to red blood cells. When you don't have enough iron, red blood cells become small and pale, a condition called anemia. They can't carry enough oxygen to your body's organs and muscles.

Babies and children need iron for their brains to develop normally.

What are the symptoms of iron deficiency in babies?

When babies don't get enough iron, they may show these signs:

- Slow weight gain.
- Pale skin.
- No appetite.
- Irritability (cranky, fussy).

Babies with an iron deficiency may be less physically active and may develop more slowly.

In children, iron deficiency can affect how they do in school. Not having enough iron can lead to problems concentrating, a shorter attention span, and poor academic performance. Low iron levels can make you feel tired and weak.

How much iron do babies and children need?

Babies are born with a reserve of iron, which comes from their mother's blood while they are in the womb.

For the first 6 months of life, breastfed babies will get what they need from their mother's milk. If breastfeeding is not an option, use a store-bought iron-fortified infant formula for the first 9 to 12 months. The formula should be cow's milk-based. Once babies start eating solid foods, the amount of iron they need depends on their age. (Table 1)

Health Canada defines the Recommended Dietary Allowance (RDA) as the average daily dietary nutrient intake level sufficient to meet the nutrient

Table 1

Age	Amount of iron per day (recommended daily allowance)
7 to 12 months	11 mg
1 to 3 years	7 mg
4 to 8 years	10 mg
9 to 13 years	8 mg
14 to 18 years	11 mg (for boys) 15 mg (for girls)

Source: Health Canada, *Dietary Reference Intakes* (www.hc-sc.gc.ca/fn-an/nutrition/reference/table/ref_elements_tbl_e.html)

requirement of nearly all (97% to 98%) healthy individuals.

What foods are good sources of iron?

There are two different types of iron:

- Heme iron, found in meats, is more easily absorbed by the body.
- Non-heme iron comes from plant sources like legumes, vegetables, and cereals.

Here are some foods that are rich in iron:

- Meats: Beef, lamb, pork, veal, liver, chicken, turkey.
- Fish: Babies under 1 year old should not eat shellfish such as lobster, shrimp or scallops.
- Eggs: Do not give egg whites to babies under 1 year old.
- Grains and cereals: Iron-fortified cereals, whole grain breads, enriched bread, pasta and rice.

Other sources of iron:

- Legumes: chick peas, lentils, dried peas and beans.
- Vegetables: spinach, broccoli, Brussels sprouts, green peas, beans.

To help the body absorb even more iron, combine these foods with good sources of vitamin C, such as oranges, tomatoes and red peppers. For example,

serve an iron-fortified breakfast cereal with a glass of orange juice. Or top spaghetti with a meat and tomato sauce.

Is cow's milk a good source of iron?

No, cow's milk is not a good source of iron. Even though cow's milk has about as much iron as human milk, it isn't absorbed well by the body.

Wait until your baby is 9 to 12 months old before introducing whole cow's milk. You need to be sure your baby is getting other sources of iron and vitamin C before starting to drink cow's milk.

Drinking too much cow's milk can lead to iron deficiency. Babies 12 months or older should drink 500 mL to 750 mL of milk each day. You can introduce cow's milk in a cup.

Should I give my baby an iron supplement?

- Full-term babies who are breastfed or who get iron-fortified infant formula from birth do not need an iron supplement.
- Premature babies should get an iron supplement by the time they are 8 weeks old until their first birthday.
- Children over a year old don't need an iron supplement unless they aren't eating enough iron-rich foods. Talk to your child's doctor if you think this is the case.

SOURCE: Developed by the Canadian Paediatric Society Nutrition Committee

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