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Iron...get rich!
A wealth of easy food ideas



This pamphlet was developed and reviewed by the Beef Information Centre and an Advisory Committee made up of health professionals from across Canada.

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Visit www.beefinfo.org or call **1-888-248-BEEF**
Beef Information Centre has offices in North Vancouver, Calgary, Mississauga, St. Laurent and Dartmouth.

What is iron?

Iron is an important **mineral** found in every cell of your body.

Iron:

- Builds red blood cells
- Helps cells work in the body
- Carries oxygen from the lungs to all parts of the body
- Helps the brain work at its best

What happens if I don't get enough iron?

You may:

- Feel tired
- Look more pale than usual
- Have trouble concentrating on your work
- Feel out of breath
- Not have enough energy to do the things you want

When is iron most important?

More iron is needed:

- During periods of growth
- After blood loss such as menstruation or a recent blood donation
- If you do not eat meat, fish or poultry
- If you do regular intense exercise
- If you are living with certain chronic diseases such as cancer

How much iron do I need?

The following is a list of the Recommended Dietary Allowances (RDA) for iron. Values are set high enough to meet the needs of almost all healthy people.

Iron Recommendations (mg/day)

Life Stage	Males	Females
7 - 12 months	11	11
1 - 3 years	7	7
4 - 8 years	10	10
9 - 13 years	8	8
14 -18 years	11	15
19 - 50 years	8	18
>51 years	8	8
Pregnancy		27

Not sure how much you need? Consult a registered dietitian or your family doctor.

Did you know that if you do not eat any meat, fish or poultry, you need almost twice as much iron as someone who does?



Iron - not all created equal!

It is important to get iron from a variety of foods.

Iron comes in two forms:

1. Heme iron is very easily absorbed by your body. Foods with heme iron include only meat, fish, seafood and poultry such as:

- Beef, lamb, pork
- Turkey, chicken
- Tuna, clams

2. Non-heme iron is not absorbed as well as heme iron. Good sources of non-heme iron include:

- Fortified breakfast cereals
- Whole grain and enriched breads and pasta
- Legumes (beans, lentils)

3 easy ways to get more iron!

1. Go for heme:

- Choose meat, fish or poultry. These foods also help your body use non-heme iron.

2. Include vitamin C-rich foods with your meals:

- Foods that contain vitamin C help the body absorb non-heme iron.

3. Avoid tea and coffee during meals:

- Tea and coffee contain polyphenols which lower the amount of non-heme iron your body can absorb.

Iron absorbed from foods with **heme** iron

Foods (100 grams cooked)	Total Iron (mg)	Amount your body can absorb
Beef sirloin steak	3.1	HHHHHHHHH
Lean ground beef	2.8	HHHHHHHHH
Shrimp	3.1	HHHHHHH
Lamb chops	2.3	HHHHHHHHH
Turkey leg	2.3	HHHHHHH
Pork tenderloin	1.5	HHHH
Canned tuna	1.5	HHH H
Chicken breast	1.1	HHH
Halibut	1.1	HH H

Values for total iron are from Canadian Nutrient File, 2001.
Each H represents 0.1 mg of absorbed iron.

Iron absorbed from foods with **non-heme** iron

Foods	Total Iron (mg)	Amount your body can absorb
Beans-red kidney cooked, drained (250 mL, 1 cup)	5.5	HHH
Tofu fried (85 g, 1/3 cup)	4.1	HH
Bran flakes (30 g, 1 cup)	4.0	HH
Spinach cooked (125 mL, 1/2 cup)	3.4	HH
Enriched pasta cooked (215 g, 1 1/2 cup)	3.0	HH
Apricots dried (40 g, 11 halves)	1.9	H
Whole wheat bread (50 g, 2 slices)	1.7	H
Eggs hard boiled (50 g, 1 large)	0.6	H

Values for total iron are from Canadian Nutrient File, 2001.
Each H represents 0.1 mg of absorbed iron.

How do I choose iron-rich foods in the grocery store?

Check out foods with a **Nutrition Facts table!**

By 2006 most pre-packaged foods will have a Nutrition Facts table that will look like this:

Nutrition Facts	
Per 125 mL (87 g)	
Amount	% Daily Value
Calories 80	
Fat 0.5 g	1 %
Saturated 0 g	
+ Trans 0 g	0 %
Cholesterol 0 mg	
Sodium 0 mg	0 %
Carbohydrate 18 g	6 %
Fibre 2 g	8 %
Sugars 2 g	
Protein 3 g	
Vitamin A 2 %	Vitamin C 10 %
Calcium 0 %	Iron 2 %

The information is based on a **specific amount of food.**

The **% DV** helps you see if there is a little or a lot of a nutrient.

Vitamin C and **iron** must be listed on all Nutrition Facts tables. A %DV of 15% or more would be high in iron. A %DV of 30% or more would be high in vitamin C.



Check out foods **without a Nutrition Facts table!**

Some foods without a nutrition label are excellent sources of absorbable iron. Others are excellent sources of vitamin C, which increase iron absorption.

- ✓ Visit the meat counter to find important sources of heme iron.
 - Red meats, beef and lamb, have the highest amount of heme iron.
- ✓ Stroll down the fruit and vegetable section to find foods that are good sources of vitamin C:
 - Green, yellow and red peppers
 - Oranges, grapefruit and clementines
 - Strawberries, raspberries and kiwis
 - Cauliflower, broccoli and Brussels sprouts
 - 100% juices (orange, tomato and apple with added vitamin C)

For more information on nutrition labelling visit:
http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/labelling-etiquetage/consumer_resources_e.html

Here's how to use the **Nutrition Facts table** to choose iron-rich foods!

Iron can be found in many products. It is important to get your iron from a variety of foods. The following two foods are good sources of iron.

a) Using the % Daily Values, which food has the most total iron?

b) Look at the type of food. Which has the most iron your body can absorb? (hint: see pages 4 & 5)

Nutrition Facts	
Per 100 g	
Amount	% Daily Value
Calories 200	
Fat 8 g	12 %
Saturated 2.5	
+ Trans n/a	13 %
Cholesterol 65 mg	
Sodium 60 mg	3 %
Carbohydrate 0 g	0 %
Fibre 0 g	0 %
Sugars 0 g	
Protein 30 g	
Vitamin A 0 %	Vitamin C 0 %
Calcium 0 %	Iron 15 %

Precooked
Roast Beef

Nutrition Facts	
Per 1 1/4 cup (30 g)	
Amount	% Daily Value
Calories 110	
Fat 0 g	0 %
Saturated 0 g	
+ Trans 0 g	0 %
Cholesterol 0 mg	
Sodium 220 mg	9 %
Carbohydrate 26 g	9 %
Fibre 1 g	3 %
Sugars 2 g	
Protein 2 g	
Vitamin A 0 %	Vitamin C 0 %
Calcium 0 %	Iron 30 %

Breakfast
cereal

Answers:

a) Breakfast cereal has the most total iron with 30% Daily Value compared to the precooked roast beef at 15%. Most breakfast cereals are fortified with iron. This means that more iron is added to the amount that is found naturally.

b) The precooked roast beef has heme iron, which is better used by the body than iron found in grains, cereals and beans. Even though the cereal has more total iron than the beef, the amount of iron that can be absorbed from meat, fish or poultry is higher.

It is important to eat a variety of both heme and non-heme foods to get the iron your body needs.



Test your iron know-how

1. An adult man needs more iron than a 9 month old infant.

T F

2. Red meat has the most heme iron. The redder the meat, the higher the iron.

T F

3. Adding meat, fish or poultry to a food such as pasta will increase the absorption of non-heme iron by up to four times.

T F

4. Most breakfast cereal is fortified with iron and is an important part of an iron-rich diet.

T F

5. A 30 year old woman needs the same amount of iron as a 30 year old man.

T F



6. Teenage girls need 30% more iron than teenage boys.

T F

7. Having a glass of orange juice with your breakfast cereal can increase your absorption of non-heme iron.

T F

8. A person who does not eat any meat, fish or poultry needs the same amount of iron as someone who does.

T F

9. The iron in meat, fish and poultry is absorbed at the same level as the iron in green leafy vegetables.

T F

10. 1 in 300 people, mostly men, may have a genetic disorder called hemochromatosis. This causes their bodies to absorb too much iron.

T F



Try the new "Iron Challenge" web quiz at www.beefinfo.org

Answers: 1-F, 2-F, 3-T, 4-T, 5-F, 6-F, 7-T, 8-F, 9-F, 10-T



Muffin-Sized Pizza Meat Loaves

These little meat loaves are the perfect size and flavour for children's meals.

1 1/2 lb (750 g)	Ground Beef
1	egg, beaten
1/2 cup (125 mL)	finely shredded carrot (1 large)
1/3 cup (75 mL)	finely shredded onion (1 small)
1/4 cup (50 mL)	dry bread crumbs
1 tsp (5 mL)	dried oregano
1/2 tsp (2 mL)	salt
1/4 tsp (1 mL)	pepper
1/2 cup (125 mL)	pizza sauce

Quick Vegetable Sauce

1 tsp (5 mL)	olive oil
1 cup (250 mL)	EACH diced sweet red pepper and zucchini
2/3 cup (150 mL)	pizza sauce

1. Combine beef, egg, carrot, onion, bread crumbs, oregano, salt, pepper and 1/4 cup (50 mL) of the pizza sauce. Mix lightly but thoroughly to blend.
2. Divide mixture among 12 lightly oiled muffin cups, pressing into cups. Spoon remaining pizza sauce on top of each loaf.
3. Bake in 375°F (190°C) oven for 25 to 30 minutes or until digital instant-read thermometer inserted into centre of each meat loaf reads 160°F (71°C).
4. Serve with Quick Vegetable Sauce and pasta. **Makes 6 servings.**

Quick Vegetable Sauce

In non-stick skillet, heat oil over medium-high heat; add red pepper and zucchini; cook stirring occasionally until softened. Add pizza sauce and heat through.

Per Serving (using Lean Ground Beef): 259 Calories, 29 g protein, 11 g fat, 8 g carbohydrate. % Daily Value (DV): good source of iron (24% DV), excellent source of zinc (61% DV), 17% DV sodium



Orange Ginger Stir-Fry (as shown on cover)

Who needs take-out? With ready-to-use stir-fry vegetables, this meal can be ready in a flash.

1	orange
1/2 cup (125 mL)	hoisin sauce
1 tbsp (15 mL)	EACH cornstarch and minced gingerroot
1/2 tsp (2 mL)	Chinese five spice powder
1/4 tsp (1 mL)	dried chili pepper flakes
1 lb (500 g)	Beef stir-fry strips
2 tsp (10 mL)	vegetable oil
2	garlic cloves, minced
4 cups (1 L)	pre-cut stir-fry vegetables

1. Finely grate orange peel and squeeze orange juice. Whisk together hoisin sauce, orange juice, cornstarch, gingerroot, Chinese five spice powder, pepper flakes and 1/4 tsp (1 mL) of the orange peel; set aside.

2. Heat oil in large non-stick skillet until sizzling hot; stir-fry beef strips and garlic for 2-3 minutes or until strips are browned but still pink inside (cook in 2 batches). Remove meat.

3. Add vegetables and a few spoonfuls of water to skillet; cover and cook 3-4 minutes until tender-crisp. Add reserved sauce and cook, stirring for 2 minutes or until sauce bubbles and thickens. Stir in meat strips and any juices; heat through. Serve over rice.

Makes 4-6 servings.

Tip: This recipe also works with chicken, pork, tofu or just vegetables. Cooking times may be longer for the different proteins.

Per Serving (using Beef Top Sirloin Stir-Fry strips): 290 Calories, 27 g protein, 8 g fat, 27 g carbohydrate. % Daily Value (DV): excellent source of iron (27% DV), excellent source of zinc (56% DV), 26% DV sodium