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## Prenatal Nutrition Guidelines for Health Professionals



Background  
on Canada's  
Food Guide

Canada

## **ACKNOWLEDGEMENT**

Health Canada sincerely thanks the members of the Expert Advisory Group on National Nutrition Pregnancy Guidelines who generously gave their time and expertise over the course of preparing these guidelines:

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Également offert en français sous le titre :

*Lignes directrices sur la nutrition pendant la grossesse à l'intention des professionnels de la santé – Renseignements relatifs au Guide alimentaire canadien*

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Cat.: H164-109/3-2009E-PDF

ISBN: 978-1-100-12209-0

# Prenatal Nutrition Guidelines for Health Professionals

## Background on Canada's Food Guide

*Eating Well with Canada's Food Guide* provides advice for women during their childbearing years. It is based on current nutritional science and helps people understand the amount and type of food they need to be healthy and reduce their risk of developing a chronic disease later in life (Katamay et al, 2007).

The nutrient needs for pregnant women and women who are breastfeeding are generally greater than those of other women. Pregnant and breastfeeding women can meet their needs for many, but not all, nutrients by having the amount and type of food recommended in Canada's Food Guide. The amount of some nutrients required by pregnant women is difficult to obtain from food. Two important ones are folate (folic acid) and iron. To obtain enough of these essential nutrients, Canada's Food Guide recommends that women of childbearing age take a multivitamin containing folic acid every day. Pregnant women should ensure their multivitamin contains sufficient iron. Canada's Food Guide also recommends that pregnant and breastfeeding women eat a little more food, equal to two or three Food Guide Servings, each day.

Health Canada created this backgrounder to help health professionals understand why Canada's Food Guide has specific recommendations for women in their childbearing years.

### KEY MESSAGES ON CANADA'S FOOD GUIDE FOR PREGNANT WOMEN

- Eat according to Canada's Food Guide.
- Take a daily multivitamin that has 0.4 mg of folic acid and 16 to 20 mg of iron.
- Include an extra 2 to 3 Food Guide Servings each day, for example a fruit and yogurt for a snack.
- Be active every day as part of a healthy pregnancy. Talk to your health care provider before increasing your activity level.

### NUTRIENT NEEDS ARE DIFFERENT DURING PREGNANCY

Women need a lot more iron and folate during pregnancy (Institute of Medicine, 2006). It is generally accepted that most women have difficulty getting enough of these two nutrients from food alone. Referring to the results of a recent population survey of dietary intake, this appears to be true for a large percentage of Canadian women (Health Canada, 2008). This is why women should take a supplement that contains folic acid and iron during pregnancy.

There are other nutrients that pregnant women need to have in larger amounts. These nutrients can also be difficult to get enough of from food alone. Some of these are: zinc, magnesium, and vitamin B6. However, deficiencies of these nutrients are not seen in otherwise healthy North American women (Institute of Medicine, 2006).

### NUTRIENT NEEDS OF BREASTFEEDING WOMEN

Women who are breastfeeding also have different nutritional needs. For example, breastfeeding women need more vitamin A, vitamin C and zinc, and less iron than pregnant women (Institute of Medicine, 2006).

Table 1 presents the differences in the Recommended Dietary Allowances for select nutrients for non-pregnant, pregnant, and breastfeeding women.

**TABLE 1: RECOMMENDED DIETARY ALLOWANCE FOR SELECT NUTRIENTS (INSTITUTE OF MEDICINE, 2006)**

Recommended Dietary Allowance <sup>a</sup>	Women 19 – 50 years		
	Non-pregnant	Pregnant	Breastfeeding
Folate (mcg/day)	400	600	500
Iron (mg/day)	18	27	9
Vitamin A (mcg RAE <sup>b</sup> /day)	700	770	1300
Vitamin C (mg/day)	75	85	120
Vitamin D (mcg/day)	<b>5</b>	<b>5</b>	<b>5</b>
Calcium (mg/day)	<b>1000</b>	<b>1000</b>	<b>1000</b>
Zinc (mg/day)	8	11	12
Vitamin B6 (mg/day)	1.3	1.9	2.0
Magnesium (mg/day)	310 (19 - 30 y) 320 (31 – 50 y)	350 (19 - 30 y) 360 (31 – 50 y)	310 (19 - 30 y) 320 (31 – 50 y)
Vitamin B12 (mcg/day)	2.4	2.6	2.8

<sup>a</sup> Nutrient amounts in **bold font** indicate an Adequate Intake (AI)

<sup>b</sup> Retinol activity equivalent

### CAN THE PATTERN IN CANADA'S FOOD GUIDE MEET ALL THE NUTRIENT NEEDS OF PREGNANT AND BREASTFEEDING WOMEN?

To develop Canada's Food Guide Health Canada looked at different combinations of amounts and types of food to find an eating pattern that meets nutrient needs (Katamay et al, 2007). In Canada's Food Guide, information is presented by age and gender. The amount of food is described by the number of Food Guide Servings different individuals need each day from the four food groups. The types of food recommended within each group are specified. The Food Guide also includes a recommended amount of added oils and fats.

To develop nutritional advice for pregnant women and women who are breastfeeding, Health Canada compared the nutrient content of the pattern for non-pregnant/non-breastfeeding women with the nutritional needs of women during pregnancy and while breastfeeding. Health Canada wanted to determine if pregnant and breastfeeding women would meet their requirements if they followed the pattern.

Assuming supplementation of folic acid and iron based on previous guidance (Health Canada, 1999), Health Canada found that the pattern for women aged 19 to 50 provides pregnant women with most of the nutrients with the addition of a single Food Guide Serving. However, the small amount of extra food supplied by one Food Guide Serving of, for example, Meat and Alternatives does not meet the higher energy needs of pregnancy. Canada's Food Guide includes a recommendation to eat an extra two to three Food Guide Servings each day so that pregnant women will meet their energy needs.

Health Canada also wanted to see if women who are breastfeeding could get the nutrients they need from the pattern for women aged 19 to 50 and eating a little more of specific foods. It was assumed that these women were not taking supplements containing vitamins or minerals.

To get the nutrients they need Health Canada found that breastfeeding women would have to eat more of specific foods. For example, these women would need to eat one more Food Guide Serving from each of the four food groups:

- Vegetables and Fruit (an orange vegetable),
- Grain Products,
- Milk and Alternatives, and
- Meat and Alternatives.

Having guidance for breastfeeding women to eat more of specific foods is a concern. Although they would get the nutrients they need, they may be consuming more calories than they need. Also, the guidance for breastfeeding women would have to be very specific. And in naming these specific food groups, it would seem that women who are breastfeeding need to eat much more food than pregnant women. In reality, there is a similar increase in energy needs during pregnancy and breastfeeding (see later section *Energy needs of pregnancy – Just a little more food*).

As a result, Canada's Food Guide has a combination of food and supplements in its recommendations to make sure women get the nutrients and energy they need during pregnancy and while breastfeeding.

### **Advice for “Women of childbearing age” from Eating Well with Canada’s Food Guide (2007)**

All women who could become pregnant and those who are pregnant or breastfeeding need a multivitamin containing folic acid every day. Pregnant women need to ensure that their multivitamin also contains iron. A health care professional can help you find the multivitamin that's right for you.

Pregnant and breastfeeding women need more calories. Include an extra 2 to 3 Food Guide Servings each day.

Here are two examples:

Have fruit and yogurt for a snack, or

Have an extra slice of toast at breakfast and an extra glass of milk at supper.

### **ENERGY NEEDS OF PREGNANCY – JUST A LITTLE MORE FOOD**

Pregnant women's energy needs increase during their second and third trimesters (Institute of Medicine, 2002).

Women who have a normal body weight at the start of their pregnancy need about 350 extra calories a day in their second trimester and 450 extra calories a day in their third trimester. These extra calories help them gain the amount of weight needed to support the baby's growth and development (see Table 2).

**TABLE 2: ESTIMATED ENERGY REQUIREMENTS BY LIFE STAGE GROUP (INSTITUTE OF MEDICINE, 2006)**

<b>Estimated Energy Requirements (kcals/d)</b>	<b>Non-pregnant<sup>a</sup></b>	<b>Pregnant</b>	<b>Breastfeeding</b>
Women 19 – 30 years	1900	1 <sup>st</sup> trimester 1900 + 0 2 <sup>nd</sup> trimester 1900 + 340 3 <sup>rd</sup> trimester 1900 + 452	0-6 mos postpartum 1900 + 330 7-12 mos postpartum 1900 + 400
Women 31 – 50 years	1800	1 <sup>st</sup> trimester 1800 + 0 2 <sup>nd</sup> trimester 1800 + 340 3 <sup>rd</sup> trimester 1800 + 452	0-6 mos postpartum 1800 + 330 7-12 mos postpartum 1800 + 400

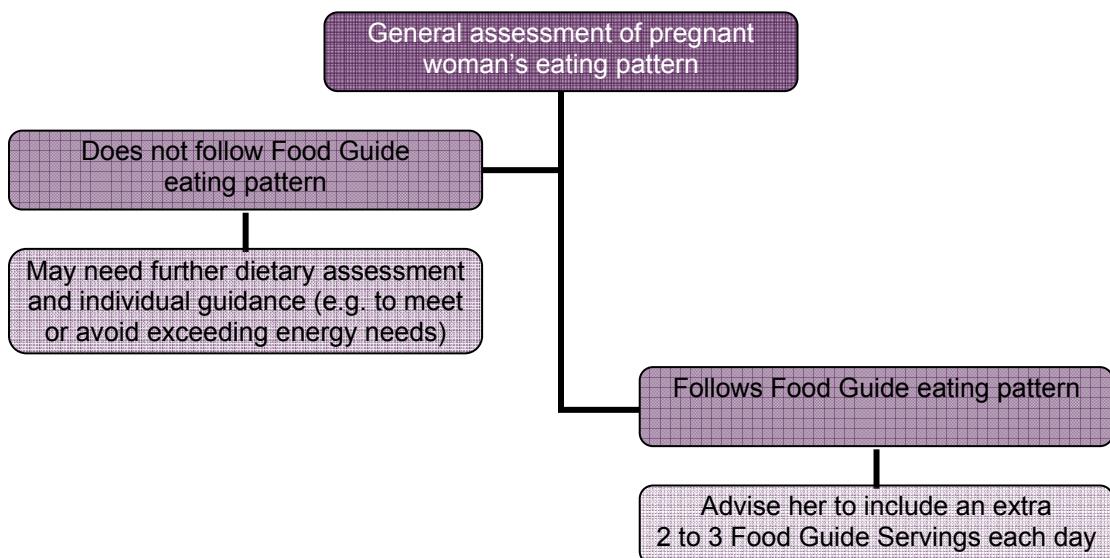
<sup>a</sup> The values are approximate. They were calculated for sedentary females using Canadian median heights and weights derived from the median normal BMI.

How much weight a woman needs to gain during pregnancy is based on her pre-pregnancy weight. For more information on weight gain during pregnancy, see Health Canada's recommendations on gestational weight gain. Healthy weight gain is the best indicator that women are getting the right amount of energy from food.

Women know that they need more food when they are pregnant, but they don't always know how much more. Canada's Food Guide recommends an additional two or three Food Guide Servings from any food group. Women can choose foods from any food group based on those that they like to eat. The amount of food generally equals an extra snack or small meal.

Health professionals can help pregnant women understand just how much and what kind of food to eat (see Figure 1). It is important to talk to women about eating extra nutritious foods rather than only eating extra calories that may have little nutrient value.

**FIGURE 1: ASSESSMENT ALGORITHM**



#### **ENERGY NEEDS OF BREASTFEEDING WOMEN**

Breastfeeding women also have higher energy requirements than non-pregnant women. How much they need depends on how much milk they produce and how quickly they lose their pregnancy weight (Institute of Medicine, 2002). Women need about 350 to 400 extra calories each day for the first year of breastfeeding.

Women who are breastfeeding and who have gained an appropriate amount of weight during pregnancy need to eat about the same amount of food as they did during their

pregnancy. Canada's Food Guide therefore recommends that breastfeeding women eat two or three extra Food Guide Servings from any food group. This gives women the additional energy they need while breastfeeding.

### **SPECIFIC NUTRIENT NEEDS FOR PREGNANT TEENAGERS**

All teens need more calcium than adult women. However calcium needs are the same for pregnant and non-pregnant teens (Institute of Medicine, 2006). Following Canada's Food Guide pattern for all females 14 to 18 years will help pregnant teens meet their needs for calcium.

Other nutrients (like zinc) are needed in greater amounts by pregnant teens than by other teenagers (Institute of Medicine, 2006). However, teenagers can easily meet these nutrient needs by taking a daily multivitamin.

Health professionals should advise pregnant teenagers to follow the Canada's Food Guide pattern for their age and to eat an extra two to three Food Guide Servings each day. They need more food to meet their increased energy requirements during pregnancy.

Health Canada compared the pattern for teen girls (14-18 years old) with the nutrient needs of pregnant teens. It was found that pregnant teens need to take a daily multivitamin. This will help ensure that they get their required nutrients.

Teenagers need nutritional care throughout their pregnancy. They should be seen early in their pregnancy and frequently throughout. This can help address their specific needs and those that go beyond the recommendations in Canada's Food Guide.

### **IMPLICATIONS FOR PRACTICE**

[Canada's Food Guide](#)<sup>1</sup> advises that women eat a little more food during pregnancy, assuming that they are already following the pattern recommended for their age. A woman with a significantly different eating pattern may need more or less food. Tools such as the [My Food Guide Servings Tracker](#) from Health Canada or the Dietitians of Canada EATracker<sup>2</sup> help assess dietary intake as it relates to Canada's Food Guide.

Variety means including different foods from each food group. Following this advice helps women get the nutrients they need for good health. Promote the Canada's Food Guide message to "Enjoy a variety of foods from the four food groups" with pregnant women.

Pregnant women should choose nutritious foods from the four food groups to get their extra calories. The following are examples of nutritious snacks or foods to add to a meal:

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(1)Complementary materials are also available, including translated versions of Canada's Food Guide and the tailored food guide for First Nations, Inuit and Métis.

(2) Available online at: [www.eatracker.ca](http://www.eatracker.ca)

- Have an extra morning snack of fruit with yogurt and an extra serving of vegetables with supper.
- Have an extra glass of milk with lunch and supper.
- Have an extra afternoon or evening snack of whole grain cereal with milk and sliced fruit or chopped nuts.
- Have an extra afternoon snack of half a sandwich or whole grain toast with nut butter and a small glass of 100% orange juice.
- Have an extra afternoon snack of dry meat or fish and a small piece of bannock.

All pregnant women should take a daily multivitamin containing 0.4 mg of folic acid and 16 – 20 mg of iron (Health Canada, 2009). At the same time, they may also need to change their diet to get the most from nutrient-rich foods. Health Canada's Prenatal Nutrition Guidelines include lists of foods high in folate and iron.

Refer nutritionally at-risk women to services or programs that can help. The [Canada Prenatal Nutrition Program](#)<sup>3</sup> Website provides contact information for programs and services for vulnerable pregnant women.

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(3) The Canada Prenatal Nutrition Program is developed and delivered in partnership with the provinces and territories, and with First Nations and Inuit communities. The services provided include food supplementations, nutritional counselling, breastfeeding support, education, referral and counseling on health and lifestyle issues.