



Healthy eating and weight gain for vegetarian pregnant and breastfeeding mothers

Healthy eating pregnancy

Healthy eating is important at all stages of life, especially during pregnancy. Your choices of what to eat and drink at this time can affect your health and the health of your baby for many years to come.

There is only a *small* increase in the *amount of food* you need to eat while you are pregnant. However, you do need more of certain nutrients, so it is very important that you make good choices for a *nutritious diet*. *This is important* so you and your baby get all you need for healthy growth and a healthy pregnancy.

UUYour daily food group requirements during pregnancy are outlined in the table overleaf. Use the numbers in the middle column to guide how many serves to eat from each food group per day. One serve is equal to each of the foods in the column on the right. For example, one serve of fruit is equal to 2 small plums, one serve of grain (cereal) foods is equal to ½ cup of cooked pasta.

is especially important in the month before you fall pregnant and the first trimester (three months) of pregnancy. A good intake of folate reduces the risks of your baby being born with some abnormalities such as spina bifida (a disorder where the baby's spinal cord does not form properly). Dietary sources high in folate include green leafy vegetables such as broccoli, spinach, bok choy, and salad greens, some fruits and cereals and breads with added folic acid.

All women planning a pregnancy and in the early stages of pregnancy should eat a variety of folate-containing foods (listed above) You should also take a folic acid supplement of 400 micrograms per day at least one month before and three months after you become pregnant.

What's in this handout?

- Healthy eating for pregnancy –essential nutrients I need and how I get them?
- A sample meal plan to show you how this all fits together
- Managing healthy weight gain in pregnancy
- Food safety, including listeria
- Managing food related side effects, like constipation, heartburn, and morning sickness
- Being active during pregnancy
- Breastfeeding

Food Group	Number of serves per day 19-50 years		1 serve
Vegetables and legumes/ beans	Pregnant 5	Breast Feeding 7½	½ cup cooked green or orange vegetables (e.g. broccoli, carrot, pumpkin or spinach) ½ cup cooked, dried or canned beans, chickpeas or lentils (no added salt) 1 cup raw leafy green vegetables ½ medium potato, or other starchy vegetable (sweet potato, taro, or cassava) ½ cup sweet corn 75 g other vegetables e.g. 1 small-medium tomato
Fruit	Pregnant 2	Breast Feeding 2	1 piece medium sized fruit (e.g. apple, banana, orange, pear) 2 pieces smaller fruit (e.g. apricot, kiwi fruit, plums) 1 cup diced, cooked or canned fruit ½ cup 100% juice 30 g dried fruit (e.g. 1½ tbsp sultanas, 4 dried apricot halves)
Grain (cereal) foods	Pregnant 8½	Breast Feeding 9	1 slice of bread ½ medium bread roll or flat bread ½ cup cooked rice, pasta, noodles, polenta, quinoa, barley, porridge, buckwheat, semolina, cornmeal ⅔ cup breakfast cereal flakes ¼ cup muesli 3 crisp breads 1 crumpet or 1 small English muffin or scone
Eggs, nuts, seeds and legumes	Pregnant 3½	Breast Feeding 2½	2 large eggs (120 g) 1 cup (170 g) cooked dried beans, lentils, chickpeas, split peas, canned beans 170 g tofu 1/3 cup (30 g) unsalted nuts, seeds or paste, no added salt
Dairy	Pregnant 2½	Breast Feeding 2½	1 cup (250 ml) milk 40 g (2 slices) hard cheese (e.g. cheddar) 120 g ricotta cheese 200 g yoghurt
Additional serves for taller or more active women	0–2½		3–4 sweet biscuits 30 g potato crisps 2 scoops soy ice-cream 1 Tbsp (20 g) dairy-free butter, margarine, oil



Queensland
Government

Protein

Pregnant or breastfeeding women should aim to include protein sources *at each meal* such as nuts, seeds, soy products and dried beans and peas.

Iodine

Adequate iodine in pregnancy is essential for your baby's growth and brain development. Iodine is needed in higher amounts during pregnancy. It is now recommended that all pregnant women should take a supplement containing 150 micrograms of iodine. You still need to consume good food sources of iodine in addition to this supplement. These food sources include:

- Iodised salt (look for green label)
- Bread with added iodine
- Fortified margarine.

Iron during pregnancy

Iron is needed to form the red blood cells for you and your baby. It helps carry oxygen in your blood and is needed for your baby to grow. During pregnancy you need a lot more iron than when you are not pregnant so for women who follow a vegan diet, an iron supplement is highly recommended. Good sources of additional dietary iron are legumes,

(e.g. beans, peas, lentils), dark green vegetables, dried fruits, nuts, fortified soy milks, breakfast cereals and wholemeal breads. Vitamin C will help its absorption; so combine your iron intake with citrus fruit, berries or tomato (fresh or juiced). Talk to your healthcare provider to make sure you are getting enough iron from your diet.

What you eat or drink can stop your body using iron from your diet. You should limit your intake of the following:

- Drinking tea or coffee with meals
- Eating more than 2 tablespoons of unprocessed bran.

You can help your body get iron from the food you eat or drink by:

- Including vitamin C with meals (e.g. citrus foods, tomato, capsicum)
- Using antacids sparingly.
- Avoid taking foods or supplements containing calcium at the same time as an iron supplement

Multivitamin supplements

A multivitamin during pregnancy is not necessary unless you do not have a balanced diet – compare what you are eating with the table on the second page of this sheet. Remember, a folate



supplement is important during the first trimester of pregnancy, and iodine is essential during pregnancy (and breastfeeding).

You may also need to take an iron supplement if your iron levels are low. You may choose to get these nutrients from individual tablets or from a multivitamin. If you do choose to take a vitamin or mineral supplement during pregnancy, choose one that is specifically designed for pregnancy. Always check with your doctor before taking any supplements as an excessive intake of these can be harmful and reduce the absorption of other nutrients.

Herbal supplements and preparations

Many herbal preparations have a drug-like effect. These should be used with the same caution as with other drugs. Please call the NPS (National Prescribing Service) Medicines line for any information regarding alternative treatments in pregnancy, phone 1300 633 424.

Calcium

Calcium fortified products are important to meet calcium requirements whilst pregnant. Also include tofu, almonds,

sesame seeds, tahini, as well as calcium fortified plant milks.

Vitamin B12

Significant amounts of B12 are usually found in animal products, so your intake will be limited. A good amount can be consumed by having at least two serves of soy milk fortified with B12 daily. Food fermented by micro-organisms (soy sauce, miso, tempeh), manure-grown mushrooms, spirulina and yeast may contain small amounts of vitamin B12, but this is not sufficient to meet your requirements for vitamin B12 so a supplement may be required. Discuss your vitamin B12 levels and requirements with your doctor or midwife.

Zinc

Good sources for vegans include beans and lentils, yeast, nuts, seeds and wholegrain cereals. Pumpkin seeds provide one of the most concentrated vegan food sources of zinc.

Healthy weight gain

It is important for your and your baby's health to eat well during pregnancy. Keeping track of your weight is also important. You should *balance* your



Queensland Government
nutritional needs with healthy weight gain and eating to appetite.

Not enough weight gain can increase the risk of preterm birth and cause problems later in life. Women who are overweight or gain too much weight during pregnancy have a higher risk of:

- High blood pressure
- Gestational diabetes
- A large baby (macrosomia)
- Caesarean sections
- Birth defects
- Difficulty losing weight after their baby is born.

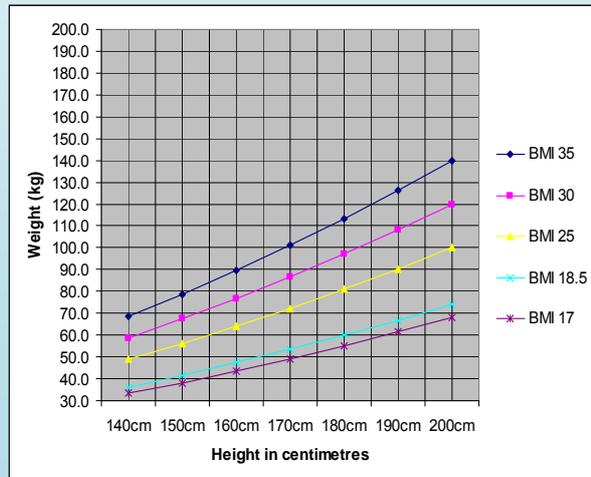
This can also increase your long-term risk of diabetes, heart disease and some cancers.

How much weight should I gain?

The weight you should aim to gain depends on what your weight (and body mass index - BMI) was *before* you became pregnant. BMI is the number used to work out the recommended amount for you. If you were given a handheld record from antenatal clinic you may find your BMI in here. If not, you can work it out using the steps in the box below.

Use this table as a general guide to what you should gain during pregnancy.

If your <i>pre-pregnancy BMI</i> was...	You should gain...
Less than 18.5 kg/m ²	12½ to 18kg
18.5 to 24.9 kg/m ²	11½ to 16kg
25 to 29.9 kg/m ²	7 to 11½ kg
Above 30 kg/m ²	5 to 9kg



Trimester by trimester weight gain

As well as having an overall weight gain goal for your pregnancy, there is a trimester-by-trimester guideline to follow:

How much should I gain in my first trimester? All women can expect to gain one or two kilograms in the first three months of pregnancy.

How much should I gain in my second and third trimesters? This depends on your *pre-pregnancy BMI*. Refer to the table below to see your goal.

If your <i>pre-pregnancy BMI</i> was...	You should gain...
Less than 18.5 kg/m ²	½ kg/week
18.5 to 24.9 kg/m ²	400g/week
Above 25kg/m ²	Less than 300g/ week

Do I have a different weight gain goal if I am having twins or triplets?

Yes — If you are going to have more than one baby you will need to gain more weight than outlined above. Use these recommendations instead:

If your <i>pre-pregnancy BMI</i> was...	You should gain...
Less than 18.5 kg/m ²	Talk with your Dietitian/Obstetrician
18.5 to 24.9 kg/m ²	16 to 24kg
25 to 29.9 kg/m ²	14 to 23 kg
Above 30 kg/m ²	11 to 19kg

What should I do if I am not gaining enough weight?

Not gaining enough weight means you and/or your baby may miss out on important nutrients. It is important to have three meals a day, and also have between-meal snacks, such as morning tea, afternoon tea and supper.

Good snacks include:

- Fruit toast
- Dried fruit, nuts, and seeds
- Soy yoghurt
- Muesli bars
- Soy cheese & crackers
- Plant milk drinks

Sometimes women who have morning sickness early in pregnancy find it difficult to gain enough weight. Sometimes they even lose a small amount of weight. If this happens to you, you do not need to be concerned as long as you start to gain weight in the second trimester of your pregnancy.

What should I do if I am gaining weight too quickly?

Gaining too much weight when you are pregnant can increase your blood pressure and increase your risk of gestational diabetes.

To control your weight gain, limit foods that are high in fat and sugar. Make sure



you are not 'eating for two'. It is also important to include regular physical activity on most days (see next page).

See the lists below for foods that you might like to swap or stop!

Limit the amount of fat you eat by:

- Limiting biscuits, cakes, chips, and crisps
- Reducing the amount of fat in cooking
- Using healthy cooking methods like grilling, steaming, baking
- Limiting high fat takeaway foods.

Limit high sugar foods by:

- Drinking water, not soft drink or cordial
- Using 'diet' or low joule products
- Limiting fruit juices to one glass per day as these are high in sugar (even 100% juice)
- Limiting chocolates, lollies, sweets and desserts.

Listen to your hunger cues and only have a snack if you are *actually* hungry.

Watch your serve sizes, especially of foods like rice, pasta, potato, and bread.

Returning to your pre-pregnancy weight

The greatest amount of weight loss occurs in the first 3 months after birth

and then continues at a slow and steady rate until 6 months after birth.

Breastfeeding helps you return to your pre-pregnancy weight as some of the weight you gain during pregnancy is used as fuel to make breast milk. Healthy eating and regular physical activity in the postnatal period will also help you to lose the weight gained during pregnancy.

Future pregnancies

If you are planning another pregnancy, it is a good idea to return to your pre-pregnancy weight first, or close to this. Starting your pregnancy at a BMI above the healthy weight range puts you and your baby at greater health risks during pregnancy. Retaining excess weight over subsequent pregnancies increases your risk of lifestyle diseases. Speak to your Dietitian for more advice.

Being active during pregnancy

1. How much is enough?

To get the most health benefits, a good goal is *at least half an hour of moderate-intensity physical activity on most, preferably, all days*. You do not have to do it all at once. Your exercise can be spread over the day, in ten-minute blocks.



Try three ten minute walks, or two fifteen-minute periods of activity.

2. What does moderate-intensity activity mean?

Moderate-intensity means you are exercising at a comfortable pace. A good guideline is the 'talk test' — you should be able to easily hold a conversation without being short of breath.

3. Benefits of being active include:

- Less lower back pain
- Less nausea
- Less heartburn
- Lower stress levels
- More energy
- Better bowel habits better sleep
- Being more relaxed
- Less anxiety

4. What are some activities that I can do?

Many activities are safe during pregnancy including:

- Swimming
- Walking
- Cycling on an exercise bike
- Yoga or Pilates
- Low-impact aerobics, like water aerobics
- Light resistance gym program.

Classes that specially cater to pregnant women may be more suited to your needs and body changes during your pregnancy. They can adapt exercises for you, such as having you lie on your side as you exercise rather than on your back, which is not advised throughout your pregnancy.

Remember that incidental activity counts too! This is physical activity that builds up as part of everyday activities. Try to:

- Use the stairs instead of the lift
- Park your car further away from the shops
- Get off the train or bus one stop early and walk home
- Be active around the house or garden.

Most activities are safe, as long as you:

- Take things easy
- Stop when you are tired
- Drink plenty of water
- Wear suitable clothing
- Do not become overheated
- Stop the activity if you experience any pain that doesn't settle quickly.

Avoid:

- Excessive stretching — Your ligaments can be softened by the hormonal changes during pregnancy.



Be careful with side kicks in aqua-aerobics and swimming breaststroke.

- High impact activities or contact sports — These include running, surfing, water skiing, trampolining, gymnastics, netball, touch football or squash.
- Activities that may limit your oxygen supply— two examples are scuba diving and mountain climbing.

How can I keep motivated?

- Plan to do an exercise class each week or to walk with a friend.
- Do exercises that you enjoy.
- Remind yourself of how good you feel when you do and after you are active.
- Remember the benefits of being active during pregnancy.

When to stop physical activity

If you experience any of the following symptoms during or after physical activity stop and talk to your doctor:

- Contractions
- Vaginal bleeding
- Dizziness or unusual shortness of breath
- A headache
- Decreased foetal movements

- Sudden swelling of ankles, hands and face.

Food safety during pregnancy

Hormonal changes during pregnancy may make your immune system weaker. This can make it harder to fight infections. Foods are sometimes a source of infections so protecting yourself from food poisoning is important.

Listeria

Listeria is a bacteria found in some foods, which can cause an infection called listeriosis. If passed on to your unborn baby it can cause premature birth, miscarriage or damage. The risk is the same through your whole pregnancy.

Always keep your food 'safe' by:

- Choose freshly cooked and freshly prepared food.
- Thawing food in the fridge or defrosting food in the microwave.
- Cooling left over food in the fridge rather than the bench.
- Wash your hands, chopping boards and knives after handling raw foods.
- Make sure hot foods are hot (above 60 degrees Celsius) and cold foods are cold (below 5 degrees Celsius), both at home and when eating out.



- Make sure all food is fresh, used within the used-by date.
- Eat left overs within 24 hours and reheat foods to steaming hot.
- Heat leftovers to above 74 degrees for over 2 minutes.
- Never re-freeze food once it has been thawed.
- Wash fruits and vegetables thoroughly before use
- Ready-to-eat salads (from salad bars, buffets, supermarkets etc.) are foods that may contain Listeria and should be avoided.

Some other bacteria and parasites can be harmful to your unborn baby.

In addition to the precautions above:

- Wear gloves when gardening and wash hands afterwards.
- Avoid contact with cats and use gloves when handling cat litter (cats can be a source of Toxoplasmosis– a serious infection that can cause defects or death in your baby).

Special Considerations during Pregnancy

1. Caffeine

During pregnancy caffeine takes longer to break down in your body. Generally 2–3 cups of coffee or up to 4 cups of tea a day are okay, but decaffeinated drinks are a better alternative. Try to limit your intake of caffeine containing drinks and foods.

2. Alcohol

Alcohol crosses the placenta and can lead to physical, growth and mental problems in babies. There is no known safe level of alcohol consumption during pregnancy. The safest option is not to drink during your pregnancy.

3. Nausea and Vomiting

Many women suffer from sickness, usually in early pregnancy. Morning sickness is usually caused by the hormonal changes of pregnancy, and can affect you at any time of the day. By the end of the 4th month of pregnancy, symptoms usually disappear or become much milder.

Some tips to help morning sickness:

- Eat small amounts every two hours — an empty stomach can cause nausea.
- Avoid smells and foods that make your sickness worse.
- Eat more nutritious carbohydrate foods: try dry toasts or crackers, breakfast cereals and fruit.
- Eat less fatty and sugary foods.

4. Heartburn

Heartburn, or reflux, is a burning feeling in the middle of the chest that can also affect the back of the throat. It is caused when acid moves from the stomach, back up the oesophagus. This happens because hormonal changes during pregnancy relax stomach muscles, and also because as the baby grows, more pressure is put on your stomach.

Some tips to reduce heartburn:

- Eat small regular meals more often
- Avoid fatty, fried or spicy foods
- Avoid tea, coffee, carbonated drinks, chocolate drinks and alcohol
- Sit up straight while eating
- Do not bend or lie down after meals or wear tight clothes
- Sleep propped up on a couple of pillows.

- Eat in a calm, relaxed place
- Avoid peppermint and spearmint containing gums and herbal teas
- Avoid drinking at the same time as eating

5. Constipation

Constipation is common during pregnancy. Hormone changes may relax the muscles in your bowel, which together with pressure from the growing baby can slow down your bowel movements. It is important to have enough fibre, fluid and exercise to avoid constipation. Good sources of dietary fibre include; vegetables, fruit, wholegrain and high fibre breakfast cereals, wholegrain bread, nuts, seeds and legumes. Water is the best drink.

Now that you are up to date on healthy eating for yourself you need to start thinking about nutrition for your baby when he or she arrives.

Mothers & Babies are designed for Breastfeeding

- Breastfeeding is the natural, normal way to feed your baby.
- Breastmilk is a complex food. It changes to meet the particular needs



of each child from the very premature baby to the older toddler.

Food for health

- Breastfeeding has an amazingly positive effect on the health of both mothers and babies.
- For this reason, the World Health Organisation (WHO) and the Australian Department of Health recommend that all babies are breastfed *exclusively* (ie. no other food or drinks) for around the *first 6 months* and then continue to receive breastmilk (along with complementary food and drink) into the child's 2nd year and beyond.
- Research shows that the longer the breastfeeding relationship continues, the greater the positive health effects.

Breastmilk provides:

- *Protection for baby* from infections such as ear, stomach, chest and urinary tract; diabetes, obesity, heart disease, some cancers, some allergies and asthma.
- *Protection for mother* from breast and ovarian cancers, osteoporosis and other illnesses.
- *Healthier communities & environment.*

Preparing to succeed

Research shows that nearly all of women are able to meet the breastmilk needs of their babies. Ask the midwife to put your baby skin to skin on your chest as soon as possible after birth. Take the midwife up on her offer to help your baby lead attachment to your breast. Talk to your family, friends and workplace about your decision to breastfeed so they are ready to support you once your baby has arrived.

Fluid

When you are breastfeeding you need more to drink to replace the fluid used in breast milk (~700 ml/day). It is a good idea to have a drink, such as a glass of water or dairy milk alternatives (within your nutrition needs) every time your baby feeds. You will also need to drink more fluid at other times during the day too.

Avoiding certain foods during breastfeeding

Mothers may be told to avoid certain foods when breastfeeding. Severe allergic reactions are rare in breast fed babies, however food intolerances can occur. If you are concerned what you are eating is affecting your baby contact your



doctor or an Accredited Practicing Dietitian.

Trying to lose weight while breastfeeding

- Breast feeding helps you shape up. The greatest amount of weight loss generally occurs in the first 3 months after birth and then continues at a slow and steady rate until 6 months after birth.
- Breastfeeding your baby should help you return to your pre-pregnancy weight, as some of the fat stores you laid down during pregnancy are used as fuel to make breast milk.
- When you are trying to lose your pregnancy weight it is important you still meet your nutritional needs. Try these helpful hints:
 - Follow the meal plan in this handout or similar.
 - Do not skip meals.
 - Limit foods high in fat and sugar such as lollies, chocolate, soft drinks, cakes, sweet biscuits, chips and fatty take-away food.
 - Use healthy cooking methods such as steaming, boiling, microwaving, grilling and stir frying.

- Do some gentle exercise such as taking your baby for a walk. If available attend physiotherapy postnatal classes.
- Plan your healthy meals and snacks ahead of time.

Regular physical activity can also assist with weight management. See the following Queensland Health resources

- Healthy Weight gain during pregnancy
- Exercising during pregnancy

Are you losing weight too quickly?

- If you are losing too much weight when you are breastfeeding it is important you do not stop breastfeeding.
- Instead, find ways to eat more nutritious foods.
- Try these suggestions:
 1. Don't skip meals.
 2. Have three main meals and three between-meal snacks.
 3. Keep easy to prepare nutritious snacks on hand (e.g. crisp-breads and cheese, fresh fruit, yoghurt, nuts, seeds, dried fruit, canned beans, flavoured milk, fruit smoothies, breakfast cereals and milk).



4. Prepare a packed lunch or variety of snacks to have in a container beside you when breastfeeding.
5. Prepare and freeze meals in advance when possible (or ask your friends / family to help).
6. Plan your healthy meals & snacks ahead of time.

recommended that you continue breastfeeding for at least 12 months, into the second year of life and for as long as you and your baby & are happy to continue.

For further breastfeeding information go to

www.health.qld.gov.au/breastfeeding/

www.breastfeeding.asn.au 24 hour hotline: 1800 686 268

How long should you breastfeed your baby?

Breastfeeding should provide all of your baby's nutritional needs for the first 6 months of life. After you start introducing solids at around 6 months, then it is

Things I can do to improve my diet for a healthy pregnancy and/or while breastfeeding:

1.

2.

3.

4.

For further information contact your Dietitian or Nutritionist: _____

Content in this handout was informed by:

Caboolture mums & little ones project – Pregnancy Pocketbook. (2006-2009), Queensland Health.
 Callaway, L.K., et al.(2006), The prevalence and impact of overweight and obesity in an Australian obstetric population, Medical Journal of Australia. 184(2): p. 56-59.
 Eat for Health Australian Dietary Guidelines. 2013. Commonwealth of Australia.
 Foods Standards Australia and New Zealand, Listeria and food fact sheet, 2005.
 The Growing Years Project, Brochure 2: Nutrition and physical activity when you're pregnant, (2005-2009), University of the Sunshine Coast.
 Institute of Medicine (2009). Weight Gain During Pregnancy: Re-examining the Guidelines, National Academies Press.
 National Health and Medical Research Council (2010), Public Statement, *Iodine Supplementation for pregnant and breastfeeding women*.
 National Health and Medical Research Council (2006). Nutrient Reference Values for Australia and New Zealand Executive Summary. Dept. Health and Ageing. Canberra, Commonwealth of Australia.
 Sports Medicine Australia Exercise in Pregnancy Factsheet, (2009).
 World Health Organisation. *Global Strategy for Infant and Young Child Feeding*. World Health Organisation, 2003.
 World Health Organisation. *Infant Feeding: The Physiological Basis*. 1996. James Akre (ed), WHO, Geneva.
 Zimmermann M, Delange F. Iodine supplementation of pregnant women in Europe: a review and recommendations. *Eur J Clin Nutr* 2004;58:979-984.

This is a consensus document from Dietitian/ Nutritionists from the Nutrition Education Materials Online, "NEMO", team.

Disclaimer: <http://www.health.qld.gov.au/masters/copyright.asp>

Last reviewed: October 2015
 Due for review: October 2017



Queensland
Government

This is a consensus document from Dietitian/ Nutritionists from the Nutrition Education Materials Online, "NEMO", team.

Disclaimer: <http://www.health.qld.gov.au/masters/copyright.asp>

Last reviewed: October 2015

Due for review: October 2017