az1746 September 2017

Eating for Two – A Healthy Pregnancy Starts with a Healthy Diet

Melissa Wyatt and Vanessa da Silva



The saying "you are what you eat" takes on a new meaning when a woman learns she is expecting a baby. For the next several months, her growing baby's health is directly dependent upon what she eats, and what she chooses to avoid. What is more, a woman's diet during pregnancy has been shown to affect her child's health long after she is no longer eating for two.

Eating a healthy, nutritionally balanced diet with plenty of fruits and vegetables, whole grains and lean protein is a great way to take care of yourself and your growing baby. Following a healthy diet during pregnancy can help avoid:

- Excessive weight gain
- Preterm labor
- Low birth weight baby
- Gestational diabetes
- Pre-eclampsia

How much weight to gain?

The Institute of Medicine (1) has set guidelines for pregnancy weight gain based on a woman's pre-pregnancy body mass index (BMI). Your height and weight are used to calculate your BMI. You can access online BMI calculators at https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/english_bmi_calculator/bmi_calculator.html.

Eating for two does not mean twice the calories

It is often stated that women should eat 300 extra daily calories during pregnancy. This number is an average of the increased caloric needs of the entire pregnancy. Ideally, the increase in calories should happen gradually. As the baby grows, so does the expectant mother's need for extra calories:

Table 1. Recommendations for pregnancy weight gain, based on BMI before pregnancy.

	Pre-Pregnancy BMI	Weight Gain (lbs)
Underweight	less than 18.5	28 – 40
Normal weight	18.5 – 24.9	25 – 35
Overweight	25.0 – 29.9	15 - 25
Obese	30.0 and greater	11 – 20
Institute of Medicine (1)		

1st trimester – no extra calories are needed 2nd trimester – an additional 340 calories a day compared to before pregnancy 3rd trimester – 450 calories a day more than before pregnancy

Eating for two does not mean eating double the calories! Keeping overall calorie intake in balance with caloric needs is important, but even more important is to make those calories count. Pregnant women should put on weight by adding nutritious foods to their diet, like fruits, vegetables, healthy fats and lean proteins – and not empty calories. Empty calories are those that provide calories but little or no other nutrients, such as the calories found in soft drinks. A healthy diet ensures both mother and child are getting enough of the nutrients they need during this special time.

Protein

Proteins are the building blocks for your growing baby. Every part of your growing baby needs protein from the skin to the lungs, heart and brain! The recommendation for pregnant women is to increase their protein intake by 25 grams/day (2). This is roughly the amount of protein in 4 oz of pork. This recommendation is really important in the second and third trimesters of pregnancy. It is important that the protein comes from lean cuts of meat including, beef, poultry, and pork, as well as other sources like eggs, and vegetable sources of protein such as rice and beans. Whichever sources of proteins you choose, ensure that they are prepared to proper cooking temperatures as foodborne illness can be a problem (see the section below for more information on foodborne illness).

Folate or Folic Acid

Folate or folic acid is part of the vitamin B family. It is important for the development of brain cells and nerves. The term folate is used when the vitamin is found naturally in foods. Folic acid refers to forms found in supplements and fortified foods, such as breakfast cereals. Food sources of folate include beans, oranges, leafy greens, and asparagus. The recommended intake is 600 micrograms/day (3). It is important to note that if you are planning on becoming pregnant, it is essential to have sufficient folic acid in your daily diet to reduce the risk of neural tube defects in your baby.

Choline

This nutrient is important for your growing baby as it helps develop their bodies' cells and important brain communicators called neurotransmitters. Most people do not get enough choline before pregnancy, and needs for choline increase during pregnancy. The adequate intake for pregnant women is 450mg/day (3). Sources of this nutrient include lean beef, beans, eggs, and nuts.

Iron

Iron is an important part of the blood, as it allows it to carry oxygen to all body parts in both you and your developing baby. During pregnancy your blood volume increases by 50

percent! With such a large increase there is a need to get extra iron in your diet. The recommended intake of iron for pregnant women is 27mg/day (4).

Food sources of iron include lean meats, including lean beef and poultry, leafy greens such as spinach, oatmeal, beans, and dried fruits including raisins, prunes, and apricots. To improve absorption of the iron in plant foods, consume ironcontaining foods with acidic foods or drinks like orange juice. For example, you can absorb more iron from spinach if you eat it with a vinaigrette versus a cream-based dressing like ranch. You can also drink beverages such as tomato or orange juices that are naturally acidic when consuming plant based sources of iron.

Calcium

This mineral gets a lot of attention in bone health and your growing baby needs calcium. It helps with the baby's bone development. It is very important to get enough calcium in your diet as many Americans do not get enough, even women do not get enough before they are pregnant. It is important to get enough calcium as your body will take the calcium from your bones so your baby has enough. Over time, not enough calcium can cause osteoporosis later in life. The recommended intake of calcium is $1000 \, \text{mg} / \, \text{day}$ for pregnant women. This is the same amount for pre-pregnant women. Sources of this mineral include dairy products, dark leafy greens, oranges, tofu, pinto beans, and calcium-fortified foods, such as calcium-fortified orange juice.

Omega-3 Fats

These healthy fats must be obtained from your diet. Omega 3 fats help the growing baby's developing brain and nervous system. There is no established recommended intake for this nutrient during pregnancy, but the recommended adequate intake for women is 1.1 grams a day (2). Fish are excellent sources of omega 3 fats, but since pregnant women need to limit their fish intake (see below for details on environmental pollutants), other sources such as certain fortified foods or dietary supplements might be needed to ensure you are getting enough. Remember to talk to your health provider before taking any supplements.

Seafood can be part of a healthy pregnancy diet

Fish is a good source of lean protein and healthy fats such as omega 3s. However, some fish contain high amounts of mercury, which can be harmful to the growing baby. In order to minimize the risk of mercury contamination, pregnant and lactating women should follow the advice below (6):

- Avoid: swordfish, king mackerel, tilefish, and shark
- Limit: albacore tuna (canned or cooked) to 6 oz a week
- Consume: tilapia, cod, salmon, shrimp, sardines, catfish up to 12 oz a week

In addition, pregnant women should avoid eating raw fish (see section on foodborne illness, below.)

Foodborne illness

Foodborne illness is especially dangerous during pregnancy, as the resulting vomiting and diarrhea can leave a pregnant woman severely dehydrated. A particularly serious contamination is caused by listeriosis, which pregnant women are at a higher risk for than healthy adults. The best way to avoid listeria is to thoroughly wash all fruits and vegetables and to avoid the foods listed below.

Foods to avoid to protect from listeria (6):

- Mexican non-pasteurized soft cheeses, such as queso blanco, queso fresco, asadero
- Any unpasteurized dairy product or juice
- Undercooked meats, poultry, eggs, and seafood
- Cured or deli meats that have not been thoroughly reheated until steaming hot
- Refrigerated smoked seafood, or refrigerated meat spreads
- Raw fish

During pregnancy and when feeding young children, it is particularly important to follow the four basic food safety steps: clean, separate, cook, and chill (7).

Should pregnant women exercise?

Getting regular physical activity during pregnancy can be part of a healthy pregnancy. Regular physical activity during pregnancy can help manage weight gain during pregnancy and help manage discomforts of pregnancy (5):

- May lower the risks for gestational diabetes and preeclampsia
- Promotes health amount of weight gain during pregnancy
- Promotes muscle strength and tone
- Helps reduce leg and back pain, constipation, swelling, and bloating
- Promotes good circulation
- Helps improve your sleep

It is important to talk to your doctor about physical activity during your pregnancy. Doctors may advise against regular physical activity for high risk pregnancies (8). If you do engage in physical activity during pregnancy remember to choose activities that are suitable for your trimester of pregnancy. In general, walking, swimming and water exercises, riding a stationary bike, modified yoga and pilates, and low-impact aerobics are good exercises to engage in.

Even healthy pregnancies have discomforts

Health pregnancies often have discomforts associated with them. These discomforts can range from pain in legs, hips, and back to digestive discomforts including nausea and vomiting in early pregnancy, heartburn and constipation (6).

There are ways to manage some of these discomforts. We will focus on several that can be managed through diet.

Nausea and vomiting

These symptoms are very unpleasant to have during pregnancy. However, women do encounter these two symptoms. The best way to manage these symptoms is to:

- Avoid foods that trigger these symptoms. Foods that are spicy can commonly trigger nausea and vomiting.
- Avoiding foods that have strong odors
- Eating smaller portions
- Having more plain foods or starchy foods
- Eat every 2-3 hours instead of having 3 large meals each day
- Eat foods that you know you tolerate

Heartburn

This can happen throughout pregnancy and is uncomfortable. To manage this discomfort try eating smaller meals and if there are certain foods that trigger it, then avoid those foods. You can also try sleeping with your head and upper torso elevated slightly to avoid acid reflux.

Constipation

This discomfort can be managed by drinking plenty of water and getting at least 28 g/day of dietary fiber. One cup of cooked beans contains 15 g of fiber, for example. Moderate physical activity can help as well.

Healthy mother, healthy baby

Pregnancy is a great time to improve your diet and take care of yourself. A healthy mother is more likely to give birth to a healthy baby – so if you are pregnant or planning to get pregnant, now is the best time to adopt these healthy behaviors!

Resources

- 1. Institute of Medicine. Weight gain during pregnancy: reexamining the guidelines. Washington, D.C.: National Academy Press, 2009.
- Institute of Medicine, Food and Nutrition Board. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington, D.C.: National Academy Press; 2005:185-194.
- 3. Institute of Medicine, Food and Nutrition Board. Dietary Reference Intakes: Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, D.C.: National Academy Press; 1998.
- Institute of Medicine, Food and Nutrition Board. Folate. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc. Washington, D.C.: National Academy Press; 2001.
- Riley L, Nelson S. Healthy Eating During Pregnancy: your guide to eating well and staying fit. 1st ed. Des Moines, IA: Meredith Book; 2006.
- Duyff RL. American Dietetic Association complete food and nutrition guide. 4th ed. Boston: Houghton Mifflin Harcourt; 2012.
- United States Department of Agriculture Food Safety and Inspection Service. Check Your Steps: Food Safe Families https://www.fsis.usda.gov/wps/portal/fsis/topics/ food-safety-education/teach-others/fsis-educationalcampaigns/check-your-steps accessed Sept 12, 2017.
- 8. The American College of Obstetricians and Gynecologists. FAQ119 Exercise During Pregnancy. https://www.acog.org/Patients/FAQs/Exercise-During-Pregnancy#certain accessed Sept 15, 2017.



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
TUCSON, ARIZONA 85721

MELISSA WYATT

Extension Agent, La Paz County

VANESSA DA SILVA

Extension Specialist, Nutritional Sciences

CONTACT:

VANESSA DA SILVA

vdasilva@email.arizona.edu

This information has been reviewed by University faculty.

extension.arizona.edu/pubs/az1746-2017.pdf

Other titles from Arizona Cooperative Extension can be found at:

extension.arizona.edu/pubs

Any products, services or organizations that are mentioned, shown or indirectly implied in this publication do not imply endorsement by The University of Arizona.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Extension & Economic Development, College of Agriculture Life Sciences, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.