Nutritional needs during pregnancy

During pregnancy, a woman’s nutritional needs change. Women need to consume extra vitamins and minerals, increase their calorie intake, and avoid certain foods and chemicals to optimize the growth and development of their baby. We discuss how to advise your pregnant patients on their nutritional needs during this special time.

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The author has disclosed that she has no significant relationships with or financial interest in any commercial companies that pertain to this educational activity.

We all know that proper nutrition can help to keep us healthy. And we also know that during pregnancy a woman’s nutritional needs change; she isn’t only nourishing herself but also her unborn child. Eating properly can be a challenge when we’re busier than ever with work, school, family, and other activities—all demanding a piece of our time and attention. Nutrition status before pregnancy will have an impact on the course of the pregnancy; however, there’s no bad time to begin eating right.

When caring for a woman who wants to become pregnant or is already...
pregnant, there are specific nutritional issues you can address to give her the information she needs to eat right for a healthy pregnancy, including proper weight gain and caloric intake, the risk of gestational diabetes, important vitamins and minerals to take, harmful or dangerous foods and substances to avoid, and how to deal with cravings and nausea.

Let’s explore the nutritional needs of your pregnant patients and how eating right will benefit both mother and baby.

**Proper weight gain and caloric intake**

Women carrying one fetus, who begin pregnancy at an average weight for their height, should gain a total of between 25 and 35 lb. Weight gain recommendations are adjusted when the woman is overweight or underweight at the start of pregnancy to ensure a weight gain that supports the growing fetus without placing undue strain on the woman’s body.

The current recommendation for women carrying one fetus is that they should consume approximately 300 to 500 additional calories per day during the last 6 months of their pregnancy. All recommendations are adjusted when the mother is carrying multiple fetuses, and her obstetrician will determine what weight gain is appropriate for her. For general weight gain recommendations, see Weight gain during pregnancy.

Although your patient should gain adequate weight during pregnancy, she should never try to lose weight. Inadequate and excessive weight gain during pregnancy have been associated with several adverse outcomes for both mother and child.

Inadequate weight gain is associated with:
- intrauterine growth retardation
- low birth weight
- higher incidence of preterm delivery.

Excessive weight gain is associated with:
- long-term maternal obesity
- higher incidence of childhood obesity
- large for gestational age baby
- increased maternal morbidity
- prolonged labor
- higher incidence of perineal lacerations
- higher incidence of cesarean section deliveries
- longer hospital stays.

**Gestational diabetes risk**

Some women develop diabetes during pregnancy. Known as gestational diabetes, this condition affects up to 14% of all pregnancies. Risk factors include obesity, history of gestational diabetes, strong family history of diabetes, and being a member of an at-risk ethnic group.

Gestational diabetes typically resolves within weeks of delivery; however, approximately 5% to 15% of women continue to experience signs and symptoms of diabetes after the pregnancy. In addition, for up to 50% of women with gestational diabetes, a diagnosis of type 2 diabetes will be made within 5 to 10 years of the pregnancy.

For the mother, gestational diabetes carries many of the same risks as type 1 and type 2 diabetes. However, because this condition occurs during pregnancy, consideration must be made for the baby. Risks of gestational diabetes for the baby include:
- large birth weight
- risk of birth trauma
- risk of hypoglycemia in the neonatal period
- higher risk of obesity later in life
- higher risk of developing diabetes.

### Weight gain during pregnancy

<table>
<thead>
<tr>
<th>Weight at start of pregnancy</th>
<th>Recommended weight gain during pregnancy</th>
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<tbody>
<tr>
<td>Underweight</td>
<td>28 to 40 lb</td>
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<tr>
<td>Healthy weight</td>
<td>25 to 35 lb</td>
</tr>
<tr>
<td>Overweight</td>
<td>15 to 25 lb</td>
</tr>
<tr>
<td>Obese</td>
<td>11 to 20 lb</td>
</tr>
<tr>
<td>Twin gestation</td>
<td>37 to 54 lb (beginning at healthy weight)</td>
</tr>
</tbody>
</table>

Screening for gestational diabetes is done between weeks 24 and 28 of pregnancy by conducting a 1-hour oral glucose tolerance test (OGTT). The woman fasts for at least 8 hours before the test. When arriving at her practitioner’s office or lab, her serum blood glucose is drawn and then she’s instructed to consume a 50-g load of glucose within 5 minutes. One hour after consuming the glucose load, her serum glucose is drawn again to test her body’s glucose tolerance.

A glucose level above 140 mg/dL is considered abnormal; a 3-hour OGTT is then performed for a definitive diagnosis of gestational diabetes. The 3-hour OGTT is similar to the 1-hour test; the differences are the amount of glucose load (100 g) and the length of the test. For normal glucose values during the 1- and 3-hour OGTT, see Gestational diabetes testing.

**Important vitamins and minerals**

In addition to monitoring weight gain and caloric intake, it’s important to discuss with your patient how to eat a balanced diet, paying close attention to vitamins and nutrients. Explain to your patient that what she eats is her baby’s main source of nutrients. You want to explain how to eat a balanced menu of protein, carbohydrate, and fat, as well as how to know if the food has the vitamins and minerals your patient needs.

The U.S. Department of Agriculture (USDA) has developed guidelines for the number of servings per day of fruits, vegetables, grains, meats and beans, and dairy that a woman should consume during pregnancy. For a healthy woman, the USDA recommends that fruits and vegetables should total 4 to 5 cups/day. Grains, such as whole wheat bread, pasta, cereal, and rice, should total 8 ounces/day. Lean meat and beans should total 6 ounces/day, and skim or low-fat dairy products should total 3 cups/day.

During pregnancy, there are certain vitamins and minerals that women must ensure they consume plenty of. Many women don’t eat right during pregnancy due to morning sickness, food aversions, or a busy schedule. Therefore, it’s recommended that all pregnant women take a folic acid (folate) supplement, 400 mcg/day, preferably starting before becoming pregnant but at the latest beginning with the first prenatal visit. Folic acid reduces the chance of neural tube defects such as spina bifida. If there’s a family history of neural tube defects, then the woman should consume at least 4,000 mcg/day.

Iron and calcium are also recommended to be added to a woman’s diet during pregnancy. A woman needs twice the amount of iron during pregnancy, approximately 30 mg/day as a result of increased maternal blood volume. Calcium intake should be increased to 1,200 mg/day to maintain bone health.

Although supplements are a good way to ensure adequate vitamin and mineral intake, women still need to eat foods high in these nutrients. To tell if a fruit or vegetable is high in nutrients, instruct your patient to simply look at the color and freshness. The more bright and vibrant the color, the more vitamins and minerals it contains. Fresh or frozen fruits and vegetables are typically higher in nutrients and lower in sugar than their canned counterparts. For the nutritional needs of your younger pregnant patients, see Tips for pregnant teens.

**Harmful or dangerous foods and substances**

Pregnant women are more susceptible to food-borne illness due to the physiologic changes that occur during pregnancy.

### Gestational diabetes testing

<table>
<thead>
<tr>
<th></th>
<th>1-hour OGTT</th>
<th>3-hour OGTT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fasting level</strong></td>
<td>Less than 95 mg/dL</td>
<td>Less than 95 mg/dL</td>
</tr>
<tr>
<td>1 hour after</td>
<td>Less than 140 mg/dL</td>
<td>Less than 180 mg/dL</td>
</tr>
<tr>
<td>2 hours after</td>
<td>———</td>
<td>Less than 155 mg/dL</td>
</tr>
<tr>
<td>3 hours after</td>
<td>———</td>
<td>Less than 140 mg/dL</td>
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A folic acid supplement is recommended for all pregnant women.
Advise your patient to avoid undercooked chicken and eggs to prevent salmonella infection, which can cause serious complications during pregnancy. Fish and seafood shouldn’t be eaten raw during pregnancy, but are acceptable when fully cooked. The exception to this is any fish that contains high levels of mercury, such as swordfish, shark, king mackerel, and tilefish.

Alcohol should be avoided entirely from the moment your patient discovers she’s pregnant. Even small-to-moderate alcohol intake isn’t recommended during pregnancy because it may have serious effects on the development of the fetus. Research has shown that women who drink 1 to 2 drinks/day tend to give birth to smaller babies and are at risk for delivering a baby with fetal alcohol syndrome (FAS). Babies born with FAS may have growth retardation, facial and heart abnormalities, and mental deficiencies.

There’s controversy over the amount of caffeine that’s safe to consume during pregnancy. The March of Dimes states that moderate caffeine intake has little to no effect on the developing baby. The recommendation is that the pregnant woman should consume no more than 300 mg/day of caffeine per day, which is roughly equivalent to two to three cups of coffee or four to five cans of soda.

**Cravings and nausea**

It’s a common misbelief that food cravings are a signal from the body that it’s missing some nutrient. Instead, researchers believe that cravings during pregnancy are due to abrupt shifts in hormone levels and an increased sense of taste and smell. The same holds true for food aversions. A food aversion isn’t a signal that a pregnant woman’s body is overloaded with a particular nutrient.

Many women experience intense urges to eat or avoid certain foods. As long as these feelings don’t exclude entire dietary groups, it’s safe for your patient to eat foods she craves and avoid foods to which she develops an aversion. This practice won’t alter her nutritional status in any significant manner as long as she’s eating right.

**Eating right for mom and baby**

Nutrition for women is especially important during pregnancy. Not only do they need to eat enough calories to accommodate the growing life inside them, they also need to pay special attention to the quality of the foods they eat. Always discuss nutrition during each patient encounter to reinforce the information. Make sure your patient understands that better nutrition can reduce or eliminate many risks of birth defects, small or large for gestational age baby, preterm delivery, or other pregnancy or delivery complications. In the end, what each woman wants is for her baby to be healthy. By eating properly, she’s setting herself up for the best chances of delivering a healthy baby.

**Learn more about it**


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