



# Cooking to Preserve Nutrients

We know that there are many health benefits to eating nutritious food. What may not be so clear is the impact that cooking has on the nutrient content of foods. As soon as a fruit or vegetable is picked, it begins to lose nutrients. Generally, the best way to get the most nutrients from your produce is by eating raw fruits and vegetables, straight from the source. But that's not always realistic.

While fruit is mostly consumed raw, other foods like vegetables, grains, legumes, and animal proteins are often consumed after they've been cooked. It's true that cooking in any form can destroy nutrients in food, but the process can also make other nutrients more bioavailable—that is, more easily absorbed and used by the body. The cooking process also

- Makes high-fiber foods and animal proteins easier to digest
- Makes foods that are hard or tough in their raw form (e.g., potatoes, beans, legumes, etc.) easier to chew
- Destroys parts of plants that can be harmful

Because there are benefits to both cooked and raw foods, it's best to eat a variety of both every day. This will help you maximize your intake of beneficial nutrients.

## Recommended Cooking Methods

There are many ways to cook different foods, and no one way is necessarily healthier than another. Generally, the cooking methods that require the least amount of time, liquid, and heat will help you retain more of the nutrients in your food. Recommended cooking methods are explained in a table on the back side of this page.

Note that some cooking methods are better suited to certain kinds of foods, so experiment with both to discover what you like. No matter which method you choose, be careful not to overcook food to the point that it is soggy, mushy, burnt, or rubbery. This is a sign that most of the beneficial nutrients in your food are likely gone.

## Cooking Tips

- When it comes to maximizing nutrient content, gentle cooking methods are generally better. So, use as little heat, liquid, and time as possible to cook your food.
- When cooking with fats and oils, make sure to choose the right one for the job. Foods cooked on high heat should be cooked in a fat or oil with a high smoke point. Fats and oils heated beyond their smoke point (that is, the point at which they smoke and burn) can be harmful.
- If cooking or re-heating food in a microwave, use glass or ceramic containers, as harmful chemicals can leech out of plastic containers and into your food.
- Making soups and stews is a good way to maximize the nutrient content of your food. During the cooking process, nutrients that leech out of the individual foods end up in the cooking liquid, which is consumed as part of the meal.

## Cooking Methods

<b>Bake or Roast</b>	Foods are gently cooked using hot dry air, usually in an oven. Because no additional liquid is added to food during this method, most vitamins, minerals, and other nutrients remain in the food. Baking involves cooking foods that lack a solid structure until they become a solid (e.g., cakes, muffins). Roasting involves cooking foods that have a solid structure before cooking begins (e.g., meat and vegetables).
<b>Boil</b>	This intensive water-based cooking method uses boiling water (212°F, or 100°C) to cook food, usually for a moderate amount of time. When food is cooked at a rolling boil (lots of constantly moving bubbles), the food bumps around a lot, causing it to disintegrate. This can also make the outside of the food mushy before the inside is fully cooked. Because boiling is an intense process, most of the nutrient content leeches out of the food and into the cooking liquid. If the food is drained before eating, most of the vitamins and minerals will be lost. To maximize nutrition, consume the liquid with the boiled food (as in the case of a soup or stew), or save in the refrigerator to make soups or smoothies later.
<b>Fry or Sauté</b>	Foods are fried quickly in a little bit of hot fat or oil. Beneficial fats and oils will help your body absorb certain vitamins (Vitamins A, D, E, and K) from your food. Any liquid that is released should also be consumed, as some vitamins and minerals may have leached out into the liquid during the cooking process.
<b>Microwave</b>	Electromagnetic waves stimulate the molecules in food, making them vibrate and spin, which heats the food. This is generally a quick process with water-based foods. Foods that contain fats and oils heat less evenly, and may require more cooking time. Foods should be microwaved in glass or ceramic containers only. <b>Do not cook in plastic containers.</b>
<b>Slow Cook</b>	Foods are cooked gently, usually in a liquid, over low heat for an extended period of time. Because a lot of water-soluble vitamins and minerals will leech into the liquid during cooking, this method is a good choice for soups, stews, and other one-pot meals that will use the cooking liquid. The best way to maximize the nutrient content of meals cooked in a slow-cooker is to cook everything except the vegetables for an extended time, then add the vegetables during the last hour of cooking.
<b>Steam</b>	Foods are cooked very gently over, but not touching, boiling water. Instead, the steam from the boiling water provides heat to cook the food, usually for a short amount of time. Because of the gentle nature of the method, little water from the food is lost, so most nutrients remain intact. On the downside, no cooking fat is involved in the process. This means that any fat-soluble vitamins in the food won't be absorbed by the body, unless steamed food is served or finished with some sort of fat (e.g., avocado, butter, ghee, olive oil, etc.)
<b>Simmer or Poach</b>	These cooking methods are similar to boiling (above), in that they are water (or liquid)-based methods. The only difference between them is the temperature of the liquid used, which impacts the intensity. Food that is simmered is heated to 185-200°F (85-93°C). Simmering is appropriate for sauces, soups, stews, and tough cuts of meat. At a simmer, food is moved around enough to allow flavors to mix, but not moved so much that the food is damaged. Poached foods are not cooked above 180°F (82°C). Poaching is best for delicate foods like eggs, poultry, fish, and fruit, all of which can easily dry out with other cooking methods.