

Are You a Nutritious Grill Master?

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Grilling is a healthy, low-fat way to cook. Tips for safely operating a grill and handling food are provided in this guide.

In the United States and Canada, grilling refers to cooking food directly over a source of dry heat, typically with the food sitting on a metal grate with a heat source below that leaves “grill marks.” Grilling is usually done outdoors on charcoal grills or gas grills. A recent trend is the concept of infrared grilling. Grilling also may be performed using stove-top “grill pans” that have raised metal ridges for the food to sit on, or using an indoor electric grill.

Direct heat grilling can expose food to temperatures in excess of 500°F. Grilled meat acquires a distinctive smoky flavor from a chemical process called the Maillard reaction. The Maillard reaction occurs only when foods reach temperatures in excess of 310°F.

Grills can be used in all seasons as long as a few necessary safety precautions are taken. Between 2003 and 2006, U.S. fire departments responded to an average of 7,900 fires involving grills, according to the National Fire Protection Association (NFPA). In addition to structural damage, unsafe grilling techniques also can cause physical injuries. NFPA reports that in 2007, 18,600 people went to the emergency room because of a grilling injury.

Keep the following safety tips in mind while grilling:

- Propane and charcoal barbecue grills should be used outdoors only.
- The grill should be placed at least 10 feet away from the house, deck railings, and landscaping, and out from under eaves and branches.
- Never bring a grill inside your house or garage. This is both a fire and carbon monoxide poisoning hazard.
- Keep children and pets away from the grill area until the grill has completely cooled.
- Keep the grill clean by removing grease and fat buildup from the grill surface, as well as the trays below the grill.
- Never leave a grill unattended.

- Do not use a fireplace for grilling.
- If you are using a propane grill, be sure to check the propane tank hose for leaks before using the grill. Visit the NFPA website (www.nfpa.org) for more information on using a propane grill safely.

Grilling is an easy and healthy way to prepare food. Grilled foods are cooked without adding extra fat. Be careful what you use for seasoning though — many seasonings are high in sodium. Try alternative seasonings, such as dried herbs and spices, to enhance flavor. Some examples are chives, cilantro, curry powder, dill weed, garlic, ginger, dry mustard, paprika, parsley, rosemary, sage, and thyme. Another way to add flavor is by adding spices after the food has been cooked. Try using black pepper, hot pepper sauce, crushed red pepper, or garlic powder instead of salt.

For healthy grilling, use lean cuts of beef and pork, and trim any visible fat before cooking. Did you know there are 29 lean cuts of beef? Flank is the leanest cut of meat but it also is the toughest due to long muscle fibers and little fat. The most tender cuts of meat are loin cuts, which are cut from the backbone. Remember “loin is lean.”

Some cuts of beef are tougher than others. Do not be afraid to use some of the tougher cuts. They will just require a little more preparation to taste great.

One way to tenderize meat is with a marinade. When grilling lean meat, use lower-fat marinades with acid ingredients to help break down the tough fibers. Marinades can only tenderize the surface of the meat. That is why it is important to make sure the marinade covers the entire surface of the meat. To help the marinade penetrate into the meat, make a ¼ inch deep cut with a sharp knife in several places before coating the meat with marinade.

Two important things to remember when using a marinade:

- Place the items in the refrigerator as soon as you have added your marinade. Never thaw or marinate foods at room temperature.
- Use a nonreactive, sealed container. A sealable plastic bag works well. Try to avoid using metal containers, especially aluminum or cast iron.

Once you have the marinade basics down, you can experiment with the ingredients. Marinating is not limited to meat; tofu and vegetables also can be marinated. Marinating requires three basic things:

- An acid ingredient to tenderize the meat: lemon or lime juice, wine, vinegar, or yogurt work well, as do tomatoes, balsamic vinegar, and soy sauce.
- Herbs and spices to add flavor and zest. Try using garlic, red pepper flakes, green onions, rosemary, thyme, onion, or ginger.
- Time. To add flavor, marinate for 30 minutes. To tenderize, marinate for up to four hours.

Beef is only one protein food that tastes great and is healthy when grilled. You also can try chicken, pork loin, fish, veggie burgers, turkey burgers, or mushroom (portabella) burgers.

Fish is very simple to grill and tastes great. To grill fish, place it on a piece of aluminum foil large enough to wrap the fish, add a little olive oil and a variety of seasonings, such as basil leaves or oregano, wrap the foil around the fish, and place it on the grill.

Vegetables can be prepared several ways on the grill. Large vegetables, such as corn on the cob, eggplant, or asparagus, can be placed directly on the grill. Wrap chopped vegetables in aluminum foil. Enhance flavor by adding various herbs and spices and extra-virgin olive oil, or add pesto before wrapping vegetables in foil.

Another fun grilling idea is kabobs. Cut up a variety of fruits and vegetables such as cherry tomatoes, cucumbers, peppers, mushrooms, zucchini, potatoes, onions, eggplant, or pineapple. Add small chunks of meat like steak, chicken, or pork to make kabobs the main dish. The meat can be grilled on a separate kabob, as it may take longer to cook than many of the vegetables.

When cooking food on the grill, keep food safety in mind. Food safety is important throughout the year, but it is especially important during the warm summer months. Follow these tips to keep you and your family and friends safe from foodborne illness:

- Wash your hands with warm water and soap for at least 20 seconds before and after handling food.
- Marinate your food in the refrigerator. Do not use sauce that was used to marinate raw meat or poultry on cooked food. Discard leftover marinade that is contaminated with raw meat or poultry juices.
- Make sure your grill is hot before you put food on it. If you are using a charcoal grill, preheat coals for at least 20 to 30 minutes before adding food.

- Use a food thermometer to make sure food reaches the correct internal temperature.
 - Hamburgers should be cooked to 160°F.
 - Beef, veal, and lamb steaks and roasts should be cooked to 145°F for medium rare, and 160°F for medium.
 - Poultry should be cooked to at least 165°F.
 - Fish should be opaque and flake easily.
- Use a clean plate for cooked foods. Do not put cooked foods back on the same plate you used for the raw food, unless it has first been washed with hot soapy water.

A barbecue is incomplete without beverages and dessert. For beverages, the best choice is water, especially on a hot summer day. It is important to stay hydrated. A common barbecue beverage is some type of fruity drink like lemonade. Try sugar-free lemonade at your next barbecue. If soda is a must at your barbecue, offer diet soda rather than regular soda.

At many barbecues there are more desserts than people. There are several tasty desserts that can fit nicely into a healthy barbecue. Some examples include angel food cake topped with fresh strawberries, yogurt with granola and berries, frozen yogurt or sherbet, and fruit smoothies. Regardless of the dessert you choose, watch the portion size. Take a small portion, eat slowly, and savor the taste. If you are bringing a dessert to the barbecue, try to reduce the sugar and fat in recipes by replacing them with applesauce, yogurt, or low-fat/light versions of regular items such as cream cheese.

Grilling is a great way to prepare healthy food for family and friends. Keep the tips above in mind before you prepare your next meal on the grill.

Resources

National Fire Protection Association at www.nfpa.org

Home Safety Council at www.homesafetycouncil.org

Fight BAC! at www.fightbac.org

The Magic of Marinades by Elaine Magee at www.medicinenet.com/script/main/art.asp?articlekey=62947

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**Index: Foods and Nutrition
Nutrition**

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