

Nutrition News

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Healthful Grilling

Grilling can be a way to cook low-fat, healthful foods if it is done safely.

With grilling, all excess fat drips away and foods don't soak up excess fat – unless it is added later. On the other hand, with outdoor gas or charcoal grilling, cancer-causing compounds are formed in meat. These include polycyclic aromatic hydrocarbons and heterocyclic amines.

Polycyclic aromatic hydrocarbons are formed from the fat dripping onto the hot coals or the grill elements. They're deposited on the food by flame-ups and rising smoke. Heterocyclic amines are produced when red meat, poultry and fish are subjected to high heat cooking such as grilling or broiling.

When vegetables, fruits and starches are grilled, the formation of harmful chemicals is reduced due to their lower protein content. Grilled vegetables make healthy alternatives to cooked vegetables when excess charring is avoided.

Any blackening of all foods should be avoided by frequently turning the items and keeping them high enough from the direct heat source.



To avoid the formation of polycyclic aromatic hydrocarbons and heterocyclic amines, use these tips:

- Line your grill with foil to collect fat drippings to cut back the amount of smoke that comes back onto the meat.
- Trim away any excess fat from meat or poultry before cooking to minimize polycyclic aromatic hydrocarbons from fat drippings while grilling.
- Precook larger pieces of meat in the microwave or oven so they do not have to sit on the grill as long. You can still get that great grilled taste but cut down on carcinogens that can form when protein is cooked at high temperatures for a long time.
- Marinate the meat before grilling. This can reduce the formation of heterocyclic amines by as much as 92 to 99 percent!
- Flip food frequently to reduce and prevent the formation of heterocyclic amines by reducing the likelihood of charring.

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- Cook at lower temperatures. Turn the gas down or wait for charcoal to become low-burning embers before placing the meat on the grill. Lower temperatures mean less chance of flares and smoke that can cause the harmful compounds.
- Raise the grilling surface. This reduces the black char and the carcinogens that can form on the surface of the meat.
- Cook more seafood. Seafood forms less heterocyclic amines than red meat, pork and poultry because of its shorter grilling time.
- Use herbs such as basil, mint, rosemary, thyme, oregano and sage, as well as onion and garlic. If you use onion, garlic and plenty of herbs to marinate the meat, they can reduce the amount of harmful chemicals and changes that can happen in the fatty parts of the meat. This can reduce your risk for heart disease and cancer.
- Use a meat thermometer. Make sure meat is thoroughly cooked but don't overcook it. The longer you cook meat past the point when it is done, the more harmful chemicals can form. A higher consumption of well-done meat is linked with two to five times more colon cancer and two to three times more breast cancer.
- Add some colorful vegetables and fruit to the grill. Some examples may be red, yellow and green peppers; yellow squash; mushrooms; red onions; and pineapple. All of these grill well and make a delicious, colorful and healthful addition to your meal. Even fruit can be grilled for nice desserts.
- Keep your grill clean. Remove all baked-on and charred remains from previous meals each time you start to grill.

An alternative to gas and charcoal grilling is to use a countertop electric grill. There are no flare-ups or smoke and much less chance of meat burning. This is a healthful alternative and a particularly useful way to prepare meals for one or two people.

Countertop grills can be used to prepare meats, vegetables, desserts and even pizzas. Many of them come with an assortment of grill surfaces and plates that are interchangeable. This adds to the cost but also makes a countertop grill more useful. There are a variety of them available for any budget.

Source: *American Cancer Society*

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