

## Grilling Safely

While grilling is mainly a summer activity, more than 50% of Americans say they grill year round. But, is grilling food a safe way to cook? This newsletter will look at 3 ways of grilling: wood pellets, charcoal and gas.

### Wood Pellets

There are two different types of wood pellets available: wood pellet (made solely for use in a heat source) and food grade wood pellets. Food grade pellets are usually made of leftover wood materials such as wood chips, sawdust, sticks and lumber mill scrap. Some food grade pellets may also contain fillers or binding agents which could be unhealthy and leave a chemical taste in your food. While cooking with wood pellets may be a healthier way to cook instead of using charcoal, it does pose some health risk related to Polycyclic Aromatic Hydrocarbons (PAH). PAHs are formed as the fat and juices drip from the meat, falling into the fire of the grill causing flare-up flames to cover the food with PAHs. Also, the smoke emissions from pellets when you're grilling can come from PAHs - this is where the concern of cancer risk stems from.

### Charcoal

While charcoal itself is not a carcinogen, cooking with charcoal is known to have a link to cancer. Cooking certain meats with charcoal is known to be carcinogenic because cooking with charcoal creates a lot of smoke and involves cooking with high temperatures. Grilling meat at high temperatures creates Heterocyclic Amines (HCAs) - HCAs are known carcinogens. HCAs are formed when high temperatures cause amino acids in meat to react with the creatine in meat. This reaction creates the black char marks that you see on muscle meats containing creatine. Muscle meats include: beef, pork, lamb, goat, turkey, chicken and fish. Additionally, when meat juice drips onto charcoal, it causes flames and smoke — this causes PAHs to form. The PAHs then stick to the meat when you're grilling. PAHs are known to change human DNA and are considered carcinogenic.



## Gas Grilling

While cooking with a gas grill may decrease the exposure to HCAs and PAHs, they have been involved in an average of 8,900 home fires per year, including 3,900 structure fires and 4,900 outdoor fires annually.

### Tips to Minimize Grilling Risks

- Go lean. When fat hits an open flame, it produces PAHs. So, instead of grilling fatty burgers or brats, opt for grass-fed steak, chicken, or fish.
- Grill more vegetables. Vegetables don't become carcinogenic when you grill them so it's a good idea to grill vegetables vs. meat. Additionally, vegetables are rich in vitamins, fiber and nutrients that may reduce the risk of cancer.
- Grill at lower temperatures and don't char meat. Since high temperatures cause charring and HCAs, it's important to grill at lower temperatures. If any of the grilled meat becomes charred, it's best to discard those parts since they contain the most HCAs.
- Marinate the meat first. Marinating meat has a huge impact on the formation of HCAs. The American Institute for Cancer Research recommends marinating meat and fish for at least 30 minutes before grilling because it can lower the formation of HCAs.
- Wrap foods in foil. You can wrap meat in foil to prevent fat from dripping into the hot charcoal and producing cancer causing chemicals.
- Grills should be placed well away from the home, deck railings, and out from under eaves and overhanging branches.
- Keep children and pets at least 3 feet away from the grill area.
- Always make sure your gas grill lid is open before lighting it.
- When you're finished grilling, let the coals completely cool before disposing in a metal container.

<https://grillingzen.com/are-wood-pellets-safe-to-cook-with>

<https://www.healthline.com/health/is-grilling-with-charcoal-or-other-heat-sources-carcinogenic#4>

<https://www.healthline.com/health/is-grilling-with-charcoal-or-other-heat-sources-carcinogenic#1>

[https://www.nfpa.org/-/media/Files/Public-Education/Resources/Safety-tip-sheets/Grilling\\_safety\\_Tips.pdf](https://www.nfpa.org/-/media/Files/Public-Education/Resources/Safety-tip-sheets/Grilling_safety_Tips.pdf)

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