

## 4 Tips for Safer Grilling



Ruining a piece of meat isn't the only thing you need to worry about if you're cooking at high temperatures. High heat can also produce chemicals with cancer-causing properties. They're produced in tiny amounts, measured in the billionths of grams, but lab and animal experiments show that these chemicals have potent cancer-causing properties.

When meat is cooked at high temperatures, amino acids react with creatine to form heterocyclic amines, which are thought to cause cancer. That's why cooking meat by grilling, frying, or broiling is the problem. Grilling is double trouble because it exposes meat to cancer-causing chemicals contained in the smoke that rises from burning coals and any drips of fat that cause flare-ups. How long the meat is cooked is also a factor in heterocyclic amine formation; longer cooking time means more heterocyclic amines. Depending on the temperature at which it's cooked, meat roasted or baked in the oven may contain some heterocyclic amines, but it's likely to be considerably less than in grilled, fried, or broiled meat.

Marinating meat is often suggested as one way to cut down on the formation of heterocyclic amines, but the evidence that marinating helps is mixed. In the meantime, here are some other tips that can help make grilled meat safer to eat:

1. **Cook smaller pieces:** They cook more quickly and at lower temperatures.
2. **Choose leaner meat:** Less fat should reduce flames and therefore smoke.
3. **Precook in the microwave:** Doing so for two minutes may decrease heterocyclic amines by 90%, according to some research.
4. **Flip frequently:** That way, neither side has time to absorb or lose too much heat.



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