



IS GRILLING BAD FOR YOUR HEALTH?



When it's too hot to turn on the kitchen stove, it can only mean one thing: It's grilling season. But before heading outdoors to prepare every meal, we may want to consider some hamburger health hazards. Cooking meat at high temperatures—like grilling, or even roasting and frying—can cause chemical reactions that release some nasty toxins in the air (and our bodies). But before opting for a raw food diet out of pure fear, there are some ways to keep on grilling while staying out of harm's way.

You're Grilling Me—The Need-to-Know

Throwing a sausage on the grill can cause some serious chemical reactions. The biggest worry is that many of the chemicals created have been linked to an increased risk of cancer. In fact, one large study on over 3,000 women found those who consumed a large amount of grilled meat over the course of a year had a 47 percent higher risk of developing breast cancer. In order to learn more about what's actually causing these health risks, we examined the main chemical reactions that occur when meat meets grill, and what the potentially harmful products of those reactions can do.

- **AGEs:** Fat plus protein plus heat may equal trouble. Cooking at high heat can produce a chemical reaction between the fat and protein in meat, creating toxins called advanced glycation end products, or AGEs. These toxins are linked to the imbalance of antioxidants in the body (aka oxidant stress), along with inflammation, which can lead to an increased risk of diabetes and cardiovascular disease.

- **PAHs:** Polycyclic aromatic hydrocarbons, or PAHs, are a group of over 100 different chemicals found in the smoke emitted from cooking meat on a charcoal grill. PAHs are classified as carcinogens and have been linked to an increased risk of lung and bladder cancer.

- **HCAs:** Heterocyclic amines (HCAs) are carcinogenic chemicals produced when muscle meats (i.e., beef, pork, chicken, fish) are fired up on the grill. They're formed when amino acids (found in protein) and creatine (found in muscle) react at temps above 300 degrees F. Studies have found a connection between HCAs and prostate, pancreatic, and colorectal cancer in adults.

Top Chef—Your Action Plan
Unlike meat, veggies don't create carcinogens when cooked to a crisp. Still, there's no need to become a vegetarian or toss the grill completely. Try these safer ways to cook up a storm and stay safe in the process:

- Go old school. Got spare ribs (and spare time?). Traditional BBQ methods are a safer route to take, since it involves slow cooking of meats over indirect heat.
- Marinate wisely. Scientists have found marinades can make grilling safer by reducing the amount of carcinogenic compounds released in the air. (It's still unclear why exactly they help.) Try soaking some chicken breasts in one of these healthier options.
- Nuke it. Pre-cooking meat in a microwave will kick-start the cooking process and lead to less time on the grill. Cooking meat in the micro for two minutes can reduce HCA content up to 95 percent!
- Get a trim. When fat drips

onto an open flame, flare-ups can spread nasty chemicals onto the meat. So remove the skin from chicken, and skip fatty meats like sausage and ribs. When food is burned, these chemicals stack up, so remove all charred or burned bits before eating, too. Flipping meat frequently at a lower temperature will also help avoid charring.

- Use a thermometer. To prevent cooking at temps too high, use a thermometer to regulate how hot the grill gets. Steak should be cooked to 145 degrees F, hamburgers at 160 degrees, and chicken at 165 degrees. (To measure, place the thermometer in the thickest part of the meat, avoiding the bone, fat, and gristle.)

- Clean the grill. Make sure the grill is nice and clean to avoid cooking on leftover grease and pieces of char. But heads up—cleaning with metal bristles could leave a few pieces of wire behind (to be accidentally eaten later on!). The solution? Clean off the grill with a non-wire brush instead.

- Color it up. Try eating grilled meats with cruciferous vegetables (like broccoli). These superfoods contain fancy anti-inflammatory nutrients called isothiocyanates that change the way the body breaks down dangerous grilling chemicals, making the meat safer.

- Don't go well-done. Meat that's overcooked is associated with no-good chemicals and the health problems that can follow. So follow the recommended temps for safe meat, but make sure not to eat meat that's too undercooked or raw either.
- Leave the meat! The easiest solution to stay away from harmful chemicals is to say no thanks to meat. Luckily, there are many meat-free options that are great on the grill. (Ice cream, anyone?)

The Takeaway
Grilling meat at high temperatures can release harmful chemicals into the air and our bodies. Luckily, there are ways to prepare meat safely without leaving the grill behind.

MONTHLY RECIPES

Newest Canning Vegetables Recipes

Wonderful Salsa

- 8 cups tomatoes, peeled, chopped and drained
 - 2 1/2 cups onions, chopped
 - 1 1/2 cups green peppers
 - 1 cup jalapeno pepper, chopped
 - 6 garlic cloves, minced
 - 2 teaspoons cumin
 - 2 teaspoons pepper
 - 1/8 cup canning salt
 - 1/3 cup sugar
 - 1/3 cup vinegar
 - 1 (15 ounce) can tomato sauce
 - 1 (12 ounce) can tomato paste
- 1) Mix all together and bring to a slow boil for 10 minute.
 - 2) Seal in jars and cook in hot water bath for 10 minute.
 - 3) This is a medium salsa. This is also a chunky salsa so if you want a smoother salsa cut your veggies into smaller pieces. Yields 3-6 quarts or pints.



Lemon Spiced Pickled Beans

A nice twist on the good old bean pickles. Pack the beans into wide-mouth pint jars lying on their sides to make it easier. Having these on hand ...

- 2 1/2 cups cider vinegar
 - 1 1/4 cups water
 - 1 tablespoon pickling salt
 - 1 tablespoon granulated sugar
 - 1 lb green beans, washed and trimmed to fit jars
 - 1 lb yellow beans, washed and trimmed to fit jars
 - 1 tablespoon pickling spices
 - 3 slices lemon rind
- 1) Combine vinegar, water, salt, and sugar in a medium saucepan and bring to a boil over high heat. Add beans, cover, and return to boil. Boil 1 minute. Remove from heat and drain, reserving brine. Return brine to saucepan and bring to boil once more.
 - 2) Remove hot prepared jars from canner and place 1 teaspoons pickling spice and 1 strip lemon in each jar. Pack in beans and pour boiling brine into jars, leaving 1/2 inch headspace. Process filled jars in a boiling water bath for 10 minutes.

Pickled Jalapenos

These are wonderful Pickled Jalapenos I got off the pepperfool website. This is the recipe I always seem to use when pickling my peppers from my garden.

- 15 lbs blemish-free whole fresh jalapeno peppers
 - 2 cups extra virgin olive oil
 - 10 small white onions, sliced, separated into rings
 - 5 medium carrots, thinly sliced
 - 5 cloves garlic, chopped
 - 2 teaspoons ground oregano, pref. mexican
 - 3 fresh bay leaves
 - 2 tablespoons salt
 - 3 cups distilled white vinegar
 - 2 1/2 cups distilled water
- 1) Scrub jalapenos, trimming off the stem. Set aside.
 - 2) Into a large, deep heavy pot, pour 1/2 cup oil (enough to coat the bottom of pot). Heat oil until almost smoking, then turn off or reduce the heat.
 - 3) Add onions, garlic, and carrots. Stir only until onions are clear, don't brown any of the vegetables.
 - 4) Add oregano, bay leaves and salt and stir to mix. Add vinegar and water and bring to a boil, stirring often.
 - 5) Continue to boil and stir until salt is dissolved, then add remaining 1-1/2 cups of oil and return to a boil. Stir in jalapenos and remove from heat.
 - 6) Fill 16-20 hot, sterilized 1-pint jars (or 8-10 1-quart jars) leaving 1-1/2 inches of head space.
 - 7) Wipe rims clean, then seal jars tightly.
 - 8) Cool jars, then store in cool dry place until ready to use.

Caramelized Red Onion Relish (Canning)

Use an inexpensive but drinkable wine for this, the variety you prefer doesn't matter, as long as it's dry (so-called "cooking wine" is not an option, EVER, for ANYTHING). Serve alongside meats or sparingly as a pizza topping with a tangy cheese and some bits of prosciutto for a salty element.

- 2 large red onions, peeled and very thinly sliced
 - 1/2 cup firmly packed brown sugar
 - 1 cup dry red wine
 - 3 tablespoons balsamic vinegar
 - salt and pepper (to taste)
- 1) Combine onions and sugar in a heavy non-stick skillet. Cook, uncovered, over medium-high heat for about 25 minutes or until onions are golden and starting to caramelize, stirring frequently.
 - 2) Stir in wine and balsamic vinegar. Bring to a boil on high, then reduce heat to low and cook about 15 minutes, or until most of the liquid has evaporated, stirring frequently.
 - 3) Season to taste and cool briefly.
 - 4) Ladle relish into hot half-pint jars, leaving 1/2-inch headspace. Process in a boiling water bath for 10 minutes.

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