Practicing Safe Grilling Can Reduce Cancer Risk, Experts Say

These 5 tips from the American Institute for Cancer Research can reduce the cancer risk from grilling.

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At the start of the grilling season, experts at the American Institute for Cancer Research (AICR) are warning about the hidden health hazards of cookouts and campfires, and suggesting how grilling can be made safer. Cooking meat at high temperatures is known to produce cancer-causing chemicals.

“Research shows that diets high in red and processed meat increase risk for colorectal cancer,” said AICR’s Director of Nutrition Programs, Sheena Swanner Patel. “And grilling meat, red or white, at high temperatures forms potent cancer-causing substances. But by keeping five simple steps in mind, it is possible to make this summer’s backyard grilling both healthier and more flavorful.”

Step One: Mix Up the Meat

The meat you choose to grill is just as important as how you grill it. Regardless of how you cook, research shows that diets high in red meat (beef, pork and lamb) are linked to increased risk of colorectal cancer. Eating even small amounts of processed meat (hot dogs, sausages) also increase colorectal cancer risk.

Instead of red meat, get creative with fish and chicken by using spices, herbs, hot peppers and sauces. AICR recommends eating no more than 12-18 ounces (cooked) of red meat per week.

Step Two: Marinate

Charring and cooking meat, poultry and fish under high heat causes compounds called heterocyclic amines (HCAs) and polycyclic aromatic hydrocarbons (PAHs) to form. These substances have shown the ability to damage DNA in ways that make cancer more likely.

Studies have shown that marinating meat, poultry and fish for at least 30 minutes can reduce the formation of HCAs. Use a mixture that includes vinegar, lemon juice or wine along with oil, herbs and spices. Marinating the meat has a bigger impact on reducing HCA formation than reducing cooking temperature. Scientists are still investigating precisely how these marinades help lower HCAs, but it’s possible that compounds in these ingredients are responsible.

“The marinade of sugar and oil may just act as a barrier between the meat and the heat, then that

is what becomes seared instead of the meat," said Nigel Brockton, Vice President of research at the American Institute for Cancer Research. "The spices and herbs not only make your meat more flavorful, but their antioxidant properties may prevent the forming of harmful carcinogenic compounds."

Step Three: Partially Pre-Cook

PAHs are deposited onto the meat by smoke. You can reduce the amount of PAHs generated and ingested by reducing the amount of time meat is exposed to a flame. This can be done by partially cooking meat in a microwave first. "It is always a good idea to precook meat as the longer you cook something on high heat, the higher the amount of HCAs formed," said Dr. Brockton.

Be sure to place partially cooked meat on the preheated grill immediately. This helps keep it safe from bacteria and other food pathogens that can cause illness.

Step Four: Keep Heat Low

Cook the meat over a low flame to reduce the formation of both HCAs and PAHs, and help keep burning and charring to a minimum.

Reduce flare-ups by keeping fat and juices out of the fire. Cut visible fat off the meat, move coals to the side of the grill and cook your meat in the center of the grill. Finally, cut off any charred portions of the meat before serving.

Step Five: Throw Some Color on the Grill

Grilled vegetables taste great and by eating more plant foods, you can cut back on red and processed meats. Colorful vegetables and fruits contain fiber, vitamins and naturally occurring compounds called phytochemicals that can have cancer-fighting benefits.

Try onions, zucchini, eggplant, bell peppers or tomatoes in thick slices on the grill, in a grill basket or in kebabs. Grilling vegetables and fruits produces no HCAs, so make vegetables and fruits the main dishes in your barbecue spread this season.

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