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The Frightening Link Between Food and Cancer Risk

Imagine a student sitting in the cafeteria eating a sandwich for lunch. Inside the sandwich is lunch meat and maybe a slice of cheese. Meanwhile, their friend sitting beside them is having a hot dog with ketchup and mustard. Which lunch would be considered to have a lower risk of cancer? Most would assume that the student eating the sandwich for lunch is having the healthier meal, but in reality, both lunches are about equally as likely to be related to a high cancer risk. The reason for this is because lunch meat and hot dogs are both processing meats, both of which are linked to a high cancer risk upon consumption ("Food and Cancer Risk"). It is a frightening idea to realize that the foods being portrayed to the public as healthy are actually the same foods that can cost a consumer's life in the long run. The fact that even children eat processing meats quite frequently upon growing up is also concerning. It really does raise an eyebrow as to what other foods out there are known to be nutritious and yet, be a major reason for consumers developing cancer. At the same time, there are foods out there that do the opposite: help the human body and decrease the possibility of developing such an illness.

Foods such as red meat, processing meat, and alcohol are all proved to be cancer risking agents. Red meat consists of food such as "pork, beef, veal, and lamb." As for processing meats, these include "bacon, ham, lunch meats, meat jerky, hot dogs," and "salami" ("Food and Cancer Risk). The reason why these meats correlate with a high cancer risk is because they carry chemicals that occur naturally, during processing, or when cooked. A few of these chemicals

consist of haem, nitrates & nitrites, and heterocyclic amines (HCAs) & polycyclic aromatic hydrocarbons (PAHs). Haem is known as a "red pigment that is naturally found in red meat and processed red meat." It is said to "damage cells, and cause bacteria in the body to produce harmful chemicals." Like other colors, it can cause a serious food allergy. The difference between this color compared to others that cause food allergy however, is that haem occurs naturally. Despite this, it can damage cells and can potentially become a cause for cancer. As for nitrates and nitrites, these chemicals are used to "keep processed meat fresher for longer." Upon consumption, they are "converted into cancer-causing chemicals (N-nitroso compounds or NOCs)." These compounds can pose a threat to a consumer's health when exposed in high amounts, especially when taking into consideration that they convert into cancer-causing chemicals and preserve the very food that is noted to contain a high risk of cancer. Similarly to the nitrites and nitrates, heterocyclic amines and polycyclic aromatic hydrocarbons also damage a consumer's cells. Unlike those compounds however, these amines are produced upon cooking the meat "at high temperatures, which includes grilling or barbecuing" ("Does Eating Processed and Red Meat Cause Cancer?"). Despite occurring in different ways, each of these chemicals (and many others) has the potential to damage cells in the body. Though meat is familiarized by the public to give people protein and iron, too much consumption of it (just like anything else that is consumed too much in one sitting) has its defects. The same concept applies with alcohol. Like red and processed meat, alcohol contains two chemicals that can be harmful to the human body. These chemicals are ethanol, the primary chemical in alcoholic beverages, and acetaldehyde, a chemical produced when alcohol is broken down by the body ("Alcohol"). Alcohol also generates oxidants that damage DNA, protein, and lipids ("Alcohol and Cancer Risk"). Another danger that alcohol poses is creating chemical imbalances, such as increasing

the amount of estrogen in blood. This can “risk breast, ovarian, and uterine cancers,” cancers that can be dangerous for women coming of age. Another chemical imbalance alcohol causes is low intake of nutrients such as Vitamins A, C, D, and E as well as folate and carotenoids. The reason for this is because drinking alcohol is noted to “weaken the body’s ability to process and absorb important nutrients.” Because of this, alcohol aids in unhealthy weight gain in consumers who binge it. This can lead to obesity, another link to cancer risk (“Alcohol”). While alcohol can be used to help relax a consumer’s nerves, too much consumption (just like red and processing meat) can negatively impact the body’s function.

While there are foods that carry cancer-causing agents, there are also foods that carry cancer-reducing agents. These include antioxidants, foods with dietary fiber, cruciferous vegetables, soy, vitamins, and minerals. Antioxidants are great sources of reducing cancer because they fight against oxidants, which are “substances that can lead to cell damage.” Even though oxidants are naturally inside the body, it becomes a threat when they are absorbed from environmental sources such as pollution or cigarette smoke (which are also links to high cancer risk). Some of these antioxidants include beta carotene, selenium, and vitamins C and E. Meanwhile, dietary fiber helps with excreting waste and provides the body with a healthy microbiome, which ensures a low cancer risk. Some foods rich with dietary fiber are oats, corn, whole-grain bread & pasta, and beans. Cruciferous vegetables help regulate enzymes and proved in studies to stop cancer cell growth in some cells. Some foods that belong in this category are broccoli, cauliflower, cabbage, brussel sprouts, and kale. As for soy, it contains what is called a phytonutrient, which is proven from laboratory studies to protect against cancer. Foods that contain soy are tofu, soy milk, and miso. Other foods that contain phytonutrients and proven to help with cancer risk include garlic, tea, berries, and onions. Vitamins and minerals (just like the

previous substances above) also help the body by helping cells grow, develop, and repair at a reasonable rate. Some of these vitamins and minerals are also known to be antioxidants ("Food and Cancer Risk"). Another notable way to reduce cancer risk (without forcing a diet strictly of the foods listed) is by limiting the agents that increase cancer risk.

If consumers around the world have ingested cancer-causing agents like meat for countless years, should the ideal diet consist entirely of fruits and vegetables? What is most important above all when consuming a food is asking questions such as these: how much of the food should be consumed? If the consumer has a food allergy, should they be eating this food? Every consumer's body is different, which makes it even more difficult to confirm if the foods listed previously are actually cancer-causing agents. There are many variables involved, such as eating and drinking a variety of foods, side effects varying due to different amounts of food consumed, and how a food is prepared ("Food and Cancer Risk"). One important factor that does hold true to a healthy diet and preventing the risk of cancer altogether is eating a balanced diet and being active. As mentioned in the introduction, lunch meat in a sandwich possesses just as much risk as a hotdog, but limiting how much of each is eaten can be proven safe by taking notice of elders who have lived long without any signs of cancer, despite eating these foods in early age. Cancer risk may have a link to such foods, but with a balanced diet and limitations on the right foods, it is possible to combat the cancer-causing chemicals in some foods.

Works Cited

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