



Feb. 10, 2020 Audience Questions

- **What chemicals are added to animal feed that may be cancer causing effects (such as in factory farms)?**

This is a question often asked by the public. Animal feed may contain growth hormones or antibiotics, or farm animals can ingest small amounts of pesticides and herbicides in plant-based foods. Some of these compounds are not known to directly cause cancer, but they may influence cancer risk in other ways – for example, by acting as hormone-like substances in the body, which can influence the development of cancer. The American Cancer Society has an excellent link at:

<https://www.cancer.org/healthy/eat-healthy-get-active/acs-guidelines-nutrition-physical-activity-cancer-prevention/food-additives.html>

- **Are rolling your own cigarettes less risky than commercially made ones?**

No, such cigarettes are not less harmful. We analyzed roll-your-own cigarettes in my laboratory in the Masonic Cancer Center, and the levels of important chemicals, including the lung cancer-causing chemical NNK that I mentioned during my lecture, are as high or sometimes higher than in other cigarettes. Just to remind, harmful chemicals in cigarette smoke come from tobacco and from the process of burning, so there cannot be “safe” cigarettes.

- **What is AA used for in traditional medicine?**

AA or its full name, aristolochic acid is itself not intended for treatment of human diseases. Unfortunately, it is a component that is biosynthesized by the herb genus *Aristolochia*. Traditional Chinese medicines containing various herbs have been used for over 3,000 years to treat a variety of ailments ranging from upset stomach, anxiety, etc. Unfortunately, some of the mixture of herbs that contain *Aristolochia* are carcinogenic because of the presence of AA.

- **Dr. Turesky mentioned some studies done on dog food. Could you please let me know which foods were the ones to steer away from because of the high heat used in processing?**

High temperature processed canine foods - or kibble results in the formation of the heterocyclic aromatic amine PhIP, which is a potential human carcinogen and also may be a cancer causing agent in canines. The kibble containing poultry as a major source of protein probably contains the highest amount of PhIP. We have stopped giving kibble containing poultry to our dogs and have switched to other protein sources including venison, and salmon.

- **There seems to be conflicting information about alcohol - it can cause cancer but a glass of red wine a day can prevent cancer. How do we reconcile this?**

Remember one of my first slides by the Swiss medicinal chemist Paracelsus. It is all about the dose. It is unproven that a glass of red wine a day can prevent cancer. However, there are chemicals in red wine such as resveratrol, an polyphenol antioxidant, which may have protective beneficial effects against cancer and other diseases.. Other polyphenols in red wine also may serve as antioxidants. However, the beneficial effects of these compounds may be negated by ethanol, which is a harmful chemical when consumed at high doses.