



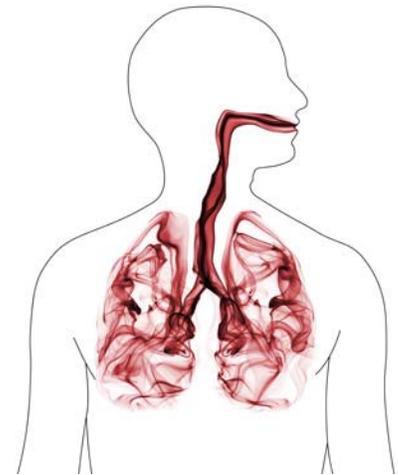
November 10, 2016 – Grand Rapids, MI

## Smoking and Cancer Update

A fascinating research paper was recently published in which researchers compared the genetic mutations found in 14 different types of tumors from chronic cigarette smokers and those who never smoked. They were attempting to see the differences in the genetic damage that occurred in tumors from the same organs between people who smoked and those who had never smoked. While they occur less frequently in non-smokers, some types of lung cancers still occur in those who never smoke.

This was complicated research to say the least. The research group had developed an algorithm that would look at over 90 specific gene sequences comparing smokers and non-smokers.

They found important differences in the genetic sequencing. In the tissues that were exposed to the metabolites of cigarette smoke, there were alterations in the genetic code of smokers, particularly the mouth, larynx, pharynx, and lung tissue, as we'd expect. But it also included the bladder and the liver. The toxic metabolites from cigarettes and other tobacco products are swallowed when someone drinks a fluid after smoking; it reaches the digestive system and is excreted via the urine.



I'll finish this up on Saturday. In the meantime, make sure you check into my [Live in Chicago](#) nutrition seminar on Sunday, November 20 in Downers Grove, IL. With what you'll learn about nutrition, it will be the best three hours and \$20 you've spent this year.

What are you prepared to do today?

**Dr. Chet**

**Reference:** Science 354 (6312), 618-622. doi: 10.1126/science.aag0299

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