

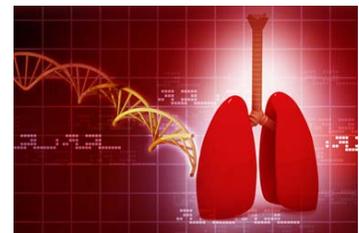


November 12, 2016 – Grand Rapids, MI

The Genetics of Smoking

The study I'm examining this week is profound for a number of reasons. Identifying the genes that are affected by direct contact with the toxins in cigarette smoke provides one piece of a very complex puzzle. For example, they showed the difference in genetic mutations in the same type of tumors between smokers and non-smokers. The smokers had the genetic mutations while the non-smokers didn't. So why did they get that type of cancer? That's why I said it's one piece of a puzzle. There are undoubtedly other factors involved.

With the information that was provided, further research can continue to find a way to repair those gene sequences. Even before that, tests could be developed to examine different organs to see if those mutations exist in people well before they get an active cancer. One step further? Even with gene mutations, not everyone will get that form of cancer. Finding out what causes a gene to be turned on, mutated or not, in one person but not in others is called epigenetics. Scientists are on a roll.



There is one way to stop most DNA mutations from occurring by smoking cigarettes: don't smoke. If you continue to smoke, maybe you're betting a solution comes before you develop a serious disease. That's not a great bet.

I'm going to throw in an opinion here as well: I wouldn't vape, either. There's zero research on the ingredients in vaping and the mutations it can cause in the mouth, trachea, and lungs. Once the genes are mutated, they stay that way. Maybe your immune system will eliminate the cell with the damaged DNA. Maybe it won't.

One week from tomorrow I'll be live in Chicago with [Supplementing for Health](#). I hope you'll join me there.

What are you prepared to do today?

Dr. Chet

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

WGVU FM 88.5/95.3 **npr** **Straight Talk on Health**

Hear Dr. Chet's take on the latest health news and research—listen to *Straight Talk on Health* Sunday at 7:30 a.m. and 6 p.m. in the Eastern Time Zone on WGVU-FM 88.5 or 95.3, or listen live via the Internet by going to www.wgvu.org/wgvunews and clicking on "Listen Live" at the top.

The health information in this message is designed for educational purposes only. It's not a substitute for medical advice from your healthcare provider, and you should not use it to diagnose or treat a health problem or disease. It's designed to motivate you to work toward better health, and that includes seeing your healthcare professional regularly. If what you've read raises any questions or concerns about health problems or possible diseases, talk to your healthcare provider today.

Subscribe to the Message from Dr. Chet at DrChet.com — © Chet Zelasko PhD LLC