

# Tobacco and radiation?

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## What's the relationship between smoking and radiation?

You asked an interesting question about tobacco and radiation. I found a [Centers for Disease Control and Prevention](#) article which I will quote in part. "The common dangers of cigarettes have been known for decades. However, few people know that tobacco also contains radioactive materials: [polonium-210](#) and lead-210. Together, the toxic and radioactive substances in cigarettes harm smokers. They also harm people exposed to secondhand smoke. For more information on secondhand smoke, please see the CDC website, [Smoking and Tobacco Use](#).

What are polonium-210 and lead-210?

Radioactive materials, like polonium-210 and lead-210, are found naturally in the soil and air. They are also found in the high-phosphate fertilizers that farmers use on their crops. Polonium-210 and lead-210 get into and onto tobacco leaves and remain there even after the tobacco has been processed. When a smoker lights a cigarette and inhales the tobacco smoke, the toxic and radioactive substances in the smoke

enter the lungs, where they can cause direct and immediate damage to the cells and tissues. The same toxic and radioactive substances can also damage the lungs of people nearby. [For more information on polonium-210.](#) How can cigarettes, tobacco, and radiation affect your health? Polonium-210 and lead-210 accumulate for decades in the lungs of smokers. Sticky tar in the tobacco builds up in the small air passageways in the lungs (bronchioles) and radioactive substances get trapped. Over time, these substances can lead to lung cancer. CDC studies show that smoking causes 80 percent of all lung cancer deaths in women and 90 percent of all lung cancer deaths in men. For more information about the increased health risks of smoking, see CDC's [Health Effects of Cigarette Smoking](#).

Occasionally questions are sent in to [edu-bsm@lanl.gov](mailto:edu-bsm@lanl.gov) or are left in our feedback box in the Museum.

We work to provide answers to these questions on [our blog](#) and the site where we list our [favorite questions and answers](#).



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