

THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER

# Medical News

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The James



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**NOTE TO EDITORS:** High quality b-roll and images associated with this story are available at [bit.ly/2oQwUnn](http://bit.ly/2oQwUnn)

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## Rise in Lung Adenocarcinoma Linked to ‘Light’ Cigarette Use

*Researchers urge Food and Drug Administration to take immediate action, possibly banning use of ventilation holes on cigarettes*

COLUMBUS, Ohio -- A new study shows that so-called “light” cigarettes have no health benefits to smokers and have likely contributed to the rise of a certain form of lung cancer that occurs deep in the lungs.

For this new study, researchers at The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC – James) and five other universities/cancer centers examined why the most common type of lung cancer, called adenocarcinoma, has increased over the last 50 years, rather than decreasing as smokers have been able to quit. Other types of lung cancer have been decreasing in relationship to fewer people smoking, but not lung adenocarcinoma. Because of this, lung adenocarcinoma is now the most common type of lung cancer.

Results confirm what tobacco-control researchers have suspected for years: There is no health benefit to high-ventilation (light) cigarettes – long marketed by the tobacco industry as a “healthier” option – and these cigarettes have actually have caused more harm. Holes in cigarette filters were introduced 50 years ago and were critical to claims for low-tar cigarettes

“This was done to fool smokers and the public health community into thinking that they actually were safer,” says Peter Shields, MD, deputy director of the OSUCCC – James and a lung medical oncologist. “Our data suggests a clear relationship between the addition of ventilation holes to

cigarettes and increasing rates of lung adenocarcinoma seen over the past 20 years. What is especially concerning is that these holes are still added to virtually all cigarettes that are smoked today.”

The U.S. Food and Drug Administration (FDA) was given the authority to regulate the manufacture, distribution and marketing of tobacco products through the Family Smoking Prevention and Tobacco Control Act in 2009. Current regulations ban tobacco companies from labeling and marketing cigarettes as “low tar” or “light.” Study authors, however, say that given this new data, the FDA should take immediate action to regulate the use of the ventilation holes, up to and including a complete ban of the holes.

“The FDA has a public health obligation to take immediate regulatory action to eliminate the use of ventilation holes on cigarettes,” adds Shields. “It is a somewhat complicated process to enact such regulations, but there is more than enough data to start the process. We believe that such an action would drive down the use and toxicity of conventional cigarettes, and drive smokers to either quit or use less harmful products. There are some open questions about unintended consequences for enacting a ban, which provides for an important research agenda.”

### **Study Design and Methods**

A team made up of lung oncology, public health and tobacco regulation researchers conducted a comprehensive, multi-faceted analysis of existing literature that included chemistry and toxicology studies, human clinical trials and epidemiological studies of both smoking behavior and cancer risk. They studied scientific publications in the peer-reviewed literature and internal tobacco company documents.

Researchers hypothesized that the higher incidence rates of lung adenocarcinoma were attributable to the filter ventilation holes, which allow smokers to inhale more smoke that also has higher levels of carcinogens, mutagens and other toxins.

“The filter ventilation holes change how the tobacco is burned, producing more carcinogens, which then also allows the smoke to reach the deeper parts of the lung where adenocarcinomas more frequently occur,” explains Shields.

To date, all the scientific evidence involves the adverse impact of adding ventilation, but not removing it. Additional research is needed to confirm that the addictiveness of the cigarette or toxic exposures from cigarettes would not increase with elimination of the ventilation holes. The OSUCCC – James and researchers at the University of Minnesota, Roswell Park Cancer Institute, Virginia Tech, Harvard

University and Medical University of South Carolina are conducting additional research to reconcile human biomarkers studies and smoke distribution/exposure in the lung.

Funding for this research comes from the National Cancer Institute and Food and Drug Administration Center for Tobacco Products. Coauthors include OSUCCC – James researchers Min-Ae Song, PhD, Micah Berman, JD, Theodore Brasky, PhD, and Casper Woroszylo, PhD; Neal Benowitz, MD, University of California-San Francisco; Michael Cummings, PhD, Medical University of South Carolina; Dorothy Hatsukami, PhD, University of Minnesota; Vaughan Rees, PhD, Harvard University; Richard O'Connor, PhD, Roswell Park Cancer Institute; and Catalin Marian, PhD, of Victor Babes University of Medicine and Pharmacy (Romania).

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### **About the OSUCCC – James**

The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute strives to create a cancer-free world by integrating scientific research with excellence in education and patient-centered care, a strategy that leads to better methods of prevention, detection and treatment. Ohio State is one of only 47 National Cancer Institute (NCI)-designated Comprehensive Cancer Centers and one of only a few centers funded by the NCI to conduct both phase I and phase II clinical trials on novel anticancer drugs sponsored by the NCI. As the cancer program's 308-bed adult patient-care component, The James is one of the top cancer hospitals in the nation as ranked by *U.S. News & World Report* and has achieved Magnet designation, the highest honor an organization can receive for quality patient care and professional nursing practice. At 21 floors and with more than 1.1 million square feet, The James is a transformational facility that fosters collaboration and integration of cancer research and clinical cancer care. Learn more at [cancer.osu.edu](http://cancer.osu.edu).