

of pancreatic tumor development, allowing researchers to isolate and analyze each stage of disease.

“Using this progression model is very different from implanting cancer cell lines into mouse models and watching them grow as cancer cells,” says study co-senior author David Tuveson, MD, PhD, director of the Lustgarten Foundation Pancreatic Cancer Research Laboratory at Cold Spring Harbor Laboratory in New York. “With this new system, the cells appear to be reprogrammed so that they start out as a low-grade and become, over time, a high-grade neoplasm.”

The model also allows organoids to be generated rapidly from tiny needle biopsies, eliminating a barrier for researchers. To date, there has been limited access to tissue samples because 85% of pancreatic cancer patients are ineligible for surgical resection due to the advanced stage of their disease at diagnosis or because their tumor is enmeshed in critical vasculature.

Gene expression and proteomic analyses conducted as part of the study revealed that nucleoporins—a family of proteins that make up the nuclear core complex—were broadly upregulated in the neoplastic mouse organoid models and that the expression increased measurably along with cancer progression, says Tuveson. The unexpected finding suggests that nucleoporins, which have been previously implicated in cancer, should be a focus of future pancreatic cancer research.

The investigators also established an organoid with a wild-type *KRAS* gene, an uncommon manifestation of pancreas cancer, says Clevers. Studying these organoids may help identify new driver genes and molecular pathways with therapeutic relevance.

“We’re hoping that organoid technology will provide a platform from which researchers will be able to identify actionable mutations for pancreas cancer,” says Clevers. Concurring, Tuveson notes that “the organoid model may be a way to actually deliver on the promise of personalized medicine.” ■

## AACR, ASCO Call for E-cigarette Regulation

Use of electronic cigarettes (e-cigarettes) and other electronic nicotine

delivery systems (ENDS) has skyrocketed in recent years. However, robust and conclusive data on the products’ health effects and efficacy as smoking cessation tools—as they’re often marketed—are lacking, say the American Association for Cancer Research (AACR) and the American Society of Clinical Oncology (ASCO) in a joint policy statement (Clin Cancer Res 2015 Jan 8 [Epub ahead of print]).

While some states and local governments have restricted the sale or use of ENDS, the products aren’t currently regulated by the FDA. They should be, according to the organizations, which call for more ENDS-related research, particularly on their health effects and impact on smoking behavior. In addition, the statement says manufacturers should be required to report ingredient lists to the FDA and be prohibited from selling products flavored like fruit or candy that appeal to children.

Roy Herbst, MD, PhD, chief of medical oncology at Yale Comprehensive Cancer Center in New Haven, CT, chaired the committee that wrote the joint statement. He says the AACR and ASCO have become alarmed at the sharply increasing use of ENDS, both among patients and in the general population.

“We don’t know the long-term health consequences of e-cigarettes,” he says. “People are selling ENDS under false pretenses—as smoking cessation tools—but there are insufficient data to support that benefit.”

Herbst says cancer patients and their oncologists need to know that people who smoke should be aggressive in their cessation efforts, but should use FDA-approved medications like nicotine gum or patches, varenicline (Chantix), or bupropion (Zyban or Wellbutrin) instead of ENDS.

Radiation oncologist Graham Warren, MD, PhD, from the Medical University of South Carolina in Charleston, serves on the AACR’s tobacco and cancer subcommittee, chairs the ASCO tobacco control subcommittee, and helped draft the policy statement. He notes that ENDS need to be regulated, in part, because they raise complicated, contextual questions that will be difficult for researchers to answer.

For example, “smoking is so detrimental that almost anything would be



E-cigarettes are battery-operated devices that vaporize nicotine-containing fluid instead of burning tobacco like traditional cigarettes.

better, and arguably e-cigarettes might be safer than smoking, but we just don’t know,” he says. “But if people who have never smoked before start using e-cigarettes, you’ve got to think that breathing these chemical vapors is going to be harmful.”

Warren notes he rarely heard about the products from his cancer patients 4 or 5 years ago. “Now, probably more than 80% of smokers I see have used e-cigarettes or want to try them,” he says. He tells those patients that because the effects of ENDS on overall health or on cancer treatment are unknown, using FDA-approved products for smoking cessation is a better strategy.

When the FDA finalizes the deeming document (available at [www.fda.gov](http://www.fda.gov)) it released last April, which classifies ENDS as tobacco products, ENDS will be regulated at the federal level. In the meantime, both Warren and Herbst say they hope the policy statement will encourage further regulation of ENDS at other levels of government and lead to research on the behavioral and clinical effects of ENDS. ■

## IOM Report Calls for Culture of Data Sharing

A new report from the Institute of Medicine (IOM) recommends that sharing clinical trial data—supported by new technology platforms and shared funding—should become the norm in the medical research community to encourage secondary analyses and maximize trial participants’ contributions.

Noting that a large proportion of clinical trial data is never published or made public, the authors of *Sharing Clinical Trial Data: Maximizing Benefits, Minimizing Risk* propose a practical framework that provides incentives for