Nasal Swab Test Could Lead to Fewer Biopsies to Detect Lung Cancer

A new nasal swab test may help identify which people with lung nodules are at most risk for lung cancer and require a biopsy.

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It is not uncommon for chest scans via computerized tomography (CT) to reveal lung nodules in patients, regardless of the reason they're given. This is especially true for smokers and former smokers being screened for lung cancer.

The vast majority of these nodules are benign. But others are the first sign of lung cancer, which is much more treatable when detected at an early stage. So everyone found to have one or more nodules needs to be further evaluated, often with an invasive procedure known as a biopsy, to determine whether these nodules are benign or malignant.

A noninvasive nasal swab may soon change that. In results presented at the American Society of Clinical Oncology's (ASCO) 2021 Annual Meeting, the manufacturer Veracyte produced evidence to suggest that a noninvasive alternative is on the horizon.

"Today, physicians have limited objective tools to determine which patients with lung nodules found on CT scans have cancer and which don't," Carla R. Lamb, MD, an interventional pulmonologist at Lahey Hospital and Medical Center in Burlington, Massachusetts, said, according to a Veracyte press release. "An objective tool that can accurately inform these decisions could be a game changer for early lung cancer assessment."

Lamb was among the investigators who conducted the showcased research. She and colleagues found that Veracyte's Percepta Nasal Swab is capable of differentiating between people with and without lung cancer. In a study of 249 current and former smokers whose CT scans had returned abnormal results, the investigators found that Percepta was able to correctly classify many of the participants as either low risk or high risk, enabling the former to avoid additional testing and the latter to fast-track their care.

More than 40% of the participants were classified as low risk, while nearly 60% were classified as high risk. They were followed for one year. When the nasal swab test's performance was applied to a population with a 25% cancer prevalence (the prevalence expected in a broad population of people with suspicious nodules), only 2.9% of those classified as low risk would develop lung

cancer, and nearly 70% of those classified as high risk would go on to be diagnosed with lung cancer.

“What is really exciting about these data is that doctors will be able to tell their patients with suspicious lung nodules that they are low risk for cancer and can likely avoid further workup, with very high certainty that they have not missed a cancer,” said Giulia C. Kennedy, PhD, Veracyte’s chief scientific officer and chief medical officer, according to the press release. “At the same time, they can be confident in guiding patients who are high risk to further diagnostic procedures, in line with current guidelines.”

Percepta works by identifying the presence of smoking-related damage. The test’s machine learning technology was trained on an extensive sample set, according to the press release and could be informing medical decisions as soon as the second half of 2021, when Veracyte hopes to begin distributing its nasal swab tests.

Click here to read the study abstract.

For more on recent innovations in lung cancer detection, read “Earlier Detection of Lung Cancer” and “Trained Dogs Can Identify Lung Cancer, Study Shows.” And to learn who qualifies for screening, read “New Lung Cancer Screening Recommendation Expands Eligibility.”
