

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: **SPOTTING LESIONS IN THE LUNGS BEFORE THEY TURN DEADLY**
REPORT: **MB #4728**

BACKGROUND:

Lung cancer is when the cells uncontrollably divide in the lungs, causing breathing difficulties. It is the deadliest cancer in both men and women. While smoking is the leading cause, those exposed to secondhand smoke could get it, as well as people who are exposed to radon gas, asbestos, and other carcinogens like arsenic, chromium, and nickel. Lung cancer is very hard to detect early on because it is often mistaken for a respiratory infection. There may also be none of the common symptoms. Those symptoms are coughing that doesn't go away, coughing up blood, shortness of breath, pain in the chest, bones, and head, changes in voice, weight and appetite loss, and frequent chest infections, such as bronchitis or pneumonia.

(Source: <https://www.mayoclinic.org/diseases-conditions/lung-cancer/symptoms-causes/syc-20374620>, <https://www.medicalnewstoday.com/articles/323701>)

DIAGNOSING:

During a lung cancer screening, which happen annually for those with increased risk, if there is a possible lesion spotted on the CT scan, then the doctor may conduct a series of tests that check for cancer. Imaging tests like X-rays and CT scans are done to reveal any abnormal mass or lesion in the lungs. A sputum cytology is when mucus is coughed up so that it can be looked at for cancerous cells. A biopsy may be performed in a few ways. A bronchoscopy is when a tube is passed down through the throat and into the lungs. A mediastinoscopy is an incision is made in the neck to take tissue samples from lymph nodes. A needle biopsy is when a needle is inserted in the chest to collect lung tissue cells.

(Source: <https://www.mayoclinic.org/diseases-conditions/lung-cancer/diagnosis-treatment/drc-20374627>)

MICROCOIL LOCALIZATION:

Dr. Daniel Raymond and his colleagues at Cleveland Clinic developed a new approach to the needle biopsy called microcoil localization. Once the patient goes to sleep in the operating room, a radiologist inserts a soft-fiber needle through the chest wall, the lung, and the target nodule. The coil is attached to the nodule before the needle is removed. Then, a thoracic surgeon locates the coil using technology and carefully removes it along with a small part of tissue containing the nodule or lesion. That way, the team can examine, diagnose, and perform surgery if its cancerous, all while the patient is still under anesthesia.

(Source: <https://my.clevelandclinic.org/patient-stories/251-innovative-microcoil-procedure-shows-promise-for-early-stage-lung-cancer>)

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com