

An update on lung cancer screening in BC

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In March 2016, the Canadian Task Force on Preventive Health Care (Task Force) updated the screening guidelines for those at high risk for lung cancer. This was largely based on the positive finding of the National Lung Screening Trial that demonstrated a 20% reduction in lung cancer mortality with low-dose computed tomography (LDCT)

screening compares to chest x-ray¹. The Task Force recommends annual LDCT for up to three consecutive years for adults aged 55-74 years old with a 30 pack-year smoking history, who are currently smoking or who have quit within the last 15 years². The use of chest x-ray with or without sputum cytology for lung cancer screening is not recommended. The Task Force emphasized the importance of delivering lung cancer screening in healthcare settings with expertise in early diagnosis and treatment of lung cancer, to improve the benefit to harm ratio of lung cancer screening through careful attention to recruitment criteria, proper management of lung nodules, provision of high-quality follow-up investigation and management, and the delivery of complementary smoking cessation interventions³.

Currently, Ontario is the only province in Canada that has provided funding to initiate a pilot screening project which will start in 2017. In BC, the BC Cancer Agency has submitted a business case to the Ministry to implement lung cancer screening. Nationally, facilitated by the Canadian Partnership Against Cancer, the Pan-Canadian Lung Screening Network comprised of lung cancer experts, pathologists, radiologists, smoking cessation experts and policy makers, is



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working towards developing a set of lung cancer screening quality indicators for reporting at the national level and for sharing experiences across provinces.

Questions remain, such as optimal selection criteria for LDCT screening, screening interval, duration of screening, and follow-up of abnormal results.

To address some of these questions, VGH-UBC Hospital Foundation has recently funded the VGH Early Lung Cancer Screening Pilot Program. The objectives of the study are to (a) compare the sensitivity of using the Task Force-like criteria versus a lung cancer risk prediction tool (PLCOM2012: Prostate, Lung, Colorectal, Ovarian Cancer risk prediction

model) to select patients for screening; (b) examine the value of inclusion of genetic susceptibility and air pollution exposures for risk assessment; (c) develop and apply advanced computer analytic imaging tools to identify and characterize small lung nodules that are the most problematic in clinical management to determine their malignancy potential, with the goal of improving efficiency and accuracy of reading large number of screening CT scans as well as decreasing unnecessary imaging studies or biopsies; and (d) evaluate a new screening CT reporting format.

The study aims to recruit 2,000 individuals between 55 to 80 years of age who have an estimated 6-year lung cancer risk of $\geq 1.51\%$ based on the PLCOM2012 risk prediction model, or ≥ 30 pack-years smoking history and were not previously diagnosed with lung cancer or suspected to have lung cancer based on symptoms, and who do not have other co-morbidities that would make them unlikely to benefit from screening. Due to logistical issues, the study is only open to residents in the Vancouver area. Further information can be obtained from 604.675.8088.

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References

1. *The New England Journal of Medicine* 2011, 365(5):395-409.
2. *Canadian Medical Association Journal* 2016, Apr 5; 188(6):425-32.

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