

2017 Public Reporting of Outcomes:

In 2017 Providence St. Patrick Cancer Program focused on two different screening activities: Skin cancer screening and Low-Dose CT for Lung Cancer Screening.

A skin screening event was held during the Heart Expo on Saturday, February 25, 2017. Shannon Foster, MD, at the Western MT Clinic Dermatology, performed screening exams.

A total of 41 patients were screened during this event.

37% of patients had no skin issues found.

49% of patients had the following skin concerns diagnosed in which no follow-up was recommended. Those conditions include the following:

Seborrheic dermatitis	Raynaud's
Seborrheic keratosis	Nevus
Lipoma	Scalp rash
Warts	Benign cherry angioma
Sun freckles	Sun spots
Dermatitis of the scalp	Actinic keratosis
Dry scaly skin	Chondrodermatitis nodularis helioides

15% of patients screened had skin conditions for which Dr. Foster recommended follow-up. The types of conditions she diagnosed included the following:

- *Dermatofibroma/cyst
- *Keratoacanthoma
- *Lesion on hand
- *Lesion on left ear lobe
- *Left neck lesion

Of the 15% of patients with a finding, two opted to follow-up, three opted not to follow-up and one patient did not give permission for the Cancer Program to review their results.

We were encouraged to see so many people take advantage of this event. Though many skin lesions were noted nothing came back positive for cancer diagnosis.

The Providence St. Patrick Cancer Program would like to warmly thank Dr. Shannon Foster and the Western Montana Clinic for lending her expertise and time to this important prevention work.

Between January 1, 2016 and June 30, 2017, 311 CT lung cancer screening scans have been performed at Providence St. Patrick Hospital by the Imaging Department.

Of the 311 patients screened, thirteen (13) or 4%, had Lung RADS 4, which is a result that requires further follow-up.

For the 4% of patients with Lung RADS 4 their further follow up showed the following outcomes:

Nine (9) patients were referred for follow-up CT and are continuing to be surveilled per the guidelines. Four (4) the patients were diagnosed with lung cancer and have had treatment for their cancer.

Bruce Turlington, MD is a local radiologist who works with our Providence Lung Cancer Screening Program. Dr. Turlington shares insights and evidence based data below which helps us to understand the importance of carrying out the work of this screening program.

The American Lung Cancer Association statistics believe that 8.6 million Americans qualify as high risk for lung cancer and could benefit from screening. If even half of these individuals were screened , over 13,000 lung cancer deaths could be prevented. The Providence Cancer Program extends a big thank you to Dr. Turlington and his partners for their support and efforts in screening patients at risk from this deadly disease.

A low-dose lung cancer screening program can save lives. By finding this cancer in its earlier stages, we have the best chance of offering successful and curative treatment. We hope you will find this information helpful, and will share with any of your friends and family that may be at risk.

Low-Dose CT (LDCT) for Lung Cancer Screening: Questions to be addressed

Whom to Screen?

Published in the New England Journal of Medicine in 2011, the landmark National Lung Cancer Screening Trial (NLST), the only randomized controlled trial of sufficient power to demonstrate a mortality reduction attributable to screening with LDCT, showed a 20 percent reduction in lung cancer mortality and a 6.9 percent reduction in all-cause mortality when compared with chest radiography. This translates to one lung cancer death avoided for every 320 subjects screened. This figure compares favorably to mammographic screening, with one breast cancer death avoided for every 740 to 2,000 women screened. In the NLST three annual LDCT exams were performed in high risk smokers, defined as 55 to 74 year old current or former smokers with at least 30 pack years of smoking, and, for former smokers, those who had quit within the last 15 years. The National Comprehensive Cancer Network (NCCN), American Cancer Society, American College of Chest Physicians, and American Cancer Society all

recommend screening using the NLST inclusion criteria. However, some professional societies have advocated for a more refined risk assessment process. The NCCN recommends screening of younger smokers (starting at age 50) and with less extensive smoking history (greater than 20 pack years) if one or more additional risk factors are present. These include:

- Personal history of lung cancer
- History of lymphoma, head and neck cancer or other tobacco related malignancies
- History of COPD, pulmonary fibrosis or documented exposure to high level of radon
- Significant occupational exposure to certain known carcinogens

The American Association of Thoracic Surgeons (AATS) has also refined the NLST criteria. Their guideline extends the screening age to 79. The rationale is that the median age of lung cancer diagnosis is 74 (with increasing incidence beyond age 74), with an average life expectancy in the United States of 78.6 years. Undoubtedly, the eligibility criteria for LDCT screening will continue to evolve as ongoing studies continue to refine our understanding of the impact of lung cancer screening.

How Concerning is the Radiation Exposure from LDCT?

Current technology CT scanners can produce images of excellent quality at nearly chest radiography levels because of features such as model-based iterative reconstruction. There are ongoing studies at multiple centers investigating the feasibility of ultra low-dose CT with regards to the trade-off of minimizing radiation dose to maintaining optimum lesion detections and characterization.

How Are All of the False Positive Findings to be Dealt With?

In the NLST, 40 percent of the CT-screened individuals had at least one false positive finding. However, the vast majority of these nodules were small, requiring follow-up with noninvasive LDCT rather than invasive procedures. With downstream testing generated by positive LDCT screening, there was only a 0.35 percent complication rate in patients who did not have cancer (the risk of death in these patients was 0.025 percent). A higher complication rate of 28 percent was observed in patients ultimately diagnosed with lung cancer, as these patients underwent more invasive procedures. Recent findings from the Early Lung Cancer Action Program (ELCAP) suggest that if the positive threshold nodule size was raised from 5 to 9 mm, very few lung cancers would be missed and there would be a marked reduction in false positive findings.

Should Lung Cancer Screening be Multidisciplinary?

Ideally, lung cancer screening should be carried out in the setting of a multidisciplinary program for a number of reasons. The patient needs to be educated about the potential benefits and risks of screening, the likelihood of positive findings, the probability of a positive finding turning out to be cancer and the various management pathways resulting from a positive finding. Patient education also involves setting expectations with a negative study, emphasizing that mortality reduction in the NLST was seen with three annual screening exams, not just a single study. If a screening program is to succeed, it is important to have a system in place to track patients and ensure that they are not lost to follow-up.

Lung cancer screening with LDCT should be considered a process, not a test in isolation. Elements of a successful program will need to include:

- Adopting well thought out eligibility criteria
- Using optimal LDCT technique, with well trained radiologists providing interpretations using standardized reporting
- Establishing consensus recommendations for the management of screening detected findings
- Having a referral system of expert specialists in place for patient management and consultation.