The U.S. Preventive Services Task Force (USPSTF) recommends annual lung cancer screening for adults who have no signs or symptoms of lung cancer but who are at high risk for developing the disease because of age and smoking history. Based on this recommendation and studies from the National Institute of Health (NIH) and the National Lung Screening Trial (NLST), Intermountain Healthcare established the Lung Cancer Screening Program with the support of the Oncology Clinical Program, the Division of Pulmonology and Critical Care Medicine, and Department of Imaging. This screening program facilitates annual screening (and more frequent diagnostic testing when indicated) for patients who meet criteria for high risk of developing lung cancer.

**GOALS**

The goals of the Lung Cancer Screening Program are as follows:

- **Identify appropriate patients for screening** through primary care providers (PCPs) and other clinicians
- **Track appropriate patients long term to ensure that they receive annual screening and appropriate follow up when applicable**
- **Assess and refine criteria for screening within the Intermountain population**

**OUTCOMES**

Intermountain will measure the success of the Lung Cancer Screening Program (and adjust the process as needed) by tracking these critical statistics:

- The number of people screened
- The number of diagnoses (cancer and other findings, such as COPD and non-cancer nodules)
- The cancer stage / grade
- The number of unnecessary procedures

**A NOTE ABOUT COVERAGE**

Coverage for lung cancer screening is rapidly evolving. CT screening for lung cancer is for asymptomatic patients only. If all criteria are met, Medicare coverage may provide for annual screening as a preventative service. Patients or the PCP should check with insurers or the Nurse Navigator (NN) prior to screening.
ALGORITHM NOTES

(a) Identifying patients. Primary care providers (PCPs) are responsible for identifying patients for the program. In the future, patients will also be able to call and request consideration for the program.

(b) Pack year. A “pack year” is smoking an average of 1 pack of cigarettes per day for 1 year. A person could have a 30 pack-year history by smoking 1 pack a day for 30 years or 2 packs a day for 15 years. A high-risk patient is defined as having a history of 30 pack years or more.

(c) Referral to the screening program:
1. PCP recognizes a patient who may benefit from screening.
2. After counseling patient and assuring all criteria are met, provider completes attestation form and power plan in iCentra.
3. Provider either places screening order in iCentra, or the provider completes the Counseling and Decision making order/Short Interim Follow order and faxes it to the appropriate number (see below).
4. The nurse navigator or support staff validates that the patient is appropriate for the Screening Program and enters the patient’s information into the DIG (Digital Integrated Grease board) scheduling tool.

(d) Patients who don’t meet criteria. If patients request screening but don’t meet the criteria, they will be referred back to the PCP.

Screening program referral contacts:

Who to call for each region:
- Annette Wendel, 801-507-3998
- Cheryl Shepherd, 801-855-4101
- Amber Gurchiek, 801-387-7425
- Celeste Adams, 435-688-4901

ALGORITHM 1: DECISION GUIDE

Potential patient for program (a)

- DETERMINE whether patient meets program criteria (a)
  - ALL must apply:
    - Age 55 to 77
    - Current smoker or quit < 15 years ago
    - ≥ 30 pack year smoking history (b)
    - NO health problems that limit life expectancy OR the ability/willingness to have surgery

- Is the patient a candidate for the program?
  - yes
    - INITIATE referral (c)
  - no
    - REFER TO PCP (d)

BEGIN Screening Process Cycle (SEE Screening Process algorithm on next page)

Note: The Intermountain guidelines presented here reflect Centers for Medicare and Medicaid Services (CMS) criteria for determining screening eligibility.

Who participates in the Lung Cancer Screening Program?

In general, a nurse navigator (NN) facilitates and coordinates the screening process. For other incidental findings, the NN coordinates with other specialists. The NN enters patients into the Lung Cancer Tracking System (LCTS), mails letters to the patient, and follows up. In addition, the following team members may be involved:

- Primary care physician (PCP). Identifies patients qualified for screening. Provides counseling and facilitates shared decision making according to patient needs.
- Radiologist. Performs the screens and diagnostic tests (if applicable). Reads the scans and results into the patient’s electronic medical record.
- Pulmonary clinic. Evaluates and treats patients with abnormal CT results.
- Thoracic oncologist. Evaluates and treats patients with lung cancer.
- Support staff. Office managers, administrative staff, and other team members schedule appointments and submit results in the electronic medical record.
- Thoracic tumor conference. Reviews imaging results and provides recommendations about next steps for patients who fall into a high-risk category.
ALGORITHM NOTES
(a) Criteria for Screening Program.
Patients in queue should be continually reassessed to ensure that they meet the program criteria. Patients should no longer be followed when they:
• Have not smoked for 15 years.
• Develop health problems that significantly limits life expectancy or the ability or willingness to have curative lung surgery.
• Pass age 77.
(b) Risk Classification:
• Low risk or normal: Annual LDCT
• Intermediate risk: Follow-up or additional chest CT in 3 or 6 months
• High risk or other: Immediate follow up in appropriate clinic
(c) Letters in the Lung Screening Tracking System (LSTS). The NN prints the letters directly from the LSTS.
• Normal Result (A)
• 3-Month Return (B)
• 6-Month Return (C)
• Immediate Nodule Center (D)
  Recommendation to refer at the discretion of provider
• Immediate Other (E)
• Annual Reminder (F)
• Follow-up Reminder (G)
• Second Reminder (H)
(d) See box below algorithm.
(e) Some patients may re-enter the Screening Program (e.g., if an abnormality identified on CT is diagnosed as benign).

HELPING PATIENTS QUIT
Throughout the process, encourage patients to quit smoking. These tools and resources can help your patients quit:
• Intermountain’s Quitting Tobacco booklet
• Quit for Life Program: 866-784-8454, quitnow.net
• Freedom from Smoking: ffsonline.org
• Smokefree: 800-QUIT-NOW, smokefree.gov
• utah.quitnet.com
• cdc.gov/tobacco
• nicotine-anonymous.org
• www.tobaccofreeutah.org

(d) Follow-up queue
Patients in the follow-up queue fall into one of the following categories. Patients move in and out of the Screening Process Cycle above as applicable:
• Low risk or normal: Patients continue to receive annual screening LDCT until they no longer meet the criteria or have an abnormal screen.
• Intermediate risk group: Patients are flagged for follow up in 3 or 6 months, depending on screening LDCT result. A follow-up or additional chest CT is performed at 3 or 6 months. At that time, the patient is reassessed. The patient may move back into annual screening or be referred for further testing or treatment.
• High risk or other: Patients presented in the thoracic tumor conference are referred to the appropriate clinic for diagnostic testing and treatments. They may return to annual screening if appropriate.
RESOURCES AND REFERENCES

Intermountain patient resources
Clinicians can order Intermountain patient education booklets and fact sheets for distribution to their patients from Intermountain’s Online Library and Print Store, iprintstore.org.

Fact sheets:
- Lung Cancer Screening
- Secondhand Smoke and Your Child’s Health
- E-Cigarettes: Questions and Answers

Provider resources
To find this and other related provider materials, clinicians can go to intermountainphysician.org/clinicalprograms and select Lung Problems from the topic list on the right side of the screen.

Other patient education:
- Quitting Tobacco: Your journey to freedom

This process model presents a model of best care based on the best available scientific evidence at the time of publication. It is not a prescription for every physician or every patient, nor does it replace clinical judgment. All statements, protocols, and recommendations herein are viewed as transitory and iterative. Although physicians are encouraged to follow the CPM to help focus on and measure quality, deviations are a means for discovering improvements in patient care and expanding the knowledge base.