



# Effective Health Care

## Imaging Techniques for Monitoring of Solitary Lung Nodules

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- Ongoing research or activities are underway that impact the timing for developing this topic. Therefore, imaging techniques for monitoring of solitary lung nodules will be revisited in the future when more data becomes available.

#### Topic Description

**Nominator:** Organization

**Nomination Summary:** The nominator is interested in the comparative effectiveness of investigational and existing imaging techniques for monitoring of solitary lung nodules.

##### **Staff-Generated PICO**

**Population(s):** Patients with a solitary pulmonary nodule that has been identified either during screening or incidentally during another radiological examination like chest x-ray or computed tomography (CT)

**Intervention(s):** Investigational imaging techniques including low dose CT, static and dynamic spiral CT, multidetector CT, dual energy subtraction chest x-ray, dual energy subtraction digital tomosynthesis, single photon emission CT with technetium-99m depreotide and thallium-201-chloride, fluorodeoxyglucose positron emission tomography with different tracers including fluorine-18, fluorine-18 fluorothymidine, 11C choline and 11C methionine, 1.5 Tesla and 3 Tesla Magnetic resonance Imaging (MRI), and diffusion-weighted imaging MRI

**Comparator(s):** Existing imaging techniques including CT scan and/or chest X-ray

**Outcome(s):** Overall mortality or survival, quality of life, adverse effects or harms associated with testing (e.g., exposure to radiation, harm caused by false positives (such as unnecessary biopsies, increased medical cost, increased stress due to medical diagnoses and treatments), under-diagnosis resulting in failure to achieve early diagnosis and intervention, risk of a missed metastases diagnosis, and errors in pre-therapy staging that may cause unnecessary medical treatments and stress)

**Key Questions from Nominator:**

1. What is the comparative effectiveness of imaging techniques (e.g., CT scans versus chest X-rays) for monitoring of solitary lung nodules?

## Considerations

- The topic meets all EHC Program appropriateness and importance criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- The American College of Chest Physicians is currently updating their evidence-based guidelines on the diagnosis and management of lung cancer. This ongoing work may have significant overlap with this topic; therefore, this topic will be further considered when the final scope of the ACCP update is known.