MedPOINT MANAGEMENT	**Clinical Protocol:** CT Scan, Chest	
	ORIGINAL EFFECTIVE DATE: 12/28/2011	**REVIEWED/REVISED DATE(S):** 05/29/2019 08/13/2021 09/01/2022 11/15/2023 02/03/2025
PREPARED BY: Ashley Gonzalez, UM Project Coordinator; Konstantin Yengoyan, Supervisor, Clinical Operations	**APPROVED BY:** Richard L. Powell, Chief Medical Officer	

PROTOCOL OVERVIEW

This Clinical Protocol advises on indications and guidelines for Chest CT Scan.

INDICATIONS

Chest CT scan may be indicated for **1 or more** of the following:

a. Abnormal chest x-ray findings, as indicated by **1 or more** of the following:
   i. Bronchopleural fistula, suspected
   ii. Congenital abnormalities of mediastinal vasculature, known or suspected (eg, double aortic arch, pulmonary artery sling, innominate artery compression syndrome)
   iii. Congenital abnormalities of tracheobronchial tree, known or suspected (eg, bronchial agenesis, tracheal stenosis)
   iv. Cystic or cavitary lesion
   v. Foreign body aspiration, known or suspected, when imaging results will impact management
   vi. Hilar adenopathy
   vii. Interstitial or other systemic lung disease pattern (eg, reticular, bronchial wall thickening, honeycombing)
   viii. Lung abscess or necrotizing pneumonia, suspected
   ix. Lung mass
   x. Mediastinal mass or enlargement
   xi. Multiple pulmonary nodules in smoker, and need for interval follow-up
   xii. Nonspecific chest x-ray finding in febrile neutropenic patient
   xiii. Parapneumonic effusion, suspected
   xiv. Persistent atelectasis
   xv. Pleural effusion poorly responsive to drainage and other conservative treatments
   xvi. Pleural thickening or pleural plaque
   xvii. Pneumoconiosis, suspected due to exposure to hazardous dusts (eg, asbestos, beryllium, coal, silica)
   xviii. Solitary pulmonary nodule, as indicated by **1 or more** of the following:
      1. Need for initial evaluation after being noted on plain chest x-ray
      2. Need for interval follow-up of benign-appearing solitary pulmonary nodule less than 10 mm in size

xix. Tracheobronchomalacia, known or suspected

Anatomic guidance during percutaneous ablation of non-small cell lung cancer

b. Anatomic guidance during percutaneous drainage of lung abscess
c. Anatomic guidance during percutaneous pleural, lung, or mediastinal biopsy
d. Cancer or neoplasm evaluation, staging, or surveillance needed,
e. Chest wall pathology, as indicated by **1 or more** of the following:

II. Nontraumatic chest wall pain, plain x-ray nondiagnostic, and **1 or more** of the following:
   a. History of chest intervention
   b. Infectious or inflammatory condition, suspected
   c. Malignancy, known or suspected

III. Soft tissue mass, plain x-ray and ultrasound nondiagnostic, and MRI contraindicated or not available

IV. Venous thoracic outlet syndrome, initial or follow-up evaluation

a. Collagen vascular disease, as indicated by **ALL** of the following:
   i. Previous diagnosis of collagen vascular disease, as indicated by **1 or more** of the following:
      1. Ankylosing spondylitis
      2. Dermatomyositis
      3. Mixed connective tissue disease
      4. Polymyositis
      5. Rheumatoid arthritis
      6. Scleroderma (ie, systemic sclerosis)
      7. Sjogren syndrome
      8. Systemic lupus erythematosus
   ii. Pulmonary disease signs or symptoms, as indicated by **1 or more** of the following:
      1. Abnormality on plain chest x-ray
      2. Chronic cough
      3. Dyspnea
      4. Pleural effusion
b. Congenital malformation of chest, lungs, mediastinum, or great vessels, known or suspected, when additional imaging required for management
c. Cystic fibrosis, as indicated by **1 or more** of the following:
   i. Detection of early disease
   ii. Monitoring disease progression
d. Infection, known or suspected, as indicated by **1 or more** of the following:
   i. Acute viral illness (eg, coronavirus disease 2019 (COVID-19)), as indicated by **1 or more** of the following:
      1. Known disease and worsening respiratory status (eg, hypoxemia, moderate to severe dyspnea)
      2. Post recovery, and patient with continued functional impairment or Hypoxemia
   ii. Bronchiectasis, suspected, as indicated by **1 or more** of the following:
      1. Chronic cough
      2. Chronic respiratory infections
      3. Clubbing

4. Cough-induced fracture of ribs
5. Growth failure
6. Hemoptysis
7. Sputum production

iii. Neutropenic patient (absolute neutrophil count of less than 500 cells/mm^3 (0.5 $x10^9$/L)) with fever and **1 or more** of the following:
1. Persistent Fever after 5 days of treatment with antibiotics (with or without antifungals)
2. Signs and symptoms of pulmonary infection (ie, cough, dyspnea, pleural rub)

iv. Pneumonia and **1 or more** of the following:
1. Complicated or complex pneumonia with possible abscess or cavity formation
2. Follow-up chest x-ray (after 6 to 9 weeks) shows persistent abnormality.
3. Immunocompromised patient
4. No clinical improvement after 4 weeks
5. Recurrent episodes

v. Tuberculosis (pulmonary), known or suspected, and **1 or more** of the following:
1. Chest x-ray results normal or inconclusive
2. Detection of pulmonary complications (eg, effusion, bronchopleural fistula, empyema)

e. Interstitial lung disease, as indicated by **1 or more** of the following:
i. Interstitial or other systemic lung disease pattern on chest x-ray (eg, reticular, bronchial wall thickening, honeycombing)
ii. Monitoring of known interstitial lung disease
iii. Pulmonary disease signs or symptoms, as indicated by **1 or more** of the following:
1. Digital clubbing
2. Exertional breathlessness
3. Hypoxemia
4. Inspiratory rales or crackles
5. Nonproductive cough
6. Pulmonary function test that reveals restrictive lung disease or reduced diffusing capacity
7. Resting Tachypnea

f. Intrathoracic herniation of abdominal contents, known or suspected (eg, diaphragmatic hernia, hiatal hernia)

g. Post hematopoietic stem cell transplant and **ALL** of the following:
i. Present or prior neutrophil count of less than 500 cells/mm^3 (0.5 $x10^9$/L)
ii. New symptoms, x-ray, or laboratory evidence of infection, as indicated by **1 or more** of the following:
1. Abnormal finding on plain chest x-ray
2. New cough, chest pain, or hemoptysis
3. Persistent Fever after 5 days of treatment with antibiotics (with or without antifungals)
4. Positive culture or serum polymerase chain reaction results for *Aspergillus* or other mold
5. Positive fungal markers (eg, serum galactomannan, serum beta-D-glucan)

h. Post lung transplant and **1 or more** of the following:
i. Abnormal finding on plain chest x-ray
ii. Acute or chronic rejection signs or symptoms (eg, dyspnea, Fever, decreased exercise tolerance)
iii. Bronchiolitis obliterans signs or symptoms
iv. Central airway postoperative complications, suspected (eg, anastomotic dehiscence, bronchial stenosis)
v. Vascular complications, suspected (eg, pseudoaneurysm, pulmonary artery anastomotic stenosis)

i. Post solid organ transplant, and fungal infection suspected, as indicated by **1 or more** of the following:
    i. Abnormal finding on plain chest x-ray
    ii. New cough, chest pain, or hemoptysis
    iii. Persistent Fever after 5 days of treatment with antibiotics (with or without antifungals)
    iv. Positive culture or serum polymerase chain reaction results for *Aspergillus* or other mold
    v. Positive fungal markers (eg, serum galactomannan, serum beta-D-glucan)

j. Preoperative or preprocedural planning needed, as indicated by **1 or more** of the following:
    i. Confirmed pulmonary tuberculosis
    ii. Evaluation for potential lung resection surgery (ie, presence of bilateral emphysema, absence of clinically significant bronchiectasis)
    iii. Primary hyperparathyroidism, and sestamibi nuclear scan positive for mediastinal location of adenoma
    iv. Prior to anticipated lung resection to predict postoperative pulmonary function reserve if nuclear medicine perfusion scanning indeterminate

k. Pulmonary disease signs or symptoms, as indicated by **1 or more** of the following:
    i. Chronic cough (persisting for 3 or more weeks) and **ALL** of the following:
        1. Cough-inducing medications discontinued
        2. No clinical improvement after adequate trial of medical therapy for potential causes
        3. Unexplained by plain chest x-ray
    ii. Dyspnea (shortness of breath) and **ALL** of the following:
        1. Absence of obstructive lung disease (eg, COPD, asthma)
        2. No cardiac explanation
        3. Unexplained by plain chest x-ray
    iii. Hemoptysis (massive or nonmassive)

l. Trauma, known or suspected, as indicated by **1 or more** of the following:
    i. Chest trauma
    ii. Diaphragmatic rupture, suspected
    iii. Esophageal trauma or perforation, and additional information required beyond general clinical assessment and endoscopy

m. Tuberous sclerosis complex, as indicated by **1 or more** of the following:
    i. Asymptomatic female age 18 years or older
    ii. Lymphangioleiomyomatosis, suspected (eg, dyspnea, exertional dyspnea)

n. Repeat evaluation of specific area or structure with same imaging modality, as indicated by **1 or more** of the following:
    i. Change in clinical status (eg, worsening symptoms or new associated symptoms)
    ii. Need for interval reassessment that may impact treatment plan
    iii. Need for re-imaging either prior to or after performance of invasive procedure

RECOMMENDED RECORDS

Please submit history and physical or progress notes that show the symptoms, exam findings, and any pertinent diagnostic tests that may have been done. (i.e. X-ray, ultrasound).

CITATION

MCG Care Guidelines 29th Edition, 3/04/2025 MCG Releases 29th Edition of Care Guidelines with Updates for Observation Care and Cellular Therapy - MCG Health

CLINICAL PROTOCOL REVISION HISTORY

Revised By:	Ashley Gonzalez, UM Project Coordinator; Konstantin Yengoyan, Supervisor, Clinical Operations	**Date:** 02/03/25	
Approved By:	Richard L. Powell, Chief Medical Officer	**Date:** 2/4/2026	**Signature** DocuSigned by: Richard Powell
Revised By:		**Date:**	
Approved By:		**Date:**	**Signature**
Revised By:		**Date:**	
Approved By:		**Date:**	**Signature**