

# Eviti Imaging: Acute Lymphocytic Leukemia (ALL)

Version: 1.0

Effective Date: 1/1/2026

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For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Please refer to the CMS website at <http://www.cms.gov> for additional information.

For Medicaid members/enrollees, circumstances when state Medicaid coverage provisions conflict with the coverage provisions within this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

## Acute Lymphocytic Leukemia Imaging

### Discussion

This imaging guideline provides a standardized framework for the use of diagnostic and surveillance imaging in the management of common adult malignancies, specifically acute lymphocytic leukemia (ALL). The goal is to ensure timely, evidence-based imaging that supports accurate staging, treatment planning, response assessment, and post-treatment surveillance.

### Guiding Principles

- Follow evidence-based practices from major guidelines (e.g., NCCN, ESMO, ACR Appropriateness Criteria)
- Ensure imaging aligns with the clinical context and stage of disease
- Minimization of unnecessary radiation exposure
- Promote timely and cost-effective imaging utilization
- Incorporate multidisciplinary collaboration in imaging decisions

### Imaging Guidelines

This guideline applies to the following patients:

1. At least 18 years of age with confirmed or suspected diagnoses of acute lymphocytic leukemia (ALL); AND
2. All phases of oncologic care, including one of the following:
  - a) Initial staging
  - b) Treatment response evaluation
  - c) Post-treatment surveillance
  - d) Detection of recurrence or progression; AND
3. All imaging modalities used in oncology care, including but not limited to the following:
  - a) Computed Tomography (CT) (neck, chest, abdomen, pelvis, neck, or site-specific)
  - b) Magnetic Resonance Imaging (MRI) (including site-specific protocols such as pelvis MRI, brain MRI, liver MRI)
  - c) Fluorodeoxyglucose Positron Emission Tomography/CT (FDG-PET/CT)
  - d) PET/MRI
  - e) Somatostatin Receptor PET/CT (SSTR-PET/CT)
  - f) Nuclear Medicine (e.g., bone scan, PSMA PET)
  - g) Single Photon Emission Computed Tomography/CT (SPECT/CT) (e.g., octreotide SPECT/CT for neuroendocrine tumors)

### Notes:

1. The concurrent utilization of multiple advanced imaging modalities—such as PET/CT and MRI—is not routinely warranted and should be considered only when each modality is expected to provide distinct and clinically relevant information that will directly impact patient management. The selection of the most appropriate imaging study should be individualized, taking into account tumor type, clinical presentation, prior imaging, and other patient-specific factors. Imaging requests will be evaluated on a case-by-case basis to

ensure clinical necessity, appropriateness, and the potential to influence therapeutic decision-making.

- When PET imaging is clinically indicated, the appropriate radiotracer should be selected based on tumor type and clinical scenario.

## **Acute Lymphocytic Leukemia (ALL) Imaging**

Acute lymphocytic leukemia (ALL) is a rapidly progressive hematologic malignancy characterized by proliferation of immature lymphoid cells in the bone marrow, peripheral blood, and extramedullary sites. Imaging is not routinely diagnostic but plays a critical adjunctive role in identifying extramedullary involvement (CNS, mediastinum, lymph nodes, testes, etc.), evaluating treatment complications (e.g., infection, thrombosis), and guiding response assessment when physical or laboratory findings are equivocal.

Acute Lymphocytic Leukemia (ALL) Recommendations			
Clinical Scenario	Recommended Modality	Frequency/Timing	Purpose/Notes
<b>Initial Diagnosis and Staging</b> <b>Suspected ALL with Abnormal Hematologic Findings</b>	None routinely indicated		Bone marrow and peripheral smear establish diagnosis; imaging reserved for focal symptoms
<b>Mediastinal or Thoracic Symptoms (esp. T-cell ALL)</b>	CT chest	One time at baseline	Evaluate mediastinal mass, pleural effusion, or airway compression
<b>Neurologic Symptoms or CNS Involvement</b> <b>Suspected</b>	MRI brain ± spine	Baseline; repeat if new symptoms	Lumbar puncture is the primary modality for central nervous system (CNS) evaluation, not imaging, unless neurologic symptoms are present. Preferred over CT for leptomeningeal or parenchymal disease
<b>Extramedullary Involvement</b>	CT neck, chest, abdomen, and pelvis  PET/CT	Baseline	When concern for lymphomatous involvement is suspected and/or PET scan when confirmed on initial imaging

<b>Testicular Swelling or Mass</b>	Scrotal ultrasound	Baseline; repeat if new findings	MRI only if ultrasound equivocal
<b>Treatment Monitoring During Induction or Consolidation Therapy</b>	Symptom-directed imaging only	As clinically indicated	Routine imaging not warranted; based on new pain, fever, or neurologic change
<b>Treatment Monitoring Evaluation of Extramedullary or Mediastinal Disease</b>	CT neck, chest, abdomen, and pelvis	Every 6-12 weeks	Compare with baseline to assess response or relapse
<b>Treatment Monitoring Evaluation of CNS Disease</b>	MRI brain/spine	Every 6-12 weeks	
<b>Surveillance</b>	None routinely indicated		Monitor with physical exam and labs (CBC, bone marrow)
<b>Suspected Extramedullary Recurrence</b>	CT neck, chest, abdomen, pelvis  PET/CT	As indicated	

#### Notes:

1. CT is favored for rapid and detailed visualization of anatomy, especially where bony or soft tissue detail is required. It is the first-line modality for acute neurologic symptoms.
2. MRI is preferred for high-resolution evaluation of CNS or infiltrative soft tissue disease, when needed for clarifying ambiguous findings or guiding therapy. MRI is particularly used in pediatric patients or when soft tissue evaluation is prioritized.
3. PET/CT is reserved and not routinely used, considered when a lymphoma-like presentation or unclear extramedullary mass is identified and further characterization is needed.
4. Repeat imaging should be limited to situations where new or worsening symptoms develop, or when establishing a new clinical baseline after therapy or suspected relapse.<sup>1</sup>

#### Revision and Review History

No.	Description	Date
1	Original Effective Date:	1/1/2026
2	Policy Annual Review Dates:	
3	Department Owner:	Medical Affairs
4	NH Advisory Committee Approval Dates:	
5	Revision Changes:	

## References

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<sup>1</sup> National Comprehensive Cancer Network Guidelines: Acute Lymphocytic Leukemia.  
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