

Eviti Imaging: Acute Myeloid Leukemia

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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 Myeloid 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 Myeloid Leukemia. 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 myeloid leukemia; 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.¹

Imaging

Imaging in acute myeloid leukemia primarily serves a supportive and problem-solving role, as disease monitoring is largely hematologic. Cross-sectional imaging is used at baseline or relapses only when extramedullary disease (EMD) is suspected—such as myeloid sarcomas involving soft tissue, bone, or CNS structures. CT and MRI help define the extent and complications of EMD, while PET/CT may clarify equivocal lesions or distinguish active disease from post-therapy fibrosis or infection.

Brain and spine MRI are indicated for neurologic symptoms, high WBC count, monocytic subtypes, or known CNS involvement. Cardiac imaging (ECHO or MUGA) remains mandatory prior to anthracycline therapy.

Routine surveillance imaging is not recommended for asymptomatic patients in remission; decisions should be symptom-driven and compliant with NCCN Category 1/2A guidance. Utilization management should confirm medical necessity and avoid low value repeat imaging in the absence of new clinical indicators.

Acute Myeloid Leukemia Recommendations			
Clinical Scenario	Recommended Modality	Frequency/Timing	Purpose/Notes
Initial Staging - Baseline	CT chest/abdomen/pelvis PET scan	Once at diagnosis as clinically indicated	When extramedullary disease (e.g., chloromas/myeloid sarcoma) is suspected
Initial Staging - Baseline	MRI (targeted region)	Once at diagnosis as clinically indicated	For characterization of suspected extramedullary involvement in bone, CNS, spine, or soft tissue lesions if CT is indeterminate.
Initial Staging - Baseline	Brain MRI	Once at diagnosis if neurologic symptoms or CNS involvement is suspected	Evaluate for CNS disease or leukemic infiltration
Initial Staging - Treatment Planning	No routine imaging	NA	Treatment is guided by marrow findings and laboratory

			parameters; imaging is reserved for sites of known or suspected extramedullary disease; imaging used in initial diagnosis and may be repeated for disease monitoring
Treatment Monitoring - During Induction or Consolidation Therapy	Symptom-directed imaging only	As clinically indicated	Routine imaging not warranted; based on new pain, fever, or neurologic change
Treatment Monitoring - Evaluation of Extramedullary or Mediastinal Disease	CT neck, chest, abdomen, and pelvis	Every 6-12 weeks	Compare with baseline to assess response or relapse
Treatment Monitoring - Evaluation of CNS Disease	MRI brain/spine	Every 6-12 weeks	
Surveillance - Asymptomatic	Not routinely indicated	NA	Follow-up guided by bone marrow, labs, and clinical findings per NCCN. Imaging only for specific clinical suspicion
Suspected Recurrence - New Symptoms	Targeted CT/MRI	As clinically indicated by symptoms	Evaluate for recurrence at sites of prior disease or new extramedullary involvement

Notes:

1. Primary monitoring in AML is hematologic (CBC, marrow). Routine imaging does *not* play a role in surveillance unless extramedullary disease is present or suspected.
2. PET/CT: not routinely recommended; may be considered for unclear lesions where metabolic activity helps differentiate active disease from fibrosis or infection.
3. CNS imaging: limited to patients with neurologic symptoms, high WBC (>100K), monocytic subtypes, or known CNS involvement.
4. Cardiac imaging (ECHO/MUGA): pre-anthracycline per standard oncology practice, but not part of AML oncologic imaging.¹

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

¹ National Comprehensive Cancer Network Guidelines: Acute Myeloid Leukemia
https://www.nccn.org/professionals/physician_gls/pdf/aml.pdf. Accessed December 15, 2025.