Tumor Specific *BCR-ABL1* FISH, Qualitative, and Quantitative Tests

I. Tumor specific *BCR-ABL1* FISH, qualitative, or quantitative tests in hematologic malignancies are considered **medically necessary** when:

A. The member is suspected to have a myeloproliferative neoplasm (MPN), **OR**

B. The member is undergoing diagnostic workup for:

1. Acute lymphoblastic leukemia (ALL), **OR**
2. Acute myeloid leukemia (AML), **OR**
3. Chronic myeloid leukemia (CML), **OR**
4. Lymphoblastic leukemia, **OR**

C. The member is undergoing monitoring of disease progression or for minimal residual disease (MRD) monitoring using a quantitative test only for:

1. Acute lymphoblastic leukemia (ALL), **OR**
2. Acute myeloid leukemia (AML), **OR**
3. Chronic myeloid leukemia (CML), **AND**

a) The member's provider is considering discontinuation of or has already discontinued use of TKI therapy.

RATIONALE AND REFERENCES

Tumor Specific *BCR-ABL1* FISH, Qualitative, and Quantitative Tests

National Comprehensive Cancer Network (NCCN): Pediatric Acute Lymphoblastic Leukemia (3.2025)

This guideline recommends quantitative or qualitative reverse transcriptase-polymerase chain reaction (RT-PCR) testing for *BCR-ABL1* in B-ALL to determine transcript size (p. PEDALL-1). Additionally, reverse transcriptase quantitative PCR assay of *BCR-ABL1* is used to assess minimal residual disease (p. PEDALL-J, 1 of 2).

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Pediatric Acute Lymphoblastic Leukemia 3.2025 https://www.nccn.org/professionals/physician_gls/pdf/ped_all.pdf

National Comprehensive Cancer Network (NCCN): Acute Lymphoblastic Leukemia (2.2025)

This guideline recommends reverse transcriptase-polymerase chain reaction (RT-PCR) testing for *BCR-ABL1* in B-ALL (quantitative or qualitative), including determination of transcript size (ie, p190 vs. p210) (p. ALL-1). Additionally, reverse transcriptase quantitative PCR (RT-qPCR) assays for *BCR-ABL1* are used to monitor minimal residual disease (p. ALL-F).

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Acute Lymphoblastic Leukemia 2.2025 https://www.nccn.org/professionals/physician_gls/pdf/all.pdf

National Comprehensive Cancer Network (NCCN): Myeloproliferative Neoplasms (2.2025)

This guideline recommends evaluation for *BCR-ABL1* via FISH or multiplex RT-PCR to exclude a diagnosis of CML (p. MPN-1).

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Myeloproliferative Neoplasms 2.2025 https://www.nccn.org/professionals/physician_gls/pdf/mpn.pdf

National Comprehensive Cancer Network (NCCN): Acute Myeloid Leukemia (2.2025)

This guideline recommends molecular testing to assist with prognostication of AML in the evaluation and initial workup for suspected AML (p. EVAL-1 and AML-A). The NCCN guidelines also recommend confirmation of remission and ongoing monitoring for recurrence by PCR (p. APL-5).

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Acute Myeloid Leukemia 2.2025 https://www.nccn.org/professionals/physician_gls/pdf/aml.pdf

National Comprehensive Cancer Network (NCCN): Chronic Myeloid Leukemia (1.2026)

This guideline recommends quantitative RT-PCR testing on blood for *BCR-ABL1* for patients undergoing work-up for CML. NCCN also recommends consideration of qualitative RT-PCR for the detection of atypical *BCR-ABL1* transcripts (p. CML-1). The NCCN guidelines also recommend confirmation of remission and ongoing monitoring for recurrence by PCR (p.CML-6). For discontinuation of TKI therapy, NCCN recommends that patients meet several criteria, including frequent molecular monitoring indefinitely to ensure remission (p. CML-H).

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Chronic Myeloid Leukemia 1.2026 https://www.nccn.org/professionals/physician_gls/pdf/cml.pdf

DEFINITIONS

1. A **Myeloproliferative Neoplasm (MPN)** is a rare blood disease in which the bone marrow makes too many red blood cells, white blood cells, or platelets.There are seven subcategories of myeloproliferative neoplasms:

    a. Chronic myeloid leukemia (CML)
    b. Polycythemia vera (PV)
    c. Primary myelofibrosis (PMF)
    d. Essential thrombocytopenia (ET)
    e. Chronic neutrophilic leukemia
    f. Chronic eosinophilic leukemia
    g. Chronic eosinophilic leukemia-not otherwise specified
    h. MPN, unclassifiable (MPN-U)

2. A **Myelodysplastic Syndrome (MDS)** is a disorder characterized by abnormalities of the bone marrow, leading to low numbers of one or more types of blood cells. The WHO system recognizes 6 main types of MDS:

    a. MDS with multilineage dysplasia (MDS-MLD)
    b. MDS with single lineage dysplasia (MDS-SLD)
    c. MDS with ring sideroblasts (MDS-RS)
    d. MDS with excess blasts (MDS-EB)
    e. MDS with isolated del(5q)

f. MDS, unclassifiable (MDS-U)