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|  Eastern Health Laboratory Medicine | Section: Management System\Eastern Health\Hematology\Quick References\ | | |
| | Title: Guidelines for Ancillary Testing for Bone Marrow Biopsies | | Number: 11816 |
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GUIDELINES FOR ANCILLARY TESTING ON BONE MARROW BIOPSIES

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Draw flow cytometry*, karyotype, FISH and molecular genetics tubes on all patients in the following circumstances (please draw **2 tubes** for molecular genetics if RNA testing may be indicated i.e. suspected acute myeloid or lymphoblastic leukemia):

1. Diagnosis unknown (e.g. investigation of cytopenia's)
2. New or relapsed AML or ALL
3. New or suspected MDS
4. New CML
5. New or suspected Burkitt's lymphoma not confirmed on peripheral blood or tissue biopsy
6. Suspected lymphoma being diagnosed on bone marrow without tissue biopsy

Genetics is not required for:

1. Staging biopsy for lymphoma
2. Bone marrow biopsy performed for non-neoplastic indication (if diagnosis is unknown and neoplasm is on the differential, draw all samples as described above)

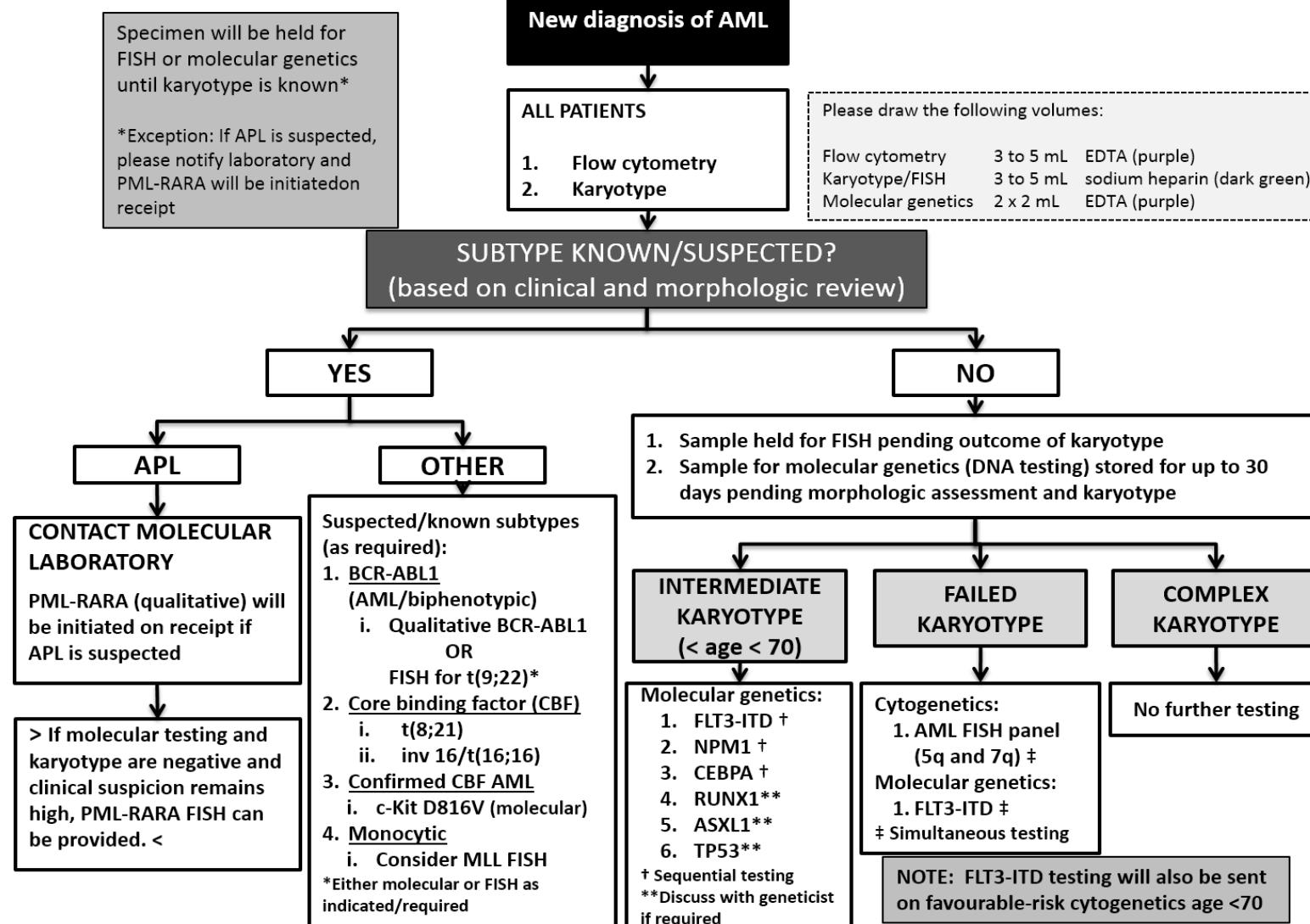
***If dry tap or a particulate aspirate, please send core biopsy for flow cytometry.**

Please see following page for Summary Chart

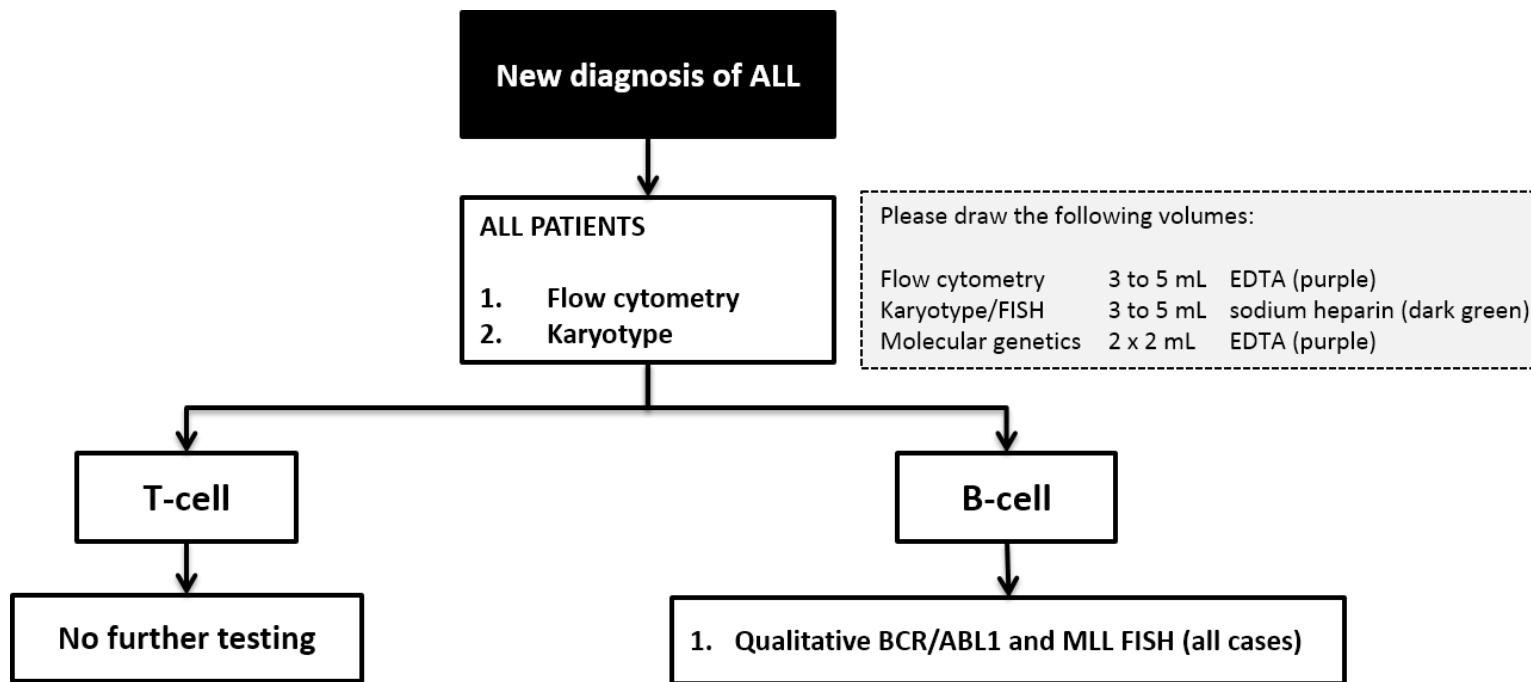
| Page | Diagnosis | Flow cytometry | Cytogenetics | | Molecular genetics |
|------|---|--------------------|---------------------|--------------------------------|---|
| | | | Karyotype | FISH | |
| 3 | New AML | Yes | Yes | See p. 3 | See p. 3 |
| 4 | New ALL (FAB L1/L2) | Yes | Yes | Yes (if B-cell -> MLL FISH) | Yes (if B-cell -> (Qualitative BCR-ABL) |
| 5 | Follow-up AML/ALL | Yes | See p. 5 | See p. 5 | See p. 5 |
| 5 | Relapsed AML /ALL | Yes | See p. 5 | See p. 5 | See p.5 |
| 6 | Follow-up APL | Yes | No | No | Yes (Quantitative PML-RARA; see p. 4) |
| 7 | New or suspected MDS | Yes | Yes | MDS panel (if karyotype fails) | No |
| 8 | Non-Hodgkin Lymphoma | Yes | See p. 8 | See p. 8 | See p. 8 |
| | Hodgkin Lymphoma | No | No | No | No |
| 9 | CLL | Yes | No | See. p. 9 | No |
| 10 | Myeloproliferative neoplasm | Yes | Yes | No | Yes (specify suspected diagnosis – see p. 10) |
| 11 | CML (new diagnosis and follow-up) | Yes (marrow only) | Yes (marrow only) | Yes (if karyotype fails) | Yes (see pp. 11-12) |
| 13 | Plasma cell neoplasm (new diagnosis and follow-up) | Yes (at diagnosis) | Yes (if FISH fails) | Yes (see p. 13) | No |

Notes:

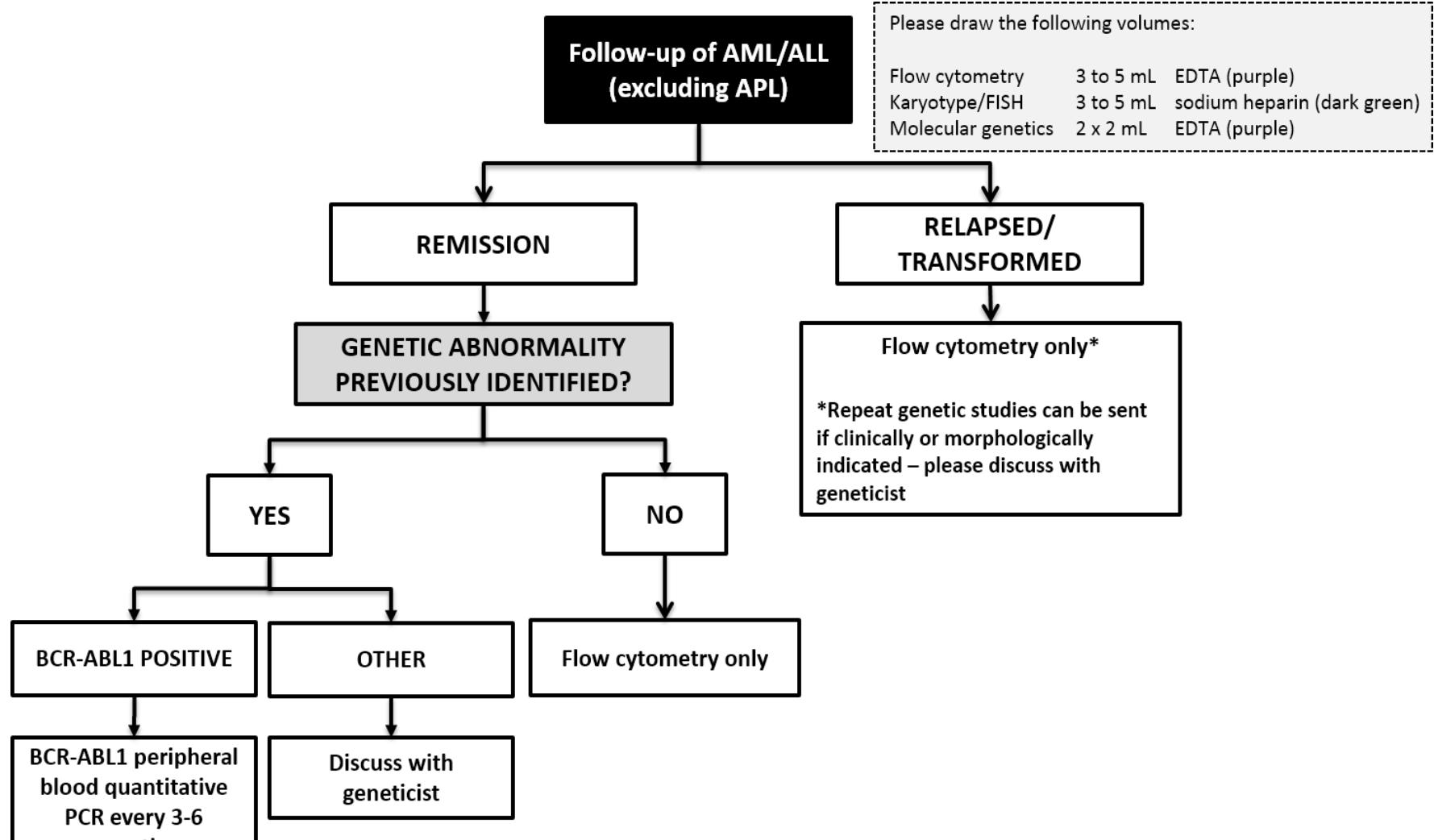
- For situations that fall outside of the guidelines, please discuss with the hematopathologist on call.
- Cytogenetic and molecular genetic samples can be stored for a short time while investigations are pending (e.g. flow cytometry and morphologic analysis). For cases in which the decision regarding processing molecular or cytogenetic testing depends on these preliminary investigations, these tests can be requested but will not be routinely be processed until the preliminary investigations are complete.
- Due to the volume of cases processed, it is critical that the hematopathology and genetics laboratories be directly informed by the clinician of any cases requiring expedited investigation.



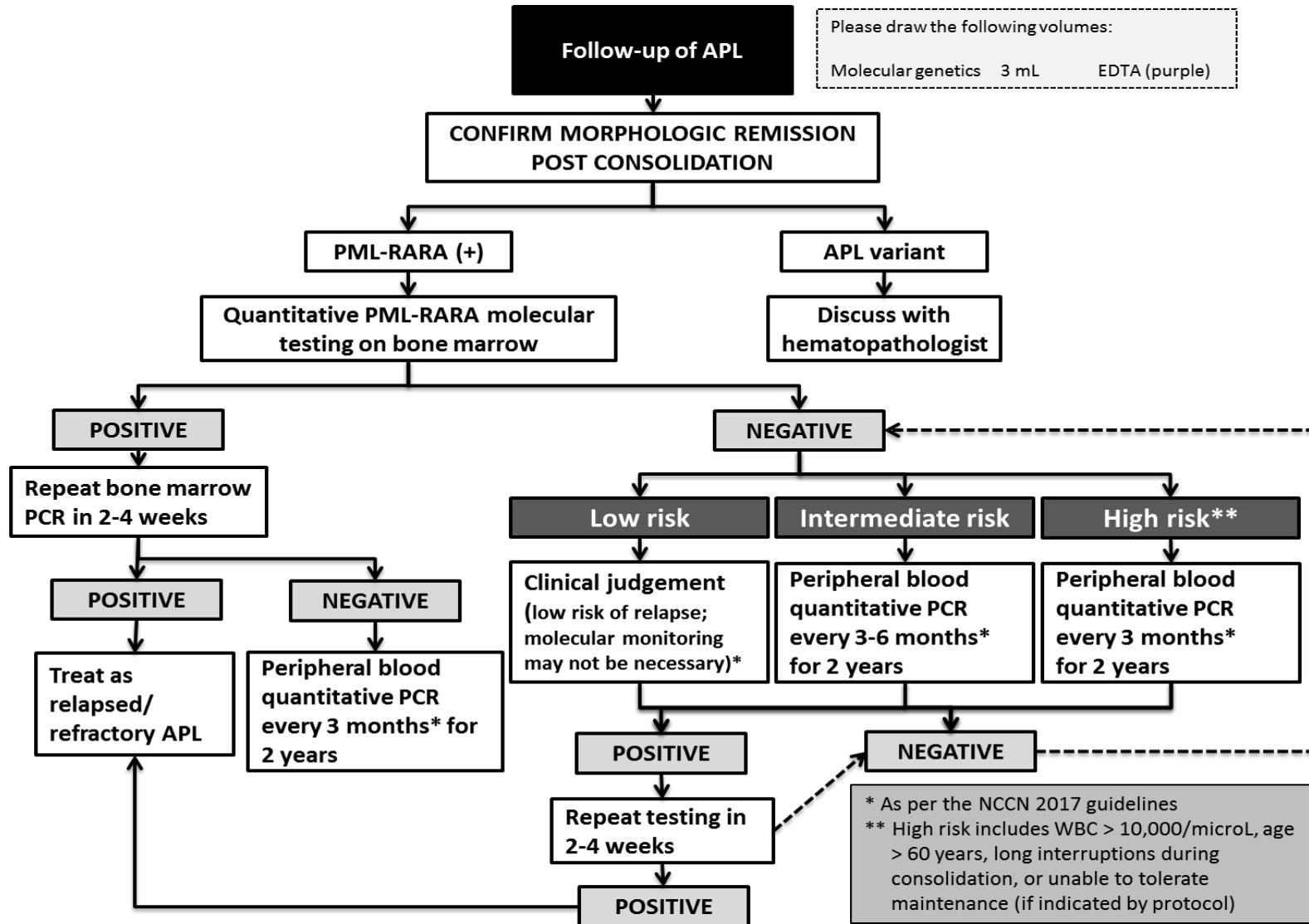
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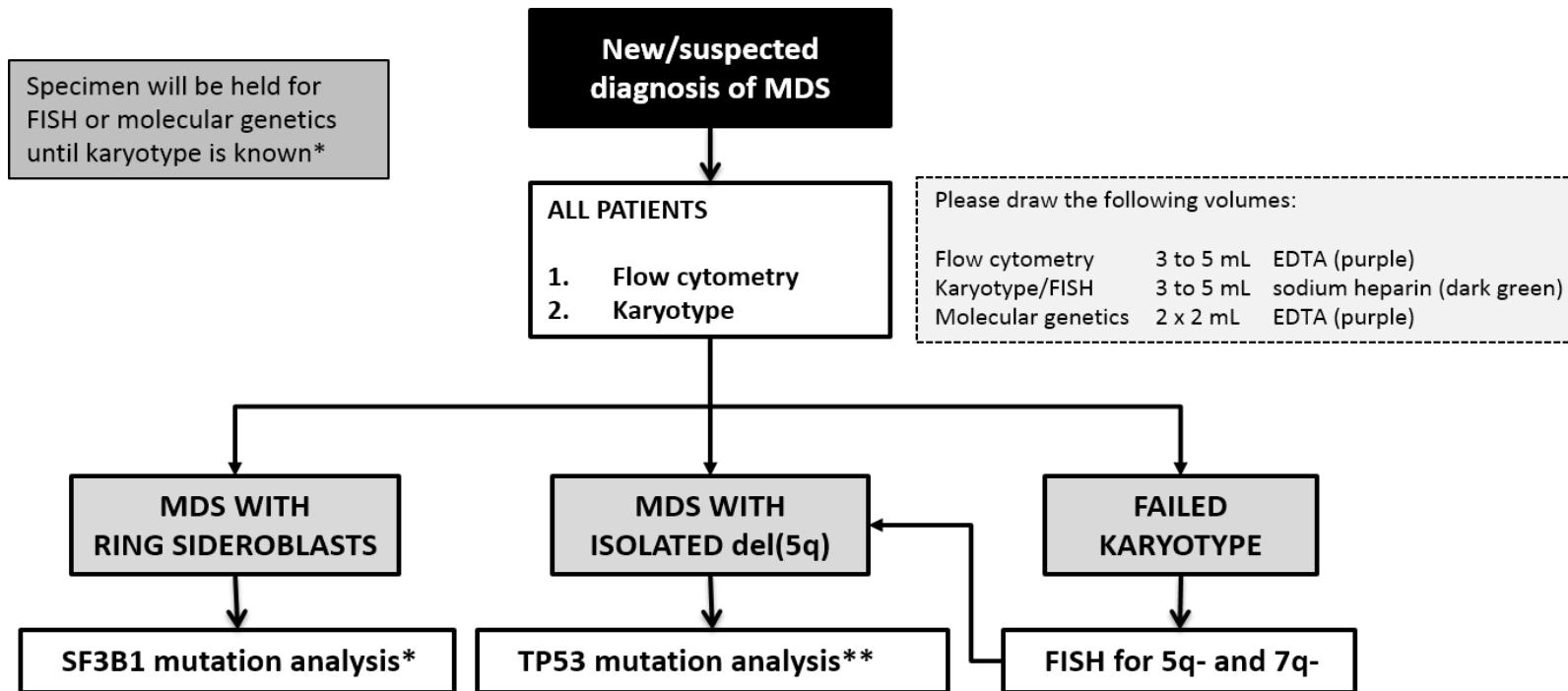
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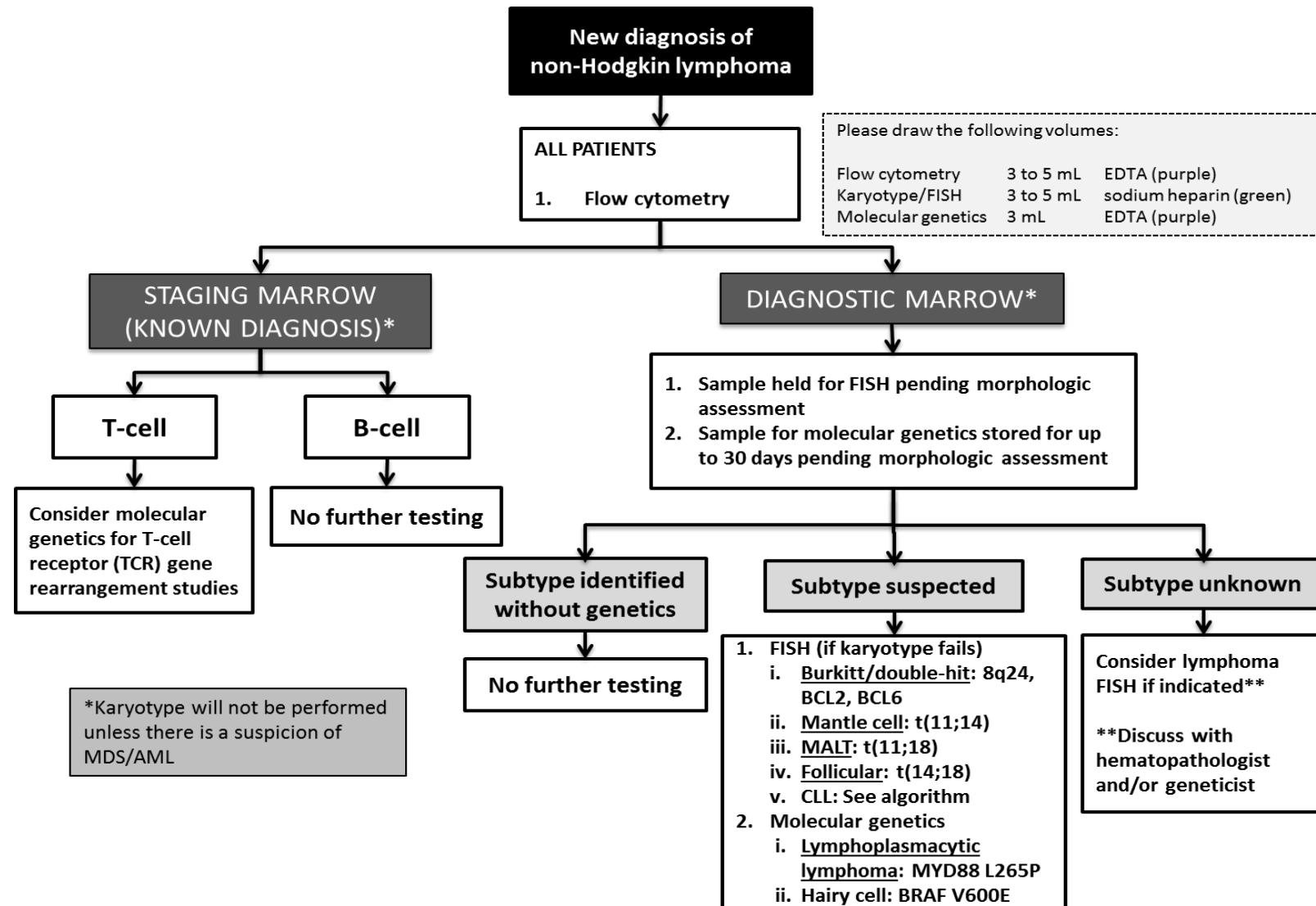


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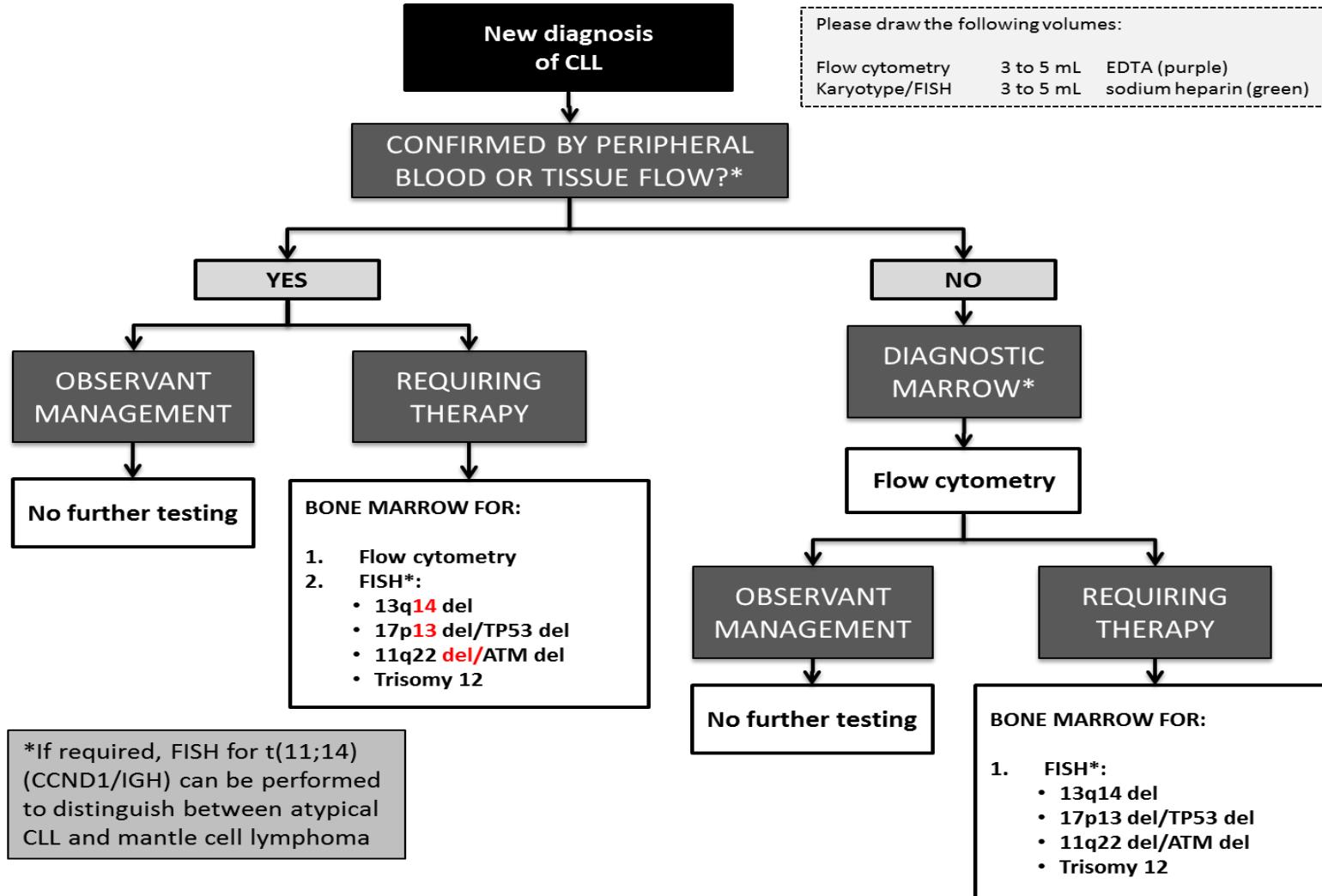


- * When there is insufficient (5-15%) ring sideroblasts to make a morphological diagnosis.
- ** Can be considered as may identify an adverse prognostic subgroup. Discuss with geneticist.

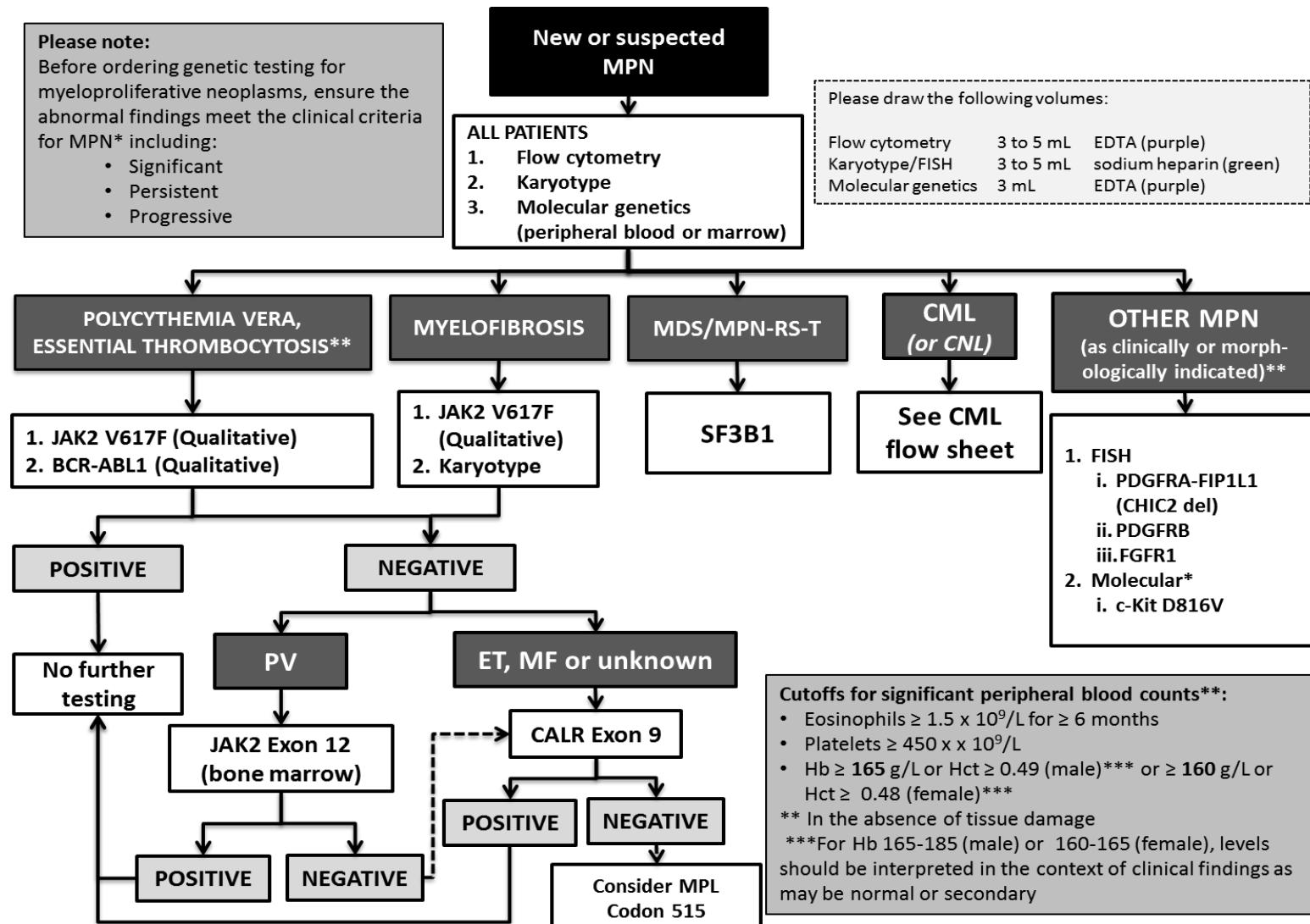
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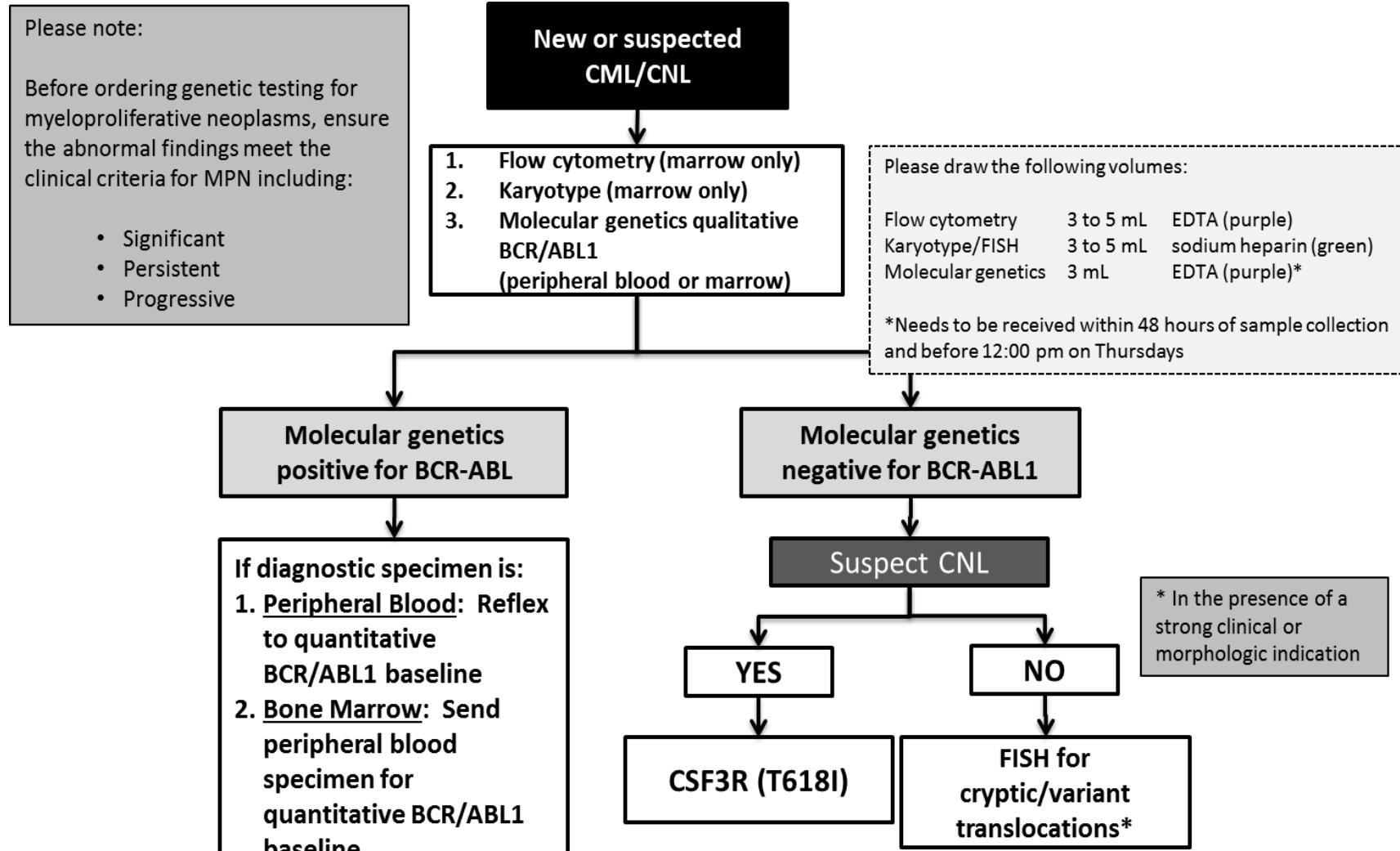
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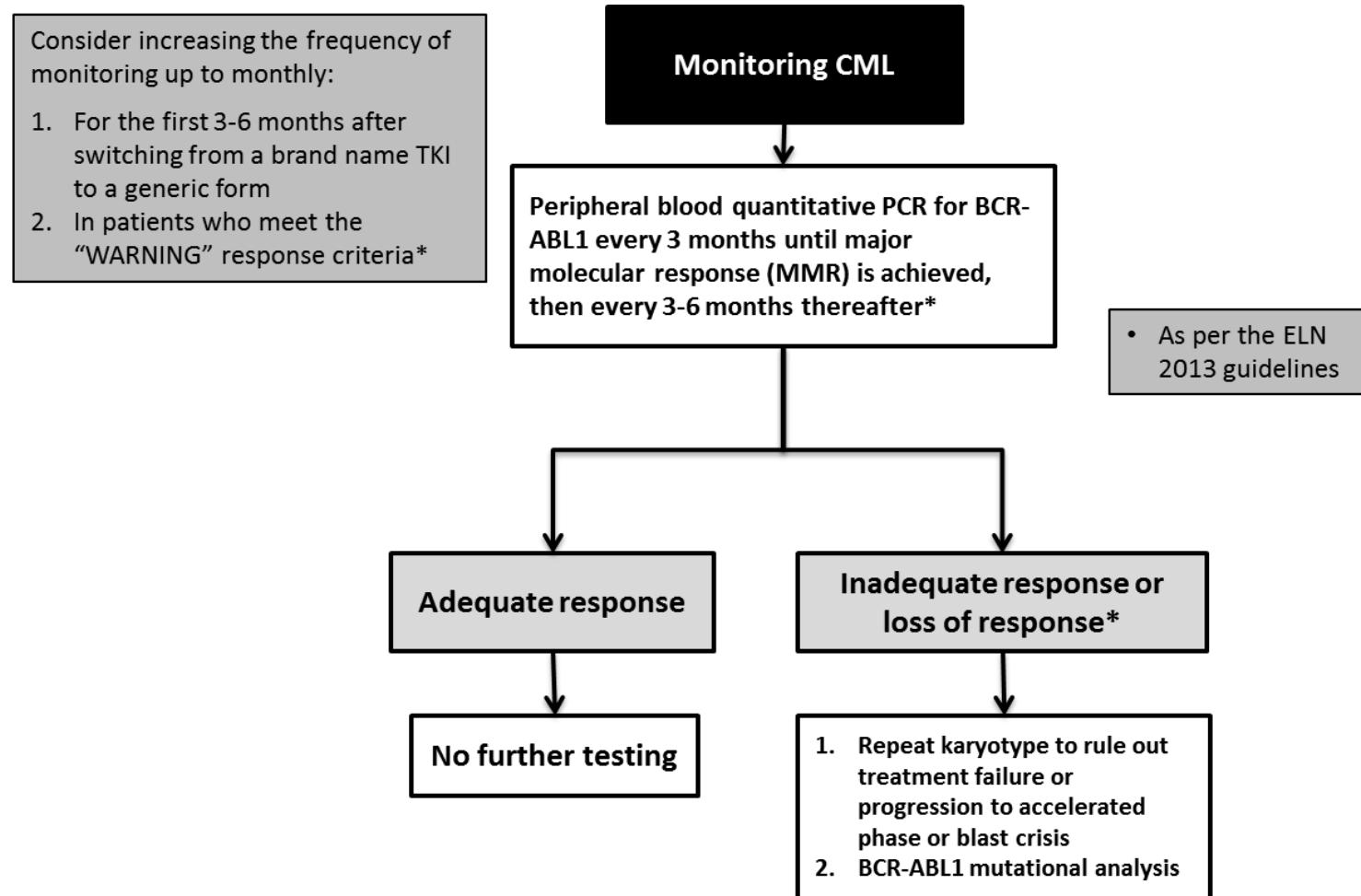
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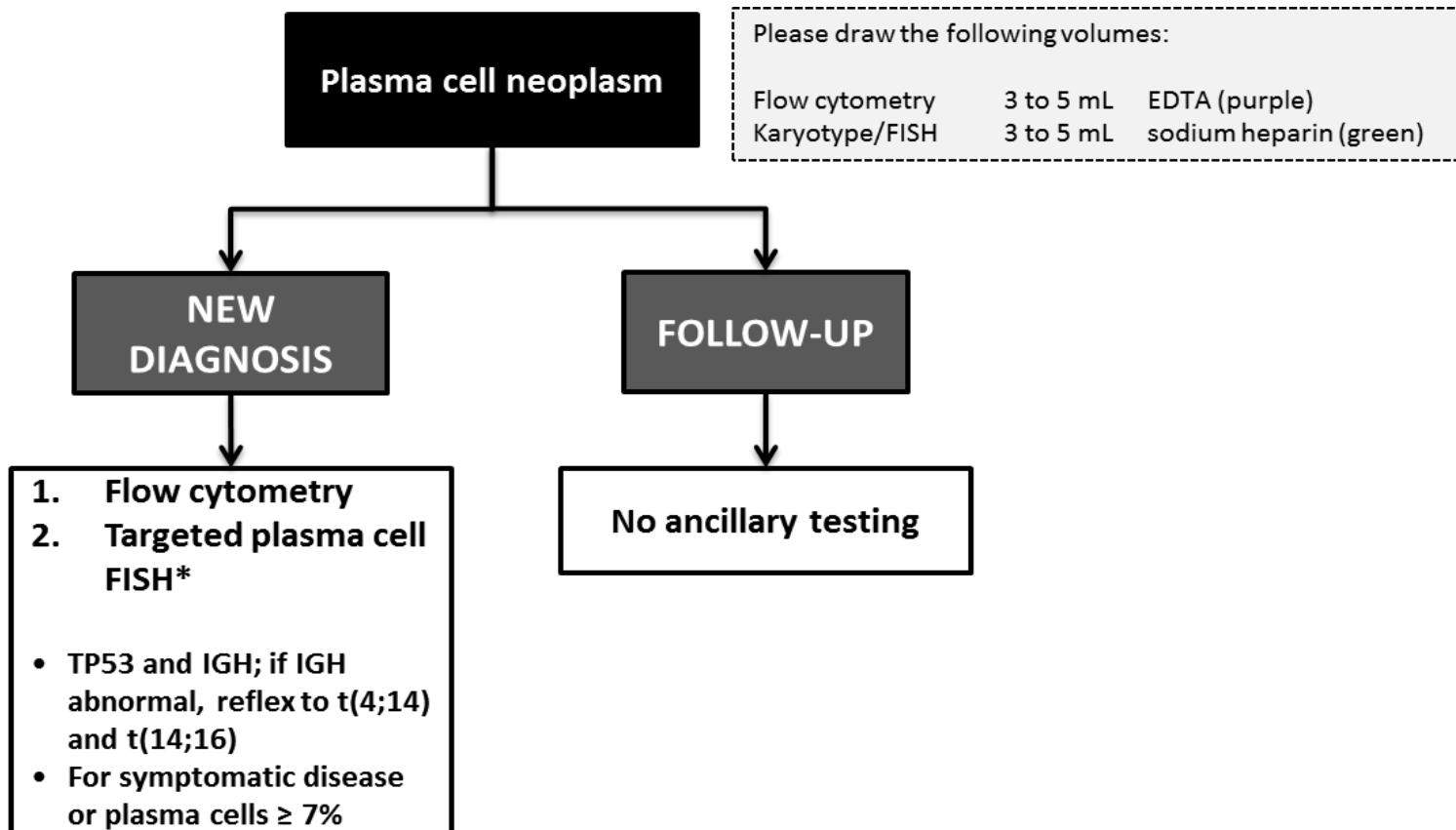


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FOR MONITORING OF PATIENTS WITH VARIANT TRANSLOCATIONS, PLEASE DISCUSS WITH GENETICIST

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REFERENCES:

National Comprehensive Cancer Network (NCCN). *Acute Lymphoblastic Leukemia. Version 1.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Acute Myeloid Leukemia. Version 1.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma. Version 5.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Chronic Myeloid Leukemia. Version 4.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Hairy Cell Leukemia. Version 2.2018.* NCCN; 2017.

National Comprehensive Cancer Network (NCCN). *Hodgkin Lymphoma. Version 2.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Multiple Myeloma. Version 4.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Chronic Myeloid Leukemia. Version 4.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Waldenström's Macroglobulinemia/ Lymphoplasmacytic Lymphoma. Version 1.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Myelodysplastic Syndromes. Version 2.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *Myeloproliferative Neoplasms. Version 2.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *B-Cell Lymphomas. Version 2.2018.* NCCN; 2018.

National Comprehensive Cancer Network (NCCN). *T-Cell Lymphomas. Version 3.2018.* NCCN; 2018.

Swerdlow SH, Campo E, Harris NL, Jaffe ES, Pileri SA, Stein H, Thiele J. (Eds.) *WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues. Revised 4th Edition, Volume 2.* IARC: Lyon 2017.

European LeukemiaNet (2013). *European LeukemiaNet Recommendations for the Management of Chronic Myeloid Leukemia (CML). Update 2013.* [Accessed 2018 March 19]. https://www.leukemia-net.org/content/leukemias/cml/recommendations/e8078/infoboxContent10432/PocketCard_UPDATE2013_English.pdf