 Eastern Health Laboratory Medicine	Section: Management System\Eastern Health\Hematology\Quick References\	
	Title: Guidelines for Ancillary Testing for Bone Marrow Biopsies	Number: 11816
		Version: 2.0
Effective Date: 2/22/2021	Status: Current	

GUIDELINES FOR ANCILLARY TESTING ON BONE MARROW BIOPSIES

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 cytopenias)
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)

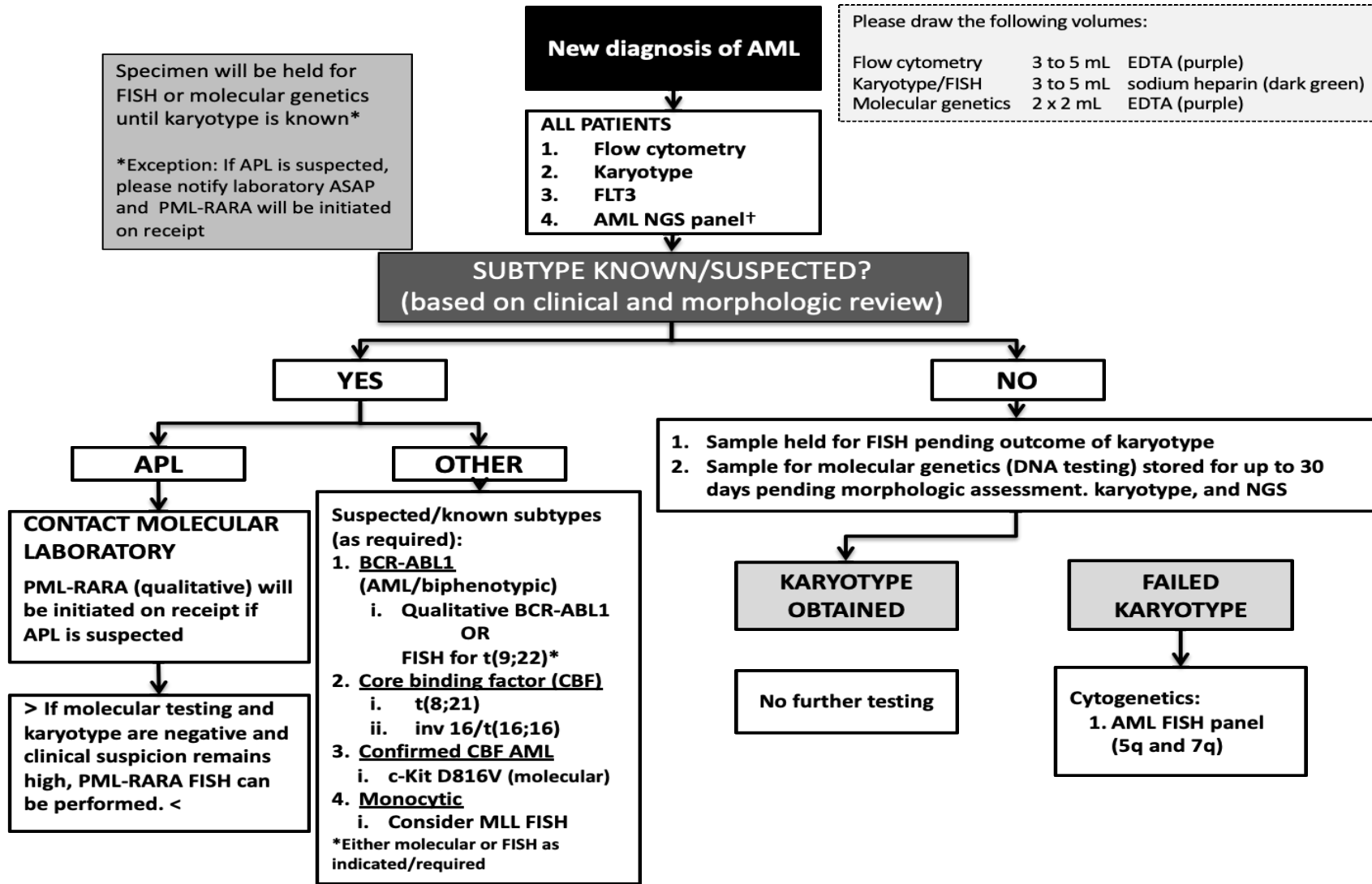
***If dry tap or aparticulate aspirate, please send core biopsy for flow cytometry.**

Please see following page for Summary Chart

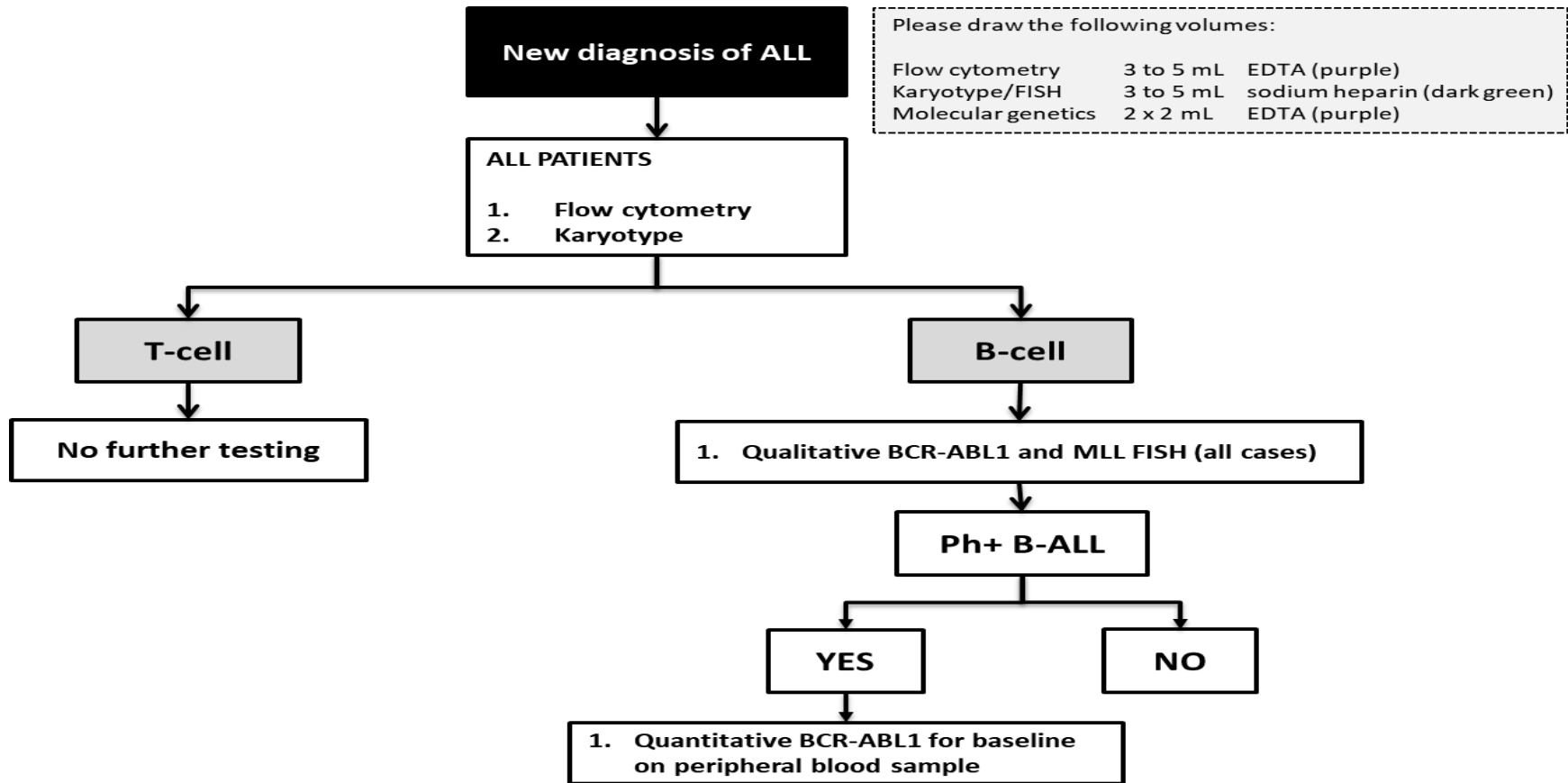
Page	Diagnosis	Flow cytometry	Cytogenetics		Molecular genetics
			Karyotype	FISH	
3	New AML	Yes	Yes	See p. 3	See p. 3
4	New ALL (FAB L1/L2)	Yes	Yes	Yes (if B-cell -> MLL FISH)	Yes (if B-cell -> (Qualitative BCR-ABL)
5	Follow-up AML/ALL	Yes	See p. 5	See p. 5	See p. 5
5	Relapsed AML /ALL	Yes	See p. 5	See p. 5	See p.5
6	Follow-up APL	Yes	No	No	Yes (Quantitative PML-RARA; see p. 6)
7	New or suspected MDS	Yes	Yes	Yes (if karyotype fails)	Consider MDS NGS (see p. 7)
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)
12	CML (new diagnosis and follow-up)	Yes (marrow only)	Yes (marrow only)	Yes (if high clinical suspicion remains)	Yes (see pp. 11-12)
13	Plasma cell neoplasm (new diagnosis and follow-up)	Yes (at diagnosis)	No	Yes (see p. 13)	No

Notes:

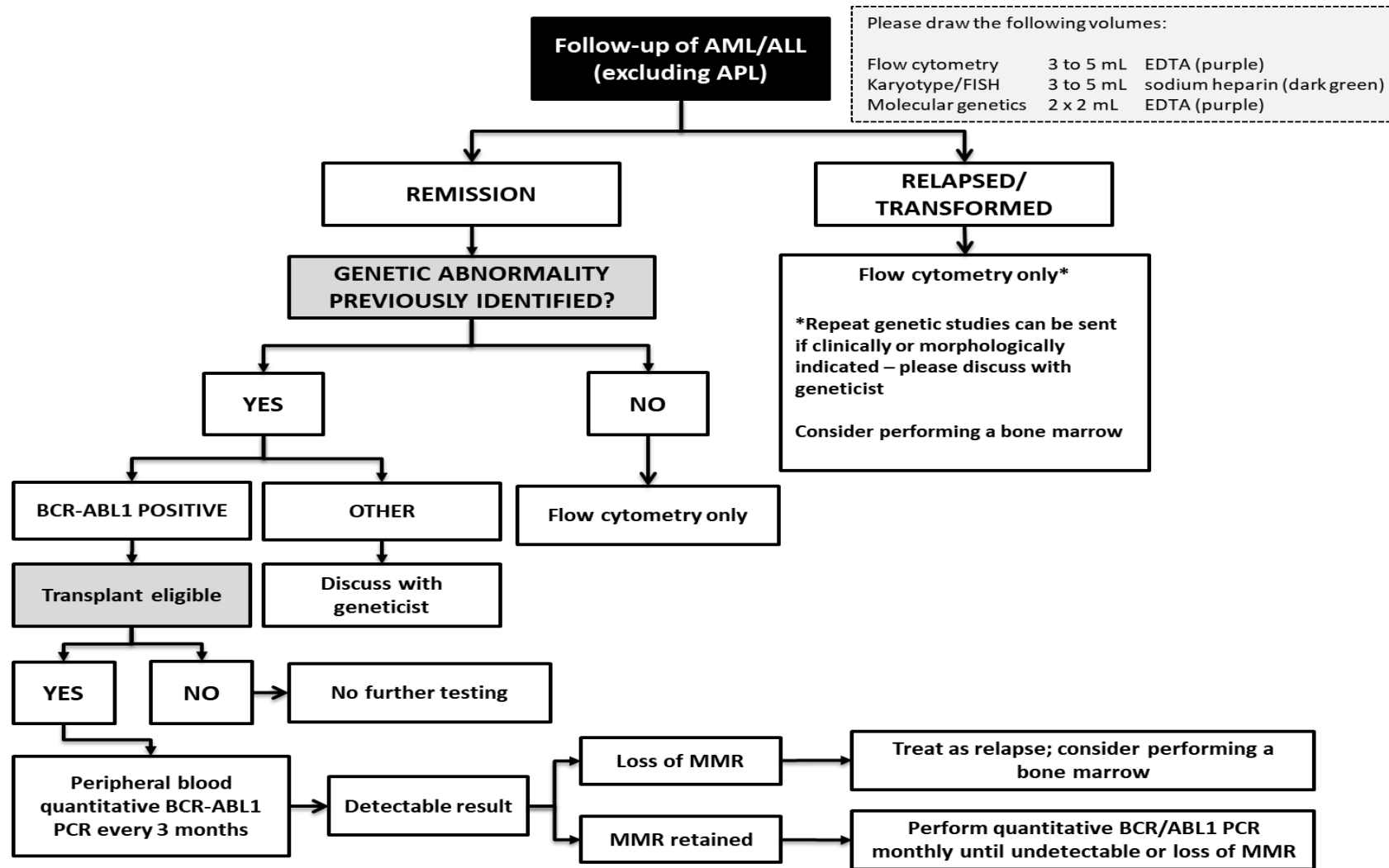
- **For situations that fall outside of the guidelines, please discuss with the hematopathologist on call.**
- Cytogenetic and molecular genetic samples can be stored for a short time while investigations are pending (e.g. flow cytometry and morphologic analysis). For cases in which the decision regarding processing molecular or cytogenetic testing depends on these preliminary investigations, these tests can be requested but will not 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. Certain tests also require direct consultation with hematopathology and/or genetics before being processed.**



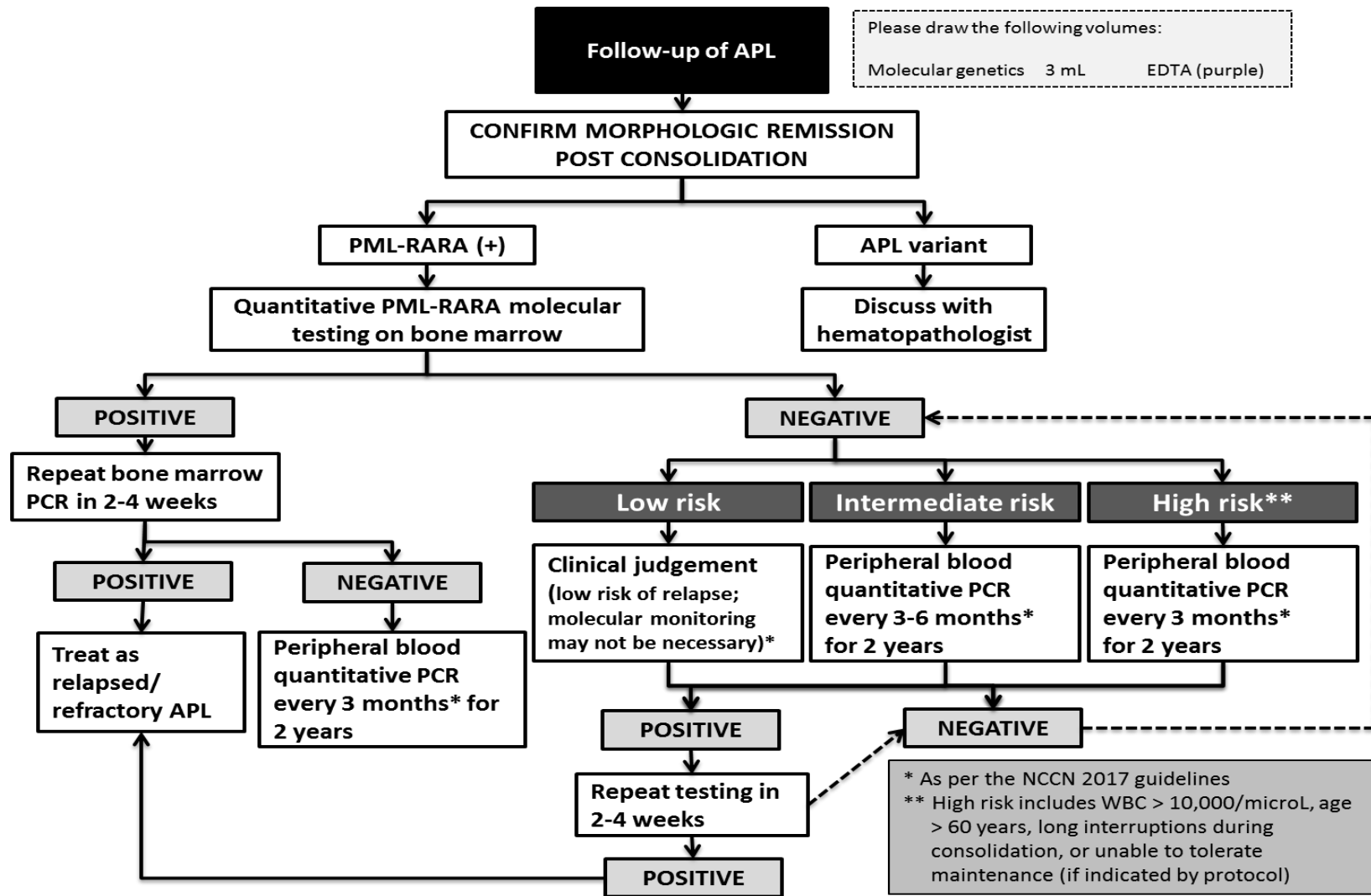
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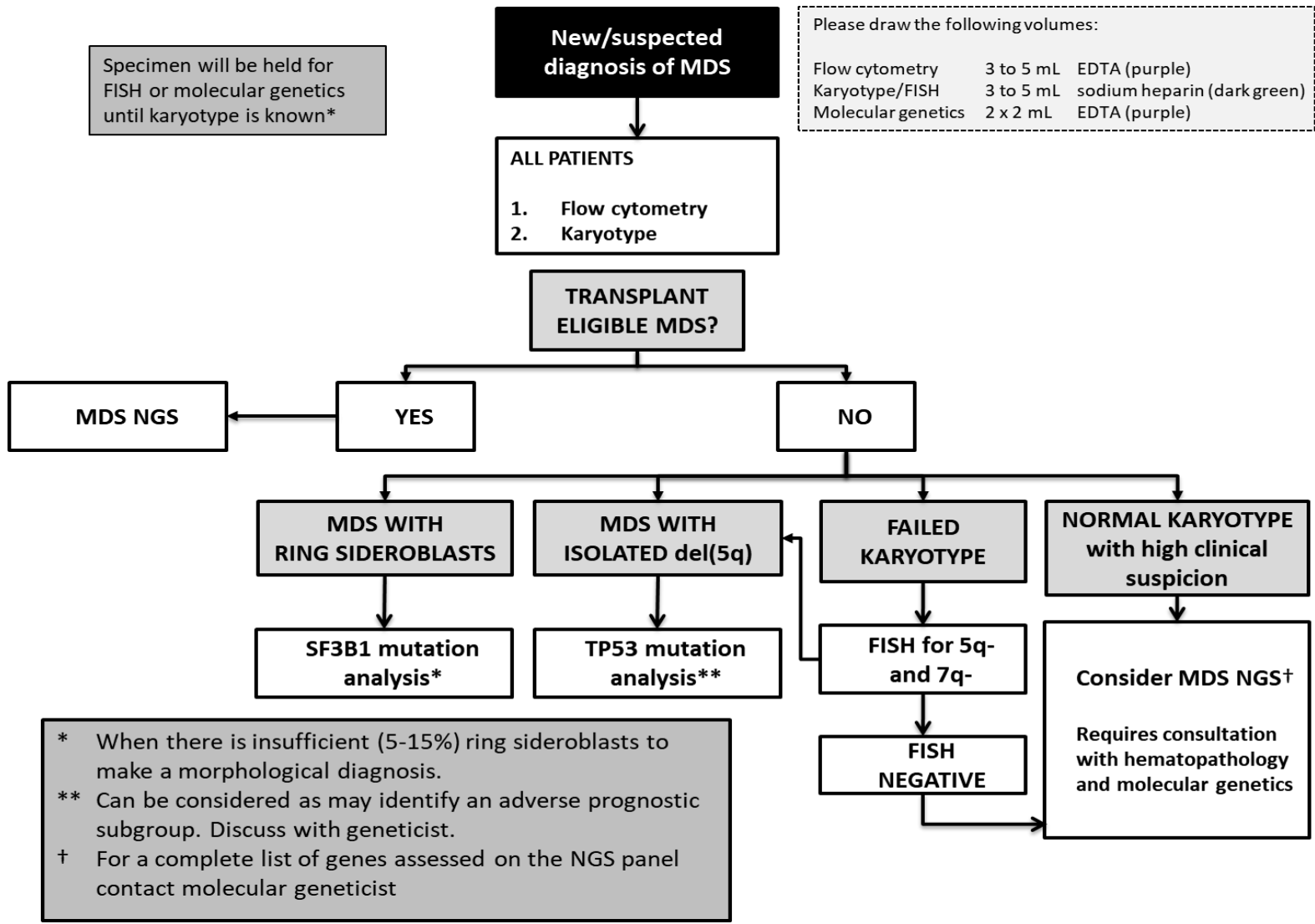
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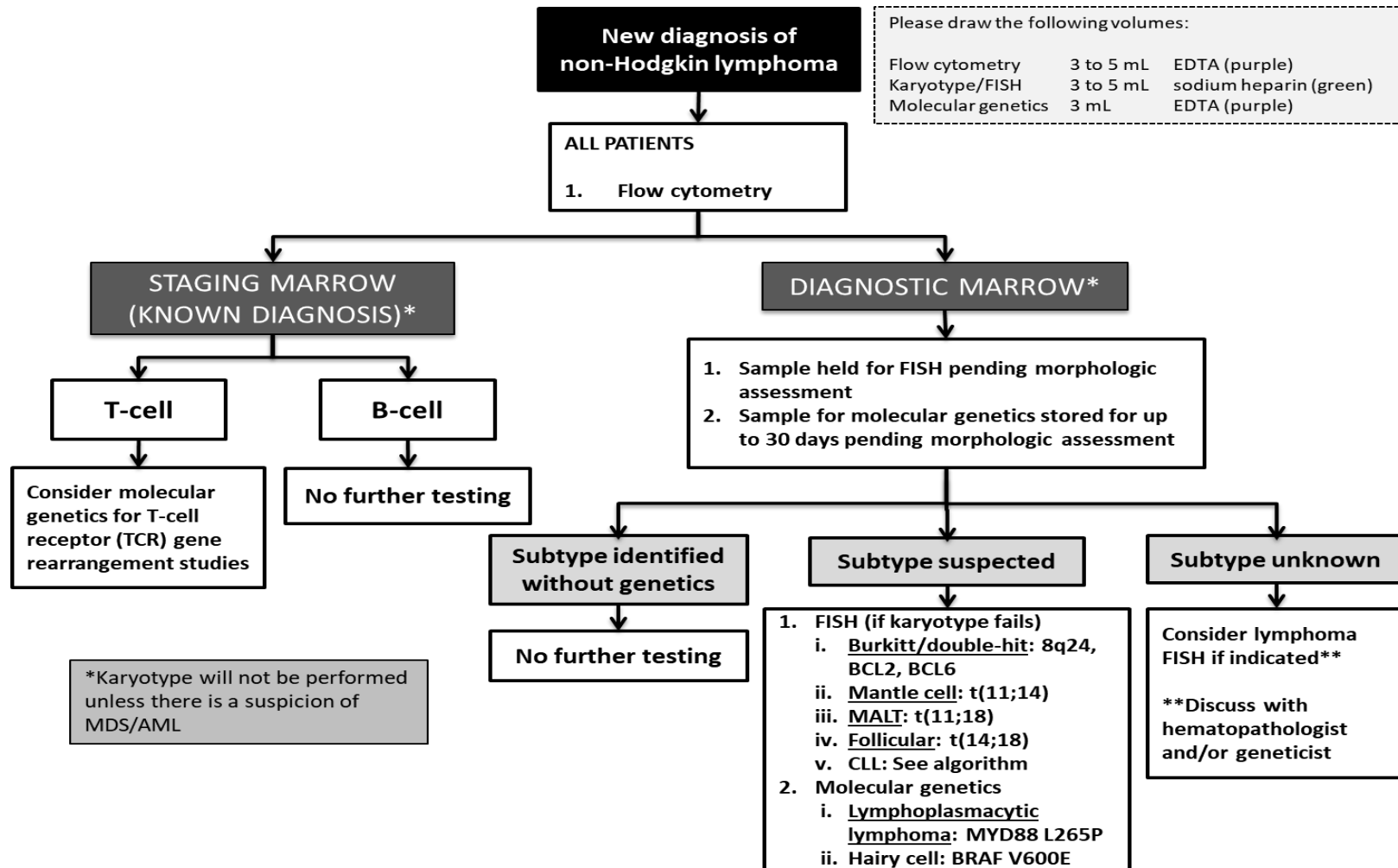
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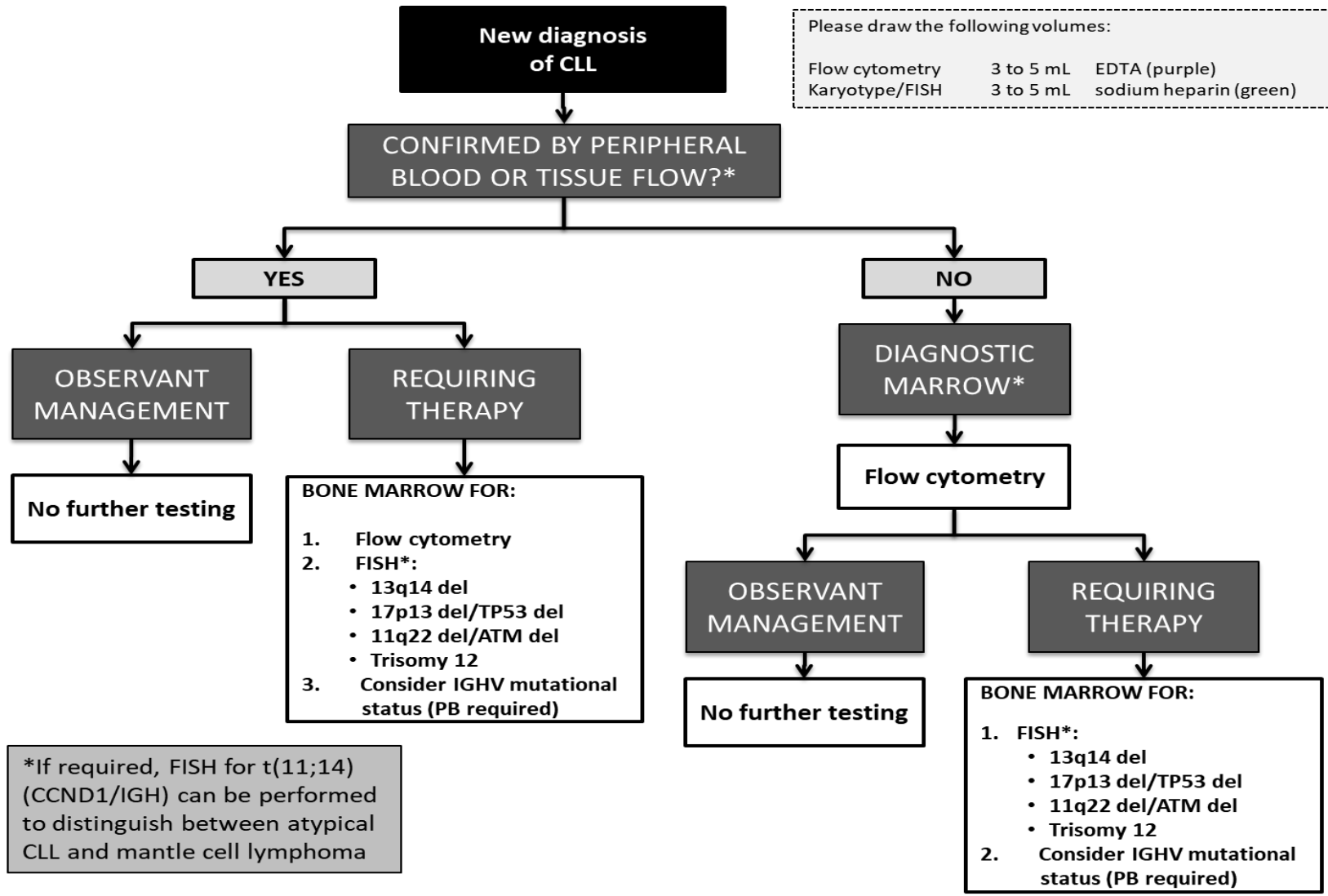


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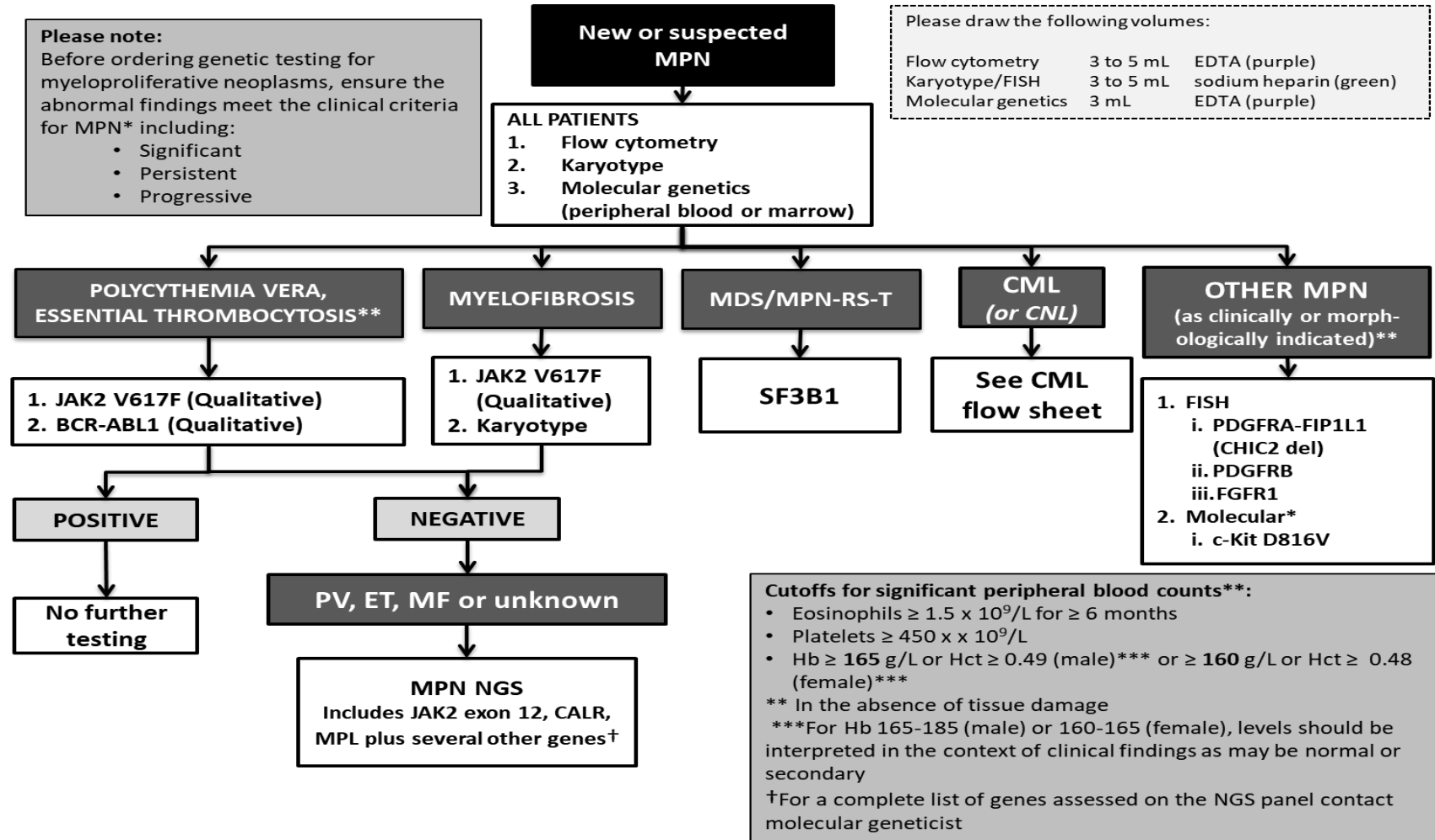


*Karyotype will not be performed unless there is a suspicion of MDS/AML

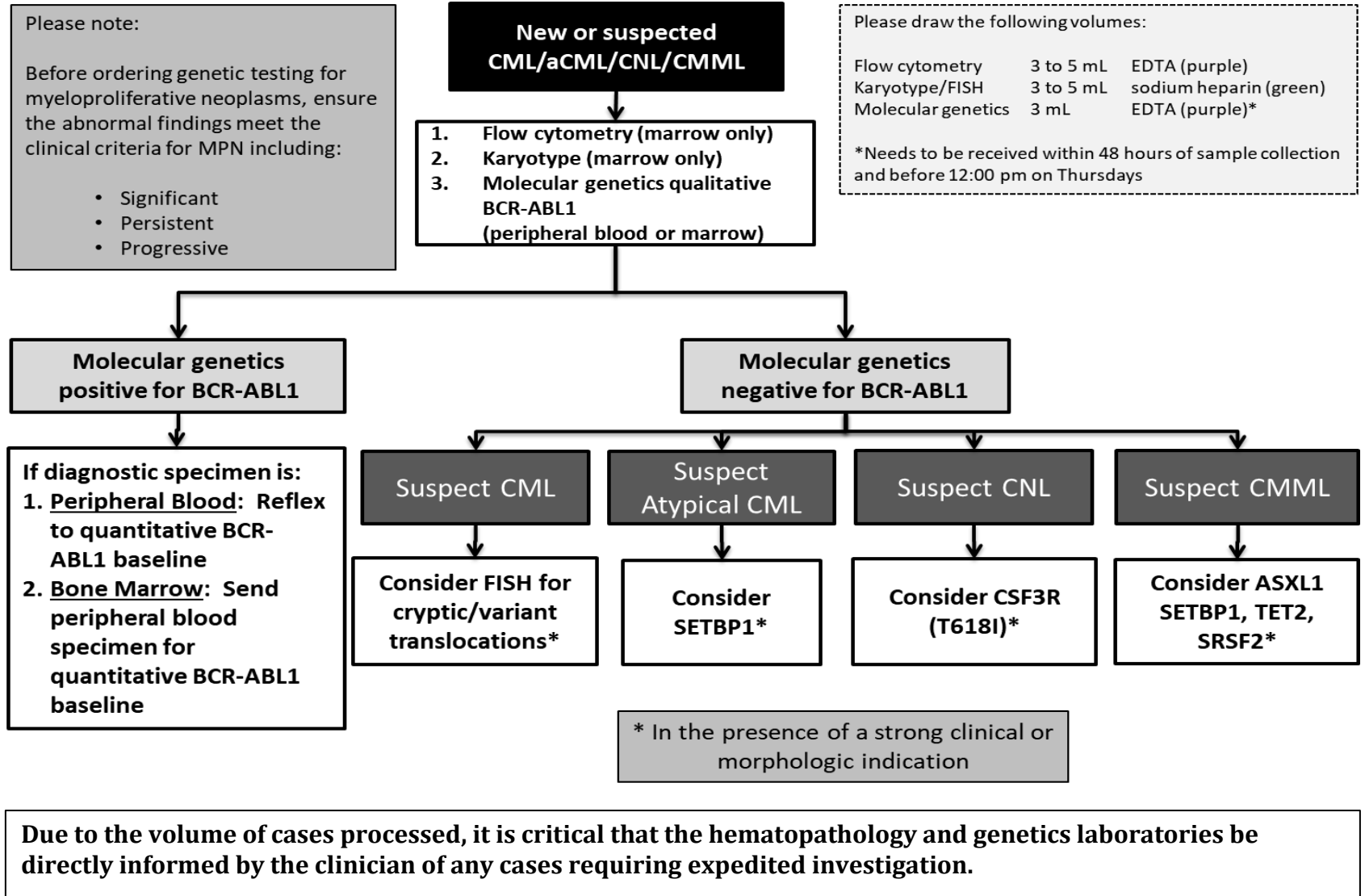
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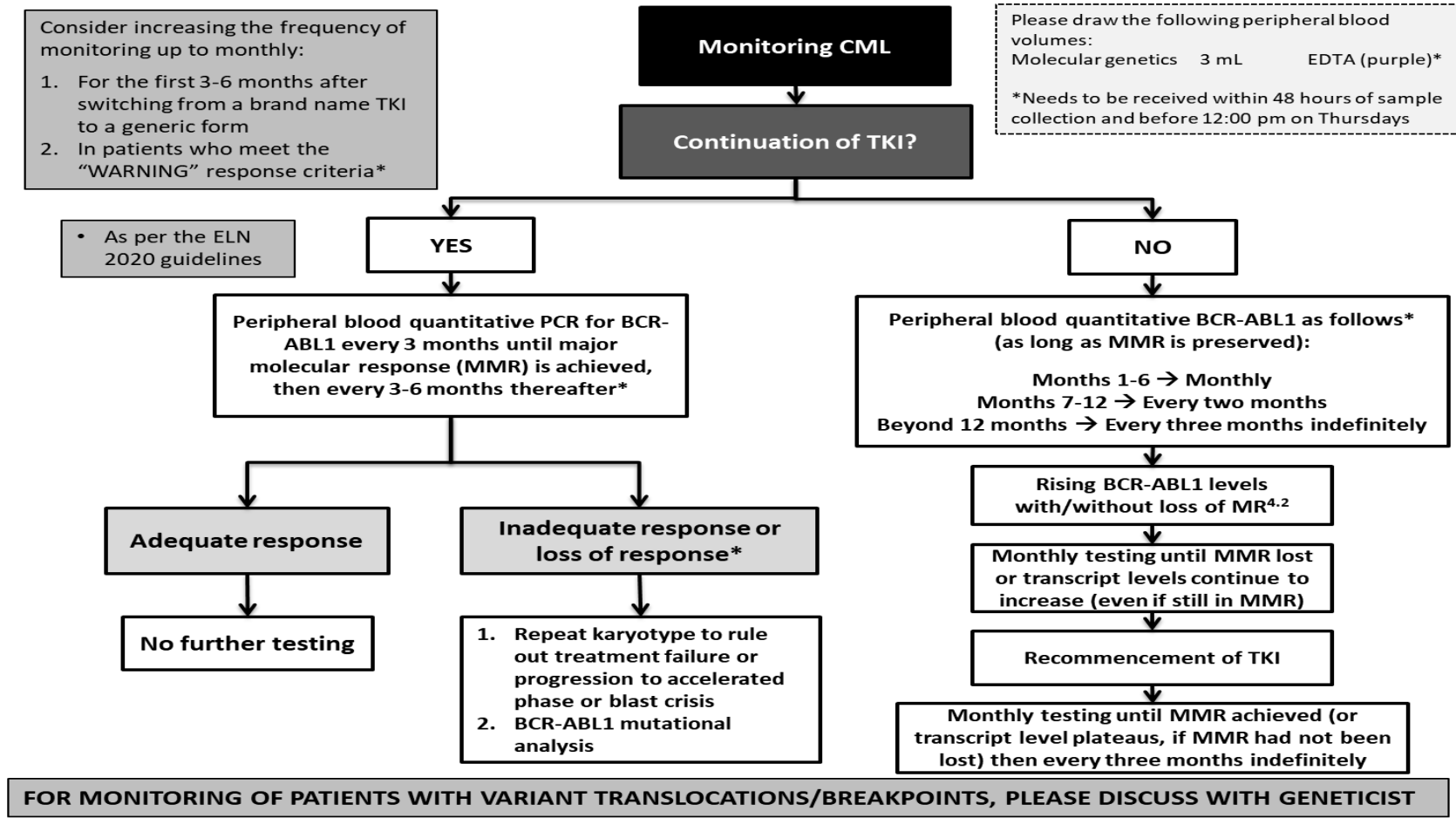


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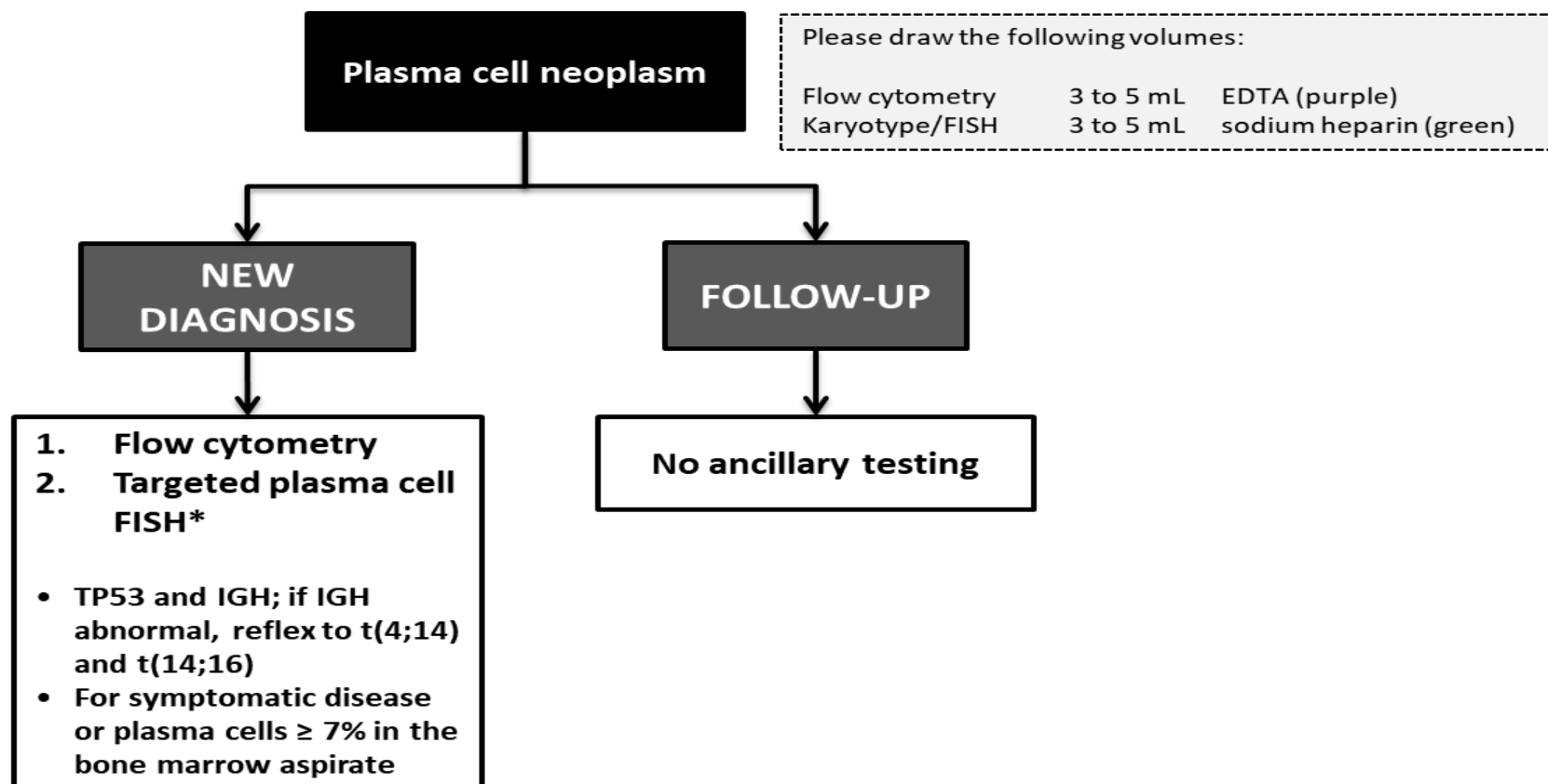
Consider increasing the frequency of monitoring up to monthly:

- For the first 3-6 months after switching from a brand name TKI to a generic form
- In patients who meet the "WARNING" response criteria*

• As per the ELN 2020 guidelines

Please draw the following peripheral blood volumes:
Molecular genetics 3 mL EDTA (purple)*
*Needs to be received within 48 hours of sample collection and before 12:00 pm on Thursdays

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