MEMORANDUM #24

To: UNCHCS Attending Physicians, Housestaff, Nursing Coordinators, Department Heads and Supervisors

From: Karen E. Weck, M.D., Director of Molecular Genetic Pathology Laboratory
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Date: March 15, 2018

SUBJECT: Changes to FLT3 Testing in Acute Myeloid Leukemia

Effective March 19, 2018, the Molecular Genetics Laboratory offers twice weekly FLT3 internal tandem duplication (ITD) and tyrosine kinase domain (TKD) mutation testing. In addition, allelic ratios will now be reported as part of FLT3-ITD testing.

Clinical Indications for FLT3-ITD/TKD Testing:
FLT3 mutation status helps refine prognosis and guide therapy in patients with acute myeloid leukemia (AML). The presence of either a FLT3-ITD or FLT3-TKD mutation identifies patients who are more likely to respond to the tyrosine kinase inhibitor midostaurin.

In addition, the presence of a FLT3-ITD mutation may be associated with inferior prognosis in patients with AML, particularly when the allelic ratio (mutant allele:wild-type allele ratio) is elevated. The threshold for a high allelic ratio has varied in publications, with cut-offs ranging from 0.5 to 0.8.

FLT3-ITD/TKD testing is included as a reflex order with all Myeloid Mutation Panel- AML orders. FLT3-ITD/TKD testing or stand alone FLT3-ITD testing may also be ordered separately.

Specimen Requirements:
Bone marrow aspirate (1 mL, EDTA) and peripheral blood (3mL, EDTA) are preferred. However, Wright-stained or unstained bone marrow aspirate smears are also accepted. The assay is generally sensitive to variants above 5% allele fraction (10% clonal cells). Therefore, a minimum percentage of 10% neoplastic cells is required.

Reference:

If you have questions please call the UNC Molecular Genetics Lab at (984) 974-1825 or contact Dr. Nathan D. Montgomery at (919) 445-6414. E-mail: nathan.montgomery@unchealth.unc.edu

Website: https://www.uncmedicalcenter.org/mclendon-clinical-laboratories/directory/molecular-pathology-and-genetics/