Microcytic Anemia Testing

INDICATION FOR TESTING
Microcytic anemia (low MCV)

ORDER
Ferritin
AND
Iron and Iron Binding Capacity

Abnormal iron parameters

High SF
Consider inflammatory disease, sideroblastic anemia, aplastic anemia, bone marrow failure

Nondiagnostic SF
Evaluate for other types of anemia
ORDER Soluble Transferrin Receptor

Low SF
Increased TIBC, low serum iron, low Tsat
IDA
Decreased TIBC, high serum iron, low Tsat
IDA
Other results

Consider inflammatory disease, sideroblastic anemia, aplastic anemia, bone marrow failure

Normal iron parameters

Check RBC count

Low
Evaluate for anemia of chronic disease/inflammation

Normal or high
CONSIDER Hemoglobin Evaluation Reflexive Cascade

HbA2 not elevated
Consider evaluation for α thalassemia
HbA2 elevated
Evaluate for β thalassemia

IDA

Erythrocyte porphyrin (EP), Whole Blood
EP not elevated
Consider bone marrow biopsy
EP elevated
IDA

STR elevated
IDA
STR not elevated

Abbreviations

EP Erythrocyte porphyrin
HbA2 Hemoglobin A2
IDA Iron deficiency anemia
MCV Mean corpuscular volume
RBC Red blood cell
RDW Red blood cell distribution width
SF Serum ferritin
STR Soluble transferrin receptor
TIBC Total iron binding capacity
Tsat Transferrin saturation

*Also see Hemoglobinopathies Testing Algorithm

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