New parameters for reticulocyte count

WHAT’S NEW?
Improvements in technology have allowed new automated parameters to be added to the reticulocyte count at no additional cost. These changes will be effective October 1, 2016.

WHAT’S CHANGED?
- RET-HE provides rapid and sensitive screening for Fe deficiency.
- IRF provides rapid and sensitive assessment for early marrow recovery in patients with marrow suppression affecting red cells, such as chemotherapy patients.

TEST CHANGE DETAIL:
Reticulocyte Hemoglobin (RET-HE)
RET-HE is a measurement of hemoglobin concentration in the RBC reticulocyte fraction. It is a very early detector of iron deficiency, reported in many studies to be more sensitive than ferritin and Fe/TIBC measurements. Unlike other iron deficiency markers, RET-HE is unaffected by inflammation and uremia. Renal disease application: In end-stage renal dialysis patients, RET-HE allows detection of functional iron deficiency, which inhibits the therapeutic effect of erythropoietin (EPO). The National Kidney Foundation recommends use of RET-HE in its clinical practice guidelines for chronic renal disease. Pediatric and pregnancy related iron deficiency application: RET-HE also has much higher sensitivity and specificity for iron deficiency compared to hemoglobin concentration in children ages 0-3 years old. In the U.S., 10% of infants and toddlers have iron deficiency, but only 2.1% are anemic. Zinc protoporphyrin detects long-term iron deficiency; RET-HE detects shorter-term iron deficiency since reticulocytes in circulation have a lifespan of only a few days. RET-HE has reported efficacy in screening for development of iron deficiency in pregnancy also.

Immature reticulocyte fraction (IRF)
IRF is a measurement of immature reticulocytes as a percentage of total reticulocytes. IRF is a better indicator of marrow response than reticulocyte count in many conditions and may begin to climb before the reticulocyte count. IRF is low in suppressed marrows, and climbs above 5.0% 2-3 days before the neutrophil count recovers above 0.5 K/uL in patients rebounding from chemotherapy. In addition to detecting marrow recovery after chemotherapy, IRF can also be useful to assess marrow response to EPO therapy, and to detect early engraftment after BM transplantation. IRF also increases with Fe replacement therapy, though RET-HE has been better studied for that purpose.

Ordering information:

<table>
<thead>
<tr>
<th>Reticulocyte count</th>
<th>Unit code: New: LAB296 (previous: 21150)</th>
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<tr>
<th>Specimen requirements</th>
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<tbody>
<tr>
<td>Collect: 1 lavender EDTA tube</td>
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<td>Stability: 48 hours refrigerated</td>
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<td>Performed: Daily</td>
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QUESTIONS?
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REFERENCES


