Objectives for Implementing the Sysmex Advanced Clinical Parameters (ACPs)

The following is a checklist of items that should be considered for a successful implementation of the Sysmex Advanced Clinical Parameters (ACPs) in your HIS, LIS and related systems such as billing or EMRs.

It is the responsibility of each customer to evaluate all systems that order and/or report these parameters to ensure that the systems are set up appropriately.

1. **HIS/LIS/Other Test Database Set Up**
   - Define test codes in HIS/LIS database including appropriate LOINC codes
   - Define download order codes to the analyzer
   - Define upload result codes to the LIS
   - Define units and rounding to significant digits
   - Define reference ranges based on patient population (age, sex, location, patient type)
   - Define critical ranges and call logic
   - Add test codes to report group on patient report

2. **HIS/LIS/Other Profile Database Set Up**
   - Add individual test codes to all applicable CBC, Platelet or Retic profiles
   - Add ordering profile codes to report groups
   - Add test codes or profiles to report types

3. **LIS Rules/Calculations/Comments/Billing**
   - Define any rerun, hold and/or reflex rules based on ACPs and flagging
   - Define delta, critical or linearity rules
   - Define any associated calculations for the individual test codes
   - Define coded comments for individual test codes
   - Add billing definitions

Implementing the ACPs

The Clinical Applications Specialist (CAS) will assist you with ACP correlations and reference range studies during implementation of your analyzer. The Resource Binder that is part of your analyzer’s implementation kit contains additional information on the ACPs.

The LIS Manager may want to know:

Where can I find the analyzer standard test codes for the Advanced Clinical Parameters?

Upon request, Sysmex will provide the specific interface specification documents for the analyzer reporting the ACPs.

What if I have a mix of Sysmex instrumentation with some analyzers that do not report the ACPs? What happens if the lab performs a profile containing ACPs on an analyzer without the ACPs?

The LIS should define calculations or logic to auto-answer the Advanced Clinical Parameters not performed by the secondary analyzer.

Do I need to adjust all CBC ordering profiles to include the ACPs?

It is recommended that each applicable ordering profile be reviewed to determine if the Advanced Clinical Parameter test codes should be added.

What support does Sysmex provide if I have questions regarding the Sysmex analyzer interface documentation?

Contact TAC at 1-888-879-7639

If my site is using the Sysmex WAM middleware are there additional steps?

Yes. Any additional configuration is based on the LIS-WAM interface which will be addressed in the implementation process.
The following is a list of suggested interpretive messages that can be built in the LIS to help clinicians use and understand the information presented by the ACPs.
Tests to be used: IG%, IG#, RET-He, IRF, IPF%, IPF#

<table>
<thead>
<tr>
<th>Advanced Clinical Parameter</th>
<th>Possible Interpretive Messages</th>
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<tbody>
<tr>
<td>Immature Granulocyte (IG%,IG#)</td>
<td>Includes promyelocytes, myelocytes, and metamyelocytes</td>
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<td></td>
<td>Preliminary studies have indicated the IG% and/or IG# shows promise as an early screen for infection</td>
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<td></td>
<td>Immature granulocyte (promyelocytes, myelocytes, metamyelocytes) &gt; 1.0% indicates the presence of immature white blood cells. Band forms are not included in the immature granulocyte count but are included in the automated neutrophil count</td>
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<tr>
<td>Reticulocyte Hemoglobin Equivalent (RET-He)</td>
<td>May be an early indicator for iron deficiency if below normal range</td>
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<td></td>
<td>Values below (cutoff value) are an early indicator of iron deficiency</td>
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<td></td>
<td>The RET-He threshold for defining iron deficiency in adults is &lt; 29 pg. (KDOQI Guideline)</td>
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<tr>
<td></td>
<td>The RET-He is a direct measure of iron incorporation into RBC; results below the normal range may be an early indicator of iron deficiency</td>
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<tr>
<td>Immature Reticulocyte Fraction (IRF)</td>
<td>Values above normal range indicate an increase in RBC production in the bone marrow.</td>
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<td>May indicate the level of bone marrow response for RBC production</td>
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<tr>
<td>Immature Platelet (IPF%,IPF#)</td>
<td>An elevated IPF indicates increased platelet production. A low platelet count and a low IPF is consistent with a platelet production disorder. A high IPF and a low platelet count is consistent with a platelet destruction disorder</td>
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<td>Low PLT + Low IPF is consistent with a production disorder. Low PLT + High IPF is consistent with destruction mechanism.</td>
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<td>May indicate PLT production issues vs. destruction issues</td>
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