#### Running Whole Blood Specimens on the XN-3100 Hematology Analyzer

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| Background | This procedure describes how to analyze patient specimens using the Sysmex XN-3100 Hematology Analyzer |

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| Policy | * Samples should not be run until the instrument is in the Ready State and commercial QC is acceptable |

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| Procedure A | Follow the steps below to run samples in the closed sampler mode   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Step | Action | | | | | 1 | Check the status of the transportation units, verify that the start yard is in READY state - the Status indicator LED is green | | | | | 2 | Load sample rack into the feeder section of the Start Yard. Verify that the rack is properly seated in the feeder; the groove on the bottom of the rack should fit into the guide in the feeder section | | | | |  |  | | | | |  | **If** | **Then** |  | | Normal Tube | * Load tube into regular sample rack * Proceed to step 3 | | Raised bottom tube (RBT) | * Load RBT into designated Yellow RBT rack * Proceed to step 3 | |  | | | | | 3 | * The system will recognize the rack and automatically proceed to transport the rack to the appropriate analyzer * The XN automatically mixes the sample 10 times, aspirates, and analyzes the sample according to barcode discrete order * Samples will run, results will be displayed in the IPU. * On-Board rules will initiate the analyzer to perform repeat or reflex testing. If smear is required, rack will be transported to SP-50. * Once testing (and/or smear making) is complete, rack will be transported to the Stock Yard. | | | | | 4 | Remove the rack from the Stock Yard | | | | | 5 | Store samples in Freezerworks when analysis is complete and results released in the LIS | | | | |

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| Procedure B | Follow the steps below to run samples in the manual (open) sampler mode   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Step | Action | | | | | | | 1 | On the individual XN unit, press the Mode Switch button to eject the tube holder. Wait for the sample tube holder to slide out and a solid green analyzer status light | | | | | | | 2 | Click the Change Analysis Mode button on the control menu | | | | | | | 3 | Click the desired analysis mode from the dialog box: | | | | | | |  |  | | | | | | |  | **If** | | **Then** |  | | | Whole blood | | * Whole blood * Click OK then proceed to step 4 | | Whole blood with WBC <0.5 | | * Low WBC * Click OK then proceed to step 4 | |  | | | | | | | 4 | Click on the Manual Analysis button on the control menu. A dialog box corresponding to the selected mode appears. | | | | | | | 5 | Select desired parameter for each field below: | | | | | | |  |  | | | | | | |  | Read ID | * Check box for barcode ID read (Sample No. input not necessary, analyzer will read barcode), or * Uncheck box and enter sample ID manually, or use hand-held barcode reader, in the Sample No. field. * Microtainers must be pre-programmed (i.e. manually or hand-held barcode reader) as there is no barcode reader in the back position. * Manual dilutions must be programmed with a "/" in order to prevent auto-verification of the result and include dilution factor when programming. For example, Sample No.: "/L123456789x5" | | |  | |  | | | | | | |

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| Procedure B, cont | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Step | Action | | | | | 6 | Select desired parameter for each field below | | | | |  |  | | | | |  | Patient ID | Enter Patient ID (MRN and/or Name) as needed (i.e. downtime or LIS offline) |  | | Discrete | * The analyzer will query the host for test select when LIS is available and when Read ID is checked. * To select additional tests to be performed as needed, uncheck Read ID and ensure Query to Host is unchecked. * Default is CBC+DIFF   Select other discrete tests as  needed (i.e. RET, PLT-F) | | Cap Open | Select if testing without a cap on the specimen tube (minimizes dead volume). Note: Must always remove cap when running microtainers in the back position. | | Aspiration sensor | Ensure Blood Aspiration Sensor is checked  Note: Only uncheck if you know in advance that the blood sample has a very low hemoglobin (i.e. <4.0 g/dL), which disables the Blood Aspiration Sensor. Caution: Positive judgment will not be performed. | | Raised Bottom tube (RBT) | Select the check mark to perform RBT analysis. | |  | | |

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| Procedure B, cont | |  |  | | --- | --- | | Step | Action | | 6 | Click OK | | 7 | Mix the sample tube | | 8 | Place the sample tube in one of the two sample tube holders.   * Regular sample tubes and RBT samples are placed in the front tube holder, cap may be on or off as programed in Step 6. * Microtainers are placed in the rear tube holder - REMOVE CAP! | | 9 | Press the blue start switch. The tube holder slides in. After analysis is finished, the tube holder slides out. | | 10 | Remove sample, repeat steps for additional samples or press mode switch to return to Sampler Mode. | | 11 | CLS will review results to determine whether repeat or reflex testing is required. | | 12 | Repeat steps 2-12 to test next specimen in Manual mode, or press Mode Switch to return to Auto Sampler mode | |

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| Procedural Notes | * For CAP specimens: Refer to kit instructions provided with survey material. An Administrator logon for the IPU may be needed. * If the CID was not populated on the report (i.e. barcode read errors), reposition/reprint the label as needed and rerun the specimen. A specimen rack number is not a patient identifier. ID numbers may **not** be edited in the data log and retransmitted. |

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| Troubleshooting | * For Error Messages, refer to the XN-3100 Operator’s manual for the causes and appropriate actions. If the error persists after taking the suggested action, or if a malfunction or any other damage occurs, contact Sysmex Technical Service. |

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| References | * Sysmex XN-3100 Operator’s manual, March 2017 * Sysmex XN series Automated Hematology systems, Flagging Interpretation Guide, March 2018 |

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