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Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer

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Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Purpose	This procedure provides instructions for results review and release process for the SYSMEX XN and XN-L series hematology analyzers, which are connected to the Data Innovation Instrument Manager and its middleware rules.
Principle	<p>Instrument Manager, the flagship product from Data Innovations (DI), provides seamless connectivity and enables seamless integration across lab environments, supporting various instruments, including the SYSMEX XN and XN-L analyzers. The system is a tailored productivity solution that helps streamline lab processes, allowing staff to focus on critical tasks and enhance operational simplicity, standardization, and overall efficiency in laboratory environments.</p> <p>Data Innovations Instrument Manager Hematology Workspace allows the middleware to automatically release results to the LIS that meet the customer-defined rule criteria. The results can be auto-validated without further operator intervention, thereby improving laboratory productivity and reducing the time spent reviewing normal data.</p> <p>Data Innovation Instrument Manager Hematology Workspace provides a sophisticated rule engine that allows real-time data checking based on test results, analyzer flags, and/or user-selected rule definitions.</p>
Scope	The autoverification criteria apply to the SYSMEX XN & XN-L series analyzers when utilizing the Data Innovation (DI) Instrument Manager (IM). This procedure should be performed by a trained Clinical Laboratory Scientist (CLS) or Medical Laboratory Technician (MLT).
Policy	<p>The list below states the policies followed by the organization:</p> <ul style="list-style-type: none">• A licensed person must be physically present on-site in the clinical laboratory whenever auto verification is performed. They are responsible for the accuracy and reliability of the results being reported. The operator is responsible for suspending auto-verification in case of a problem with the test method, analytical instrument, or auto-verification criteria.• The operator must ensure that all quality controls are performed within the appropriate time intervals with acceptable results before performing patient testing.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued


- If a problem is encountered with an instrument, the operator can turn off auto verification with menu options. When issues are resolved, auto verification may be turned back on.
- The Specimen Management Workspace in Instrument Manager is for results that meet the pre-established laboratory criteria of the middleware rules. Laboratorians must investigate and make possible interventions before review/release.
- An audit trail will be used to identify all individuals who have entered or modified patient data or control files. If auto verification is used, the audit trail in the laboratory system should reflect that the result was verified automatically at a given date and time.
- Instruments that have autoverification enabled must be validated initially and at least annually or when there is a change to the system that could affect the autoverification logic, and to confirm that algorithm decision rules are functioning correctly.

Safety

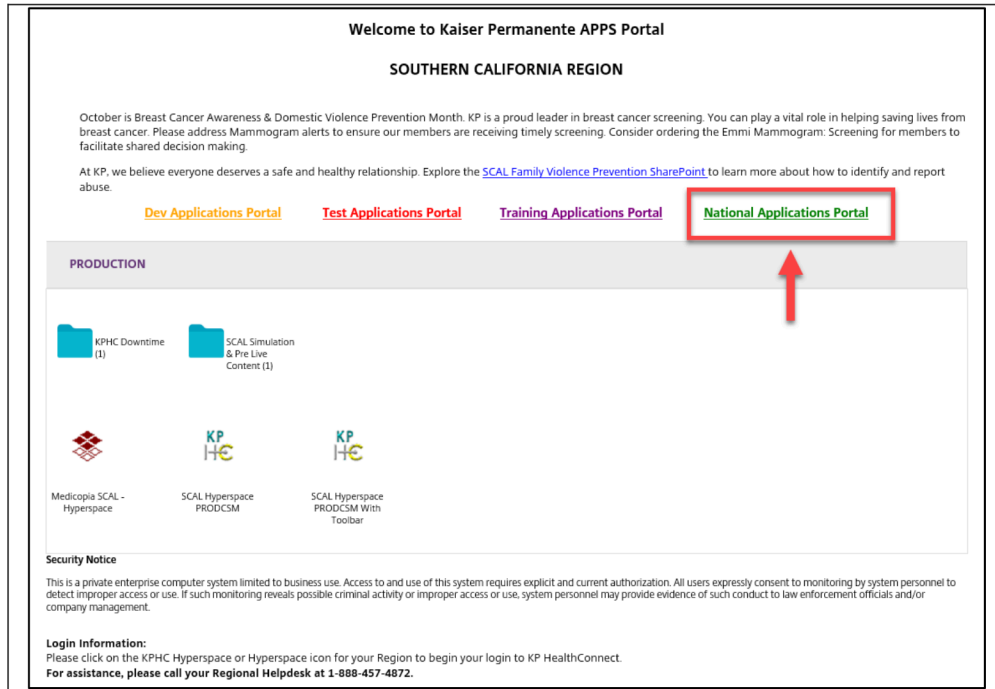
Refer to the safety manual for general safety requirements.




Logging In to Instrument Manager Procedure

Follow the steps below to log in to Instrument Manager.

Step	Action
1	Double-click on the Regional Application Portal icon on the desktop 
2	Click on the National Application Portal link .

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued



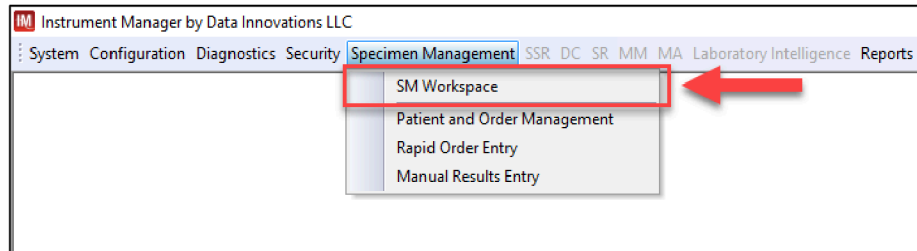
3	Double-click on the Instrument Manager SCAL (2) icon. Note: Use the folder listed above. Do not use Instrument Manager SCAL DR (1)	
4	Double-click on the Validation (2) icon	
5	Double-click on the Instrument Manager icon	
6	When the Logon window displays, enter your User ID (NUID) and Password in the text field. The password is your Windows Active Directory password . Click Accept and Logon.	

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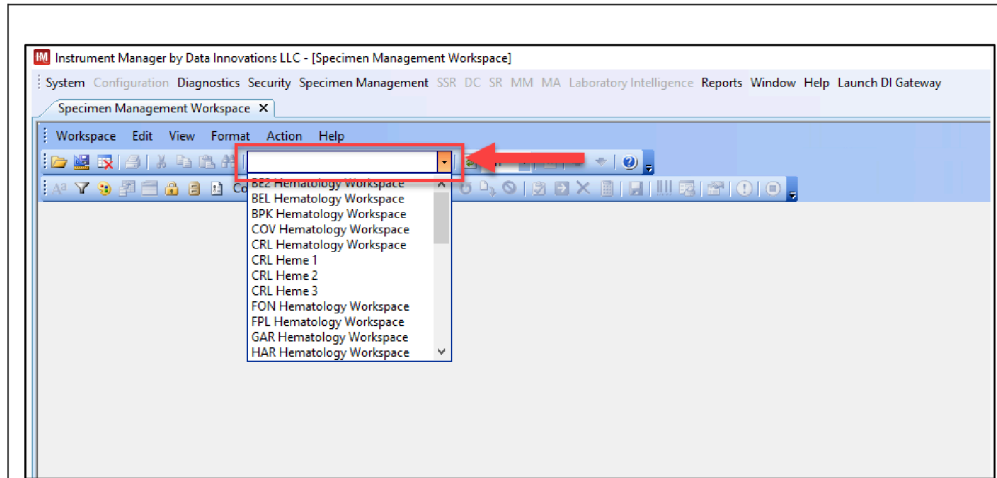


Instrument Manager Workspace

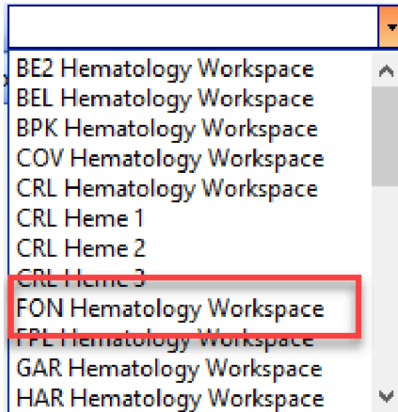
Instrument Manager Workspace	
Step	Action
1	The application will open after logging into the Instrument Manager.
2	From the Specimen Management menu, click on the SM Workspace.
3	Click on the drop-down menu once the workspace window opens.



Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued



- 4 Select the instrument workspace for your site from the drop-down menu.

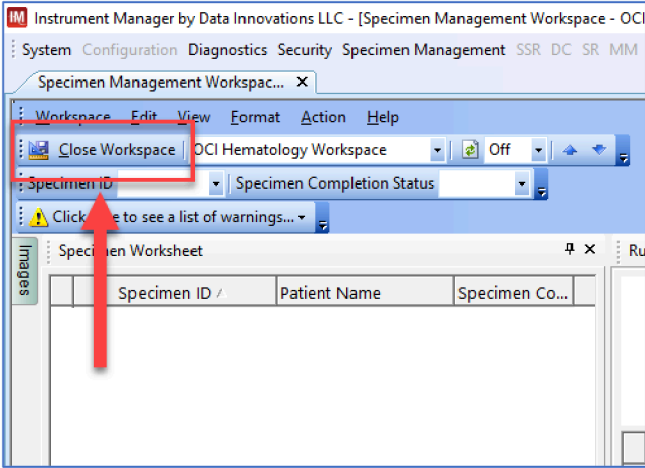


The window will populate, and the Specimen Worksheet pane will be populated with all the tests currently being held.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Closing the Instrument Manager Workspace

Closing the DI IM Workspace	
Step	Action
1	Click on the “Close Workspace” button in the workspace window to close out of the IM Workspace. Do not use the red “X” in the top right-hand corner of the window to close a workspace. Doing so allows active workspace sessions to remain running in the background and will prevent additional users from using the workspace.



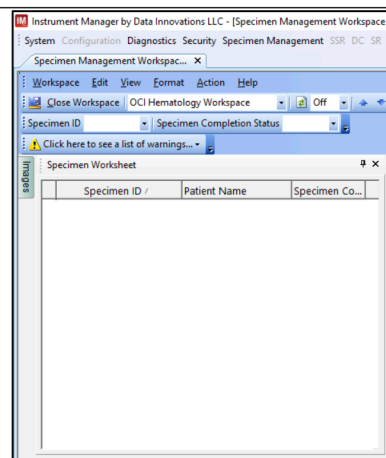
Result Review Below is an overview of the result review.

Overview

Specimen Worksheet

The Specimen Worksheet pane will display the following information:


- Order Priority
- Specimen ID (Accession Number)
- Patient Name
- Specimen Completion Status
 - Pending (The test has not been performed)
 - Test Held (The entire result is held)
 - Partial (Part of the order is held)
- Date

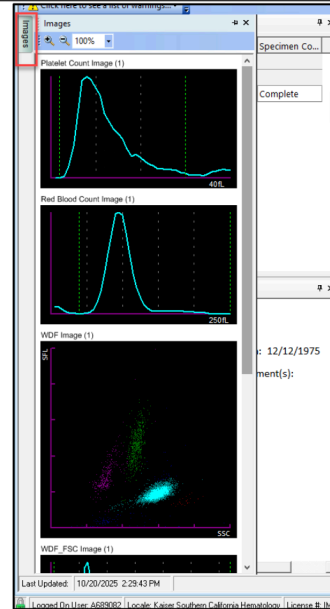


Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Images

The Images pane will display the associated scattergram and histogram for each selected specimen ID.

Note: Use the **pin icon**  to secure the Images pane on the worksheet located in the upper-right corner of the window.



Previous Results

The Previous Results pane displays all prior test results associated with the patient ID. This pane provides a record of tests performed on the patient within the last thirty (30) days.

Previous Results

Specimen ID	Test Name	Result	Result Date/Time	Connection Name
225269007351A	REFLEX	MD_MR	10/16/2025 11:...	OCI Man Diff
	Atypical_Lymp...	FW505	10/16/2025 8:0...	OCI XN9000 Results
	Blasts/Abr_Ly...	FW509	10/16/2025 8:0...	OCI XN9000 Results
	Blasts/Abr_Ly...	FW509	10/16/2025 8:0...	OCI XN9000 Results
	Leukocytopenia	FWA10	10/16/2025 8:0...	OCI XN9000 Results
	Leukocytopenia	FWA10	10/16/2025 8:0...	OCI XN9000 Results
	Neutropenia	FWA02	10/16/2025 8:0...	OCI XN9000 Results
	Neutropenia	FWA02	10/16/2025 8:0...	OCI XN9000 Results
	NRBC_Present	FWA12	10/16/2025 8:0...	OCI XN9000 Results
	NRBC_Present	FWA12	10/16/2025 8:0...	OCI XN9000 Results
	PLT_Abr_Dist...	FPA01	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Count	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Count	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Diff	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Diff	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Morph	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Positive_Morph	POSITIV...	10/16/2025 8:0...	OCI XN9000 Results
	Thrombocytop...	FPA02	10/16/2025 8:0...	OCI XN9000 Results
	Thrombocytop...	FPA02	10/16/2025 8:0...	OCI XN9000 Results

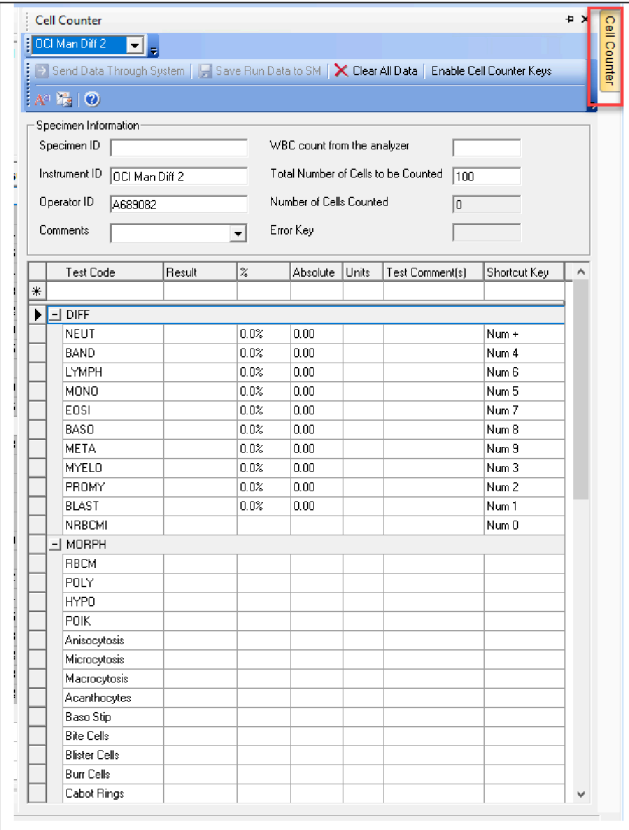
Run Worksheet Previous Results

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Cell Counter

The **Cell Counter** pane is utilized to perform manual differential counts and morphology assessments for both peripheral blood smears and body fluid samples. This pane displays critical information, including:

- Specimen ID
- Instrument ID
- Operator ID
- Comments
- Differential Parameters
- Morphology Parameters
- WBC count from the analyzer
- Total Number of Cells to be Counted
- Number of Cells Counted
- Error Key
- Platelets Parameters



Color Coding

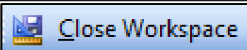
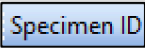
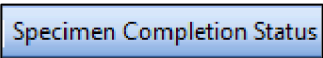
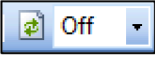
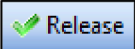
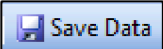
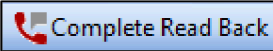
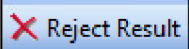

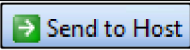
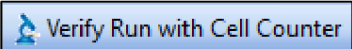
Description	Criteria	Value
Rejected	'Rejected'	N/A
Cancelled	'Cancelled'	N/A
Critical Results	'LL' or 'HH'	N/A
Critical SID	'LL' or 'HH'	N/A
ANEMIA Orders	'Anemia'	N/A
ANEMIA Orders	'Anemia'	N/A
STAT Priority	'S'	N/A
Delta	'D'	N/A
Test Held	'Held for Verification'	N/A
Test Released	'Released'	N/A
MCHC > 37.5	'Integrity'	N/A
HCT > 55	'High HCT'	N/A
Unregistered Sample	'Age and/or Sex'	N/A

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

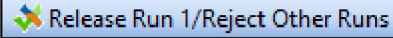
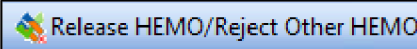
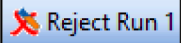
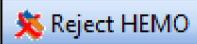

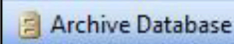

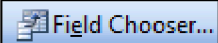
Specimen Management Workspace Buttons

The availability of the following button for expedited access on the menu bar is contingent upon the default configuration of your local Specimen Management Workspace.



Workspace Button	Description
	Close Workspace exits the current workspace to apply any recent changes.
	The specimen ID field enables the user to search for a specific SID.
	The Specimen Completion Status allows filtering the SID on the Specimen Worksheet pane based on the following statuses (Complete, Partial, Test Held, and Pending).
	The refresh button allows users to update the screen based on the set interval.
	The Release button facilitates the process of submitting the result, either by accession number or through specified selected parameters.
	The Save Data button saves all changes made to the Run Worksheet.
	The Complete Read Back button initiates the critical result protocol and records critical results.
	The Reject Result button rejects any result from the Run Worksheet screen, either by SID or by what is selected.
	The Cancel button cancels the order from the Run Worksheet screen.
	The Send to Host button resends the result to Cerner.
	The Verify Run with Cell Counter activates the Cell Counter for manual differential.

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	<p>The Release Run/Reject Other Runs feature releases the selected run column and rejects all other runs for the specified SID.</p>
	<p>The Release HEMO/Reject Other HEMO releases the selected HEMO group while rejecting all the other HEMO for the specified SID.</p> <p>Note: Depending on what group the user selects, this button changes to the specified group</p>
	<p>The Reject Run 1 rejects only the run that is indicated.</p>
	<p>The Reject HEMO option rejects only the selected HEMO group.</p>
	<p>The Sort Run button enables users to sort the run in the Run Worksheet by either the first run or the current run.</p>
	<p>The archive database allows users to access SIDs that were already archived for more than thirty days.</p>
	<p>The Filter button allows the user to add or delete additional filters for the Specimen Worksheet.</p>
	<p>The Field Chooser button allows the user to add or delete any parameters in the Specimen Worksheet, Specimen Information, Previous Results, and Run Worksheet Panes.</p>

Result Validation Considerations

When validating results in the workspace, it is critical to decide what needs to be rejected versus released before results are released to Cerner. Once you have done so, it is preferred to reject unwanted results before releasing any desired ones. This is most important in the following scenarios:

1. Multiple runs from the instrument. Example: An individual CBC parameter reflected a run based on individual rules. You must first reject the run you do not want to release before releasing all other results.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

1: 10/16/2025 8:01:06 AM										2: 10/16/2025 8:02:52 AM									
WBC Critical, PLT Asterisk Flag: Scan slide to confirm, PLT<50: Check for clots. Verify if matches previous., **ANC Critical** - Scan slide., IG Asterisk Flag: Scan slide to confirm, Neutropenia: Scan Slide: MDIFF if indicated, Leukocytopenia: WBC < 2.0 Scan Smear. MDIFF if indicated, PLT_Abn_Distribution: RERUN, Thrombocytopenia: PLT < 100 Scan Smear										**WBC Critical**, PLT<50: Check for clots. Verify if matches previous., PLT-F,**ANC Critical** - Scan slide., IG Asterisk Flag: Scan slide to confirm, Neutropenia: Scan Slide: MDIFF if indicated, Leukocytopenia: WBC < 2.0 Scan Smear. MDIFF if indicated, NRBC_Present Confirm NRBC% by scan. Correct WBC if discrepancy observed.									
Test Name /	Test Cod...	Test Sta...	Result...	Flag (1)	Err...	Test Instru...	Test C...	Read B...	Read ...	Test Cod...	Test Sta...	Result...	Flag (2)	Err...	Test Instru...	Test C...	Read B...	Read ...	
▶ HEMO																			
WBC	WBC	Rejected	1.2	LL		GXN902				WBC	Held for...	1.2	LL		GXN902				
RBC	RBC	Rejected	2.97	L		GXN902				RBC	Held for...	2.99	L		GXN902				
HGB	HGB	Rejected	7.6	L		GXN902				HGB	Held for...	7.7	L		GXN902				
HCT	HCT	Rejected	23.9	L		GXN902				HCT	Held for...	24.0	L		GXN902				
MCV	MCV	Rejected	80.5	L		GXN902				MCV	Held for...	80.3	L		GXN902				
MCH	MCH	Rejected	25.6			GXN902				MCH	Held for...	25.8			GXN902				
MCHC	MCHC	Rejected	31.8			GXN902				MCHC	Held for...	32.1			GXN902				
RDW-CV	RDWCV	Rejected	20.2	H		GXN902				RDWCV	Held for...	20.2	H		GXN902				
PLT	PLT	Rejected	20	L	W	GXN902				PLT	Held for...	23	PLT-F,L		GXN902				
- DIFF																			
Neut %	NEUTRE	Rejected	10.7		W	GXN902				NEUTRE	Held for...	20.4		W	GXN902				
Lymph %	LYMPRE	Rejected	72.5		W	GXN902				LYMPRE	Held for...	62.7		W	GXN902				
Mono %	MONORE	Rejected	5.3		W	GXN902				MONORE	Held for...	14.4		W	GXN902				
Eos %	EOSIRE	Rejected	10.7			GXN902				EOSIRE	Held for...	1.7			GXN902				
Baso %	BASORE	Rejected	0.0			GXN902				BASORE	Held for...	0.0			GXN902				
IG %	IGRE	Rejected	0.80		W	GXN902				IGRE	Held for...	0.80		W	GXN902				
NRBC %	NRBCRE	Rejected	14.5	H		GXN902				NRBCRE	Held for...	15.3	H		GXN902				
Neut #	NEUTAB	Rejected	0.14	LL	W	GXN902				NEUTAB	Held for...	0.24	LL	W	GXN902				
Lymph #	LYMPAB	Rejected	0.85	L	W	GXN902				LYMPAB	Held for...	0.74	L	W	GXN902				
Mono #	MONOAB	Rejected	0.14	L	W	GXN902				MONOAB	Held for...	0.17		W	GXN902				
Eos #	EOSIAB	Rejected	0.07			GXN902				EOSIAB	Held for...	0.02			GXN902				
Baso #	BASOAB	Rejected	0.00			GXN902				BASOAB	Held for...	0.00			GXN902				
IG #	IGAB	Rejected	0.01		W	GXN902				IGAB	Held for...	0.01		W	GXN902				
IPF	IPF	Rejected	5.8			GXN902				IPF	Held for...	5.8			GXN902				
- INSTRUCTIONS																			
RUN COMMEN...	RUN CO...	Rejected	PRESENT							RUN CO...	Rejected	PRESENT							
SMEAR	SMEAR	Rejected	PLT							SMEAR	Rejected	PLT							
- IMAGE																			
Platelet Count...	PLT Image	Rejected	2025-10...			GXN902				PLT Image	Rejected	2025-10...			GXN902				
PLT_F Image	PLT_F Im...	Rejected	2025-10...			GXN902				PLT_F Im...	Rejected	2025-10...			GXN902				

- Any peripheral smear sent to Cellavision will show as a separate run. If a manual differential were performed in Cellavision, you would want to reject the auto diff from the CBC run that you want to release so that the manual differential is released to Cerner.

3: 10/16/2025 11:29:22 AM										2: 10/16/2025 8:02:52 AM									
ANC Critical										**WBC Critical**, PLT<50: Check for clots. Verify if matches previous., PLT-F,**ANC Critical** - Scan slide., IG Asterisk Flag: Scan slide to confirm, Neutropenia: Scan Slide: MDIFF if indicated, Leukocytopenia: WBC < 2.0 Scan Smear. MDIFF if indicated, NRBC_Present Confirm NRBC% by scan. Correct WBC if discrepancy observed.									
Test Name /	Test Cod...	Test Sta...	Result...	Flag (3)	Err...	Test Instru...	Test C...	Read B...	Read ...	Test Cod...	Test Sta...	Result...	Flag (2)	Err...	Test Instru...	Test C...	Read B...	Read ...	
▶ HEMO																			
WBC	WBC	Held for...	1.2	LL		GXN902				WBC	Held for...	1.2	LL		GXN902				
RBC	RBC	Held for...	2.99	L		GXN902				RBC	Held for...	2.99	L		GXN902				
HGB	HGB	Held for...	7.7	L		GXN902				HGB	Held for...	7.7	L		GXN902				
HCT	HCT	Held for...	24.0	L		GXN902				HCT	Held for...	24.0	L		GXN902				
MCV	MCV	Held for...	80.3	L		GXN902				MCV	Held for...	80.3	L		GXN902				
MCH	MCH	Held for...	25.8			GXN902				MCH	Held for...	25.8			GXN902				
MCHC	MCHC	Held for...	32.1			GXN902				MCHC	Held for...	32.1			GXN902				
RDW-CV	RDWCV	Held for...	20.2	H		GXN902				RDWCV	Held for...	20.2	H		GXN902				
PLT	PLT	Held for...	23	PLT-F,L		GXN902				PLT	Held for...	23	PLT-F,L		GXN902				
- DIFF																			
Neut %	SNE-%	Held for...	11			GDI601				NEUTRE	Rejected	20.4		W	GXN902				
Lymph %	LY-%	Held for...	73			GDI601				LYMPRE	Rejected	62.7		W	GXN902				
Mono %	MO-%	Held for...	6			GDI601				MONORE	Rejected	14.4		W	GXN902				
Eos %	EO-%	Held for...	10			GDI601				EOSIRE	Rejected	1.7			GXN902				
Baso %	BA-%	Held for...	0			GDI601				BASORE	Rejected	0.0			GXN902				
IG %	IGRE	Held for...	0.80		W	GXN902				IGRE	Rejected	0.80		W	GXN902				
NRBC %	NRBCRE	Rejected	15.3	H		GXN902				NRBCRE	Rejected	15.3	H		GXN902				
Neut #	NEUT	Held for...	0.13	LL		GDI601				NEUTAB	Rejected	0.24	LL	W	GXN902				
Lymph #	LY-#	Held for...	0.88	L		GDI601				LYMPAB	Rejected	0.74	L	W	GXN902				
Mono #	MO-#	Held for...	0.07	L		GDI601				MONOAB	Rejected	0.17		W	GXN902				
Eos #	EO-#	Held for...	0.12			GDI601				EOSIAB	Rejected	0.02			GXN902				
Baso #	BA-#	Held for...	0.00			GDI601				BASOAB	Rejected	0.00			GXN902				
IG #	IGAB	Rejected	0.01		W	GXN902				IGAB	Rejected	0.01		W	GXN902				
IPF	IPF	Rejected	5.8			GXN902				IPF	Rejected	5.8			GXN902				
- MORPH																			
RBCM	RBCM	Held for...	#N			GDI601													
- PLT MORPH																			
PLTE	PLTE	Held for...	Decre...			GDI601													
- INSTRUCTIONS																			

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

- Using the IM Cell Counter to perform a manual differential. If a manual differential were performed in the IM Cell Counter, you would want to reject the auto diff from the CBC run that you want to release so that the manual differential is released to Cerner.

Run Worksheet																		
3: 10/16/2025 11:29:22 AM **ANC Critical**							2: 10/16/2025 8:02:52 AM **WBC Critical** , PLT<50: Check for clots. Verify if matches previous. , PLT-F,**ANC Critical** - Scan slide, IG Asterisk Flag: Scan slide to confirm ,Neutropenia: Scan Slide: MDIFF if indicated,Leukocytopenia: WBC < 2.0 Scan Smear, MDIFF if indicated, NRBC_Present Confirm NRBC% by scan. Correct WBC if discrepancy observed.											
Test Name /	Test Cod...	Test Sta...	Result...	Flag (3)	Err...	Test Instru...	Test C...	Read B...	Read ...	Test Cod...	Test Sta...	Result...	Flag (2)	Err...	Test Instru...	Test C...	Read B...	Read ...
- HEMO																		
WBC									<input type="checkbox"/>	WBC	Held for...	1.2	LL		GXN902			<input type="checkbox"/>
RBC									<input type="checkbox"/>	RBC	Held for...	2.99	L		GXN902			<input type="checkbox"/>
HGB									<input type="checkbox"/>	HGB	Held for...	7.7	L		GXN902			<input type="checkbox"/>
HCT									<input type="checkbox"/>	HCT	Held for...	24.0	L		GXN902			<input type="checkbox"/>
MCV									<input type="checkbox"/>	MCV	Held for...	80.3	L		GXN902			<input type="checkbox"/>
MCH									<input type="checkbox"/>	MCH	Held for...	25.8			GXN902			<input type="checkbox"/>
MCHC									<input type="checkbox"/>	MCHC	Held for...	32.1			GXN902			<input type="checkbox"/>
RDW-CV									<input type="checkbox"/>	RDWCV	Held for...	20.2	H		GXN902			<input type="checkbox"/>
PLT									<input type="checkbox"/>	PLT	Held for...	23	PLT-F,L		GXN902			<input type="checkbox"/>
- DIFF																		
Neut %	SNE-%		Held for...	11					<input type="checkbox"/>	NEUTRE	Rejected	20.4			W	GXN902		<input type="checkbox"/>
Lymph %	LY-%		Held for...	73					<input type="checkbox"/>	LYMPRE	Rejected	62.7			W	GXN902		<input type="checkbox"/>
Mono %	MO-%		Held for...	6					<input type="checkbox"/>	MONOR	Rejected	14.4			W	GXN902		<input type="checkbox"/>
Eos %	EO-%		Held for...	10					<input type="checkbox"/>	EOSIRE	Rejected	1.7						<input type="checkbox"/>
Baso %	BA-%		Held for...	0					<input type="checkbox"/>	BASORE	Rejected	0.0						<input type="checkbox"/>
IG %									<input type="checkbox"/>	IGRE	Rejected	0.00			W	GXN902		<input type="checkbox"/>
NRBC %									<input type="checkbox"/>	NRBCRE	Rejected	15.3	H					<input type="checkbox"/>
Neut #	NEUT		Held for...	0.13	LL				<input type="checkbox"/>	NEUTAB	Rejected	0.24	LL		W	GXN902		<input type="checkbox"/>
Lymph #	LY-#		Held for...	0.88	L				<input type="checkbox"/>	LYMPAB	Rejected	0.24	L		W	GXN902		<input type="checkbox"/>
Mono #	MO-#		Held for...	0.07	L				<input type="checkbox"/>	MONOAB	Rejected	0.12			W	GXN902		<input type="checkbox"/>
Eos #	EO-#		Held for...	0.12					<input type="checkbox"/>	EOSIAB	Rejected	0.02						<input type="checkbox"/>
Baso #	BA-#		Held for...	0.00					<input type="checkbox"/>	BASOAB	Rejected	0.00						<input type="checkbox"/>
IG #									<input type="checkbox"/>	IGAB	Rejected	0.01			W	GXN902		<input type="checkbox"/>
IPF									<input type="checkbox"/>	IPF	Rejected	5.8						<input type="checkbox"/>
- MORPH																		
RBCM	RBCM		Held for...	#N					<input type="checkbox"/>									<input type="checkbox"/>
- PLT MORPH																		
PLTE	PLTE		Held for...	Decre...					<input type="checkbox"/>									<input type="checkbox"/>
- INSTRUCTIONS																		

Rejecting and Releasing Results

Different ways exist to reject or release results in the Specimen Workspace.

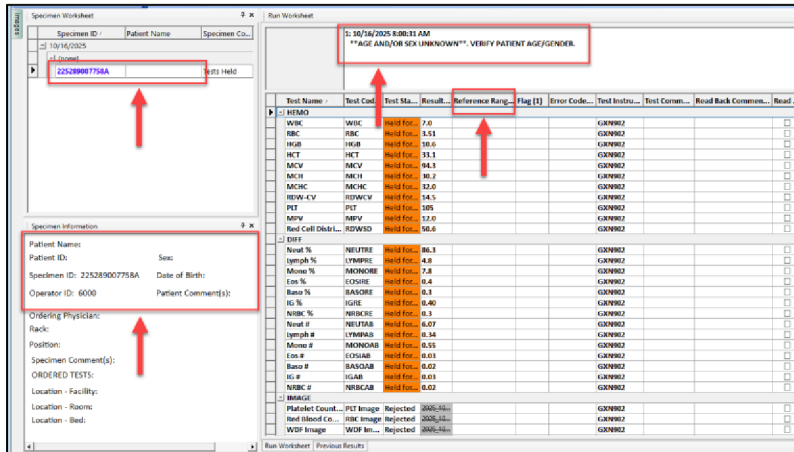
- You can right-click on an individual result or test group and select reject or release from the menu.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Unregistered Samples

Unregistered samples are those that are either not logged in properly, not in the correct service area, or the test ordered is incorrect. Unregistered samples will be identified in the Specimen Worksheet pane with SID in bold and blue font, and there will be no patient name associated with the SID. The Specimen Information pane will also show no patient demographics. Finally, the Run Comment will also display ****AGE AND/OR SEX UNKNOWN**, VERIFY PATIENT AGE/GENDER.****

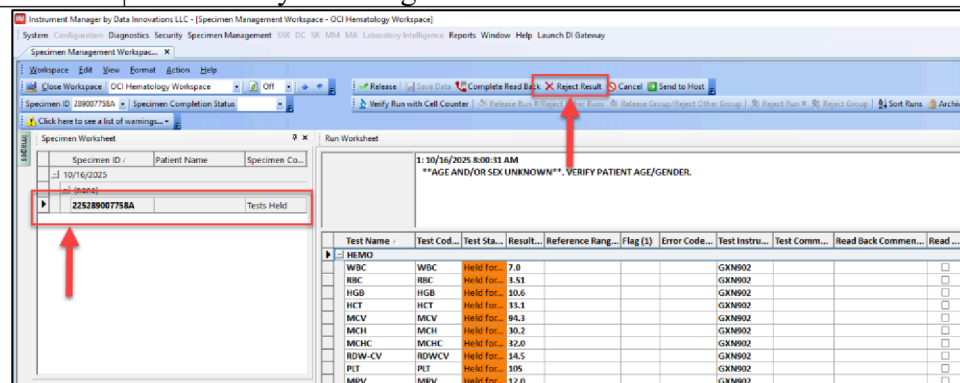
Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued



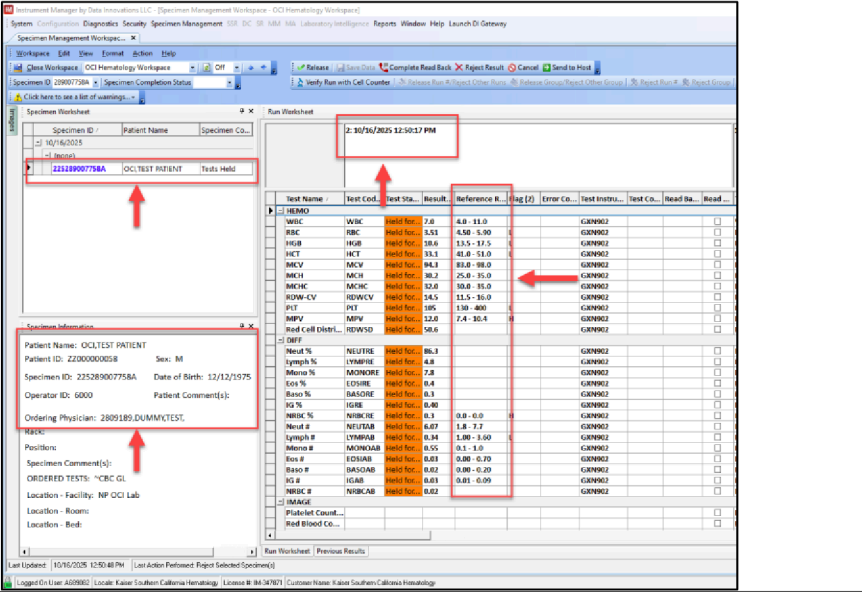
NOTE: It is critical that the user strictly refrains from releasing any unregistered samples under all circumstances, as the age and gender information remains unknown. Furthermore, all references and critical ranges are automatically deactivated for unregistered samples, emphasizing the importance of adherence to this protocol.

Follow the steps below to resolve Unregistered Samples

Step	Action
1	From the Specimen Worksheet Pane, select the unregistered SID and click on the Reject Result button on the menu bar to reject the results. Rejecting the result prevents the user from accidentally releasing it.
2	Check the specimen status in CERNER and resolve the unregistered issues by logging in the sample or transferring the specimen to the current location
3	After resolving the issue, either rerun or resend the result to the instrument manager. <ul style="list-style-type: none"> Rerun the sample by loading it onto the XN analyzer.



Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

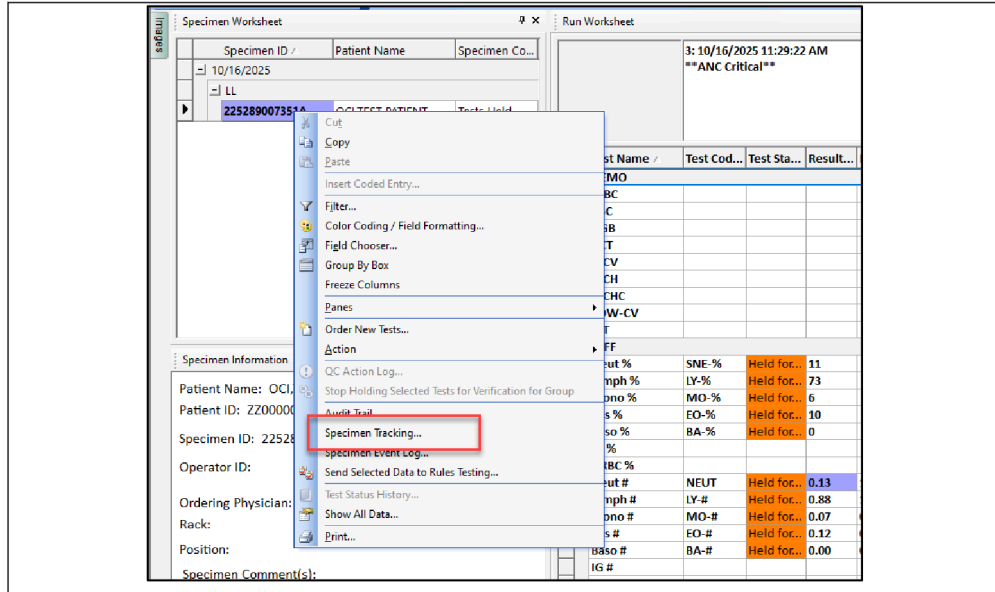
	<ul style="list-style-type: none"> Resend the result by locating the sample ID in the Sample Explorer page of the XN IPU. Select the sample ID, click on the output button, and choose host communication to resend the result to the instrument manager.
<p>4</p>	<p>Once the issue is resolved, patient information should populate along with the Run Comment and Reference Ranges.</p>
	 <p>The screenshot shows the 'Specimen Worksheet' and 'Run Worksheet' windows. In the 'Specimen Worksheet', the specimen ID '225289007758A' is highlighted with a red box and an arrow. In the 'Run Worksheet', the 'OCITEST PATIENT' test result is highlighted with a red box and an arrow. The 'Specimen Information' window shows patient details: Patient Name: OCITEST PATIENT, Patient ID: 2200000008, Sex: M, Specimen ID: 225289007758A, Date of Birth: 12/12/1975, Operator ID: 6000, Patient Comment(s):, and Ordering Physician: 2899189.DUMM/TEST. The 'Run Worksheet' table shows various test results with columns for Test Name, Test Cod., Test Sta., Result, Reference R., Lag [S], Error Co., Test Instru., Test Co., and Read Sta. Red boxes and arrows highlight the 'OCITEST PATIENT' result in the table and the 'OCITEST PATIENT' test result in the 'Specimen Information' window.</p>
<p>5</p>	<p>Continue to address any issues raised in the run comment and release the sample ID.</p>

Repeating and Rerunning Tests

Follow the steps below to repeat and rerun results.

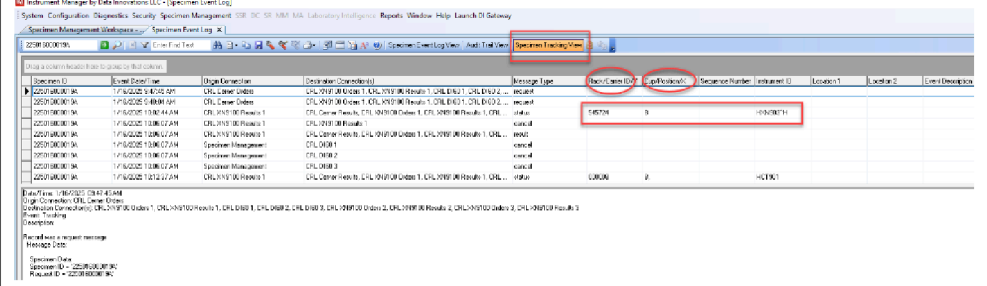
Step	Action
<p>1</p>	<p>To identify the rack and location of the specimen to be repeated, right-click on the account number in the IM workspace and select specimen tracking.</p>

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

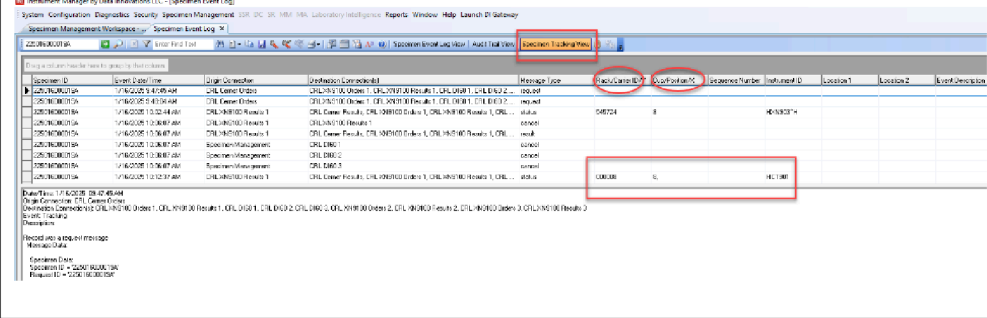


2 It will take you to the Specimen Event log window, and the Specimen Tracking View will be highlighted.

For Medical Center Laboratory:



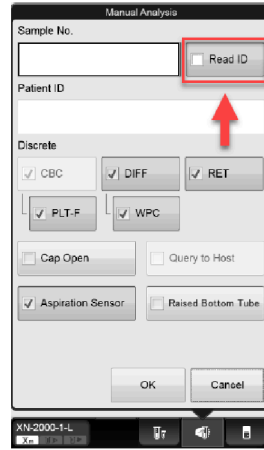
For Regional Reference Laboratory:



Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

3 Rerunning samples must be performed in manual mode ONLY. **Make sure the Read ID button is unchecked.** The barcode must be scanned or entered manually for processing.

NOTE: Rerunning samples by means of loading them on the Sysmex racks (RACK MODE) will not run the desired discrete test.



4 Along with the default test set on the XN, check the desired discrete test that needs to be rerun.

5 Reruns will be shown in the IM Workspace as a separate run and will be held.

Test Name /	Test Cod...	Test Sta...	Result...	Flag (1)	Err...	Test Instru...	Test C...	Read B...	Read ...	Test Cod...	Test Sta...	Result...	Flag (2)	Err...	Test Instru...	Test C...	Read B...	Read ...
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid red; padding: 2px;">1: 10/16/2025 8:01:06 AM **WBC Critical** , PLT Asterisk Flag: Scan slide to confirm, PLT<50: Check for clots.</div> <div style="border: 1px solid red; padding: 2px;">2: 10/16/2025 8:02:52 AM **WBC Critical** , PLT<50: Check for clots. Verify if matches previous. , PLT-F,**ANC Critical** - Scan slide, IG Asterisk Flag: Scan slide to confirm ,Neutropenia: Scan Slide: MDIFF if indicated,Leukocytopenia: WBC < 2.0 Scan Smear. MDIFF if indicated,PLT_Abn_Distribution: RERUN, Thrombocytopenia: PLT < 100 Scan Smear</div> </div>																		
HEMO	WBC	WBC	Held for...	1.3	LL	GXN902				WBC	WBC	Held for...	1.2	LL	GXN902			
	RBC	RBC	Held for...	2.97	L	GXN902				RBC	RBC	Held for...	2.99	L	GXN902			
	HGB	HGB	Held for...	7.6	L	GXN902				HGB	HGB	Held for...	7.7	L	GXN902			
	HCT	HCT	Held for...	23.9	L	GXN902				HCT	HCT	Held for...	24.0	L	GXN902			
	MCV	MCV	Held for...	80.5	L	GXN902				MCV	MCV	Held for...	80.3	L	GXN902			
	MCH	MCH	Held for...	25.6		GXN902				MCH	MCH	Held for...	25.8		GXN902			
	MCHC	MCHC	Held for...	31.8		GXN902				MCHC	MCHC	Held for...	32.1		GXN902			
	RDW-CV	RDWCV	Held for...	20.2	H	GXN902				RDWCV	RDWCV	Held for...	20.2	H	GXN902			
	PLT	PLT	Held for...	20	L	W	GXN902			PLT	PLT	Held for...	23	PLT-F,L	GXN902			
	- DIFF																	
	Neut %	NEUTRE	Held for...	10.7		W	GXN902			NEUTRE	NEUTRE	Held for...	20.4		W	GXN902		
	Lymph %	LYMPRE	Held for...	72.5		W	GXN902			LYMPRE	LYMPRE	Held for...	62.7		W	GXN902		
	Mono %	MONORE	Held for...	5.3		W	GXN902			MONORE	MONORE	Held for...	14.4		W	GXN902		
	Eos %	EOSIRE	Held for...	10.7			GXN902			EOSIRE	EOSIRE	Held for...	1.7			GXN902		
	Baso %	BASORE	Held for...	0.0			GXN902			BASORE	BASORE	Held for...	0.0			GXN902		
	IG %	IGRE	Held for...	0.80		W	GXN902			IGRE	IGRE	Held for...	0.80		W	GXN902		
	NRBC %	NRBCRE	Held for...	14.5	H		GXN902			NRBCRE	NRBCRE	Held for...	15.3	H		GXN902		
	Neut #	NEUTAB	Held for...	0.14	LL	W	GXN902			NEUTAB	NEUTAB	Held for...	0.24	LL	W	GXN902		
	Lymph #	LYMPAB	Held for...	0.95	L	W	GXN902			LYMPAB	LYMPAB	Held for...	0.74	L	W	GXN902		
	Mono #	MONOAB	Held for...	0.07	L	W	GXN902			MONOAB	MONOAB	Held for...	0.17		W	GXN902		
	Eos #	EOSIAB	Held for...	0.14			GXN902			EOSIAB	EOSIAB	Held for...	0.02			GXN902		
	Baso #	BASOAB	Held for...	0.00			GXN902			BASOAB	BASOAB	Held for...	0.00			GXN902		
	IG #	IGAB	Held for...	0.01		W	GXN902			IGAB	IGAB	Held for...	0.01		W	GXN902		
	IPF	IPF	Held for...				GXN902			IPF	IPF	Held for...	5.8			GXN902		
	- INSTRUCTIONS																	
	RUN COMME...	RUN CO...	Rejected	PRESENI						RUN CO...	Rejected	PRESENI						
	SMEAR	SMEAR	Rejected	PLT						SMEAR	Rejected	PLT						
	- IMAGE																	
	Platelet Count...	PLT Image	Rejected	2025-10-			GXN902			PLT Image	Rejected	2025-10-				GXN902		
	PLT_F Image	PLT_F Im...	Rejected	2025-10-			GXN902			PLT_F Im...	Rejected	2025-10-				GXN902		

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

6 Choose an appropriate comment under the Test Comment column using the drop-down.

Test Name /	Test Sta...	Result...	Reference R...	Flag (2)	Error C...	Test Instru...	Test Comment(s) (2)	Read Ba...	Read ...
- HEMO									
WBC	Held for...	1.2	4.0 - 11.0	LL		GXN902			
RBC	Held for...	2.99	4.50 - 5.90	L		GXN902			
HGB	Held for...	7.7	13.5 - 17.5	L		GXN902			
HCT	Held for...	24.0	41.0 - 51.0	L		GXN902			
MCV	Held for...	80.3	83.0 - 98.0	L		GXN902			
MCH	Held for...	25.8	25.0 - 35.0			GXN902			
MCHC	Held for...	32.1	30.0 - 35.0			GXN902			
RDW-CV	Held for...	20.2	11.5 - 16.0	H		GXN902			
PLT	Held for...	23	130 - 400	PLT-F,L		GXN902			

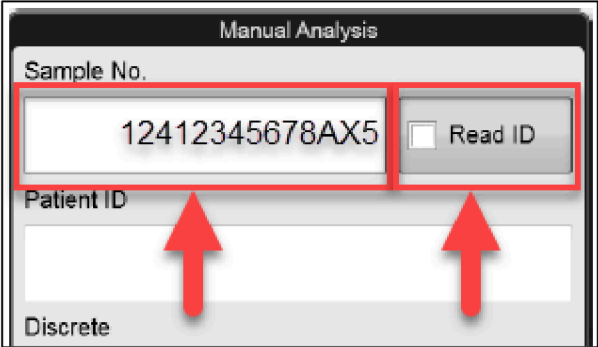
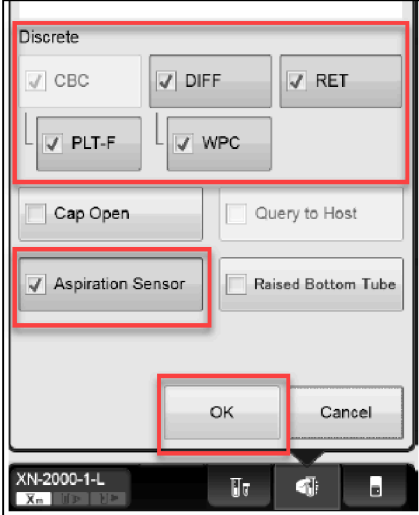
Specimen Dilution

Specimen dilutions are performed to verify and troubleshoot results that exceed analytical reported ranges, linearity ranges, or raise suspect flags. Refer to the Run Comment section for instructions for necessary dilutions.

Note: Perform Dilution using Manual Mode ONLY. **Do not use the 1:7 Dilution on the XN analyzer.**

Step	Action
1	In a separate tube, dilute the sample according to the Run Comment instruction with CellPack DCL.
2	Reprint the accession label and place it on the diluted sample.
3	Run the sample manually on the XN analyzer. Mix the sample well by gentle inversion before running.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

<p>4</p>	<p>Using the accession number, including the container letter, manually program the accession number on the sample number. Field and add “X#.” The “#” represents the dilution factor applied to the dilution. You have a flag for Retic Abnl Scattergram that requires a 5-fold dilution. Your accession number is 1-24-123-45678A. In the XN manual analysis screen, remove the Read ID check mark and enter 1412345678AX5 or 1412345678x5 into the Specimen No.</p> 
<p>5</p>	<p>Select the appropriate test to run and whether the “Aspiration Sensor” is needed</p> 
<p>6</p>	<p>Load the diluted sample on the tube holder and run the test by pressing the start button</p>
<p>7</p>	<p>Results are automatically calculated in the Instrument Manager Worksheet screen.</p>
<p>8</p>	<p>Complete the result release process if no other troubleshooting is necessary.</p>

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

CellPack Replacement

Cell Pack replacement is performed to troubleshoot results affected by cold agglutinin, lipemia, or icteric conditions, which can cause erroneous results. Refer to the Run Comment section for instructions for the necessary troubleshooting guides.

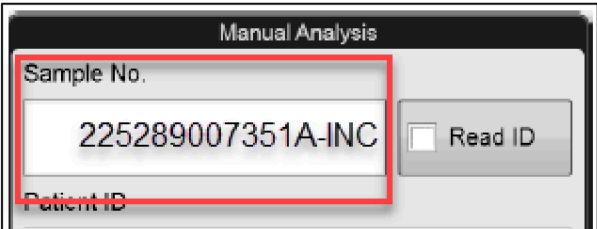
Step	Action
1	Reprint the accession label and place it on the DCL Replacement sample.
2	Mix well and rerun the specimen immediately after prewarming.
3	Using the accession number, including the container letter, manually program the accession number on the sample number. Field and add “-SAL.” <div data-bbox="699 926 1281 1146" style="text-align: center;"> </div>
4	Select the appropriate test to run and whether the “Aspiration Sensor” is needed <div data-bbox="769 1257 1213 1808" style="text-align: center;"> </div>
5	When a sample is rerun with an “-SAL” following an accession, the WBC and PLT are automatically rejected.

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	<p>NOTE: Adding the “-SAL” suffix to the accession number will cause DI to automatically reject the WBC and PLT results from this run. The user will need to accept the WBC and PLT from the initial run.</p>
6	<p>If no other troubleshooting is necessary, complete the result release process. Then, select the WBC and PLT from the original run.</p>

Sample Incubation

Perform the CellPack replacement as described in the Analytical Interference on CBC Samples Procedure

1	<p>Incubate the CBC sample in a 37°C dry bath for at least 15 minutes</p>
2	<p>Reprint the accession label and place it on the diluted sample.</p>
3	<p>Mix well and rerun the specimen immediately after prewarming.</p>
4	<p>Using the accession number, including the container letter, manually program the accession number on the sample number. Field and add “-INC.”</p> <div style="text-align: center;">  </div>
5	<p>Select the appropriate test to run and whether the “Aspiration Sensor” is needed</p>

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

6	Complete the result release process if no other troubleshooting is necessary.	

Specimen Comments

Specimen comments can be added in the Test Comments of the Run Worksheet; the rest need to be entered in the Cell Counter. Comments that will replace a numeric result need to be completed in the Cell Counter (ex., platelet clumps or a dimorphic RBC population). Comments that can be selected from the drop-down in the Test Comment field in the run worksheet include:

Parameters	Test Comment
WBC, RBC, HGB, HCT, MCV, MCH, MCHC	<ul style="list-style-type: none"> • Hemolyzed • Icteric • Lipemic • Repeated and verified
Platelet (PLT)	<ul style="list-style-type: none"> • Hemolyzed • Icteric • Lipemic

Test Name	Test Cod...	Test Sta...	Result (1)	Flag (1)	Err...	Test Instru...	Test Comment(s) (1)	Read B...	Read ...
- HEMO									
WBC	WBC	Held for...	4.9			GXN902			
RBC	RBC	Held for...	4.24	L		GXN902			
HGB	HGB	Held for...	13.7			GXN902	Hemolyzed - Hemolyzed		
HCT	HCT	Held for...	42.5			GXN902	Icteric - Icteric		
MCV	MCV	Held for...	100.2	H		GXN902	Lipemic - Lipemic		
MCH	MCH	Held for...	32.3			GXN902	Repeated and verified - Repeate...		
MCHC	MCHC	Held for...	32.2			GXN902			
RDW-CV	RDWCV	Held for...	13.2			GXN902			
PLT	PLT	Held for...	109	L	W	GXN902			

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

	<ul style="list-style-type: none"> • Repeated and verified • Unable to perform platelet count due to clumping in EDTA 																																																																																																																																																																																				
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RBC Morphology (RBCM)	<ul style="list-style-type: none"> • #ABN (Abnormal) • #N (Normal) • Do not report • Not Measured 																																																																																																																																																																																				
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Other RBC Morphology Parameters	<ul style="list-style-type: none"> • Do not report • Few • Many • Moderate • Not measured 																																																																																																																																																																																				

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

<p>Platelet Estimate</p>	<ul style="list-style-type: none"> • Adequate • Decreased • Do not report • Increased • Not measured
<p>Platelet Estimate (Test Comment)</p>	<ul style="list-style-type: none"> • Clumped Platelets Present • Giant Platelets Present • Large Platelets Present • Peripheral Smear Consistent with Automated Differential

Note: If you have replaced a numeric result with a comment, you will also need to go to Cerner and verify the results. When Cerner expects a numeric result but receives a free-text comment, the results remain at a performed status.

- **Example:** PLT comments in the PLT test field or a dimorphic red blood cell population comment in the RDWCV test field of the Run Worksheet

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

HCT	HCT	Held for...	44.0
MCV	MCV	Held for...	88.0
MCH	MCH	Held for...	29.4
MCHC	MCHC	Held for...	33.4
RDW-CV	RDWCV	Held for...	15.0
PLT	PLT	Held for...	Do not report
- INSTRUCTIONS			
RUN COMME...	RUN CO...	Rejected	PRESENT
- IMAGE			
Platelet Count...	PLT Image	Rejected	2025_10_20_14...

Comments generated by IM as prompts for techs are shown in the Test Reviewer comments field.

- **Example:** Pathology Review criteria met, dilution needed, and specimen exceeds stability.

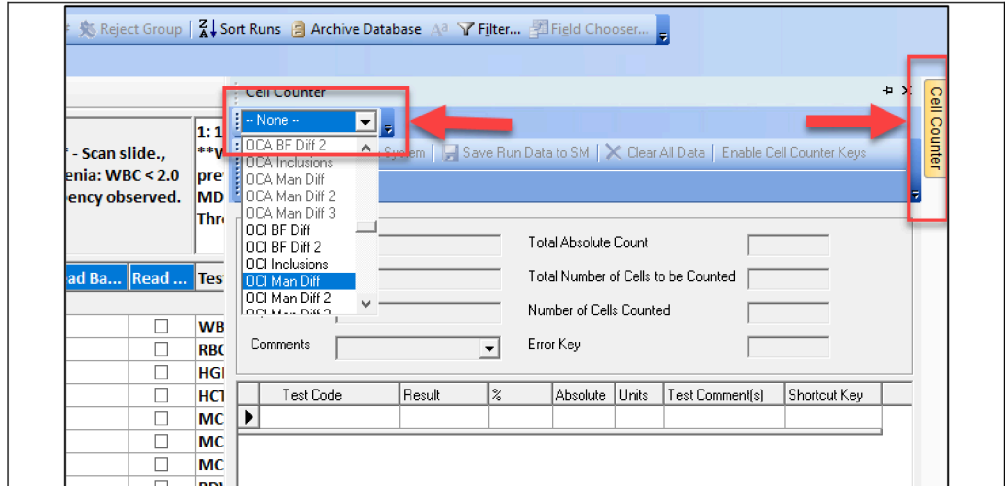
Manual Differential Count Procedure

White Blood Cell (WBC), Red Blood Cell (RBC), and Platelet (PLT) Differential analysis can be conducted using the SYSMEX Cellavision DI-60 Digital Imaging Analyzer. For comprehensive instructions, please refer to the Sysmex DI-60 Automated Digital Morphology Analyzer Policy and Procedure.

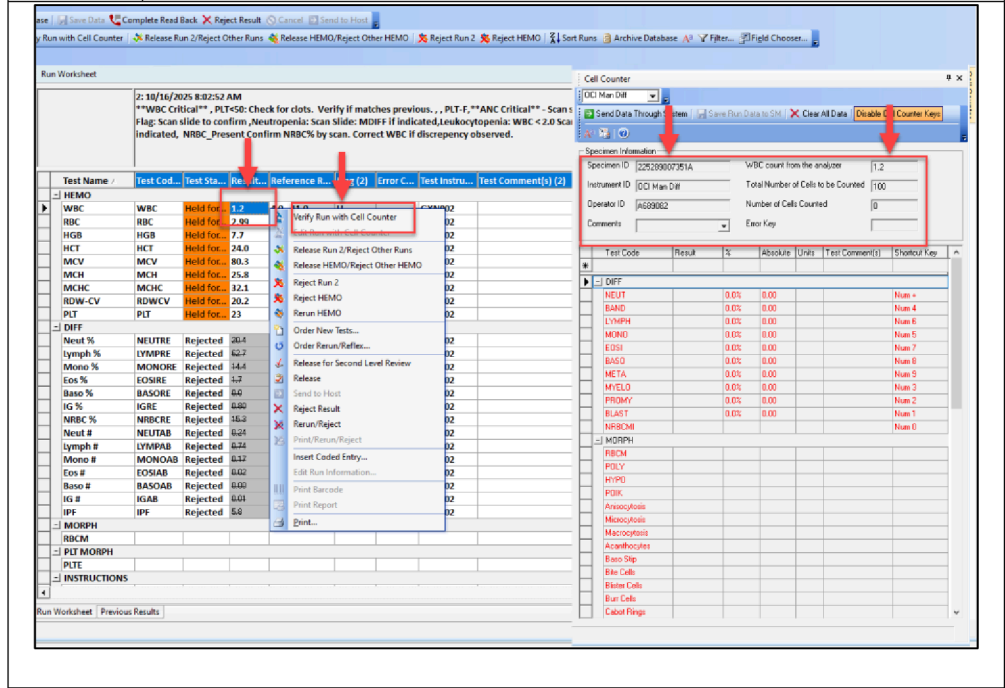
Manual Differential Using the Cell Counter

Step	Action
1	The Cell Counter window is where the manual differential is counted on the 10-key numeric keypad. To activate it from the Specimen Management Workspace, click on the Cell Counter tab on the right side of the window or go to the view menu, select panes, then select cell counter. Click on the drop-down arrow to choose your site-specific manual differential interface. The Cell Counter window will populate with White Blood Cell (WBC), Red Blood Cell (RBC), and Platelet parameters.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

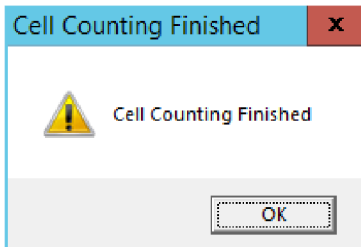


2 For your specimen to be pulled into the Cell Counter window and the absolute white cell values to be correct, you must first click on the WBC value in the Run Worksheet to highlight it. Then select the Verify Run with Cell Counter button on the toolbar. This brings the specimen into the cell counter. After doing so, you will now note that the LIS accession number is in the Specimen ID field, and the total WBC value is in the Total Absolute count field. Cells and counting keys are denoted in the first column.



Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

CRITICAL NOTE: Ensure that the “*WBC count from analyzer*” field is accurately populated with the correct WBC value. This step is essential for the precise calculation of all absolute parameters. Failure to verify this value may result in significant analytical errors and compromise the integrity of patient results.

3	<p>1. Cell Counter Keys If not enabled, click on 'Enable Cell Counter Keys' in the menu to use the Cell Counter keys. Use the number keys associated with each cell type to manually perform the differential until the number of cells counted matches the number to be counted.</p> <p>2. Manual Entry For the differential count manual, click on the cell type and manually enter the value for each cell type.</p> <p>Note: The Total Number of cells to be counted can be changed for differentials with very low White Blood Cell Count (WBC).</p>
4	<p>Once the cell counter reaches the total number of cells to be counted, a window will pop up to alert the user that the cell counting is finished.</p> 
5	<p>Morphology: This is where morphology and any appropriate comments are entered. Select the associated coded comment in the result field.</p> <ul style="list-style-type: none"> • RBCM is a required test field: Select (Reviewed) if RBC morphology is reported. Select (Normal) if the RBC morphology is normal. • PLTE is a required test field. Select the appropriate result from the coded results dropdown (Adequate, Decreased, Increased, Significantly Increased). <p>Note: Failure to result in either RBCM and/or PLTE will cause the sample to remain pending in the LIS.</p>

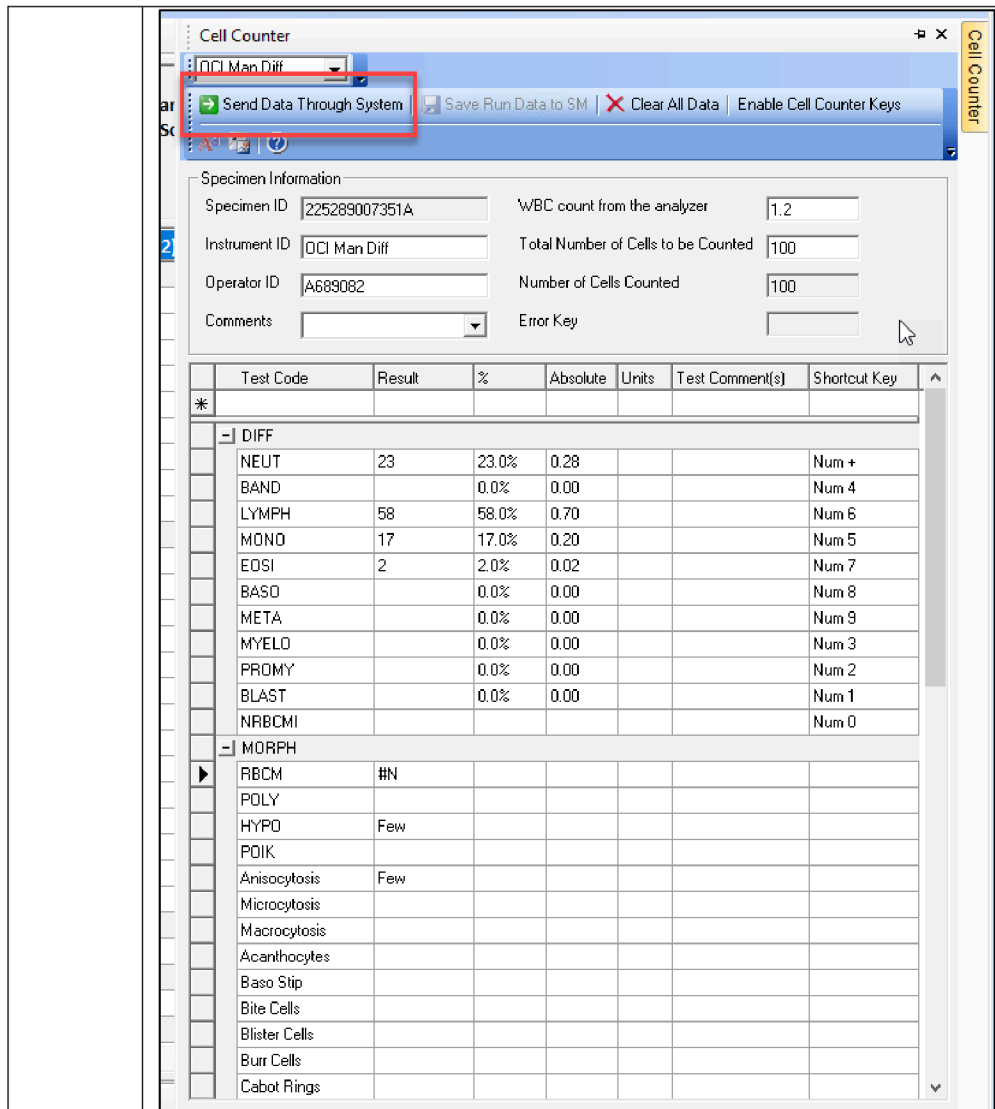
Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

The screenshot shows the 'Cell Counter' application window. At the top, there is a toolbar with buttons for 'Send Data Through System', 'Save Run Data to SM', 'Clear All Data', and 'Disable Cell Counter Keys'. Below the toolbar is the 'Specimen Information' section with fields for Specimen ID (225289007351A), Instrument ID (OCI Man Diff), Operator ID (A689082), and WBC count from the analyzer (1.2). The 'Total Number of Cells to be Counted' is set to 100, and 'Number of Cells Counted' is 0.

Test Code	Result	%	Absolute	Units	Test Comment(s)	Shortcut Key
* - DIFF						
NEUT		0.0%	0.00			Num +
BAND		0.0%	0.00			Num 4
LYMPH		0.0%	0.00			Num 6
MONO		0.0%	0.00			Num 5
EOSI		0.0%	0.00			Num 7
BASO		0.0%	0.00			Num 8
META		0.0%	0.00			Num 9
MYELO		0.0%	0.00			Num 3
PROMY		0.0%	0.00			Num 2
BLAST		0.0%	0.00			Num 1
NRBCMI						Num 0
* - MORPH						
RBCM						
POLY						
HYPD						
POIK						
Anisocytosis						
Microcytosis						
Macrocytosis						
Acanthocytes						
Baso Stip						
Bite Cells						
Blister Cells						
Burr Cells						
Cabot Rings						

6 After completing the count, morphology, and platelet estimate, click the "Send Data Through" button on the toolbar.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued



7

Once all the tabs in the Run Worksheet, Cellvision, or the Cell Counter have been reviewed, and manual results and comments have been entered, the sample is ready for release to Cerner.

Note: It is important to reject all other results/runs before releasing the results so that a single XN run, differential, either auto or manual, and morphology are released to Cerner simultaneously.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Smear Review and Manual Differential Using Cellavision

Step	Action
1	<p>To access the Cellavision software application, log in using the appropriate credentials. Navigate to the Database view to locate the relevant Sample ID. Select the Sample ID to open the corresponding slide in the PB Verification View.</p> <p>CRITICAL NOTE: Verify that the Sample ID is correctly associated with the patient demographics. If the patient information is absent, manually enter the patient demographics accordingly by right-clicking on the Order ID and selecting Edit Order Data.</p>

Search criteria

View latest 10/ 3/2025 and 10/10/2025 View all

Last name CRL

Show only exact matches

Order ID	Patient ID	First Name	Last Name	Signed by	Laboratory	Analyzed	Ordering Phys
2252750000694	Z2000019811	TEST 14	CRL	D279330	HD1602	2025-10-02 12:53	DUMMM/TEST

Order Data

Order ID*: _____ Patient ID: _____

Type of order*

WBC Number of WBCs to count: 100

RBC

PLT

STAT

First name: _____

Last name: _____

Birth date: 2025-03-05

Gender: Male Female

Ethnic origin: _____

Ward: _____

ICD code: _____

WBC count (x10e9/L): _____

RBC conc. (x10e12/L): _____

Sample date: 2025-03-05

Ordering physician: _____

Patient comment

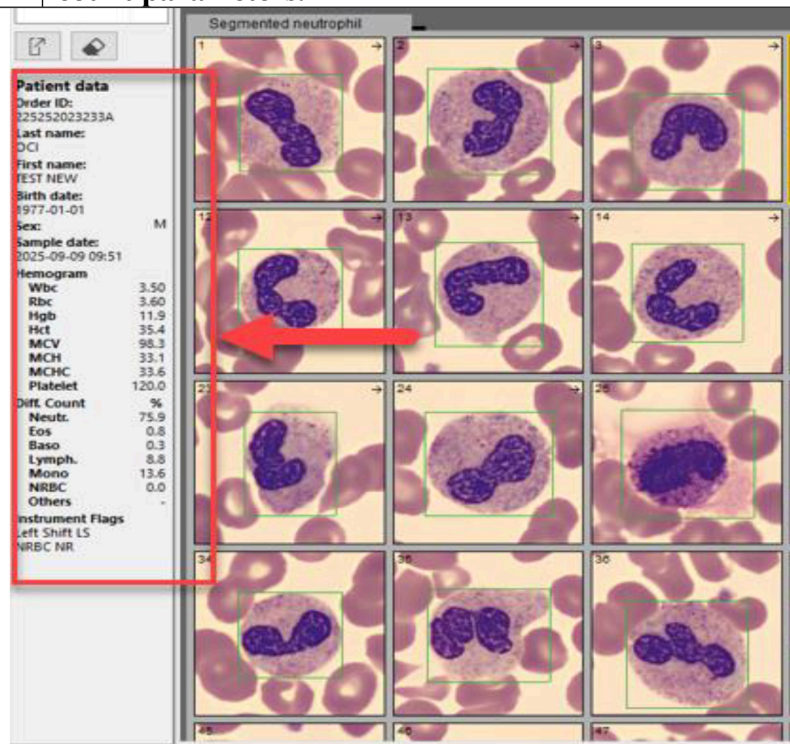
Additional Instrument Flags:


Close

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

- 2 Please ensure that the Patient Data screen is fully populated with the patient's information and the XN analyzer results. If this screen appears blank, manually input the WBC value in the designated edit screen.


Important Note: Failure to accurately enter the WBC value may result in incorrect calculation of the absolute WBC count parameters.



- 3 Please review each tab of the CBC parameters, including WBC, RBC, and PLT. If the cell counts for these parameters correlate with the automated results, select the 'Cell Confirm'  button to accept the results without performing a full manual differential.

If any abnormal cells are identified, conduct a manual differential on the smear.

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued



The screenshot shows the CellVision software interface. The top toolbar contains several icons, with the 'Sign Slide' icon (a document with a checkmark) highlighted by a red arrow. The main window displays a grid of microscopic images of blood cells, with a 'Basophil' and 'Lymphocyte' tab selected. A 'Patient data' panel is visible on the left side.

4	After reviewing all three tabs, please navigate to the 'Sign Slide' tab and sign the slide accordingly.
5	Once all the tabs in the Run Worksheet, Cellavision, or the Cell Counter have been reviewed, and manual results and comments have been entered, the sample is ready for release to Cerner.

Note: If a discrepancy is identified between the absolute count and the WBC count during data transfer from Cellavision to the Instrument Manager Workspace, the system will generate a flag to notify the user. Upon receiving this alert, the absolute values must be recalculated either through manual computation or by utilizing the Cell Counter functionality to ensure accuracy and maintain the integrity of patient results.

- DIFF							
Neut %	Held for ...	19	%		N	10/15/2025...	HD1602
Lymph %	Held for ...	70	%		N	10/15/2025...	HD1602
Mono %	Held for ...	3	%		N	10/15/2025...	HD1602
Eos %	Held for ...	3	%		N	10/15/2025...	HD1602
Baso %	Held for ...	1	%		N	10/15/2025...	HD1602
IG %							
NRBC %							
Blast %	Held for ...	2	%		N	10/15/2025...	HD1602
Neut #	Held for ...	Recalc...	x10 ³ ...		N	10/15/2025...	HD1602
Lymph #	Held for ...	Recalc...	x10 ³ ...		N	10/15/2025...	HD1602
Mono #	Held for ...	Recalc...	x10 ³ ...		N	10/15/2025...	HD1602
Eos #	Held for ...	Recalc...	x10 ³ ...		N	10/15/2025...	HD1602
Baso #	Held for ...	Recalc...	x10 ³ ...		N	10/15/2025...	HD1602
IG #							
NRBC #							

**Critical Call
 Documentation**

In the Specimen Worksheet and Run Worksheet, all critical results will be highlighted in Purple and grouped by their severity, whether Critical Low (LL) or Critical High (HH).

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Step	Action
1	Highlight the result to be called.

Specimen Worksheet

Run Worksheet

4: 10/21/2025 8:14:45 AM
 WBC Critical, PLT Asterisk Flag: Scan slide to confirm, PLT<50: Check for clots.
 Verify if matches previous. **ANC Critical** - Scan slide., IG Asterisk Flag: Scan slide
 to confirm, Neutropenia: Scan Slide: MDIFF if indicated, Leukocytopenia: WBC < 2.0
 Scan Smear. MDIFF if indicated, PLT_Abn_Distribution Review PLT, NRBC_Present
 Confirm NRBC% by scan. Correct WBC if discrepancy observed.

Test Name	Test Cod...	Test Sta...	Result...	Flag (4)	Err...	Test Instru...	Test C...	Read B...	Read ...
MEMO									
WBC	WBC	Held for...	1.3	LL		GXN902			
RBC	RBC	Held for...	2.97	L		GXN902			
HGB	HGB	Held for...	7.6	L		GXN902			
HCT	HCT	Held for...	23.9	L		GXN902			
MCV	MCV	Held for...	80.5	L		GXN902			
MCH	MCH	Held for...	25.6			GXN902			
MCHC	MCHC	Held for...	31.8			GXN902			
RDW-CV	RDWCV	Held for...	20.2	H		GXN902			
PLT	PLT	Held for...	20	L	W	GXN902			
DIFF									
Neut %	NEUTRE	Held for...	10.7		W	GXN902			
Lymph %	LYMPRE	Held for...	72.5		W	GXN902			
Mono %	MONORE	Held for...	5.3		W	GXN902			
Eos %	EOSIRE	Held for...	10.7			GXN902			
Baso %	BASORE	Held for...	0.0			GXN902			
IG %	IGRE	Held for...	0.80		W	GXN902			
NRBC %	NRBCRE	Held for...	14.6	H		GXN902			
Neut #	NEUTAB	Held for...	0.14	LL	W	GXN902			
Lymph #	LYMPAB	Held for...	0.95	L	W	GXN902			
Mono #	MONOAB	Held for...	0.07	L	W	GXN902			
Eos #	EOSIAB	Held for...	0.14			GXN902			
Baso #	BASOAB	Held for...	0.00			GXN902			
IG #	IGAB	Held for...	0.01		W	GXN902			
MORPH									
RBCM									
PLT MORPH									
PLT									
INSTRUCTIONS									

Specimen Information

Patient Name: OCI, TEST PATIENT
 Patient ID: ZZ000000058 Sex: M
 Specimen ID: 225289007351A Date of Birth: 12/12/1975
 Operator ID: 6000 Patient Comment(s):
 Ordering Physician: 2809189,DUMMY,TEST,
 Rack: 000174
 Position: 02
 Specimen Comment(s):
 ORDERED TESTS: ~CBC
 Location - Facility: NP OCI Lab
 Location - Room:
 Location - Bed:

2	Click on the Complete Read Back Icon
---	--------------------------------------

Release | Save Data | Complete Read Back | Reject Result | Cancel | Send to Host

Verify Run with Cell Counter | Release Run # | Reject Other Runs | Release Group/Reject Other


3	Enter the NUID or the full name and title of the person called in the box and click the OK button.
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Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Test Name /	Test Cod...	Test Sta...	Result...	Flag (4)	Err...	Test Instru...	Test C...	Read B...	Read ...	Te
- HEMO										
WBC	WBC	Held for...	1.3	LL		GXN902				
RBC	RBC	Held for...	2.97	L		GXN902				
HGB	HGB	Held for...								
HCT	HCT	Held for...								
MCV	MCV	Held for...								
MCH	MCH	Held for...								
MCHC	MCHC	Held for...								
RDW-CV	RDWCV	Held for...								
PLT	PLT	Held for...								
- DIFF										
Neut %	NEUTRE	Held for...								
Lymph %	LYMPRE	Held for...								
Mono %	MONORE	Held for...	5.3		W	GXN902				
Eos %	EOSIRE	Held for...	10.7			GXN902				
Baso %	BASORE	Held for...	0.0			GXN902				
IG %	IGRE	Held for...	0.80		W	GXN902				
NRBC %	NRBCRE	Held for...	14.5	H		GXN902				
Neut #	NEUTAB	Held for...	0.14	LL	W	GXN902				
Lymph #	LYMPAB	Held for...	0.95	L	W	GXN902				

Complete Read Back on Selected Test(s)

Please enter the required information for the respondent.



OK Cancel

4 Once documentation is completed, the NUID or the name of the person called should be shown on your Run worksheet and marked with a ✓ on the read-back status.

Test Name /	Test Cod...	Test Sta...	Result...	Flag (4)	Err...	Test Instru...	Test C...	Read Back ...	Read Back Status ...
- HEMO									
WBC	WBC	Held for...	1.3	LL		GXN902		A123456	✓
RBC	RBC	Held for...	2.97	L		GXN902			
HGB	HGB	Held for...	7.6	L		GXN902			
NRBC %	NRBCRE	Held for...	14.5	H		GXN902			
Neut #	NEUTAB	Held for...	0.14	LL	W	GXN902		A123456	✓
Lymph #	LYMPAB	Held for...	0.95	L	W	GXN902			
Mono #	MONOAB	Held for...	0.07	L	W	GXN902			
Eos #	EOSIAB	Held for...	0.14			GXN902			

Calculations

The Data Innovation Instrument Manager performs the following Calculations

Manual Differential Absolute Calculations

- $WBC \times (NEUT\% + BAND\%) / 100 = ANC$
- $WBC \times (LYMPH\% + ATYLY\%) / 100 = ALC$
- $(MONO\% \times WBC) / 100 = MONOAB$
- $(EOS\% \times WBC) / 100 = EOSAB$
- $(BASO\% \times WBC) / 100 = BASOAB$

Continued on next page

Data Innovation (DI) Instrument Manager Hematology Workspace Middleware for Sysmex XN and XN-L Series Analyzer, Continued

Interpretation None

Limitations None

Controlled Documents The following controlled documents support this policy.

Author(s) Hematology-Urinalysis Working Group

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Signature Manifest

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Hematology Regional Docs

Operations Director Approval

Name/Signature	Title	Date	Meaning/Reason
Annaleah Raymond (Q741709)	Laboratory Operations Director	30 Dec 2025, 04:54:11 PM	Approved

Medical Director Approval

Name/Signature	Title	Date	Meaning/Reason
Mark Taira (P161328)	CLIA Director	05 Jan 2026, 07:42:26 AM	Approved