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DATA INNOVATION INSTRUMENT MANAGER TRAINING GUIDE

1. SYSTEM OVERVIEW

- Data Innovation Instrument Manager (IM) is in Citrix National Application Portal.

From the desktop, locate the Regional Application Portal icon and double-click it. Alternatively, click the start menu and select the Regional Applications Portal.	
Click on the National Applications Portal link.	National Applications Portal
Double-click on the Instrument Manager SCAL DR (1) icon.	
Double-click on the Instrument Manager SCAL icon.	 Instrument Manager_SCAL
Log in using your NUID for your User ID and your Windows password for the password. Click the “Accept and Login” button.	

DATA INNOVATION INSTRUMENT MANAGER TRAINING GUIDE

2. STARTING AND EXITING INSTRUMENT MANAGER

- Instrument Manager is the flagship connectivity from Data Innovation (Middleware)
- MAIN MENU (The menu displayed might be different depending on user access)

 Instrument Manager by Data Innovations LLC

System Configuration Diagnostics Security Specimen Management SSR DC SP MM MA Laboratory Intelligence Reports Window Help Launch DI Gateway

1. System
2. Configuration
3. Diagnostics
4. Security
5. Specimen Management
6. Reports
7. Window
8. Help
9. Launch DI Gateway

○ SYSTEM

Logon	It takes you back to the Login window
Logoff	Logoff user from the Instrument Manager
Change Language Locale	Change the IM Locale to other departments if applicable (Keep at Kaiser Southern California Hematology)
Status	Opens a status screen showing interfaces/instrument statuses
Shutdown	Shutdown the interface of IM (Do not Shutdown)
Status of Instrument Manager Session	Show the status of the IM session that is currently running.
Triggered Notifier Events	
Exit	Exit the IM window.

- **CONFIGURATION**
Changes the configuration, setting, and rules of the IM (Super Users & DI operators ONLY)

○ DIAGNOSTICS

Communication Trace	Comm Trace troubleshoots the system and monitors the devices' external communication.
List Communications Trace Status for all Connection	
Loopback Test	

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Specimen Event Log	Specimen Event Logs hold all the information regarding that specimen.
System Log	IM's diagnostic feature can examine the system's configuration changes. The system log records these changes and information about them and who made them.

○ SECURITY

System Setup	
Users and Group	
Reset all form layouts.	

○ SPECIMEN MANAGEMENT

SM Workspace	
Patient and Order Management	
Rapid Order Entry	
Manual Result Entry	

○ REPORTS

Reports are accessible by Superuser with Admin Access and DI operators only.

○ WINDOW

All the options contained in this menu correspond to customizing how your window will look.

○ HELP

This menu contains Help resources such as the user guide and information about the instrument manager.

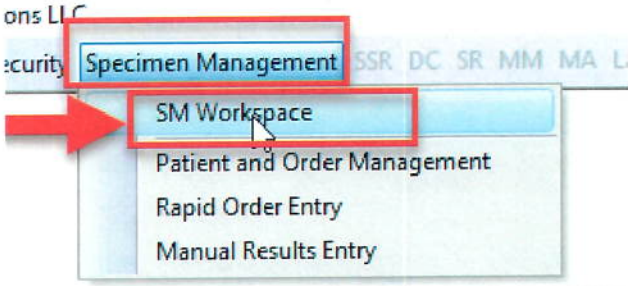
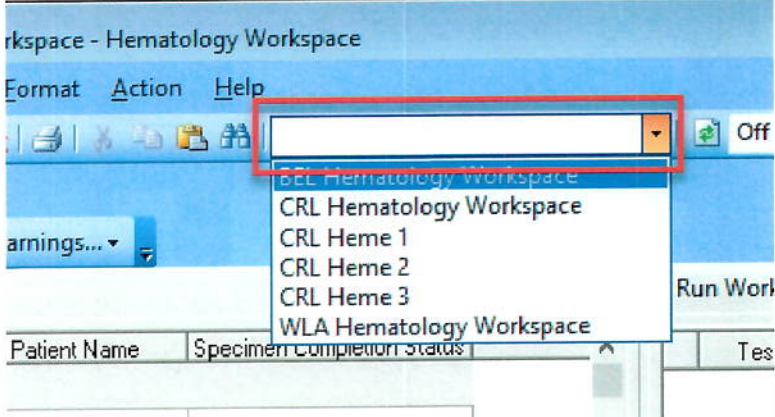
○ LAUNCH GATEWAY

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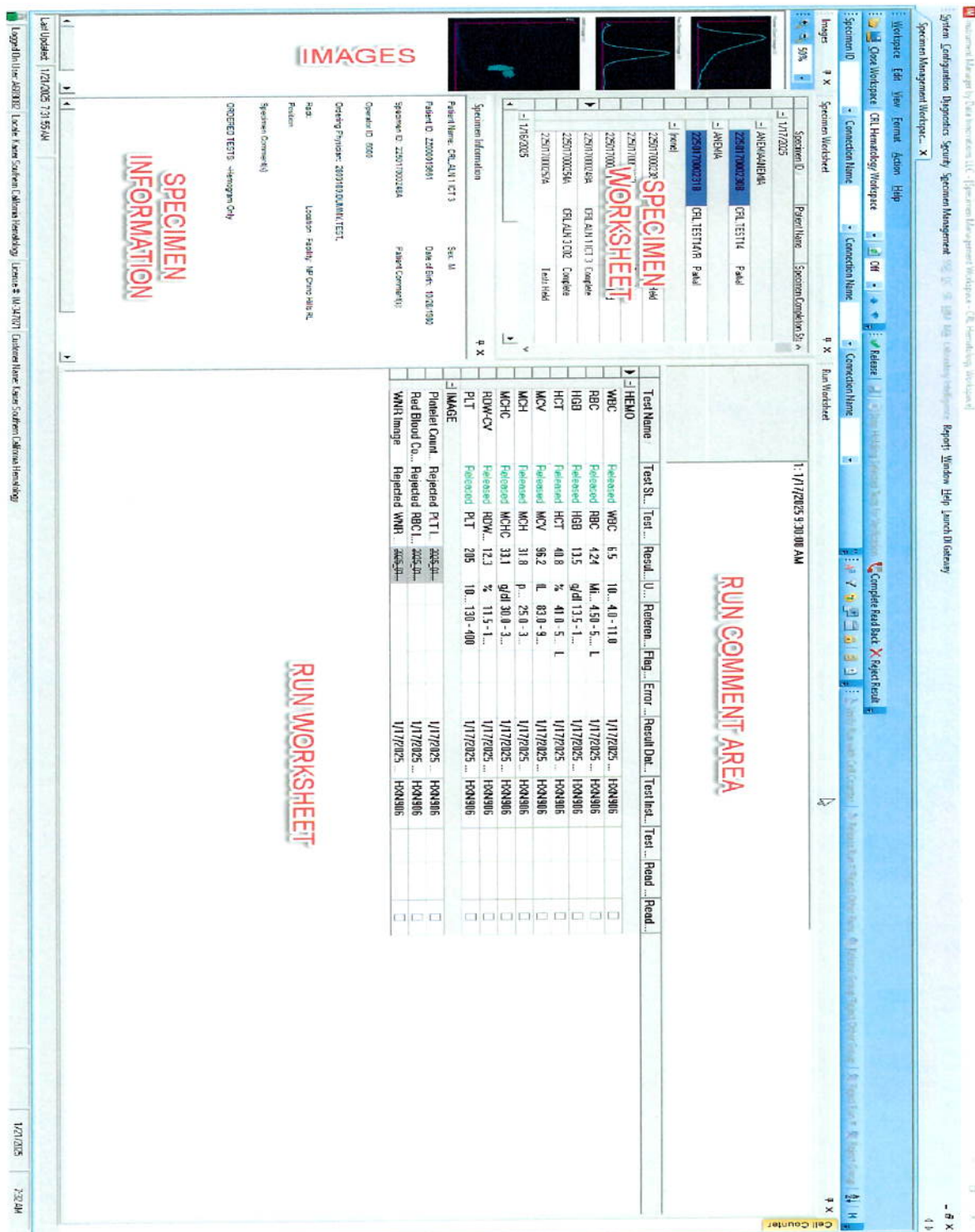
3. SPECIMEN MANAGEMENT WORKSPACE

- **Workspace**

Specimen management has access to all the workspaces available in the SCAL region. Please make sure to select the appropriate workspace for your site.

From the main menu, click on Specimen Management and select the SM Workspace.	 The screenshot shows a main menu with 'Specimen Management' highlighted by a red box. A red arrow points to the 'SM Workspace' option, which is also highlighted by a red box. Other options visible include 'Patient and Order Management', 'Rapid Order Entry', and 'Manual Results Entry'.
Click on the drop-down menu once the workspace window opens.	 The screenshot shows the 'Hematology Workspace' window. A drop-down menu is open, displaying several options: 'CRL Hematology Workspace', 'CRL Heme 1', 'CRL Heme 2', 'CRL Heme 3', and 'WLA Hematology Workspace'. The drop-down menu is highlighted with a red box.
Select the instrument workspace corresponding to your site from the drop-down menu.	

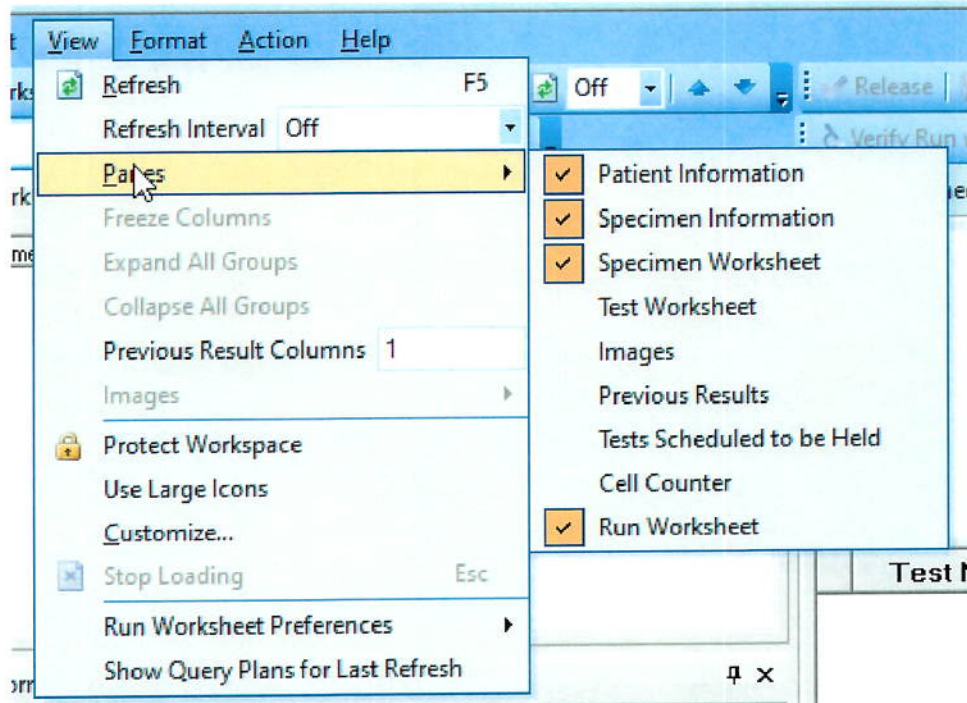
SM Workspace



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- **VIEW > PANES**

The View > Pane's menu opens the different windows available in the SM Workspace



- 1. IMAGES**

This PANE shows the histogram associated with the sample ID selected

- 2. SPECIMEN WORKSHEET**

This PANE will display all the sample IDs based on the specimen status (Test Held, Partial, or Completed). It also shows the Order priority (STAT, Routine), Specimen ID, Patient Name, and date.

- 3. SPECIMEN INFORMATION**

This PANE will display the selected patient's demographic information. This information includes the Patient's Name, Patient ID (MRN), Specimen ID, Operator ID, Sex, Date of Birth, Patient Comments, Ordering Physician, Rack, and Position.

- 4. CELL COUNTER**

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This PANE will display the Cell Counter window. The cell counter window is used for CBC Differential, Morphology, and platelet estimate. It can also perform body fluid differential, fluid assessment, and manual cell count.

5. PREVIOUS RESULTS

This PANE will display the last result for the past thirty (30) days of patient run.

6. RUN WORKSHEET

This PANE will display the test results, different runs, release or rejected results, appropriate flags, operator instructions, and information on troubleshooting the specimen.

○ COLOR-CODED

IM will highlight sample IDs and results with a different color to assist users in identifying varying statuses.

No Color		Routine
Gray		Cancelled Test
Purple		Critical Result
Pink		Anemia Panel
Red		STAT Order
Green		Delta Checks
Orange		Held For Verification

- Sample Location
- Specimen Worksheet
- Run Worksheet
- Run Comment
- Test Instrument Field
- Result and Result Status Codes

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4. RESULT VALIDATION

- When running samples on the XN analyzers, the analyzer queues DI for any discrete test for the specimen ID being run. Results are sent back to the instrument manager, and based on the onboard rules, the specimen IDs are either completed, held, or partially released.
- A list of the Specimen IDs being held or partially released can be found on the SPECIMEN WORKSHEET Pane.

Specimen Worksheet 🔍 ✕

Specimen ID /	Patient Name	Specimen Completion Sta
- 1/17/2025		
- ANEMIAANEMIA		
▶ 225017000230B	CRL,TEST14	Partial
- ANEMIA		
225017000231B	CRL,TEST14YR	Partial
- (none)		
225017000230B		Tests Held
225017000230B		Tests Held
225017000231B		Tests Held
225017000248A	CRL,ALN 1 ICT 3	Complete
225017000254A	CRL,ALN 3 C02	Complete
225017000257A		Tests Held
- 1/16/2025		

- Click on the Specimen ID to retrieve the results, which will be displayed on the RUN WORKSHEET Pane

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Workspace | Reports Window Help Launch DI Gateway

Run Worksheet

1: 1/7/2025 11:49:32 AM
WBC Low Delta Failure - Investigate. Verify Results. HGB Low Delta Failure - Investigate. Verify Results. MCV High Delta Failure - Investigate. Verify Results. Abnormal MCV: Review RBC Morph. PLT High Delta Failure - Investigate. Verify Results. Macrocytosis: Macrocytosis

RUN COMMENT → **RESULT (1)**

Test Name	Test Status (1)	Test Code	Result (1)	Error	Unit	Reference R	Flag (1)	Test Co	Test Instr	Result D	Rea
HEMO											
WBC	Held for Verification	WBC	4.1		10 ³ ...	4.0 - 11.0	. DELTA		DXN901	1/7/2025...	
RBC	Held for Verification	RBC	2.40		Milli/L	4.50 - 5.90	L		DXN901	1/7/2025...	
HGB	Held for Verification	HGB	9.2		g/dl	13.5 - 17.5	L, DELTA		DXN901	1/7/2025...	
HCT	Held for Verification	HCT	29.6		%	41.0 - 51.0	L		DXN901	1/7/2025...	
MCV	Held for Verification	MCV	123.3		fL	83.0 - 98.0	H, DELTA		DXN901	1/7/2025...	
MCH	Held for Verification	MCH	38.3		pg/cell	25.0 - 35.0	H		DXN901	1/7/2025...	
MCHC	Held for Verification	MCHC	31.1		g/dl	30.0 - 35.0			DXN901	1/7/2025...	
RDW-CV	Held for Verification	RDWCV	19.2		%	11.5 - 16.0	H		DXN901	1/7/2025...	
PLT	Held for Verification	PLT	884		10 ³	130 - 400	H, DELTA		DXN901	1/7/2025...	
INSTRUCTIONS											
RUN COMMENTS	Rejected	RUN COM	PRESENT							1/7/2025...	
(none)											
Macrocytosis	Rejected	FRA05	PRESENT						DXN901	1/7/2025...	

TEST NAME **TEST STATUS**

- **RUN COMMENT**

The Run Comment area of the Run Worksheet will display flags and rule comments for the displayed specimen. Like WAM's OPAlert

- **TEST NAME**

- **TEST STATUS**

The Test status will display the status of each test or test group.

1. Held for Verification
2. Rejected
3. Released

- **RESULT**

The result field is also denoted with a number corresponding to the run number. Subsequent numbers will denote multiple runs or repeats.

- **UNIT**

- **REFERENCE RANGE**

When validating results in the workspace, deciding what needs to be rejected versus released before results are released to Cerner is vital. **Once you have done so, rejecting results you do not want is preferred before releasing any that you do. This is most important in the following scenarios.**

- **Multiple runs from the instrument.**

Example: An individual CBC parameter reflexed a run based on individual rules. You would need first to reject the run that you do not want to be released before you release all other results.

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Run 1 (Result (1))

Run 2 (Result (2))

Rejected results are crossed out

Released result

Right click on the run you want to release and select [Release Run #/Reject Other Runs]

- 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.

Run 1 (Result (1))

Run 2 (Result (2))

AutoDiff

Cellavision Differential

Right click on the Auto Diff run you want to Reject select [Reject Diff]

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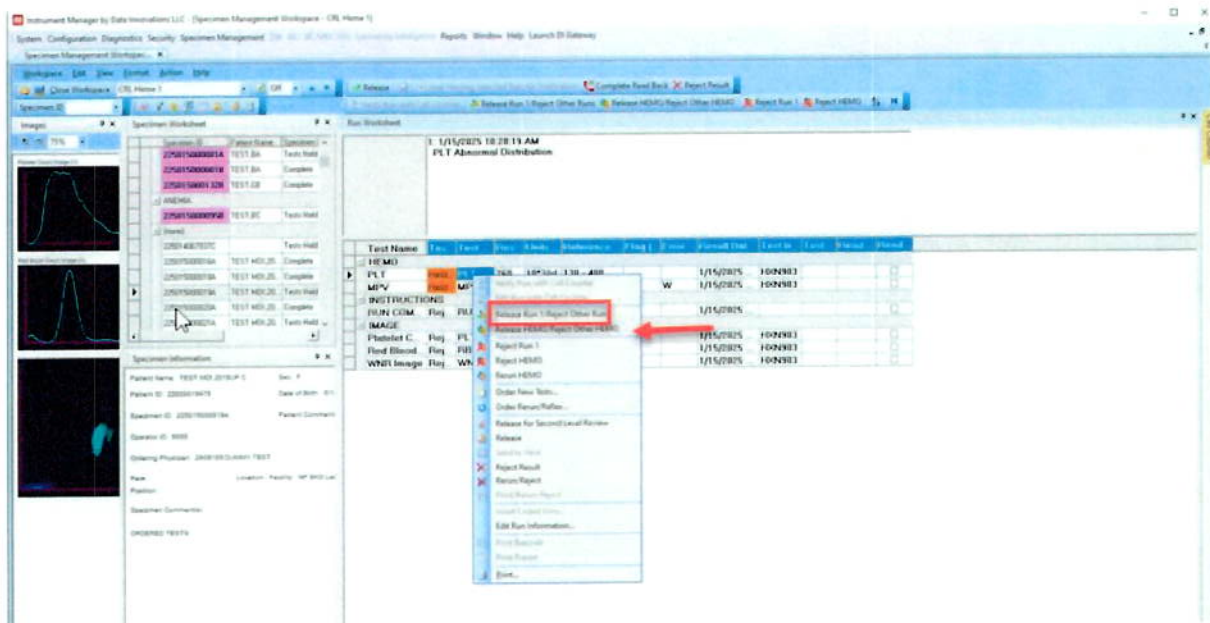
- Using the IM Cell Counter to perform a manual differential. If a manual differential were performed in the IM Cell Counter, you would want to reject the auto diff from the CBC run that you want to release so that the manual differential is released to Cerner.

DATA INNOVATION INSTRUMENT MANAGER TRAINING GUIDE

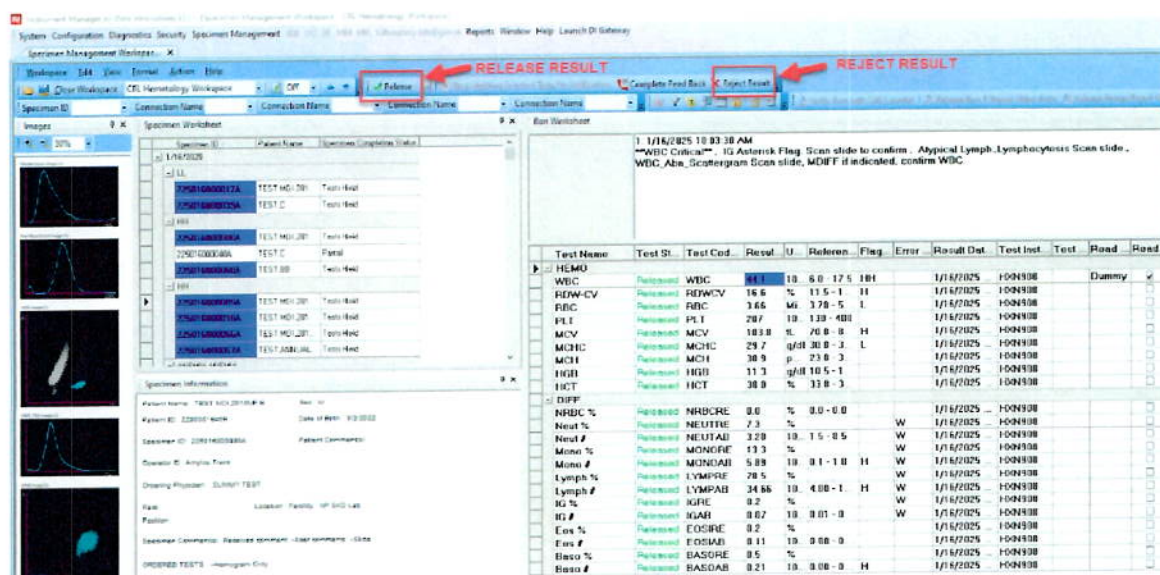
5. REJECTING AND RELEASING RESULTS

There are different ways 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.



- You can select an individual result or test group and select the icons in the toolbar to reject or release.



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- You can release or reject an entire run using the icons in the toolbar or by right-clicking on the run and selecting Release Run #/Reject Other Runs or Reject Run #

ow Help Launch DI Gateway

Run Worksheet

1: 1/16/2025 10:03:30 AM
WBC Critical , IG Asterisk Flag: Scan slide to confirm , Atypical Lymph: Lymphocytosis Scan slide.,
WBC_Abn_Scattergram Scan slide, MDIFF if indicated, confirm WBC.

2: 1/16/2025 10:30:00 AM

Right Click on the result tab

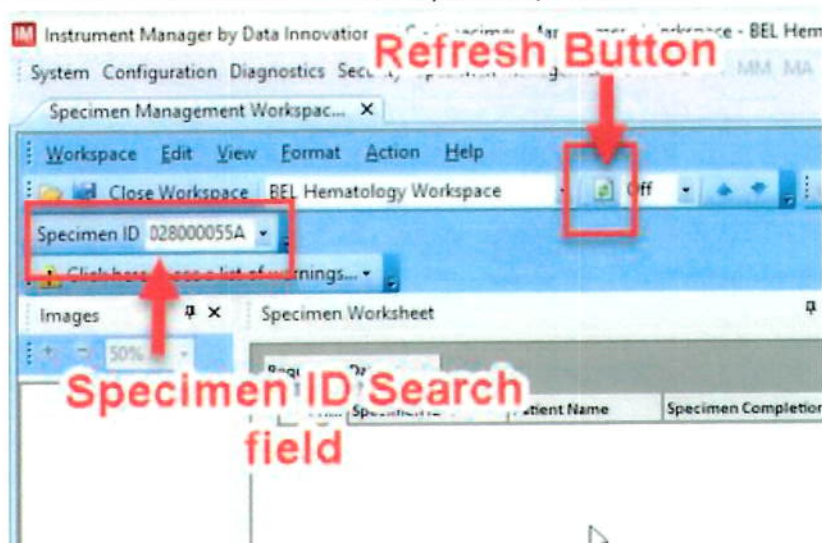
RELEASE OR REJECT A RUN USING THESE

Test Name	Test St...	Test Cod...	Result...	Referen...	Flag...	Error...	Result Dat...	Test St...	Test ...	Read ...	Read...	Test St...	Test Cod...	Result...
Verify Run with Cell Counter														
HEMO														
WBC	Released	WBC	44.1				5/2025 ...	HXN908		Dummy	☒			
RDW-CV	Released	RDWCV	16.6				5/2025 ...	HXN908			☐			
RBC	Released	RBC	3.66				5/2025 ...	HXN908			☐			
PLT	Released	PLT	207				5/2025 ...	HXN908			☐			
MCV	Released	MCV	103.0				5/2025 ...	HXN908			☐			
MCHC	Released	MCHC	29.7				5/2025 ...	HXN908			☐			
MCH	Released	MCH	30.9				5/2025 ...	HXN908			☐			
HGB	Released	HGB	11.3				5/2025 ...	HXN908			☐			
HCT	Released	HCT	38.0				5/2025 ...	HXN908			☐			
Order New Tests...														
Order Run/Patient...														
Release for Second Level Review														
NRBC %	Released	NRBCRE	0.0				5/2025 ...	HXN908			☐			
Neut %	Released	NEUTRE	7.3				5/2025 ...	HXN908			☐			
Neut #	Released	NEUTAB	3.20				5/2025 ...	HXN908			☐			
Mono %	Released	MONORE	13.3				5/2025 ...	HXN908			☐			
Mono #	Released	MONOAB	5.89				5/2025 ...	HXN908			☐			
Lymph %	Released	LYMPRE	78.5				5/2025 ...	HXN908			☐			
Lymph #	Released	LYMPAB	34.66				5/2025 ...	HXN908			☐			
IG %	Released	IGRE	0.2				5/2025 ...	HXN908			☐			
IG #	Released	IGAB	0.07				5/2025 ...	HXN908			☐			
Eos %	Released	EOSIRE	0.2				5/2025 ...	HXN908			☐			
Eos #	Released	EOSIAB	0.11				5/2025 ...	HXN908			☐			
Baso %	Released	BASORE	0.5				5/2025 ...	HXN908			☐			
Baso #	Released	BASOAB	0.21				5/2025 ...	HXN908			☐			
MORPH														

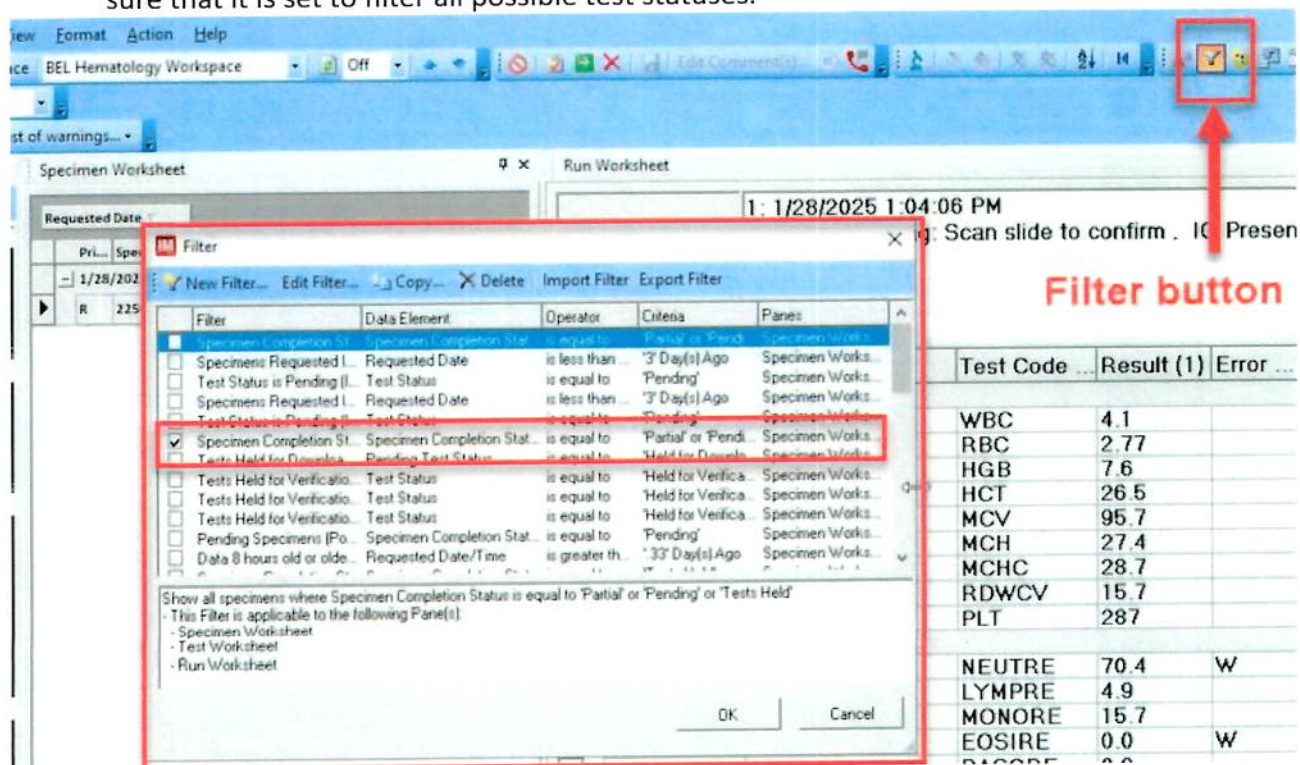
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6. SEARCHING A SPECIMEN ID

- From the specimen Workspace, type the accession number in the Specimen ID search bar.
- Click on the refresh button to retrieve the specific specimen ID



- If IM does not retrieve the specimen, check the specimen worksheet's filter to make sure that it is set to filter all possible test statuses.



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7. RERUN/REPEATING WORKFLOW

○ REPEATING A RUN

1. To retrieve the sample, identify the rack and location of the specimen to be repeated in the IM workspace, right-click on the acc#, and click on specimen tracking

The screenshot shows the 'Instrument Manager by Data Innovations LLC' interface. The 'Specimen Tracking' button is highlighted in the left sidebar. The main window displays a list of test results for specimen 225028000088A. The tests include WBC, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, and PLT. The results are shown in a table with columns for Test Name, Test Status, Test Code, Result, Error, Unit, Reference R, Flag, Test Co, Test Instr, Result D, and F.

Test Name	Test Status (1)	Test Code	Result (1)	Error	Unit	Reference R	Flag (1)	Test Co	Test Instr	Result D	F
WBC	Hold for Verification	WBC	2.3		10 ³	4.0 - 11.0	L	DXN903	12/8/202		
RBC	Hold for Verification	RBC	3.67	W	MsbH/L	3.70 - 6.20	L	DXN903	12/8/202		
HGB	Hold for Verification	HGB	8.4		g/dl	11.5 - 16.0	L	DXN903	12/8/202		
HCT	Hold for Verification	HCT	29.4	W	%	35.0 - 47.0	L	DXN903	12/8/202		
MCV	Hold for Verification	MCV	82.4	W	fL	81.0 - 99.0	L	DXN903	12/8/202		
MCH	Hold for Verification	MCH	23.5	W	pg/cell	25.0 - 35.0	L	DXN903	12/8/202		
MCHC	Hold for Verification	MCHC	28.6	W	g/dl	30.0 - 35.0	L	DXN903	12/8/202		
RDW-CV	Hold for Verification	RDWCV	29.5	W	%	11.5 - 16.0	H	DXN903	12/8/202		
PLT	Hold for Verification	PLT	118	W	10 ³	130 - 400	L	DXN903	12/8/202		
DIFF											
Neut %	Hold for Verification	NEUTRE	62.4	W	%			DXN903	12/8/202		
Lymph %	Hold for Verification	LYMPRE	28.2	W	%			DXN903	12/8/202		
Mono %	Hold for Verification	MONORE	12.8	W	%			DXN903	12/8/202		
Eos %	Hold for Verification	EOSIRE	4.8	W	%			DXN903	12/8/202		
Baso %	Hold for Verification	BASORE	0.8	W	%			DXN903	12/8/202		
IG %	Hold for Verification	IGRE	0.90	W	%			DXN903	12/8/202		
NRBC %	Hold for Verification	NRBCRE	1.8	W	%	0.0 - 0.0	H	DXN903	12/8/202		
Neut #	Hold for Verification	NEUTAB	1.18	W	10 ³	1.80 - 7.70	L	DXN903	12/8/202		
Lymph #	Hold for Verification	LYMPAB	0.64	W	10 ³	1.00 - 3.60	L	DXN903	12/8/202		
Mono #	Hold for Verification	MONOAB	0.29	W	10 ³	0.10 - 1.60	L	DXN903	12/8/202		
Eos #	Hold for Verification	EOSAB	0.11	W	10 ³	0.00 - 0.70	L	DXN903	12/8/202		
Baso #	Hold for Verification	BASOAB	0.02	W	10 ³	0.00 - 0.20	L	DXN903	12/8/202		
IG #	Hold for Verification	IGAB	0.02	W	10 ³	0.01 - 0.05	L	DXN903	12/8/202		
IPF											
INSTRUCTIONS											
RUN COMMENTS	Rejected	RUN COM	RECEIVED							12/8/202	
SMEAR	Rejected	SMEAR	RECEIVED							12/8/202	
IMAGE											
Platelet Count Image	Rejected	PLT Image	RECEIVED							12/8/202	
PLT F Image	Rejected	PLT F Image	RECEIVED							12/8/202	
Red Blood Count Image	Rejected	RBC Image	RECEIVED							12/8/202	

2. It will take you to the Specimen Event log window, highlighting the specimen Tracking View.

The screenshot shows the 'Specimen Event Log' window. The 'Specimen Tracking View' button is highlighted in the top right. The main window displays a table of specimen events. The columns are Specimen ID, Event Date/Time, Origin Connection, Destination Connection, Message Type, Rack/Carrier ID/Y, and Cup/Position/X.

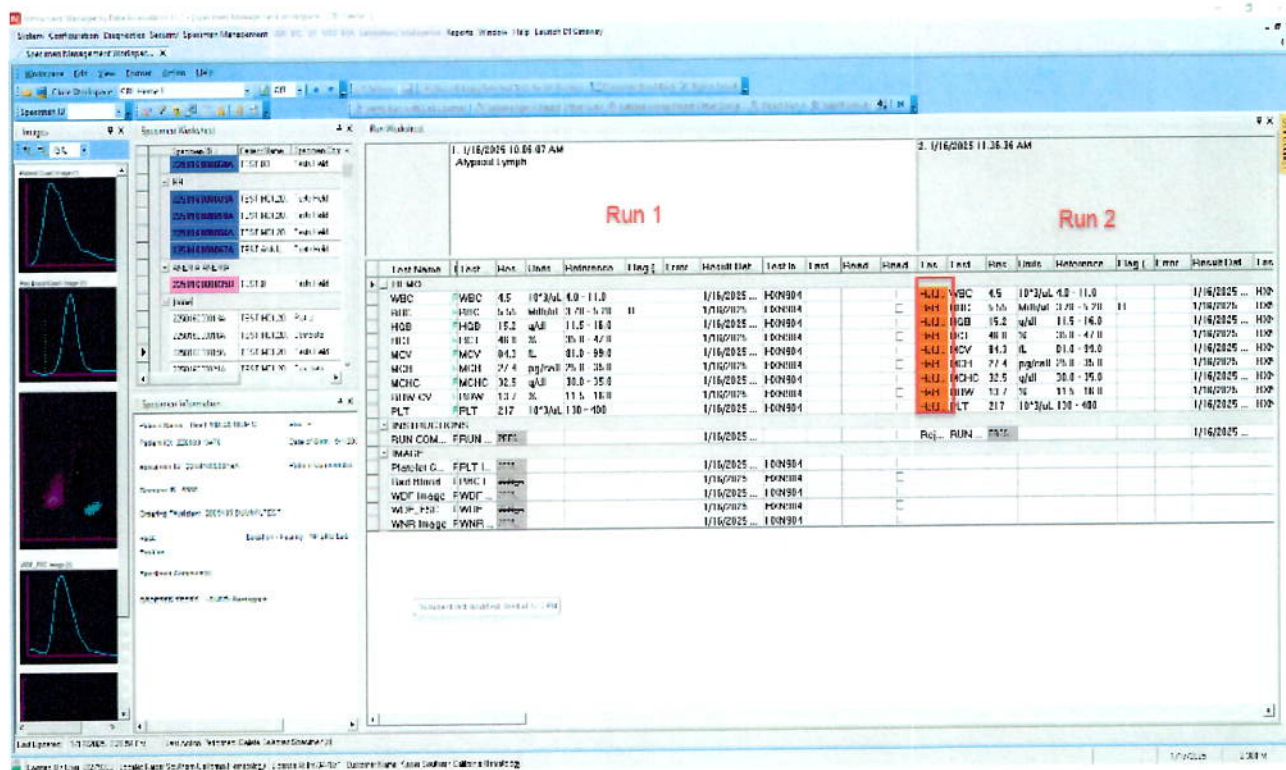
Specimen ID	Event Date/Time	Origin Connection	Destination Connection	Message Type	Rack/Carrier ID/Y	Cup/Position/X
225028000088A	1/28/2025 1:13:48 PM	BEL\N9000 Results	BEL Cermer Result	result		
225028000088A	1/28/2025 1:13:48 PM	BEL\N9000 Results	BEL Cermer Result	validate		
225028000088A	1/28/2025 1:13:48 PM	BEL\N9000 Results	BEL D160	request		
225028000088A	1/28/2025 1:13:48 PM	BEL\N9000 Results	BEL\N9000 Res	request		
225028000088A	1/28/2025 1:12:01 PM	BEL\N9000 Results	BEL Cermer Result	result		
225028000088A	1/28/2025 1:12:01 PM	BEL\N9000 Results	BEL Cermer Result	validate		
225028000088A	1/28/2025 1:12:01 PM	BEL\N9000 Results	BEL\N9000 Res	request		
225028000088A	1/28/2025 1:02:15 PM	BEL\N9000 Results	BEL Cermer Result	status	000003	03
225028000088A	1/28/2025 12:54:29 PM	BEL Cermer Orders	BEL\N9000 Ord	request		

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3. Rerun the sample using the manual mode ONLY. Make sure the read ID button is unchecked. The accession number must be scanned or entered manually to be processed. IM will not queue for a test order.

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

4. Select the discrete test needed for the rerun. CBC is automatically selected (Default)
5. Reruns will show in IM Workspace as separate runs with separate "Run Comments" and will be held.



6. Choose the appropriate comment under the Test Comment column using the drop-down before releasing the run.

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- REPEATING WITH DILUTION

- REPEATING WITH SALINE REPLACEMENT

- REPEATING WITH INCUBATION

1. Repeating a sample with a dilution, Saline replacement, or Incubation is like repeating a run workflow
2. After retrieving the sample and performing any offline manipulation (e.g., dilution, saline replacement, or incubation), rerun the sample using manual mode ONLY.
3. Make sure the read ID button is unchecked. The accession is entered manually in a specific way, depending on whether the repeat is to be appropriately processed by IM. IM will not queue for a test order.
 - Dilution – Enter the sample accession followed by “x” and the dilution factor
 - Saline replacement – Enter the sample accession followed by “-SAL”
 - Incubation – Enter the sample accession followed by “-INC.”
4. Select the appropriate run you want to reject and release.

NOTE: The WBC and Platelet result for Saline Replacement is automatically rejected. Select and release the original WBC and Platelet results.

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8. WBC DIFFERENTIAL

WBC Differential can be performed using the Cellavision or the IM Cell Counter.

The Cell Counter window counts the manual differential on the 10-key numeric keypad and a microscope.

USING THE CELLAVISION

1: 1/16/2025 10:02:57 AM
WBC Critical Flag: Scan slide to confirm. Blasts/Abr_Lympha? Lymphocytosis Scan slide.

2: 1/16/2025 11:01:54 AM

Run 1 (Result (1))

Run 2 (Result (2))

Right click on the Auto Diff run you want to Reject select [Reject Diff]

Cellavision Differential

AutoDiff

1/21/2025 9:22 AM

USING THE IM CELL COUNTER

1. To activate and populate the WBC and patient demographics on the cell counter, you must first click on the WBC value in the Run Worksheet to highlight it.
2. Right-click and select the Verify Run with Cell Counter button on the toolbar. This brings the specimen to the cell counter.

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Cell Counter

BE **BF Diff**

Send Data Through System | Save Run Data to SM | Clear All Data | Enable Cell Counter Keys

Specimen Information

Instrument ID: [] Total Number of Cells to be Counted: [0]

Operator ID: A689082 Number of Cells Counted: [0]

Comments: []

Enable the cell counter to use the number-keys to perform the differential.

Test Code	Result	Units	
* []			
BFVOL			
XANTHR			
COLRBF			
APPBF			
RBCBF			
WBCBF			
TCBF			
TNCREM			
FNEUT	0		Num +
FLYMP	0		Num 6
FMONO	0		Num 5
FEOSI	0		Num 7
FBASO	0		Num 8
FMESO	0		Num 4
FOTHER	0		Num 1

Number keys shortcut for differential

5. Manual Entry

- For the manual of the differential count, click on the cell type and manually type in the value for each cell type.

NOTE: The Total Number of Cell to be Counted can be changed for differential with very low White Blood Cell Count (WBC)

Morphology:

This is where morphology and any appropriate comments are entered. Select the associated coded comment in the result field.

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6. RBCM is a required test field: Select (Reviewed) if RBC morphology is reported.
Select (Normal) if the RBC morphology is normal.
7. PLTE is a required test field. Select the appropriate result from the coded results dropdown (Adequate, Decreased, Increased, Significantly Increased).

NOTE: Failure to result in either RBCM and/or PLTE will cause the sample and the LIS to remain pending.

	Test Code	Result	%	Absolute	Units	Test Comment(s)	Shortcut Key
*							
	NRBCMI						Num 0
-	MORPH						
	RBCM						
	POLY						
	HYPD						
▶	POIK						
	Anisocytosis						
	Microcytosis						
	Macrocytosis						



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9. COMMENTS

Specimen comments can be added to the Test Comments section of the Run Worksheet OR the Cell Counter

○ Run Worksheet

Test Name	Result (2)	Unit	Reference Range	FLAG (2)	Result Date/Time	Test Reviewer Comment	Test Status	Read Back Comments (2)	Test Comment
MCHC	30.8	g/dL	31 - 37	L	12/16/2024 9:36:57 AM		Held for Verification		Cold agglutinin present. CBC
Platelet	255	$\times 10^3$	150 - 450		12/16/2024 9:36:57 AM		Held for Verification		Platelet clumps present which

○ Cell Counter

COMMENTS

DIFCOM	
PLTCOM	
PLT	#PCA
RDWCV	

If you have replaced a numeric result with a comment, you must go to the Cerner and verify the results.

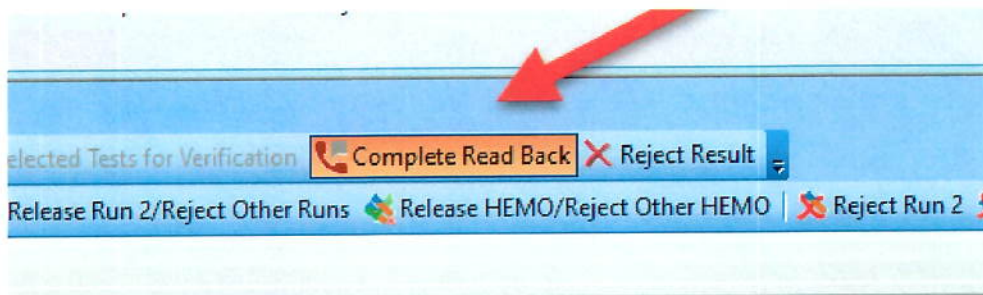
- **Example:** PLT comments in the PLT test field of the Cell Counter or a dimorphic red blood cell population comment in the RDWCV test field of the Cell Counter.

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10.CRITICAL DOCUMENTATION

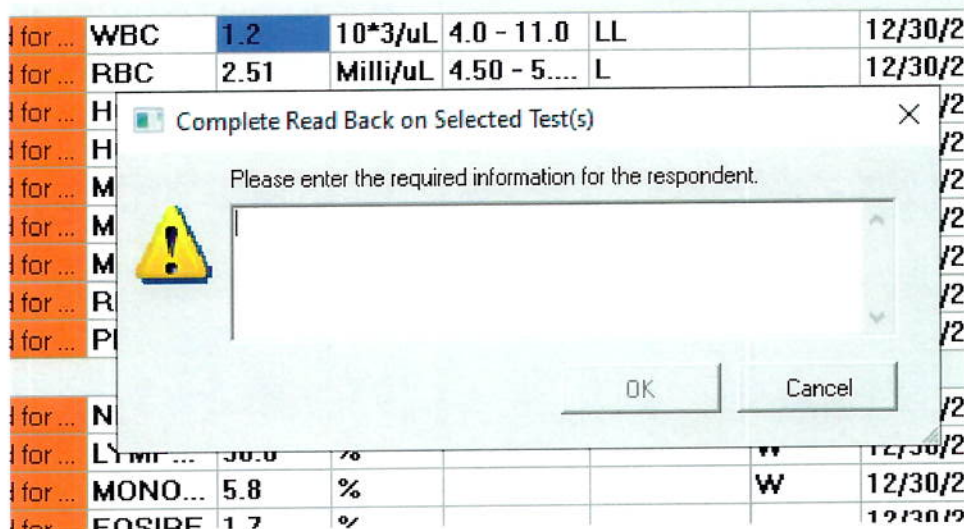
All critical results will be highlighted in Purple and grouped according to whether Critical Low (LL) or Critical High.

- Highlight the Critical Result to be called
- Click on the “Complete Read Back Icon.”



12/30/2024 12:31:31 PM
Critical** , IG Asterisk Flag: Scan slide to confirm , Anisocytosis:Anis
RERUN

-
- Enter the NUID or Recipient's full name called on the box and click [OK]



- Once documentation is completed, the NUID of the person called should show on your Run worksheet, and ✓ the read-back status

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1: 1/8/2025 11:54:31 AM **HGB Critical**, **HCT Critical** I												
Test Name	Tes...	Test ...	Res...	Units ...	Reference ...	Flag (...)	Error ...	Result Dat...	Test In...	Test ...	Read Back ...	Read Back Status ...
▶ HEMO												
HGB	Rele...	HGB	4.4	g/dl	11.5 - 16.0	LL		1/8/2025 1...	HXN904		dummy. test	☒
HCT	Rele...	HCT	14.3	%	35.0 - 47.0	LL		1/8/2025 1...	HXN904		dummy. test	☒
▶ IMAGE												
Platelet C...	Rej...	PLT I...	2025---					1/8/2025 1...	HXN904			☐
Red Blood...	Rej...	RBC I...	2025---					1/8/2025 1...	HXN904			☐
WNR Image	Rei	WNR	2025---					1/8/2025 1	HXN904			☐

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11. BODY FLUID ANALYSIS

- When the approved body fluids are run through the XN Analyzer, the result should be transferred to the DI Instrument Manager.

Run Worksheet

Result from XN Analyzer 9:26:09 AM
Body Fluid

Test Name	Test Status (1)	Test Code	Result (1)	E
INSTRUCTIONS				
RUN COMMENTS	Rejected	RUN COM...	PRESENT	
FLUID				
Fluid RBC	Held for Verification	RBCBF	254000	
Fluid WBC	Held for Verification	WBCBF	425	
Total Count Body Fluids	Held for Verification	TCBF	498	
IMAGE				
Red Blood Count Image	Rejected	RBC Image	2025_01_14_0	
WDF Image	Rejected	WDF Image	2025_01_14_0	
WDF_FSC Image	Rejected	WDF_FSC...	2025_01_14_0	

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12. BODY FLUID DIFFERENTIAL/MANUAL CELL COUNT

- Body Fluid Differential and Manual Cell Count (if applicable) are performed through the Cell Counter.
- Right-click on the TCBF results and select the Verify Run with Cell Counter button on the toolbar. This brings the specimen to the cell counter.
- Select the appropriate site and module (i.e., site + BF Diff). If not enabled, click the “Enable Cell Counter Key” and perform the differentials.
- Perform the Gross examination of the body fluid

Cell Counter

BE BF Diff

Send Data Through System | Save Run Data to SM | Clear All Data | Enable Cell Counter Keys

Select the correct module for body fluid

Instrument ID: [] Total Number of Cells to be Counted: 0

Operator ID: A689082 Number of Cells Counted: 0

Comments: []

Enable the cell counter to use the number keys to perform the differential.

Test Code	Result	Units	
* BFVOL			
XANTHR			
COLRBF			
APRBF			
RBCBF			
WBCBF			
TCBF			
TNCBFM			
FNEUT	0		Num +
FLYMP	0		Num 6
FMONO	0		Num 5
FEOSI	0		Num 7
FBASO	0		Num 8
FMESO	0		Num 4
FOTHER	0		Num 1

Number keys shortcut for differential

- When done, click “Send Data Through System” to complete the test OR “Save Run Data to SM” to send the result to Specimen Management instead of Cerner.

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13. MANUAL CELL COUNT

- Perform cell count using the hemocytometer.
- The raw data are inputted on the cell counter under the hemacytometer group, and the Instrument Manager will calculate the values automatically.
- When done, click “Save Run Data to SM” to send the result to Specimen Management instead of Cerner. The Instrument Manager will calculate the values automatically.

Run Worksheet

1 1/15/2025 11:41:21 AM
Body Fluid

Test Name	Test Status (1)	Test Code	Result (1)	Error	Unit	Reference
RBCBF						
WBCBF						
COMNT						
Fluid RBC	Released	RBCBF	245000		0.0 - 0.1	
Fluid WBC	Released	WBCBF	309			
TCBF						
Total Count Body Fluids	Released	TCBF	329		0.0 - 5.0	
FLUID DIFF						
FNEUT						
FLYMP						
FMONO						
FEOSI						
FBASO						
FMESO						
FOTHER						
IMAGE						
Red Blood Count Image	Rejected	RBC Image	2025-01-15-1			
WDF Image	Rejected	WDF Image	2025-01-15-1			
WDF_FSC Image	Rejected	WDF_FSC..	2025-01-15-1			
COMMENT						
SOURCE						
HEMACYTOMETER						
RBCDIL						
RBCSD1						
RBCSD2						
RBCSQ						
RBCSQSZ						
Red Cell Confirm						
TCDIL						
TCSQ						
TCSQSZ						
TNCBFM						
TNCSD1						
TNCSD2						

Cell Counter

SELECT DR

Save Run Data to SM

Specimen Information

Specimen ID

Instrument ID

Operator ID

Total Number of Cells to be Counted

Number of Cells Counted

Key

Comment(s)

Shortcut Key

MANI

COLRBF

APPEF

RBCBF

WBCBF

TCBF

TNCBFM

FNEUT

FLYMP

FMONO

FEOSI

FBASO

FMESO

FOTHER

COMMENT

SOURCE

COMNT

HEMACYTOMETER

TCSQSZ

TNCSD1

TNCSD2

TCDIL

TCSQ

Red Cell Confirm

RBCSQSZ

RBCSD1

RBCSD2

RBCDIL

- The table below contains the test codes and definitions of the Body Fluid Cell Counter.

Test Code	Definition
BFVOL	Body Fluid Volume (Numeric)
XANTHR	Xanthochromia (if Applicable) Yes/No
COLRBF	Body Fluid Color (Dropdown choices)

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APPBF	Body Fluid Appearance (Dropdown choices)
RBCBF	RBC Auto results from the XN analyzer
WBCBF	
TCBF	TNC Auto results from the XN analyzer
TNCBFM	TNC Cell Count Manual Calculation from the values below
COMMENT	
SOURCE	
COMNT	Free text Comments
HEMOCYTOMETER	
TCSQSZ	Size of the square of the hemacytometer used to count the TNC (small/large)
TNCSD1	Type in the raw count for the TNC value on one side of the hemocytometer
TNCSD2	Type in the raw count for the TNC value on one side of the hemocytometer
TCDIL	Type in the offline dilution factor. If no dilution was made, type in one (1)
TCSQ	The number of squares counted for the TNC cell count. (numeric 1-9)
Red Cell Confirm	Drop-down (Smear review / Acid Treatment)
RBCSQSZ	Size of the square of the hemacytometer used to count the RBC (small/large)
RBCSD1	Type in the raw count for the RBC value on one side of the hemocytometer
RBCSD2	Type in the raw count for the RBC value on one side of the hemocytometer
RBCDIL	Type in the offline dilution factor. If no dilution was made, type in one (1)
RBCSQ	The number of squares counted for the RBC cell count. (numeric 1-9)

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14. UNREGISTERED SAMPLE

- Unregistered samples will show in the Specimen Worksheet without patient demographics. XN will run these samples using the selected default test.
- Log in samples first. From the XN analyzer, select the patient in the Sample Explorer and send the sample to IM by going to Output and selecting Host Communication.

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SCENARIO 1

In this scenario, run a CBC sample. Find the patient demographic of the sample. Locate the patient's location. Locate the flags and troubleshooting (if applicable) on the Run Comments. Release the sample, accepting the hemogram and auto-differential.

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SCENARIO 2

In this scenario, run a CBC sample. Perform a manual differential using the Cellavision. Place a comment on the Platelet Count. If not available, pretend that the WBC is critical and add a critical comment. Release the results.

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SCENARIO 3

In this scenario, run a CBC sample. Rerun the sample using the incubation workflow. Perform a differential using the cell counter. Release the results.

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SCENARIO 4

In this scenario, run a CBC sample. Rerun the sample. Select the rerun sample. Release the results.

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Medical Director Approval

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