Contents

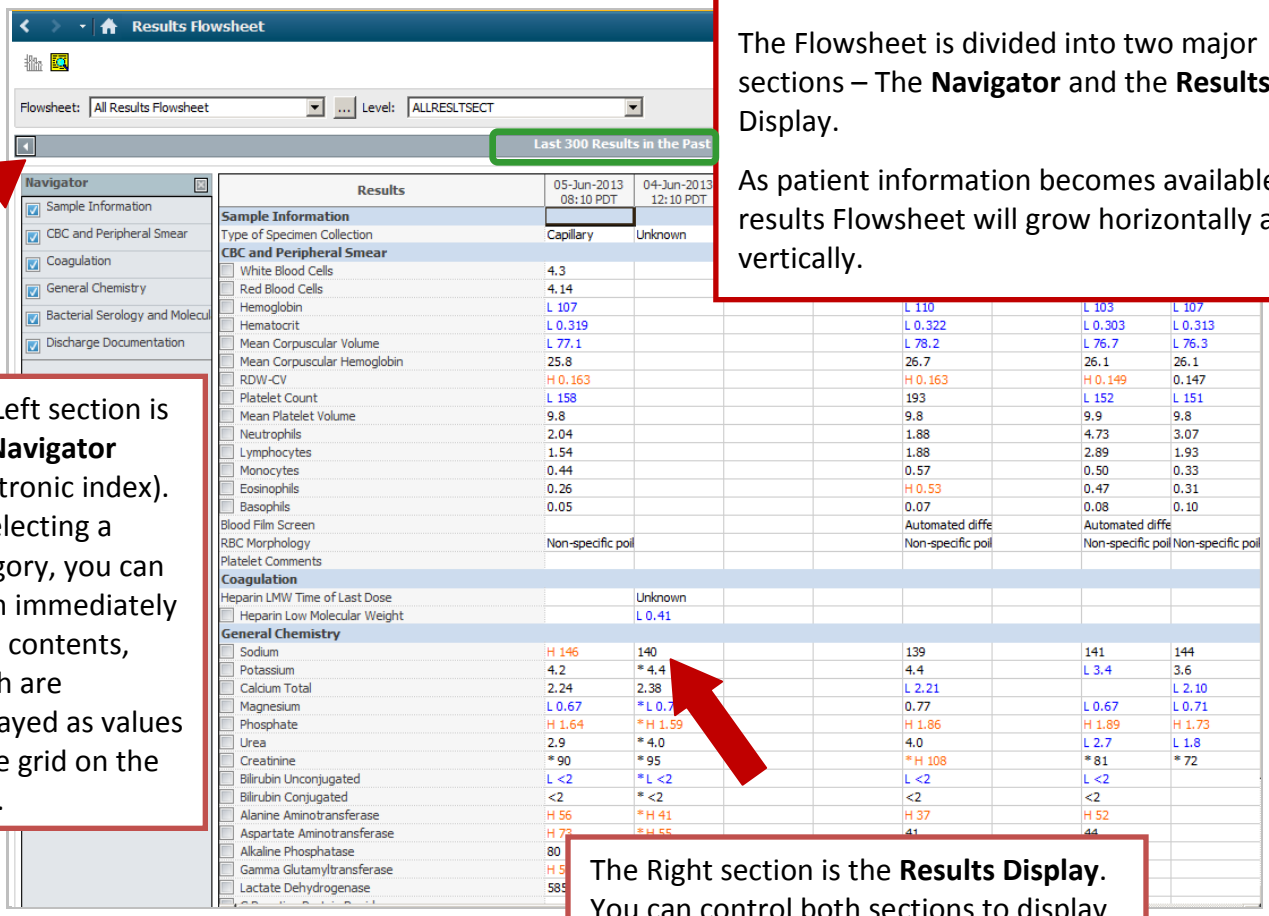
Overview

A summary of all labs ordered and resulted for C&W are posted and displayed in the Results Flowsheet. In addition to the Flowsheet, there are views within PowerChart that display a notification to clinicians of new or modified results. This guide serves to provide the details of how to find lab results and enhance your practice by utilizing the notification features within PowerChart.

Flowsheet information displays in a spreadsheet with flexible display features that make it possible to create an optimal view.

The Flowsheet is divided into two major sections – The **Navigator** and the **Results** Display.

As patient information becomes available the results Flowsheet will grow horizontally and vertically.



The Left section is the **Navigator** (electronic index). By selecting a category, you can zoom immediately to its contents, which are displayed as values in the grid on the right.

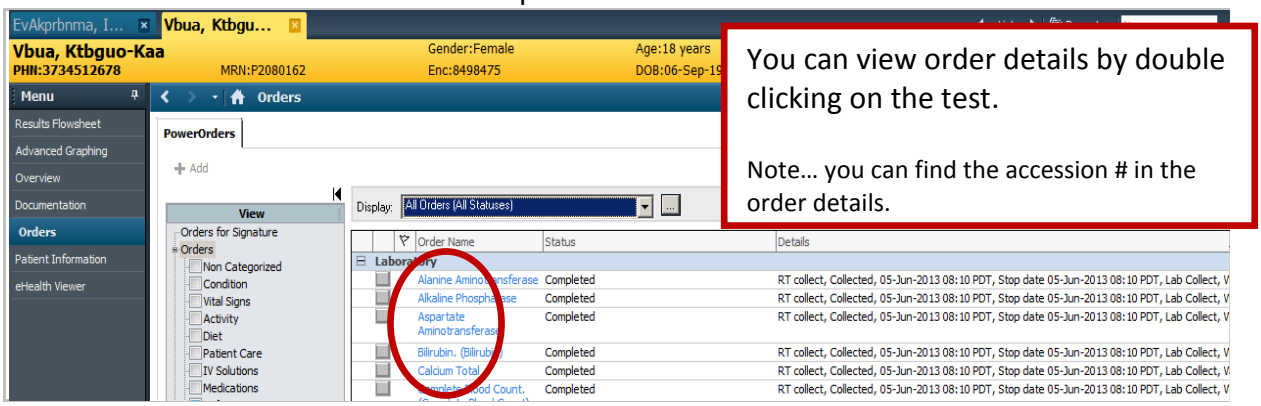
The Right section is the **Results Display**. You can control both sections to display the information that is most meaningful to you. The default is to display the last **300 posted results in the past 5 years**/ documents/reports.

A Lab Story - From Order to Posted Result

Clinician completes written lab requisition and forwards to the Lab.

Requisition is received in Lab and processed in Sunquest (Lab). The requisition will cross through into Cerner as an order. The order status displays as **In Progress** until the order is resulted.

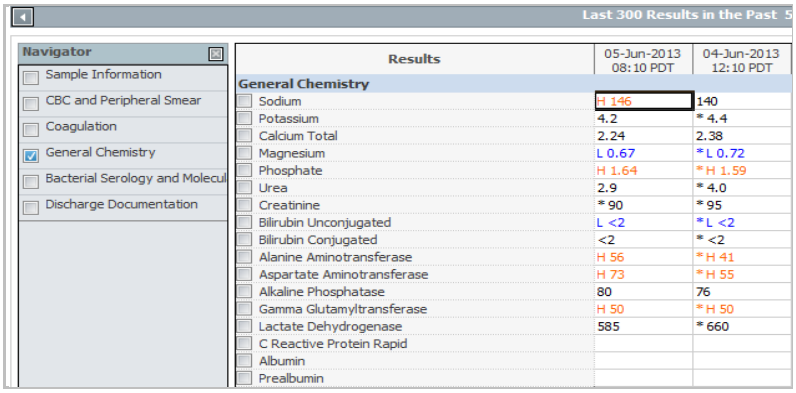
Test Completed and Result Verified



You can view order details by double clicking on the test.

Note… you can find the accession # in the order details.

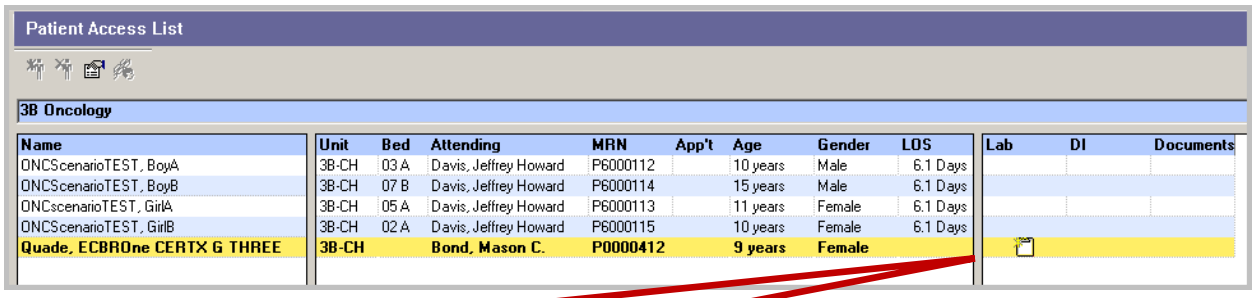
Results Posted to the **Results Flowsheet**



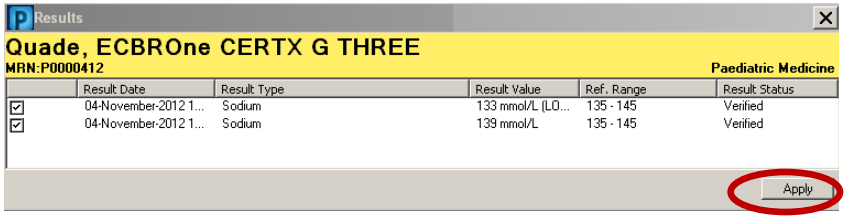
05-Jun-2013 08:10 PDT Sodium: 146 mmol/L (HI) (Verified) (Ref. Range 135 - 145)

- When you hover over a result, the **reference range** is displayed in the lower left corner.
- Double click on a result to review result details.

Notification Alerts posted to the **Patient Access List** (PAL)



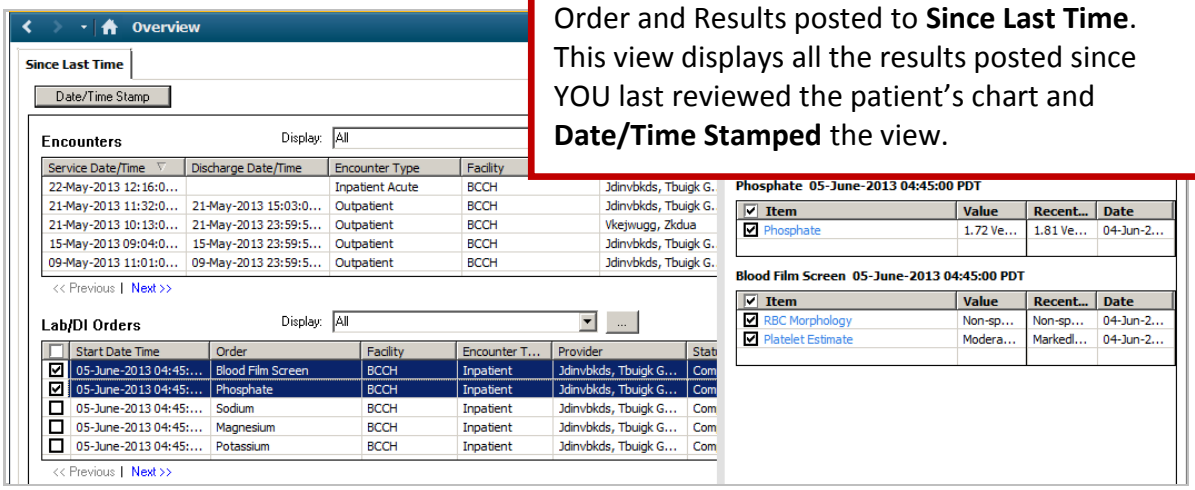
Double click on the icon to view results.



*Note… to clear the icon, click '**Apply**' and then close the window*

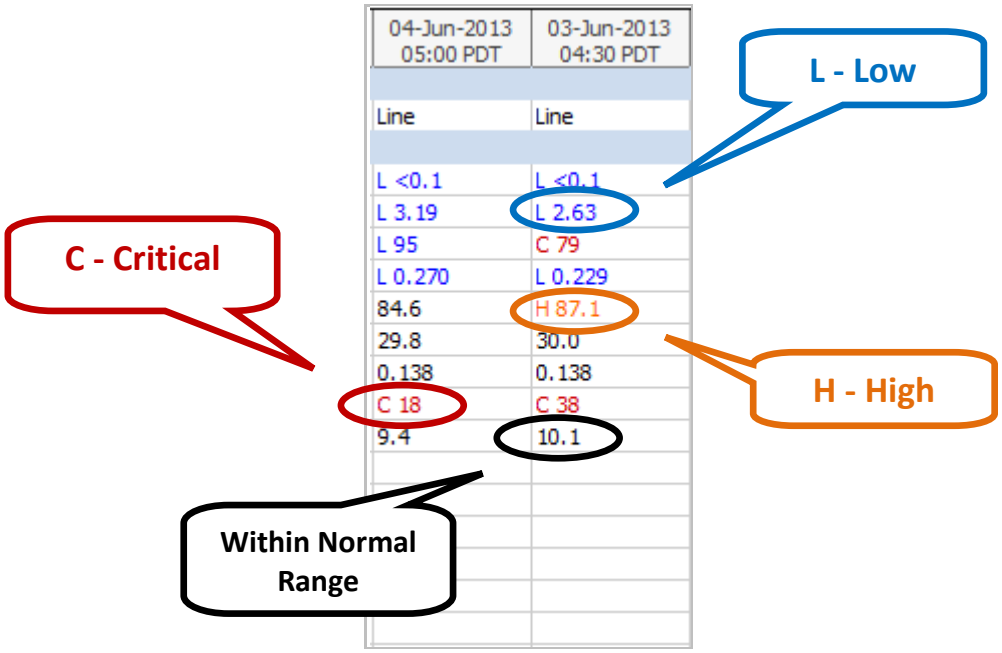
Results Posted to the **Overview (Since Last Time)** Tab

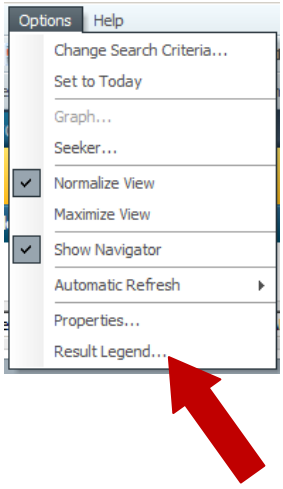
Order and Results posted to **Since Last Time**. This view displays all the results posted since YOU last reviewed the patient's chart and **Date/Time Stamped** the view.



Result Legend

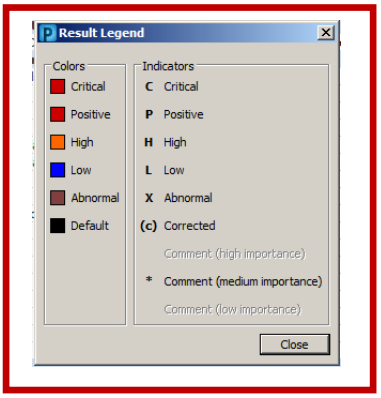
Text is displayed on a patient's Flowsheet in several different colors and alpha indicators.





To view the color-coded Result Legend explaining the current notable data display scheme, complete the following steps.

1. Click on the **Options** menu from the Task Menu Bar.
2. Select **Result Legend** from the drop down menu.



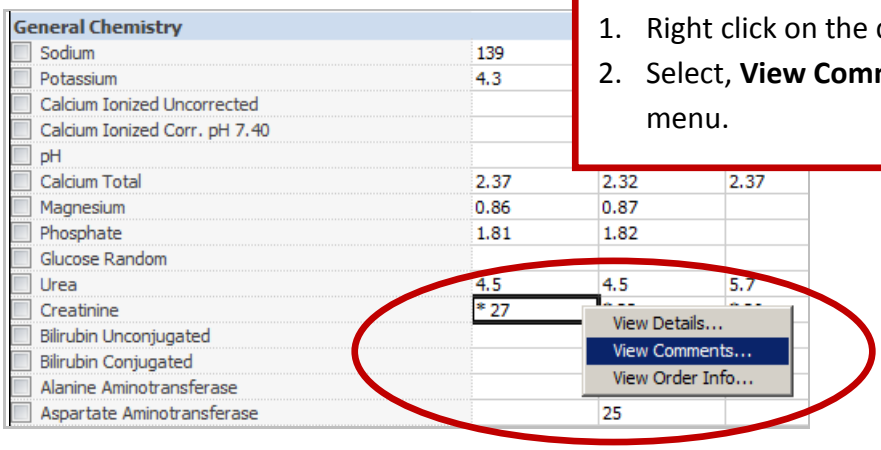
Results with Comments

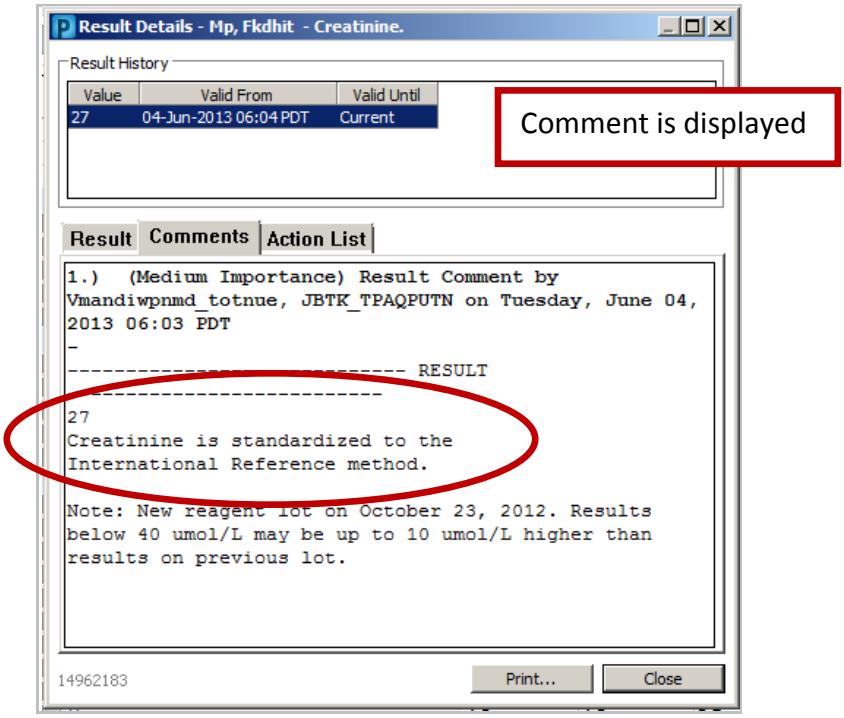
Laboratory staff can qualify or add details to a result with a comment.

1. Comments with an Asterisk*

If a result is prefaced with an asterisk (*) there is additional information added as a comment.

1. Right click on the cell.
2. Select, **View Comments** from the dropdown menu.





2. Comments without an Asterisk*

Results	31-May-2013 05:15 PDT	30-May-2013 04:30 PDT
Sample Information		
Type of Specimen Collection	Line	Line
CBC and Peripheral Smear		
White Blood Cells	L 0.6	L 2.9
Red Blood Cells	L 3.27	L 3.23
Hemoglobin	L 99	L 101
Hematocrit	L 0.292	L 0.289
Mean Corpuscular Volume	H 89.3	H 89.5
Mean Corpuscular Hemoglobin	30.3	H 31.3
RDW-CV	0.152	0.156
Platelet Count	C 25	C 41
Mean Platelet Volume	8.7	9.4
Neutrophils	C 0.55	(c) 2.83
Lymphocytes	L 0.03	L 0.02
Monocytes	0.01	0.00
Eosinophils	0.01	0.04
Basophils	0.00	0.01
Blood Film Screen	Automated diffe	Automated diffe
RBC Morphology	Non-specific poil	Non-specific poil
Platelet Estimate	Markedly decrea	Markedly decrea

If a cell contains text, hover over to reveal the comment.

Results	31-May-2013 05:15 PDT	30-May-2013 04:30 PDT
Sample Information		
Type of Specimen Collection	Line	Line
CBC and Peripheral Smear		
White Blood Cells	L 0.6	L 2.9
Red Blood Cells	L 3.27	L 3.23
Hemoglobin	L 99	L 101
Hematocrit	L 0.292	L 0.28
Mean Corpuscular Volume	H 89.3	H 89.
Mean Corpuscular Hemoglobin	30.3	H 31.
RDW-CV	0.152	0.156
Platelet Count	C 25	C 41
Mean Platelet Volume	8.7	9.4
Neutrophils	C 0.55	(c) 2.83
Lymphocytes	L 0.03	L 0.02
Monocytes	0.01	0.00
Eosinophils	0.01	0.04
Basophils	0.00	0.01
Blood Film Screen	Automated diffe	Automated diffe
RBC Morphology		
Platelet Estimate		

Automated differential confirmed microscopically.

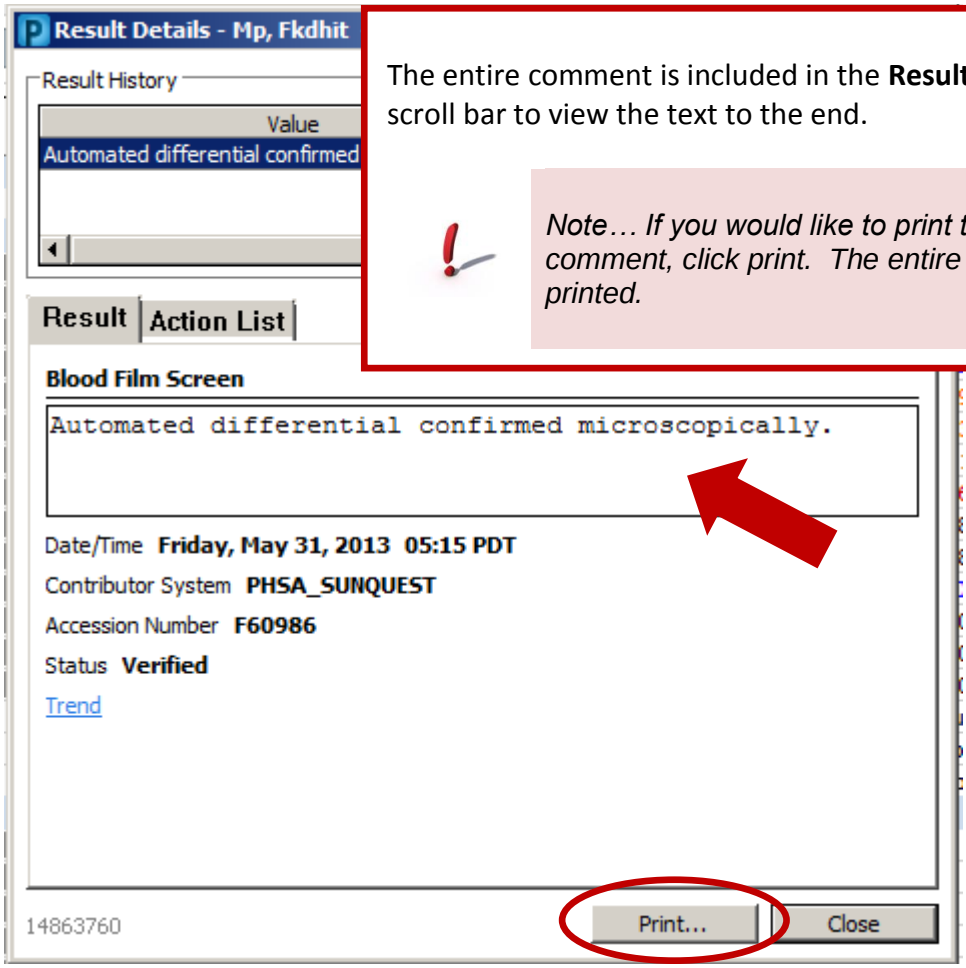
Hovering over the cell reveals comment. In this example, the comment is truncated with '**…**' alerting the viewer that there is more to the comment.

Results	31-May-2013 05:15 PDT	30-May-2013 04:30 PDT	29-M 05:
Sample Information			
Type of Specimen Collection	Line	Line	Line sp
CBC and Peripheral Smear			
White Blood Cells	L 0.6	L 2.9	L 1.9
Red Blood Cells	L 3.27	L 3.23	L 2.52
Hemoglobin	L 99	L 101	C 79
Hematocrit	L 0.292	L 0.289	L 0.23
Mean Corpuscular Volume	H 89.3	H 89.5	H 92.5
Mean Corpuscular Hemoglobin	30.3	H 31.3	H 31.3
RDW-CV	0.152	0.156	0.150
Platelet Count	C 25	C 41	C 68
Mean Platelet Volume	8.7	9.4	8.8
Neutrophils	C 0.55	(c) 2.83	1.83
Lymphocytes	L 0.03	L 0.02	L 0.01
Monocytes	0.01	0.00	0.01
Eosinophils	0.01	0.04	0.05
Basophils	0.00		0.00
Blood Film Screen	Automated differen	Automated diffe	Automa
RBC Morphology	Non-specific poil		
Platelet Estimate	Markedly decreas		
Coagulation			
Prothrombin Time			

View Details...
View Comments...
View Order Info...

To view the rest of the comment…

- Right click on the cell
- From the dropdown menu, select **'View Details'**



The entire comment is included in the **Result Details**. Use the scroll bar to view the text to the end.

Note… If you would like to print the result with the comment, click print. The entire comment will be printed.

Corrected Results

Alert notifications of any corrected results will display on your PAL

Results	31-May-2013 05:15 PDT	30-May-2013 04:30 PDT
Sample Information		
Type of Specimen Collection	Line	Line
CBC and Peripheral Smear		
White Blood Cells	L 0.6	
Red Blood Cells	L 3.27	
Hemoglobin	L 99	
Hematocrit	L 0.292	
Mean Corpuscular Volume	H 89.3	
Mean Corpuscular Hemoglobin	30.3	H 31.3
RDW-CV	0.152	0.156
Platelet Count	C 25	C 41
Mean Platelet Volume	8.7	[illegible]
Neutrophils	C 0.55	(c) 2.83
Lymphocytes	L 0.03	[illegible]
Monocytes	0.01	0.00
Eosinophils	0.01	0.04
Basophils	0.00	0.01

All results that have been corrected will be preceded by **(c)** in the cell

Platelet Count	C 25	C 41	C 68	C 88
Mean Platelet Volume	8.7	9.4	8.8	8.6
Neutrophils	C 0.55	(c) 2.83	[illegible]	C 0.61
Lymphocytes	L 0.03	L 0.02		
Monocytes	0.01	0.00		
Eosinophils	0.01	0.04		
Basophils	0.00	0.01		

View Details...
View Comments...
View Order Info...

You can view more information on the corrected result

- Right-click on the cell
- Select View Details from the dropdown menu

Result Details - BCHARTSQ, LH-Bryn - Electrolyte Panel

Result History

Value	Valid From	Valid Until
34	26-Jun-2012 07:40 PDT	Current
25	26-Jun-2012 07:37 PDT	26-Jun-2012 07:40 PDT

Result | Comments | Action List

Carbon Dioxide 34 mmol/L
Normal Low **23** Normal High **34**
Date/Time **Tuesday, June 26, 2012 06:20 PDT**
Contributor System **PHSA_SUNQUEST**
Status **Modified**
Trend

Result Details window opens…

Result History displays in top pane with both the previous and current result(s)

In this example, there is a comment attached to the result. To view the correction, click on the '**Comments**' tab

Result | Comments | Action List

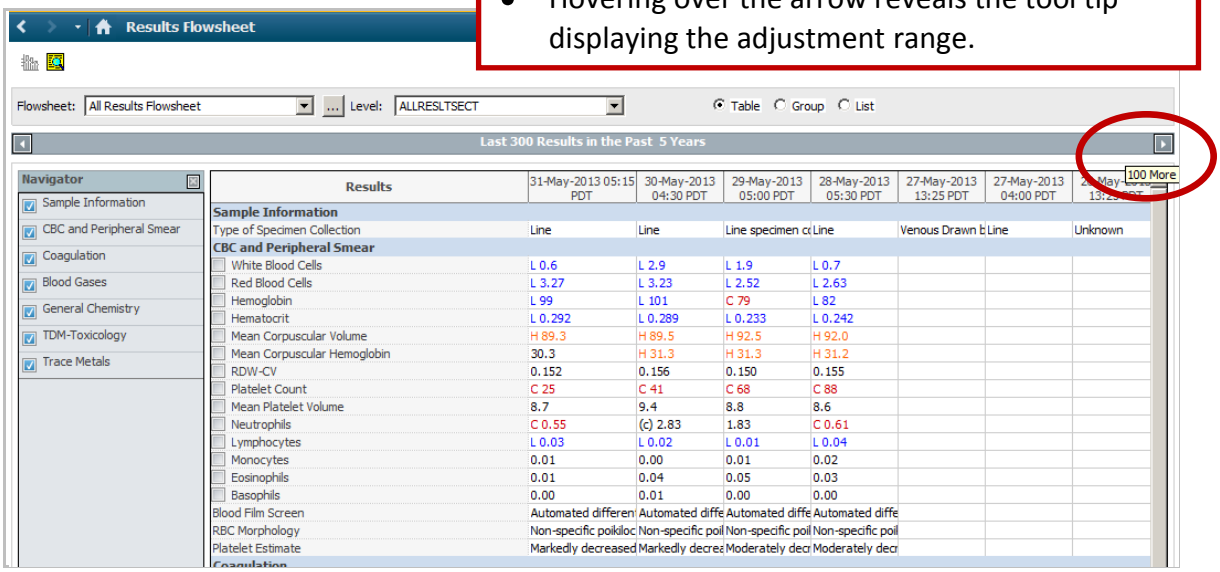
```
1.)  (Medium Importance) Result Comment by Contributor_system, PHSA_SUNQUEST on
Tuesday, June 26, 2012 07:15 PDT
-
---------------------------- RESULT ---------------------------
34
CORRECTED ON 26Jun AT 0715: PREVIOUSLY REPORTED AS 25
```

Filtering Result Range

You can manipulate the amount of data that is displayed to suit your clinical needs. The default is to display the last 300 results but you can filter to display a broader/narrower result count, specific date ranges, only today's results or all results posted for an admission.

To make a **quick adjustment** to the display range

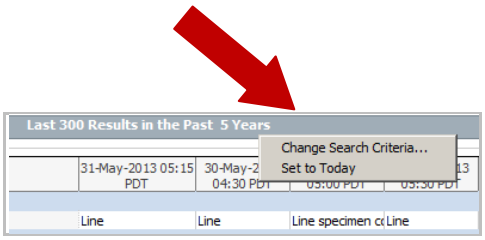
- The arrows on either end of the information bar adjust the display range.
- Hovering over the arrow reveals the tool tip displaying the adjustment range.



In addition to the quick range adjustment described above you can you the use the Search Criteria tool to search for results using very specific range criteria including: clinical range, posting range, result count and admission to current date.

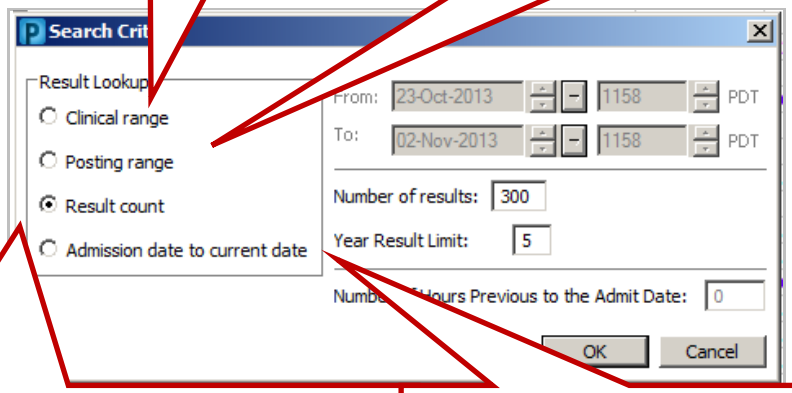
- Right Click on the blue **Information Toolbar**
- Click '**Change Search Criteria**' from the drop down menu

Note… if you just want to see today's results, click 'Set to Today'



The **Clinical Range** is the date of the event
i.e., if a specimen was taken Jan 1 and resulted Feb 1, Jan 1st would be the clinical date

The **Posting Range** is the time range for which the result entered the patients chart
i.e., if a specimen was taken Jan 1 and resulted Feb 1, Feb 1st is the posting date



Result Count (default) instructs the system to retrieve the quantity of results that you specify within the number of years time-frame.

- Enter a number in the 'Number of Results' box to indicate the last ( ) results that are to be retrieved.
- Enter a number in the 'Year Result Limit' box to indicate the results are to be retrieved within the last 'X' years.

Admission Date to Current Date retrieves all results entered for the patient from the time the patient was admitted for that encounter to the current time.

You can enter a number from 1 to 999 in the 'Number of Hours Previous to the Admit Date' box to indicate that results entered within hours prior to the patient's admission are to be retrieved.

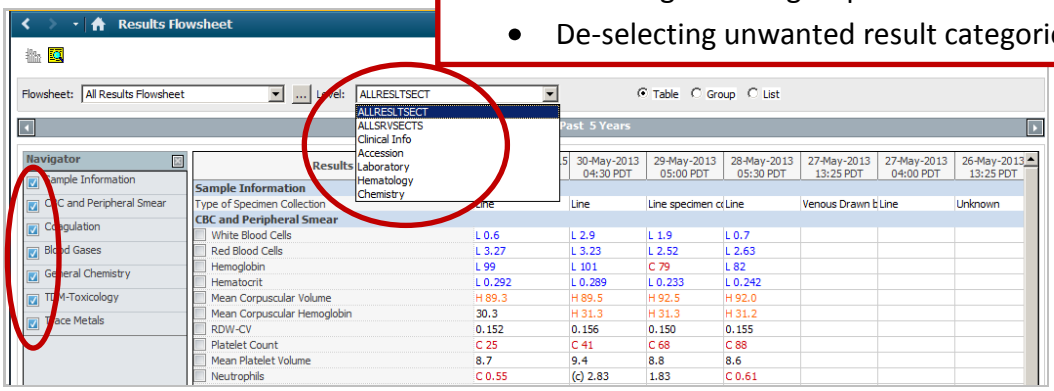
Once you have selected your '**Search Criteria**' click '**OK**' to complete the action

Filtering to Display Specific/Categories of Results

In addition to filtering the range of results that are displayed you can filter for groups of results as well as specific individual results.

You can search for groups of results by either

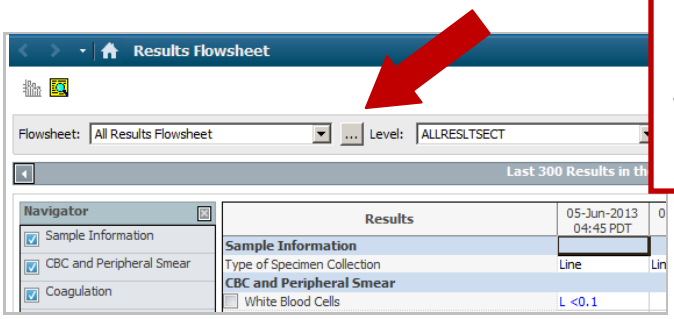
- Choosing a result group from the 'Level' drop down menu, OR
- De-selecting unwanted result categories in the Navigator

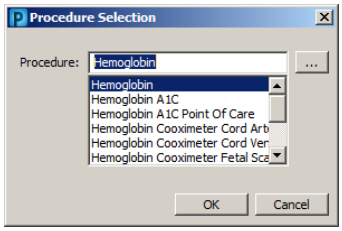


***Don't Panic** – the results never go away from the flowsheet. To see the all the results again, click 'ALLRESLTSECT' in the Level filter and/or ensure all the categories in the Navigator are selected*

You can search for specific procedures or tests that have been completed. For example you can filter the information so that all *hemoglobin* results are displayed.

- Click on the dashboard ... to the right of the Flowsheet Field.

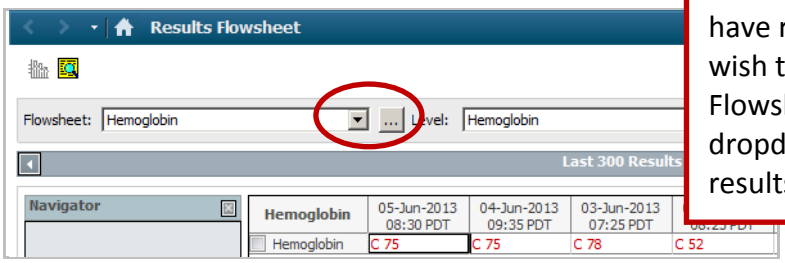




Click here to see a menu tree of all the tests available

The '**Procedure Selection'** dialog box opens with the cursor in the Procedure field.

- Enter the name (or the first few letters) of the name of the test or procedure
- click 'Enter' on the keyboard to view a list of items related your search
- Highlight a test/procedure and click '**OK**'. You are returned to the Flowsheet, which now displays only the category of results you requested.



Note how only the hemoglobin results are displayed. When you have reviewed the information and wish to return to the 'All Results Flowsheet' go to the flowsheet dropdown menu and select 'all results flowsheet'.

Point of Care Testing

Arterial Blood Gas analysis in the PICU and NICU is an example of Point of Care (POC) testing that is resulted in PowerChart. The POC testing is resulted and acted upon immediately; however, there is a delay in posting the information in PowerChart. Because of this delay, the results of POC testing will not trigger notification in the Patient Access List (PAL).

Results	19-Jan-2012 05:00 PST	19-Jan-2012 04:30 PST
POC Blood Gas Arterial		
POC PH Arterial	7.14	32.00
POC pCO2 Arterial	49	55
POC pO2 Arterial	75	89
POC HCO3 Arterial	29	28
POC Base Excess Arterial	4.5	3.0
POC Base Deficit Arterial	2.1	0.2
POC Monitor pCO2 Arterial	7	0
POC Monitored O2 Sat. Arterial	7.40	98.00

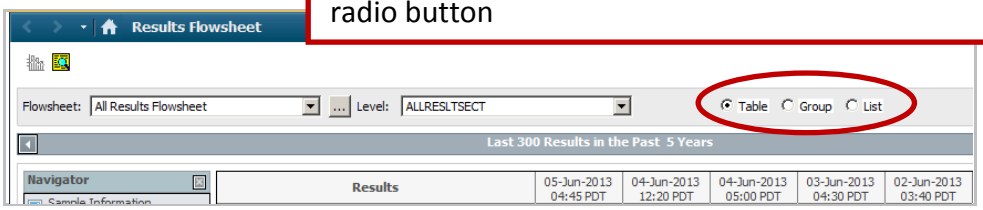
Point of Care Tests are prefaced with **POC**

Displaying Results in Different Formats

Several view formats are available for displaying results in the Results Flowsheet:

- Table view (*default*)
- Group view
- List view

To display the different views, click on the appropriate radio button



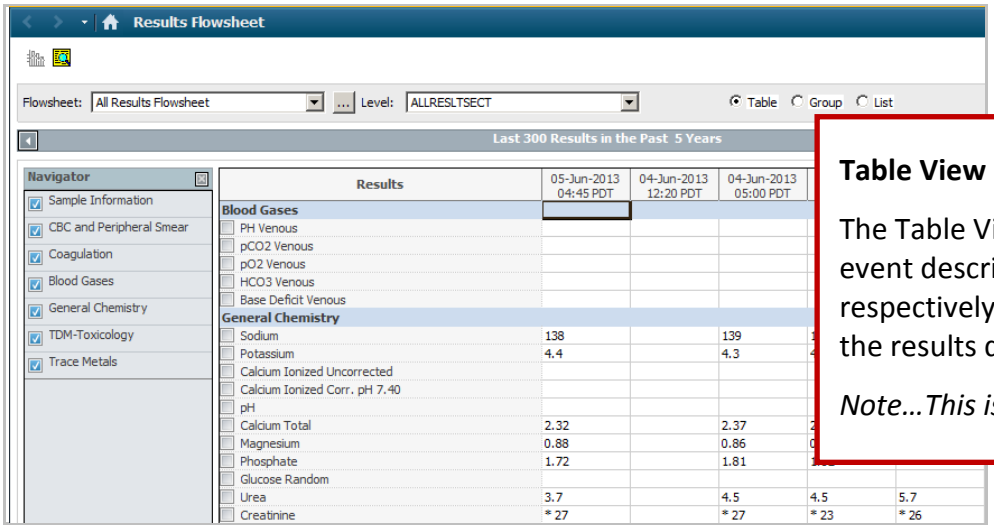
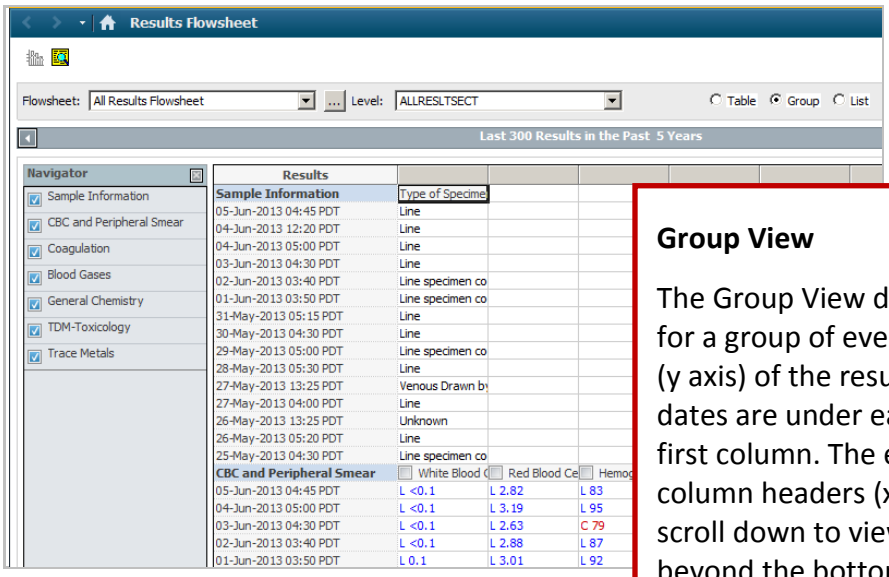


Table View

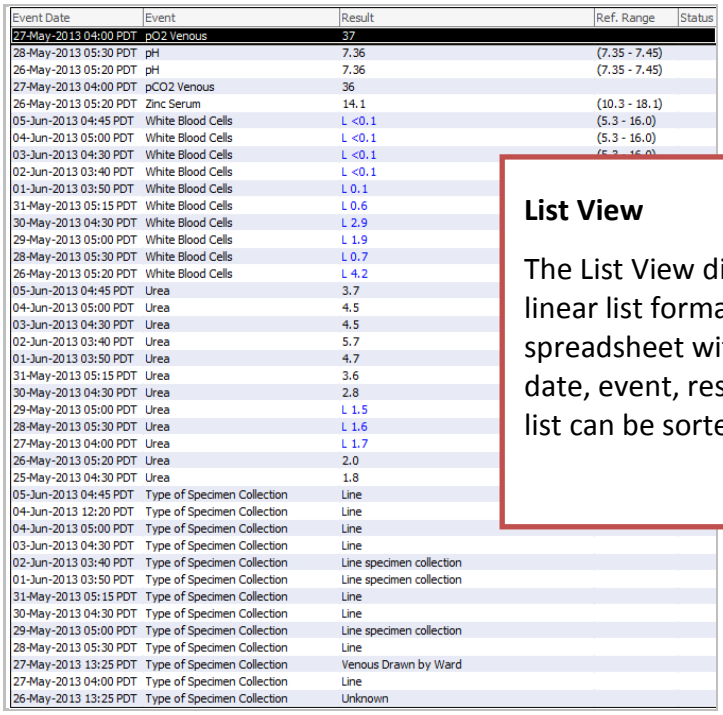
The Table View displays the event descriptions and dates respectively as the x and y axis of the results display.

Note…This is the default view



Group View

The Group View displays the heading for a group of events in the left column (y axis) of the results display. The event dates are under each heading in the first column. The event descriptions are column headers (x axis). You need to scroll down to view additional data beyond the bottom of the screen.



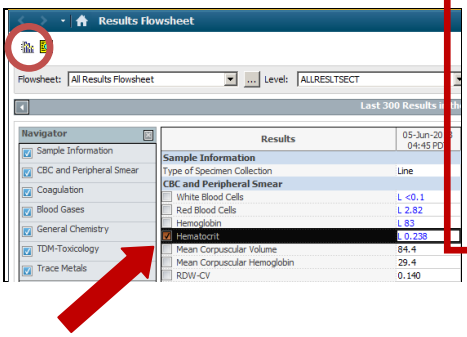
Event Date	Event	Result	Ref. Range	Status
27-May-2013 04:00 PDT	pO2 Venous	37		
28-May-2013 05:30 PDT	pH	7.36	(7.35 - 7.45)	
26-May-2013 05:20 PDT	pH	7.36	(7.35 - 7.45)	
27-May-2013 04:00 PDT	pCO2 Venous	36		
26-May-2013 05:20 PDT	Zinc Serum	14.1	(10.3 - 18.1)	
05-Jun-2013 04:45 PDT	White Blood Cells	L <0.1	(5.3 - 16.0)	
04-Jun-2013 05:00 PDT	White Blood Cells	L <0.1	(5.3 - 16.0)	
03-Jun-2013 04:30 PDT	White Blood Cells	L <0.1		
02-Jun-2013 03:40 PDT	White Blood Cells	L <0.1		
01-Jun-2013 03:50 PDT	White Blood Cells	L 0.1		
31-May-2013 05:15 PDT	White Blood Cells	L 0.6		
30-May-2013 04:30 PDT	White Blood Cells	L 2.9		
29-May-2013 05:00 PDT	White Blood Cells	L 1.9		
28-May-2013 05:30 PDT	White Blood Cells	L 0.7		
26-May-2013 05:20 PDT	White Blood Cells	L 4.2		
05-Jun-2013 04:45 PDT	Urea	3.7		
04-Jun-2013 05:00 PDT	Urea	4.5		
03-Jun-2013 04:30 PDT	Urea	4.5		
02-Jun-2013 03:40 PDT	Urea	5.7		
01-Jun-2013 03:50 PDT	Urea	4.7		
31-May-2013 05:15 PDT	Urea	3.6		
30-May-2013 04:30 PDT	Urea	2.8		
29-May-2013 05:00 PDT	Urea	L 1.5		
28-May-2013 05:30 PDT	Urea	L 1.6		
27-May-2013 04:00 PDT	Urea	L 1.7		
26-May-2013 05:20 PDT	Urea	2.0		
25-May-2013 04:30 PDT	Urea	1.8		
05-Jun-2013 04:45 PDT	Type of Specimen Collection	Line		
04-Jun-2013 12:20 PDT	Type of Specimen Collection	Line		
04-Jun-2013 05:00 PDT	Type of Specimen Collection	Line		
03-Jun-2013 04:30 PDT	Type of Specimen Collection	Line		
02-Jun-2013 03:40 PDT	Type of Specimen Collection	Line specimen collection		
01-Jun-2013 03:50 PDT	Type of Specimen Collection	Line specimen collection		
31-May-2013 05:15 PDT	Type of Specimen Collection	Line		
30-May-2013 04:30 PDT	Type of Specimen Collection	Line		
29-May-2013 05:00 PDT	Type of Specimen Collection	Line specimen collection		
28-May-2013 05:30 PDT	Type of Specimen Collection	Line		
27-May-2013 13:25 PDT	Type of Specimen Collection	Venous Drawn by Ward		
27-May-2013 04:00 PDT	Type of Specimen Collection	Line		
26-May-2013 13:25 PDT	Type of Specimen Collection	Unknown		

List View

The List View displays patient events and results in a linear list format. Results are displayed in a spreadsheet with column headings such as event date, event, result, reference range, and status. The list can be sorted by the event name or date.

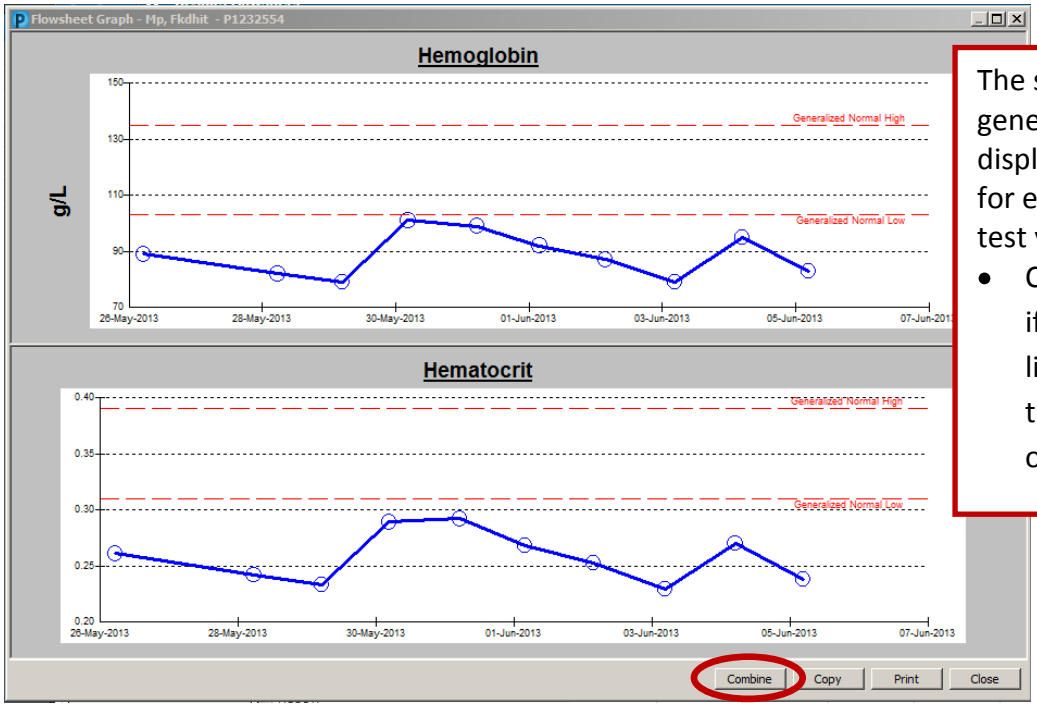
Graphing Results

While you are viewing a patient's Flowsheet, you can generate a graphic representation of the numeric results values. The graph plots the values and displays units of measure along the y axis. To view or print a graph of all results of a certain type, complete the following steps:



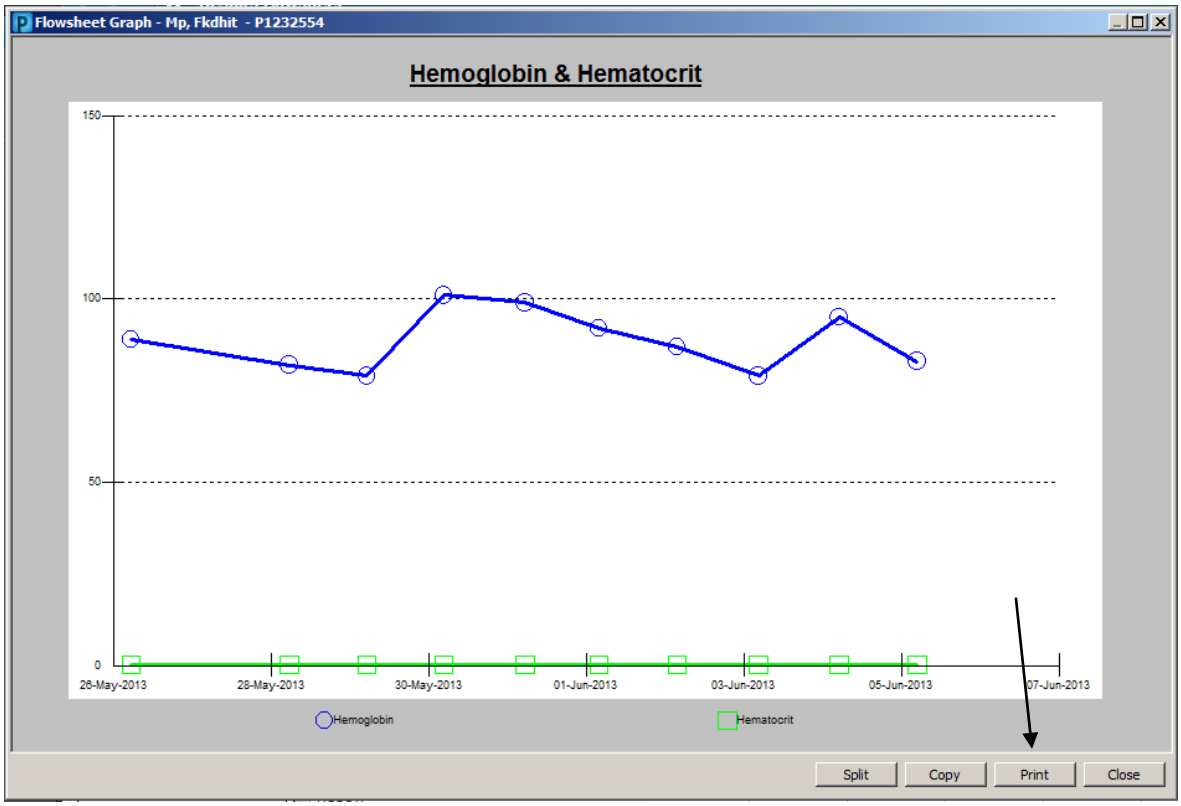
- Select the name of a specific test(s) or procedure(s) for which results are given in a numeric value. You can either select the name or the check box just to the left of it.) This marks the box with a check mark.
- Click '**Graph**' icon.

Want to save favorite graph-types? Go to the Advanced Graphing Resource Guide



The system generates and displays a graph for each type of test you selected

- Click '**Combine**' if you would like to combine the results into one graph



This is an example of graph a displaying a combination of 2 result types

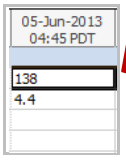
- Click 'Print' to print the graph

Note…If 2 different graphs are displayed in a dialogue; dialog box will prompt you to select which graph or graphs you want to print.

You can access the additional information window about any value represented on the graph by clicking the circle or shape surrounding the plotted value. See 'Getting More Information about a Result'.

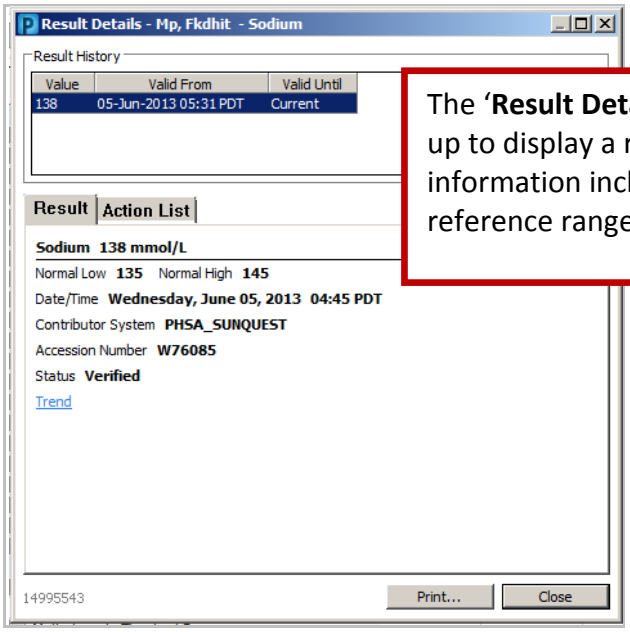
Getting Detailed Information about a Result

When you review the posted results for a patient, you can drill down on a result to view details regarding the result collection and values.



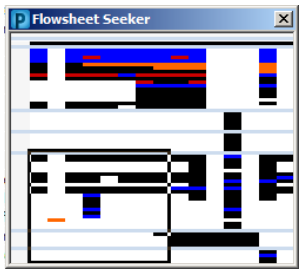
To view the details of a result displayed in a cell

- Double-click on a result , **OR**
- Right-click on a result and select 'View Details'

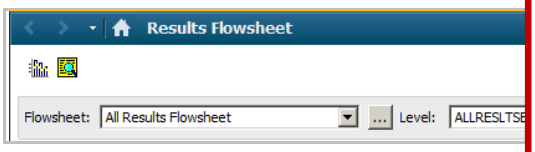


The '**Result Details**' opens up to display a range of information including reference ranges

Using the Seeker to Find Results



The Seeker is a quick locator tool that enables you to view a thumbnail sketch of the entire results flowsheet and focus on an area containing a cluster of results. Vertical line segments represent results in the sequence they occurred. Red lines represent critical result values. A period of intense result activity causes the lines to merge into solid blocks. The Seeker is especially helpful in spotting critical result values (in red) out of view in the flowsheet window. Also, it is easy to spot result density, which often reflects a major clinical occurrence. The Seeker enables you to scroll quickly to this location in the flowsheet for a closer look. Since it is small, you can drag the Seeker to a corner of your desktop and continue working with flowsheet.



Open the Flowsheet Seeker by clicking on the '**Seeker**' Icon 

When the Flowsheet Seeker is displayed, it represents the portion of Flowsheet matching the search criteria you entered. The rectangle outlined represents the current screen display area.