

Flow LTA OHSU Bone Marrow Beaker AP Guide:

Bone Marrow Collection and Case Creation:

A bone marrow collection is on the Outlook Bone Marrow Schedule. The first step is to print labels before going to the collection. At this point, the provider has ordered the collection and the labels are released.

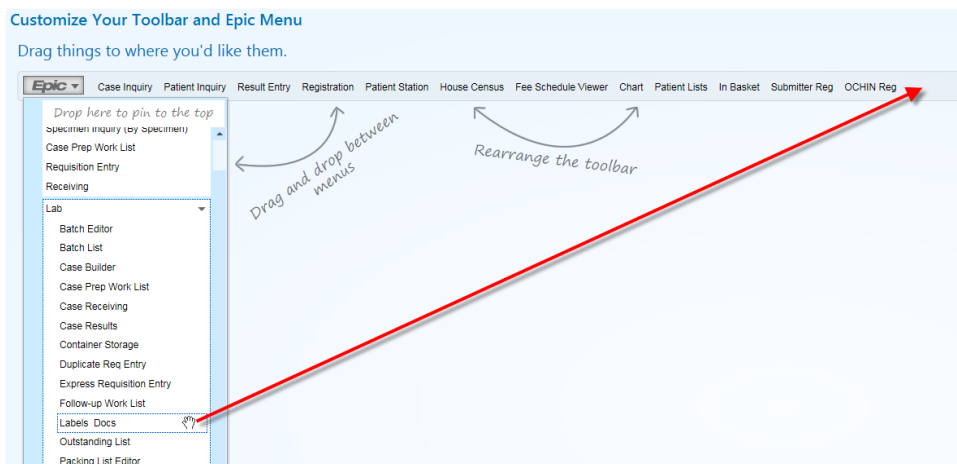
1. Open the **Labels and Docs** activity, which can be accessed through the search tool by typing "label". Click on Label Docs



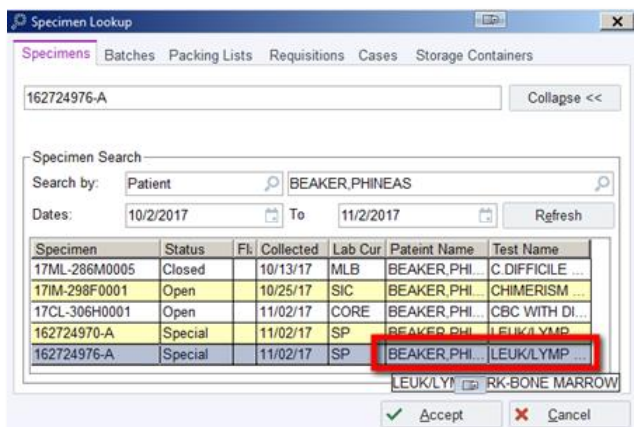
- a. If you want to add the **Label and Docs** activity to your main bar at the top, click the **wrench** icon above the search tool.



- b. Click on the **Lab** category on the left side to see more options. Drag the **Labels Docs** to the end of your menu bar. Click **Accept** button.



2. Once you are in the **Label and Docs** activity, you can enter the patient's name or MRN in the Specimen Lookup window's Specimen Search box. The lab tests ordered will show below, find the row that corresponds to the bone marrow test.



- Choose the **Print New** choice and select “OHSUlab Zebra aliquot label”. Make sure the printer is correct and choose “3 per specimen” for the **Copies** field. Press the **Print** button.

Specimen: HM17-00188 A

Document type: Label

Print new: OHSUlab Zebra aliquot label

Reprint:

Recipient:

Fax number:

Printer: DHBA234P LABELS

Copies: 3 per Specimen

If the label prints test or batch info, use:

Test:

Batch:

Only print documents for the following:

Container:

Print Cancel

- This is what the 7-cut label will look like for a bone marrow. Note that the specimen ID has a letter after the number, because this is an AP Beaker specimen.



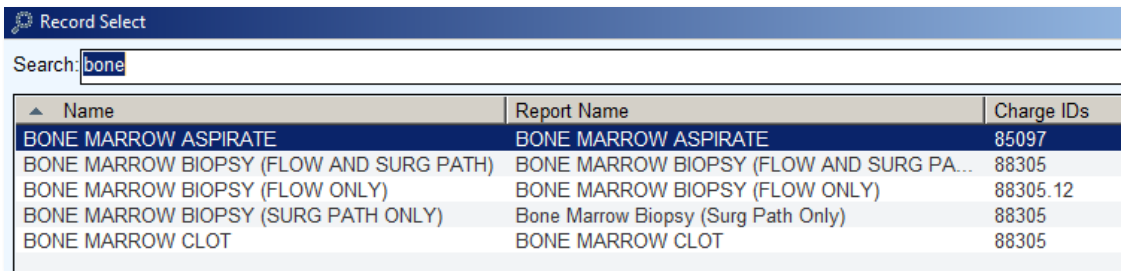
- After the collection, you can create and accession the case into **Case Builder**.
- Go into **Case Builder** to begin a case. You can enter it from the **Actions** icon-> **Case Builder**. You can also find **Case Builder** as a link on your Dashboard or personalize your top menu to add a **Case Builder** button.
- Scan in the specimen using the barcode reader. Click the **Accept** button. If this specimen does not have a case assigned previously, it will start a new case.

Adding Bone Marrow Specimens in Case Builder:

Once you are in **Case Builder**, you need to add a specimen if one is not listed. There are 4 general types of specimens you will be adding for a bone marrow procedure.

- **Bone Marrow Aspirate**
- **Bone Marrow Clot**
- **Bone Marrow Biopsy (Flow and Surg Path, Surg Path Only, and Flow Only.)**
- **Peripheral Blood (Hem Path Interp)**

To add a bone marrow aspirate, clot or biopsy, you can type the word “**bone**” in the **Protocol** field to narrow your specimen list and select the appropriate choice.

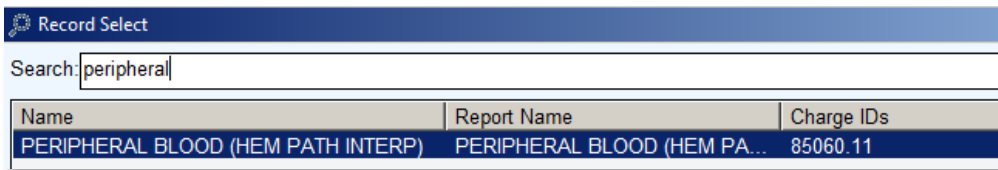


Record Select

Search: bone

Name	Report Name	Charge IDs
BONE MARROW ASPIRATE	BONE MARROW ASPIRATE	85097
BONE MARROW BIOPSY (FLOW AND SURG PATH)	BONE MARROW BIOPSY (FLOW AND SURG PA...	88305
BONE MARROW BIOPSY (FLOW ONLY)	BONE MARROW BIOPSY (FLOW ONLY)	88305.12
BONE MARROW BIOPSY (SURG PATH ONLY)	Bone Marrow Biopsy (Surg Path Only)	88305
BONE MARROW CLOT	BONE MARROW CLOT	88305

To add a peripheral blood specimen, you can type the word “**peripheral**” in the **Protocol** field to narrow your specimen list and select the appropriate choice.



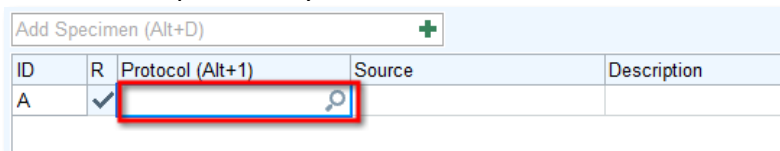
Record Select

Search: peripheral

Name	Report Name	Charge IDs
PERIPHERAL BLOOD (HEM PATH INTERP)	PERIPHERAL BLOOD (HEM PA...	85060.11

Samples are added in **Case Builder** to represent what was obtained during the collection process.

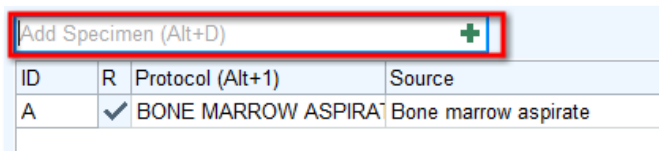
For the first specimen, you need to click in the **first row**, under the **Protocol** field.



Add Specimen (Alt+D) +

ID	R	Protocol (Alt+1)	Source	Description
A	✓	<input type="text" value=""/>		

All additional specimens should be added in the **Add Specimen** field.



Add Specimen (Alt+D) +

ID	R	Protocol (Alt+1)	Source
A	✓	BONE MARROW ASPIRA	Bone marrow aspirate

- Make sure the **Collection Date** field and **Collection Time** field is filled in. If you want to use today’s date for Collection Date, type “**t**” in the **Collection Date** field. If you want to use the current time, type “**n**” in the **Collection Time** field.
- Enter the appropriate information in the **Collector** and **Coll Dept** field.

Specimen Order for Different Types of Collections:

Adding specimens for a unilateral bone marrow collection:

1. **Specimen A** should be the primary sample that's used for flow testing. In most cases this will be "**BONE MARROW ASPIRATE**". Be sure to document the anticoagulant, the volume, and the number of tubes obtained in the '**Description**' field; here is a formatting example:

ID	R	Protocol (Alt+1)	Source	Description	Coll Date	Coll Time
A	<input checked="" type="checkbox"/>	BONE MARROW ASPIRATE	Bone marrow	1 x 3 ml Na Heparin and 1 x 1 ml EDTA	1/4/2018	09:42 AM

If there was only enough aspirate to create slides, type '**Slides Only**' in the '**Description**' field.

2. **Specimen B** will be the "**BONE MARROW CLOT**" sample.
3. **Specimen C** will be the "**BONE MARROW BIOPSY**" sample. Depending on whether or not enough aspirate was taken for flow testing will determine which choice to pick:
 - If aspirate was obtained for flow testing, then use **BONE MARROW BIOPSY {SURG PATH ONLY}**.
 - If there is only enough aspirate to make slides (not enough aspirate for flow testing), then use the code '**BONE MARROW BIOPSY(FLOW AND SURG PATH)**' .
4. **Specimen D** should be a peripheral blood smear, use the code: **PERIPHERAL BLOOD (HEM PATH INTERP)**.

Here is an example of a typical collection where enough bone marrow aspirate is obtained for flow testing:

Add Specimen (Alt+D)			
ID	R	Protocol (Alt+1)	Source
A	<input checked="" type="checkbox"/>	BONE MARROW ASPIRATE	Bone marrow
B	<input checked="" type="checkbox"/>	BONE MARROW CLOT	Bone marrow
C	<input checked="" type="checkbox"/>	BONE MARROW BIOPSY (SURG PATH ONLY)	Bone marrow
D	<input checked="" type="checkbox"/>	PERIPHERAL BLOOD (HEM PATH INTERP)	Blood

***It's important to note that most pediatric bone marrow procedures will not involve the collection of a biopsy; this will shift the sample letters to bone marrow aspirate (**A**), bone marrow clot (**B**), and peripheral blood smear (**C**).

Adding specimens for a unilateral collection where no aspirate is obtained and biopsies are obtained in place of the aspirate:

- When no aspirate is obtained and biopsies are submitted in place of the aspirate, a bone marrow biopsy may become **sample A** (the primary specimen). Ask the attending hematopathologist that's on the bone marrow service if this biopsy should be used for flow and surg path, surg path only, or flow only. During the accessioning process, you'll want to select the option that's appropriate based upon their decision (Flow and Surg Path, Surg Path Only, or Flow Only).
- **Sample B** should be a peripheral blood smear, a.k.a. **PERIPHERAL BLOOD (HEM PATH INTERP)**

Click **Accept and Stay** to save and continue in **Case Builder**.

Adding samples for a typical bilateral collection where bilateral aspirates and biopsies are obtained:

It is VERY important to note the collection site in the **Description** field (for example: left, right, or sternal). Most bilateral collections will follow this format:

- Specimen A: Bone Marrow Aspirate, Description: Left
- Specimen B: Bone Marrow Aspirate, Description: Right
- Specimen C: Bone Marrow Clot, Description: Left
- Specimen D: Bone Marrow Clot, Description: Right
- Specimen E: Bone Marrow Biopsy (Surg Path Only), Description: Left
- Specimen F: Bone Marrow Biopsy (Surg Path Only), Description: Right
- Specimen G: Peripheral Blood Smear, a.k.a. 'Peripheral Blood (Hem Path Interp)'

Here is an example of a typical bilateral collection where bilateral aspirates and biopsies are obtained:

Add Specimen (Alt+D) +		Successfully received specimen: A			
ID	R	Protocol (Alt+1)	Source	Code	Description
A		BONE MARROW ASPIRATE	Bone marrow aspirate	85097 (CPT®)	Left: 1 x 2 ml EDTA
B	✓	BONE MARROW ASPIRATE	Bone marrow aspirate	85097 (CPT®)	Right: 1 x 3 ml EDTA
C	✓	BONE MARROW CLOT	Bone marrow	88305 (CPT®)	Left
D	✓	BONE MARROW CLOT	Bone marrow	88305 (CPT®)	Right
E	✓	BONE MARROW BIOPSY (SURG PATH ONLY)	Bone marrow	88305 (CPT®)	Left
F	✓	BONE MARROW BIOPSY (SURG PATH ONLY)	Bone marrow	88305 (CPT®)	Right
G	✓	PERIPHERAL BLOOD (HEM PATH INTERP)	Blood	85060 (CPT®)	

NOTE: Occasionally, in addition to the components listed above, a combined aspirate sample from both left and right sides will be obtained for flow testing; for these cases, this combined aspirate sample should become sample A:

- Specimen A: Bone Marrow Aspirate, Description: Left and Right
- Specimen B: Bone Marrow Aspirate, Description: Left
- Specimen C: Bone Marrow Aspirate, Description: Right
- Specimen D: Bone Marrow Clot, Description: Left
- Specimen E: Bone Marrow Clot, Description: Right
- Specimen F: Bone Marrow Biopsy (Surg Path Only), Description: Left
- Specimen G: Bone Marrow Biopsy (Surg Path Only), Description: Right
- Specimen H: Peripheral Blood Smear, a.k.a. 'Peripheral Blood (Hem Path Interp)'

Example:

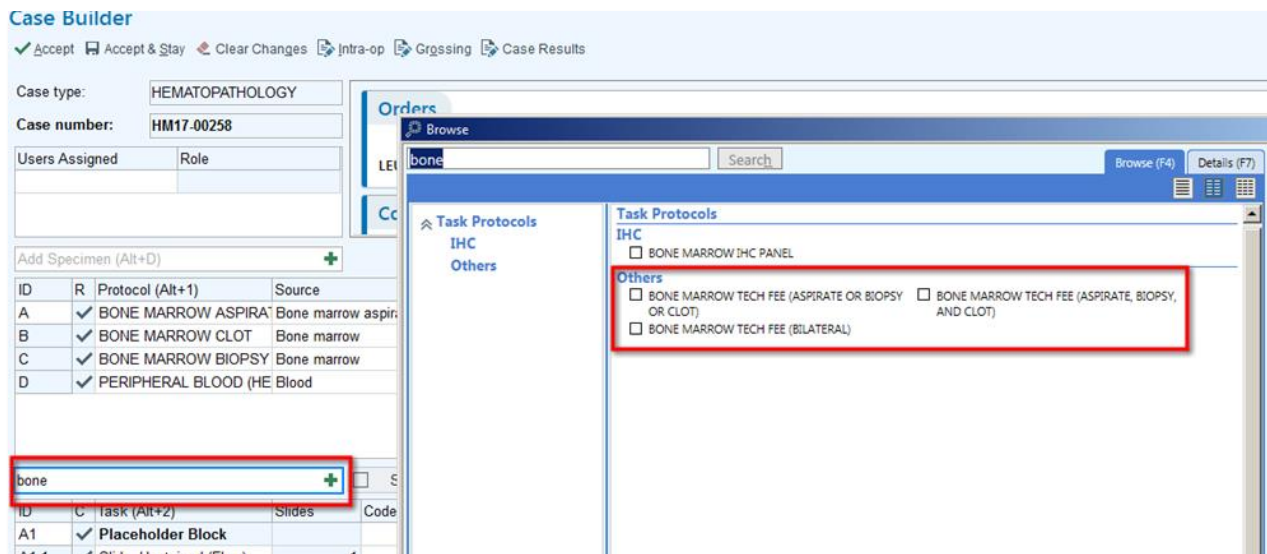
Add Specimen (Alt+D) +		Successfully received specimen: A			
ID	R	Protocol (Alt+1)	Source	Code	Description
A		BONE MARROW ASPIRATE	Bone marrow aspirate	85097 (CPT®)	Left and Right: 1 x 4 ml Na-Heparin
B	✓	BONE MARROW ASPIRATE	Bone marrow aspirate	85097 (CPT®)	Left: 1 x 2 ml EDTA
C	✓	BONE MARROW ASPIRATE	Bone marrow aspirate	85097 (CPT®)	Right: 1 x 3 ml EDTA
D	✓	BONE MARROW CLOT	Bone marrow	88305 (CPT®)	
E	✓	BONE MARROW CLOT	Bone marrow	88305 (CPT®)	
F	✓	BONE MARROW BIOPSY (SURG PATH ONLY)	Bone marrow	88305 (CPT®)	
G	✓	BONE MARROW BIOPSY (SURG PATH ONLY)	Bone marrow	88305 (CPT®)	

Click **Accept and Stay** to save and continue in **Case Builder**.

Adding in Bone Marrow Tech Assist Fees:

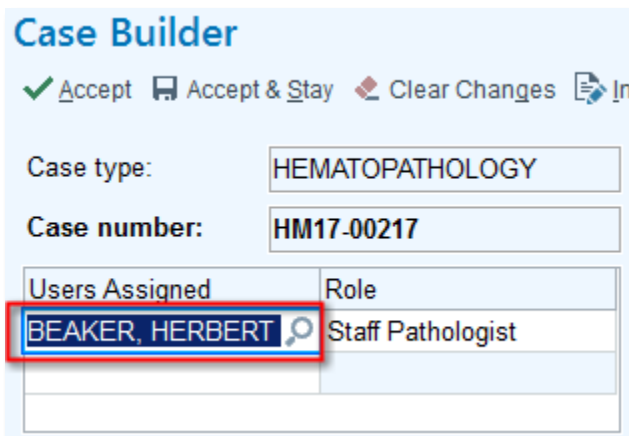
All bone marrow collections that occur with the assistance of an OHSU bone marrow tech need to have an assist fee added. The assist fee can be added in Case Builder in the 'Task' field. Type in the word 'bone' to bring up the options for assist fees. Pick the fee that describes the nature of the collection

- (BONE MARROW TECH FEE (Aspirate or Biopsy or Clot)
- BONE MARROW TECH FEE (Aspirate, Biopsy, and Clot)
- BONE MARROW TECH FEE (Bilateral)):



Assigning the case to a Pathologist/Resident:

While you are in **Case Builder**, you need to assign the staff pathologist assigned to the case. In the **User Assigned** field, fill in the name of the attending pathologist. For a bone marrow specimen or a heme path smear review you would pick the attending pathologist that is on the 'Bone Marrow Service'.



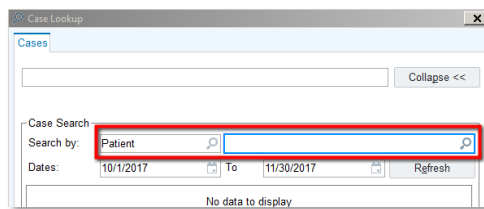
Determining Flow Tests on a Specimen:

Instead of ordering a flow panel task, the pathologists should have ordered “**Flow Cytometry Requested**” and put the panel or tubes in the task note. Use this information to fill out the **Clinical Flow Cytometric Analysis Request and Billing Form**.

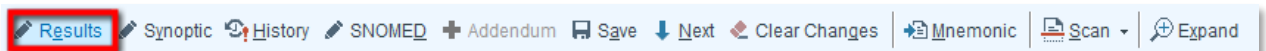
A1	✓	Flow Cytometry Requested				Leukemia panel
A1.6	✓	Cytospin (Flow)	1			
A1.7	✓	Cytospin (Flow)	1			
A1.8	✓	Flow Label	1			
A1.9	✓	Flow Label	1			
A1.10	✓	Flow Label	1			
A1.11	✓	Flow Label	1			

Adding the CBC and Diff results into Case Results:

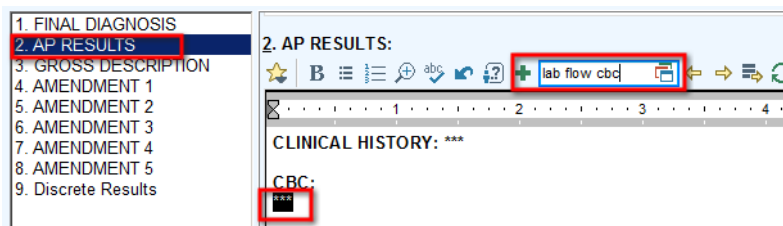
1. To get to **Case Results**:
 - a. If you are still in **Case Builder**, then you can press the **Case Results** button.
 - b. Scan the specimen’s barcode while you are viewing the **Outstanding List**.
 - c. If you have the Case ID# and do not have a barcode, you can click on the **Case Results** link on your dashboard and type Case ID# in first field.
 - i. Alternately, you can search by Patient name in this window by clicking the **Expand** button. Search for the patient’s name (Format: Lastname, Firstname).



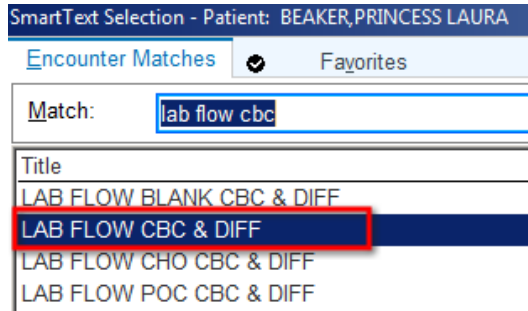
2. When **Case Results** opens, click on the **Results** button in the middle of the screen.



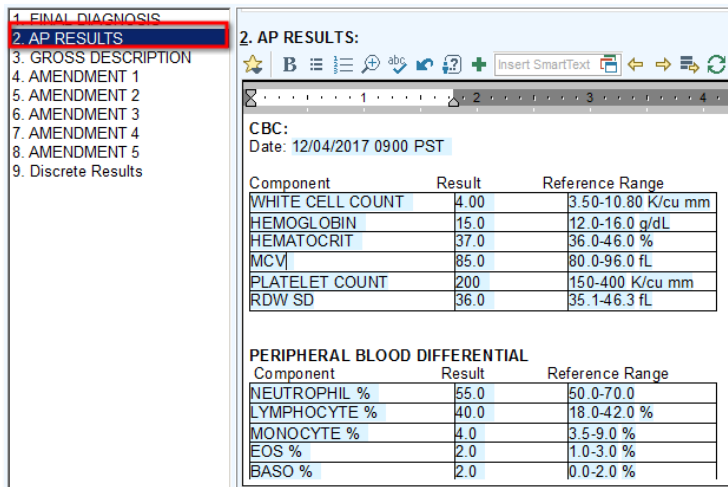
3. On the right side of the screen, you will see linked orders. If there is a green checkmark next to the CBC & Diff, it is resulted and you can pull it in.
4. On the left side of the screen, make sure **2. AP Results** is selected. In the text window to the right, scroll all the way up to the top.
 - a. Click on “**CBC:**” under Clinical History in the text field and press F2 on your keyboard to select the ***’s. .



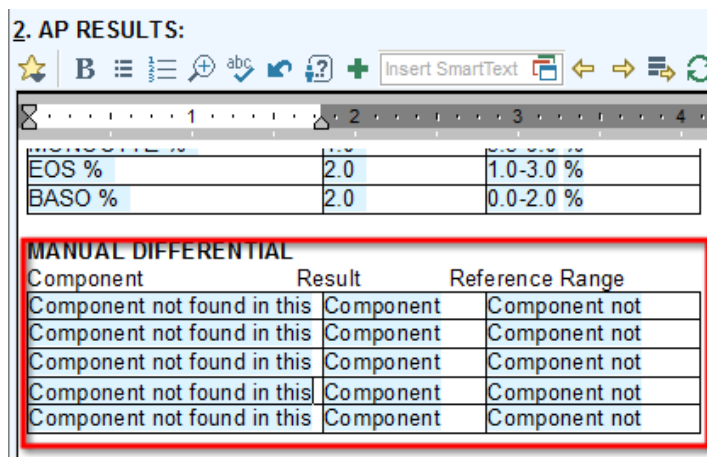
- To insert the CBC and Diff data, you need to pull in the correct SmartText. Click in the **Insert** SmartText field and choose OHSU's "**LAB FLOW CBC & DIFF**" (not CHO or POC). Click **Accept** button.



- The CBC information will be displayed in a table.



- Scroll down a bit to see below the Peripheral Blood Differential table. Highlight and delete the manual diff table if there is no information listed.



- Click the **Save** button and exit **Case Results**.

Alternatively, if you don't want to use the SmartText table, you can copy and paste the information using the link to the CBC/Diff in **Case Results**. Click on **CBC and Auto Diff**:

Linked Orders ^

Order	Type
✓ CBC AND AUTO DIFF	Related



- To copy: Use your mouse to select the CBC and Diff information from the **Lab Order Result** window that pops up and press **CTRL-C** on your keyboard to copy. Close this window.
- To paste: Click on the Results button and go back to the **2. AP Results Component**. Click your cursor where you want to paste the table. Press **CTRL-V** to paste the information.

Printing Slides from Case Prep Work List:

The **Case Prep Work List** is where you will see all the cases that have unstained slides and other stain tasks that have been ordered.

1. Open up click on the tab to open up **Case Prep Work List**. You can also find a link to it from your Beaker AP Lab Dashboard.
2. Make sure you are viewing the **Bone Marrow Bench Giemsa/May Grunwald Work List** view. To change your view, click on the **Actions** button and choose **Views** and pick the view you want.
3. Select the case you want to confirm on the left. On the right side, **check off** the Unstained slides and the Giemsa May Grunwald tasks you want to confirm. The **Date** and **Time** will default to the current date and time, but you can edit those fields if needed.
4. To check off multiple tasks, you can use the buttons on the bottom to select categories such as **All** Tasks, **Giemsa/MG**, and **Unstained**.
5. When you have selected the appropriate tasks, then click the **Confirm** button in the right bottom corner. This will print the slide labels for the confirmed tasks.

Case Prep Work List - Bone Marrow Bench Giemsa/May Grunwald Work List - 1 of 12 selected

Refresh Case Builder Assign

3.

Case Status	Case	Case Type	Protocols	Task	Slides	Date	Time	F	N	P
Accessioned	HM17-00164	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Giemsa May Grunwald	1	Today	Now			
Accessioned	HM17-00195	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Giemsa May Grunwald	1	Today	Now			
Accessioned	HM17-00197	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Slide, Unstained (Flow)	0/1					
Accessioned	HM17-00199	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Slide, Unstained (Flow)	1	Today	Now			
Gross Description Done	HM17-00203	HEMATOPATHOLO...	A - BONE MARRO	<input type="checkbox"/> Slide, Unstained (Flow)	0/1					
Signed Out	HM17-00206	HEMATOPATHOLO...	A - Leukemia/Lymf	<input checked="" type="checkbox"/> Slide, Unstained (Flow)	1	Today	Now			
Signed Out	HM17-00211	HEMATOPATHOLO...	A - Leukemia/Lymf	<input checked="" type="checkbox"/> Slide, Unstained (Flow)	1	Today	Now			
Accessioned	HM17-00212	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Giemsa May Grunwald	0/1					
Accessioned	HM17-00213	HEMATOPATHOLO...	A - BONE MARRO	<input checked="" type="checkbox"/> Giemsa May Grunwald	1	Today	Now			
Signed Out	HM17-00214	HEMATOPATHOLO...	A - BONE MARRO							
Signed Out	HM17-00215	HEMATOPATHOLO...	A - Leukemia/Lymf							
Accessioned	HM17-00216	HEMATOPATHOLO...	A - Leukemia/Lymf							

HM17-00197 Status: Accessioned

Beaker, Kermit (MRN 03438265)

Incomplete slides: 14

Specimens

A BONE MARROW CLOT

8 BONE MARROW

All Giemsa MG Unstained Confirm

Example of the Slide Labels:



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