	CP 5 Specimen Handling	Dept:	324317
		Dept Name	Central Processing
		Effective Date:	10/99
		Revised Date:	12/1/19
Name & Title: CLIA Laboratory Medical Director		Contact:	CP Management
Signature: Greg Pomper		Approved Date:	12/5/19

1. General Protocol Statement:

A. Purpose: Central Processing Staff should follow established laboratory guidelines to maintain consistency in the processing of laboratory test requests and patient specimens

B. Responsible Department/Scope:

- i. Protocol owner/Implementer: Central Processing
- ii. Protocol prepared by: Central Processing Management
- iii. Who performs protocol: Central Processing Staff

C. Definitions:

CP: Central Processing
 CSF: Cerebral Spinal Fluid
 WFBMC: Wake Forest Baptist Medical Center
 TDM: Therapeutic Drug Monitoring
 DEPARTMENT OF PATHOLOGY HANDBOOK: Lists tests and services that are performed in-house with specimen requirements and special handling procedures.

2. Protocol:

1.0 CENTRAL PROCESSING SERVICES:

1.1 The Central Processing Laboratory responsibilities including the receipt, accessioning, processing and distribution of most lab sample/orders received in the laboratory.

2.0 DEPARTMENT OF PATHOLOGY HANDBOOK:

- 2.1 The lab may provide a current list of test methods including performance specifications to clients upon request.
- 2.2 The Pathology Handbook is accessible via the Wake Forest Baptist Health Intranet <http://intranet.wakehealth.edu/Departments/Pathology/Handbook/>

3.0 SPECIMEN TRANSPORT:

- 3.1 Specimens may be transported to the Clinical Laboratory via the hospital pneumatic tube system.
- 3.2 Ordering locations without pneumatic tube are responsible for transporting samples to the laboratory.
- 3.3 The WFBMC Clinical Labs provide an on Campus courier that makes scheduled rounds in the hospital for onsite clinics and various other locations for pick-up and delivery of samples to the lab.
- 3.4 It is recommended that irretrievable specimens be hand delivered to the laboratory. (CSF, Body Cavity Fluids, Joint Fluids, Blood Gases, All Tissue, Blood or urine cultures collected before antibiotic therapy, amniocentesis, Cordocentesis, peak/trough TDM samples and intravascular catheter tips for culture)
 - a. They must be written in the log book at the main window.

4.0 STANDARD PRECAUTIONS:

- 4.1 All samples transported to and received in the Clinical Laboratory should be handled according to Standard Precautions and Blood Borne Pathogen standards as outlined in the WFBMC Infection Control manual, the Lab Safety Manual and the Central Processing Safety Task List.
- 4.2 Know CSF samples for Creutzfeldt-Jacob should be processed under a hood in Microbiology. Alert any staff that may be subsequently handling this sample.

5.0 SPECIMEN PROCESSING AND PRIORITY:

- 5.1 Blood and body fluid samples received in the lab are processed upon receipt on a first come, first serve basis with priority being given to STAT orders.
 - a. **RED** bags: STAT orders must be in a red STAT bag.
 - b. **GREEN** bags: Peds Oncology patients and Cancer Center patients should be sent in a green bag. Peds Oncology are considered STAT and should be taken directly to Hematology or given to SPIN rotation to spin to deliver quickly to Chemistry.
 - c. Procalcitonins and OB Only HIV are always STAT and immediately delivered to Microbiology.

6.0 SPECIMEN RECEIPT AND ACCESSIONING:

- 6.1 Specimen test requests received in the lab should be entered into the Laboratory Information System (LIS) according to the procedures in this manual.
- 6.2 Exceptions not entered into the LIS include orders for Microbiology (except Serology and PCRs for blood or urine), Blood Bank, Cytology, Surgical Pathology, Genetics and HLA. These tests/ samples are received in the lab and forwarded to the respective test areas.

7.0 SPECIMEN EVALUATION AND REQUIREMENTS:

- 7.1 Specimens should be evaluated when received in Central Processing for the appropriate specimen type and integrity of the sample.
- a. **Specimen integrity**- Leaking or broken specimens should be evaluated and discarded if it cannot be safely salvaged or if the quality of the test results is compromised.
 - b. **Specimen types**- are defined in the LIS for each test.
 - i. Specimens must be evaluated prior to processing according to the defined requirements.
 - ii. Ordering locations should be notified in the event a specimen does not meet the defined test type requirements.
 - iii. Each laboratory section may have additional specimen requirements other than specimen type.
 - iv. **NOTE: Send-outs should evaluate any referral testing that is sent in an unexpected tube type. They may be able to send to an alternate referral lab.**
 - c. **Communications**- regarding specimen problems should be communicated to the ordering location by the lab section evaluating the problem.
 - i. Central Processing should handle and communicate problems regarding specimen types and compromised specimens (broken, leaking).
 - ii. Central Processing should notify the ordering location if they note problems when processing the sample (short sample, wrong tube, clot, etc.)
 - If sample is short but can possibly be run, the sample should be marked with an 'S' and the lab section alerted.
 - The testing lab should notify the ordering location if there is a sample problem identified after specimen is received there. (clot, short sample, QNS, etc.)
 - The lab section that notifies the ordering location of a problem should document the problem in the LIS and cancel the received test in Beaker with the appropriate reason (Broken/Spilled in transit, cancelled by provider, clotted, collected in wrong tube, correct test ordered, duplicate request, floor/clinic ordered incorrectly, improperly preserved/processed, lab duplicate order, lab ordered incorrectly, lost in transit, no sample received, not proper time for requested test, not received on ice, other, patient ID incorrect, physician cancelled order, sample not kept warm notified, sample not protected from light, notified, specimen clotted specimen mislabeled, specimen not labeled, stability limit exceeded when received, wrong tube/specimen type).
 - Refer to the incident/credit reports protocol (CP13) in this manual for further details.
 - d. **Orders**- After assuring patient specimen identification matches on all samples and requisitions, assure that all orders clearly understood. **ANY QUESTIONS SHOULD BE RESOLVED BY CALLING ORDERING LOCATION FOR CLARIFICATION.**
 - Document that a call was made on the requisition including name of the person spoke to, date and time and your name.

8.0 LABELING OF ALIQUOT SAMPLES:

- 8.1 Samples poured off into a pour-off tube must be identified with a minimum of the patient's name, medical record number and accession number.
- 8.2 In the event that there is minimal room to record this information (i.e. bullet tubes) the patient's last name and medical record number may be used.
- 8.3 The person pouring up the aliquot must initial the identification label placed on the aliquot as they are responsible for verifying the identity of the aliquot sample from the primary tube.

9.0 ADD-ON/MODIFY TESTS:

- 9.1 Refer to the procedure in this manual regarding the handling of add-on tests. (CP 11- Add on Orders)

10.0 EXTRA SAMPLES:

- 10.1 Beaker should be checked when tubes arrive without an order to see if any tests are pending or outstanding orders that can be 'collected'.
- 10.2 Do NOT assume that a particular test is wanted without verifying with the provider. Call if necessary and request that an order be placed.
 - a. Staff should ONLY be receiving tests that have been ordered.
- 10.3 Extra tubes received in the lab should be ordered in the LIS as an extra using the appropriate code depending on the tube type and placed on the appropriate automation line.
- 10.4 Extra tubes or fluids that are not put on the automation line are placed in the refrigerator in the SPIN area.
- 10.5 Urines, fluids and autopsy specimens will be tracked by CP in Beaker in Storage Location for appropriate fluid.

Refer to Attachment 2: Ordering Extra Tubes

11.0 SPECIMENS SHOULD NOT BE RETURNED TO THE ORDERING LOCATION FOR ANY REASON:

- 11.1 Once specimens are received in the lab, they may not be returned to an ordering location or given to non-lab personnel for any reason to take out of the lab.
- 11.2 Extra specimens/tubes will be retained in the laboratory in the extra rack located in the SPIN section of Central Processing.
- 11.3 The tube must be verified and marked as "extra" prior to placing it in the rack. Orders may be added and the sample will be pulled as needed.
- 11.4 Specimens sent to Main Campus in error should be evaluated by the pathology resident.

12.0 SPECIMEN DISPOSAL:

- 12.1 All specimens received in the laboratory are considered biohazardous and should be handled according to the Laboratory Infection Control Policy.

13.0 SPECIMENS WITH ATTACHED NEEDLES:

- 13.1 Should not be accepted in the lab.
- 13.2 If the specimen is from a critical patient, caution the sender that needles should be removed at the collection site.
- 13.3 Accept it and carefully remove the needle with hemostats.

14.0 PATIENT REGISTRATIONS:

- 14.1 Refer to CP 27 – Registration and Order Entry into the Laboratory Information Systems Procedure during Laboratory Client Service hours.
- 14.2 Go to Patient Station. If patient is not found, fill in all info and use “standard unknown” for social security number and click “New”. Once this is done, use ‘One Click’ to create an episode.

15.0 BLOOD BANK SEGMENTS:

- 15.1 Sickle Cell Screens done on Blood Bank segments should be ordered by Blood Bank and are delivered by CP to Hematology.

16.0 BLOOD GAS SAMPLES:

- 16.1 Blood gas samples are sent via the pneumatic tube system to ICU Blood Gas Lab, Station 54. After hours OR Blood Gas samples are sent to the ICU Lab.

17.0 RELEASE OF SAMPLES TO OUTSIDE AGENCIES:

- 17.1 Blood and body fluid samples may be released to Federal, State or Local Law Enforcement Agencies or other outside agencies having statutory authority to obtain physical evidence such as: the North Carolina Industrial Commission, a Court Order, a Search Warrant, a North Carolina Industrial Commission Order or other legal document recognized by our legal department.

- 17.2 Management (CP or Referral Testing) should be notified if there is a request.

18.0 Handling Duplicate Test Orders

- 18.1 Known duplicates – cancel one of the accession numbers with reason – ‘Floor duplicate order.’

- 1. Two (2) labels for same test with 2 different accession numbers
- 2. Two (2) labeled tubes with different accession numbers but same test
 - i. Order the EXTRA tube if appropriate – Refer to 19.

- 18.2 BMEP to CMEP Orders

Refer to Attachment 1: BMEP to CMEP Orders Guidelines

3. Review/Revision/Implementation:

All procedures must be reviewed at least every 2 years.

- All new procedures and procedures that have major revisions must be signed by the CLIA Laboratory Medical Director.
- All reviewed procedures and procedures with minor revisions can be signed by the designated section medical director.

4. Related Procedures: NA

5. References: NA

6. Attachments:

Attachment 1: BMEP to CMEP Guidelines

Attachment 2: Ordering 'EXTRA' tests

7. Revised/Reviewed Dates and Signatures:

Review/Revision Date: 10/8/14

Signature: Tami Bradley

Review/Revision Date: 10/27/14

Signature: Greg Pomper

Review/Revision Date: 8/8/16

Signature: Jennifer Hausmann

Review/Revision Date: 12/3/18

Signature: Jennifer Hausmann

Review/Revision Date: 9/12/19

Signature: Julie H Simmons

Review/Revision Date: 12/1/19

Signature: Julie H Simmons

Document Change Control									
Title: CP5 Specimen Handling									
Previous title:									
Revisions									
Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
12/1/19	JHS								
Validate Date	By	Revisions: Added Attachments 1 and 2. Referral testing (send-outs) should evaluate specimen types before rejecting – may be able to send to a different lab. Added Handling Duplicate orders section.							
Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
Validate Date	By	Revisions:							
Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
Validate Date	By	Revisions:							
Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
Validate Date	By	Revisions:							
Locations				Out of Use:		By			
				Date:					
				Reason					

Reviews: Record date/initials

Date	Initials	Date	Initials	Date	Initials	Date	Initials

Attachment 1: BMEP to CMEP Orders Guidelines

- **BMEP not yet resulted**
 - Add on CMEP
 - Cancel BMEP using reason “Floor duplicate order”
 - Add comment “Part of CMEP”

- **BMEP resulted**
 - Contact the patient care unit / provider to determine if all tests are needed again or if just the additional tests in a CMEP are needed
 - If all tests are needed
 - send CMEP for recollection - all tests are performed on a new sample

 - If only additional tests are needed
 - Request an order for hepatic function panel (HFP) to be placed as an add on to the BMEP
 - Notify the patient care unit / provider that an HFP includes a **direct bilirubin** in addition to the other tests in a CMEP
 - If direct bilirubin is not wanted, order ALB, ALK, BILT, PROT, SGOT and SGPT.
 - If requested that lab enters the additional orders, obtain the person’s name requesting lab order entry AND the ordering provider’s name
 - Enter an order for HFP **or** each individual test using order mode “Telephone with Read back” and the ordering provider’s name provided so the provider can sign the order

 - Cancel the CMEP add-on order using reason “Floor duplicate order”
 - Add comment “Added HFP to BMEP”

Attachment 2: Ordering Extra Tubes


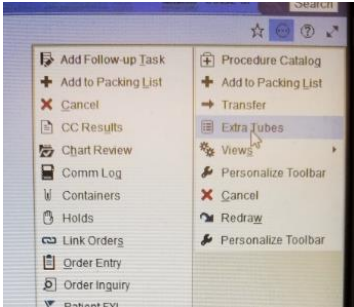
If extra tubes are sent to the lab without Beaker labels or Temporary labels, place an Extra Tubes order.

Test code: LAB4193 Phlebotomist Extra Tube Order (Lab Use Only) *

Section	Use When	Comments
A	Receiving Screen is up	Action tab to select Extra tube Use Extra tube order **
B	Only Tube	Manage Orders Use Extra Tube Order **
C	X locations (CareEvolve)	Use Requisition Entry Order test by tube color

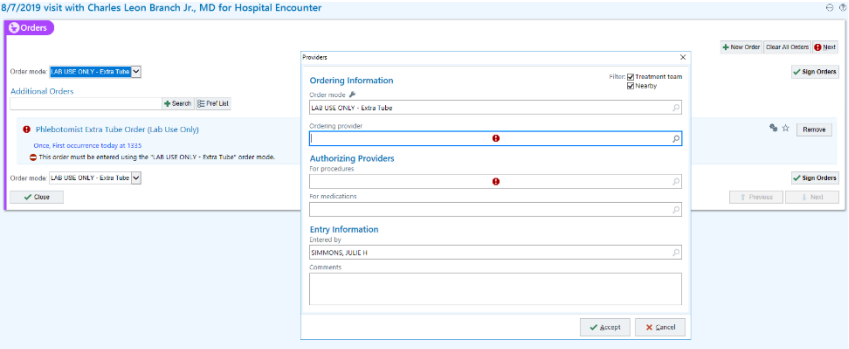
The Extra Tubes Navigator can be accessed from these activities.**

Section A: Ordering from the Receiving Screen.
(There are other tubes available to receive.)

STEPS	INSTRUCTIONS				
1.0	<p>Scan labels to receive tubes that have orders.</p> <p>NOTE: If there are no current tubes – you can re-print a label from a previous test and scan to bring up the patient in the receiving screen. VERIFY that the correct patient has been pulled up before proceeding.</p>				
2.0	<p>Go to Patient Inquiry and Order Inquiry to verify that there are no outstanding orders requiring the tube that has been sent.</p> <p>2.1 IF:</p> <table border="1"> <thead> <tr> <th>NO ORDERS</th> <th>HAVE ORDERS</th> </tr> </thead> <tbody> <tr> <td>a. Go to Step 3.</td> <td> a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive. </td> </tr> </tbody> </table>	NO ORDERS	HAVE ORDERS	a. Go to Step 3.	a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive.
NO ORDERS	HAVE ORDERS				
a. Go to Step 3.	a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive.				
3.0	<p>Click the action tab  and select Extra Tubes by clicking.</p> 				

STEPS **INSTRUCTIONS**

4.0 **Select the Order Mode option: LAB USE ONLY EXTRA TUBE from drop down window. Provider window opens.**



4.1 Hit spyglass beside ordering provider to add ordering provider information.

- Provider if physician will default in.
- Note: If provider is Physician Assistant (PA) - will not be in there.
 - Type in provider name and search.
 - May need to clear filters and search (based on who ordered other tests.)

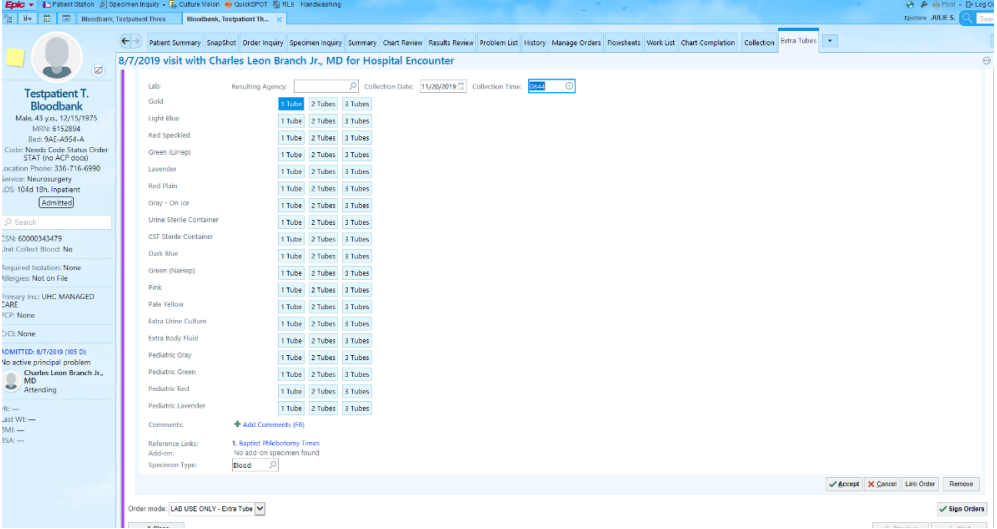
4.2 Click Accept when provider information has been added.

4.3 Click NEXT.

5.0 **Enter the collection information from the tube you have received and select the number and color/type tube by highlighting.**

5.1 Enter date and time of collection.

- Use T for today or select the date.
- Use N if just collected or enter correct time if different.

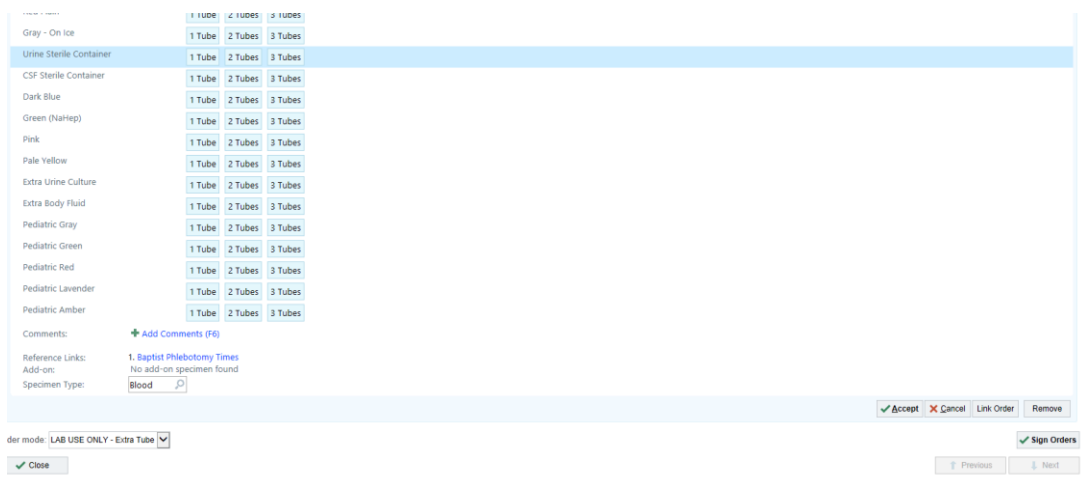


STEPS	INSTRUCTIONS
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NOTE: Verify that you have NOT ordered the Extra tube as a future order. If it is a Future order – then need to change it or the label will not print.

NOTE: Occassionally if you are ordering you may be prompted to answer diagnosis question. Check all and it will automatically fill in the boxes.

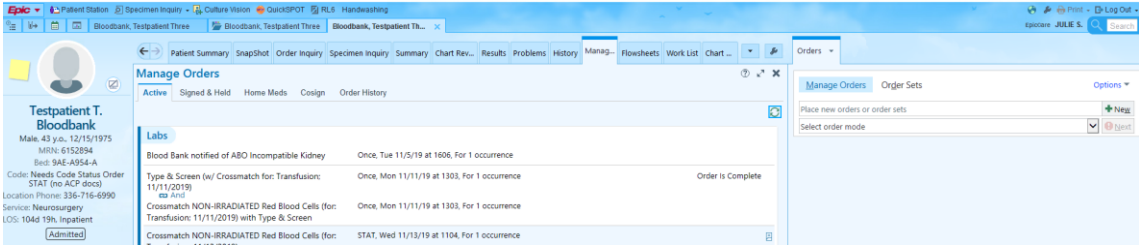
- 5.2 Review the specimen type at the bottom of the screen.
 - a. It defaults to blood. If urine or body fluid– have to change.
- 5.3 Click Accept.



6.0	Click the 'Sign Orders' button and label should print.
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7.0	<p>Verify label is for correct patient.</p> <p>7.1 SCAN label for 'Extra tube' to receive.</p>
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Section B: Ordering from Manage Orders when there are no orders – no tubes are available to scan in the Receiving screen.

STEPS	INSTRUCTIONS				
<p>1.0</p>	<p>Go to Patient Inquiry and Order Inquiry to verify that there are no outstanding orders requiring the tube that has been sent.</p> <table border="1"> <thead> <tr> <th>NO ORDERS</th> <th>HAVE ORDERS</th> </tr> </thead> <tbody> <tr> <td> <p>a. Go to Step 2.</p> </td> <td> <p>a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive.</p> </td> </tr> </tbody> </table> <p>1.1 IF:</p>	NO ORDERS	HAVE ORDERS	<p>a. Go to Step 2.</p>	<p>a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive.</p>
NO ORDERS	HAVE ORDERS				
<p>a. Go to Step 2.</p>	<p>a. Collect the tube so that the label prints. b. Verify label is for correct patient. c. Label tube so that name on original label on tube is visible. d. Scan tube to receive.</p>				
<p>2.0</p>	<p>Enter Extra tube in the 'Place new orders or order sets' box and enter.</p>  <p>2.1 A window should open and EXTRA TUBE DRAW should be highlighted.</p>				

STEPS **INSTRUCTIONS**

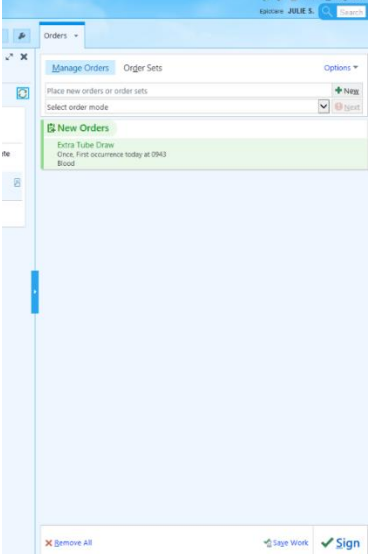
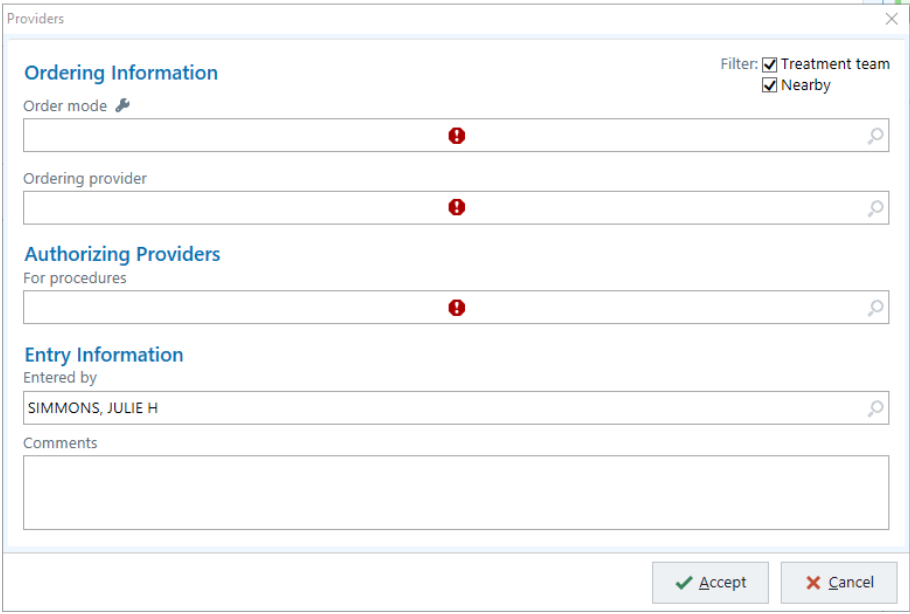
3.0

Click Accept.

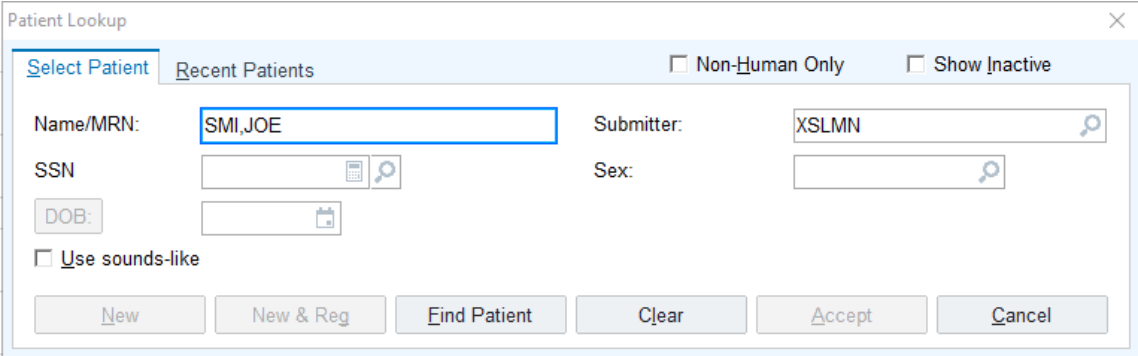
4.0

Enter the collection information and select the correct extra tube type/number by highlighting.

4.1 Click Accept to return to manage orders screen.

STEPS	INSTRUCTIONS
5.0	<p>Click Sign.</p> 
6.0	<p>Complete Ordering information in the box that pops up.</p> <p>6.1 Order mode: LAB USE ONLY – Extra Tube</p> <p>6.2 Ordering provider: Select</p> 
7.0	Click Accept and label should print.
8.0	Scan Extra tube label to receive.

C. Using Requisition Entry when extra tube from “X” location.

STEPS	INSTRUCTIONS
1.0	Go to Patient Inquiry.
2.0	<p>Type “X” location in submitter box and the first three letters of patient’s last and first name in Name/MRN box. i.e. XSLMN for Salemtowne; SMI, JOE for Joe Smith.</p> <p>2.1 Click find Patient.</p>  <p>The screenshot shows a 'Patient Lookup' dialog box with the following fields: 'Name/MRN:' containing 'SMI,JOE', 'Submitter:' containing 'XSLMN', 'SSN', 'Sex', and 'DOB'. There are checkboxes for 'Non-Human Only' and 'Show Inactive'. At the bottom are buttons for 'New', 'New & Reg', 'Find Patient', 'Clear', 'Accept', and 'Cancel'.</p> <p>2.2 Review patient that is displayed and Click Accept if correct patient.</p>
3.0	<p>Scroll through the lists of test ordered for the patient until you reach an ‘empty’ box.</p> <p>3.1 Type in the tube color in the box. (i.e. “Gold” or “Lav”)</p> <p>a. Make sure you are in the database tab to find these extra tube types by color.</p>
4.0	<p>Click ‘Create Specimen.’</p> <p>4.1 Label should automatically print.</p>
5.0	Go to Receiving screen and scan label to receive.