

Epic Tip Sheet: Inpatient Nurses

HP: Blood Product Administration

Summary

The Blood Product Administration Module (BPAM) helps a clinician match the blood product dispensed from the blood bank with the blood order a physician has placed for the patient by comparing information from the blood bank with the patient's ID, information on the blood product (such as the unit number and product code), and other information in the patient's record.

Step-by-Step:

Pre-Transfusion Documentation

1. Go to the **Flowsheets** activity in the patient's chart and open the **Blood Transfusion** flowsheet.
 - a. You may need to search "Blood" in the search bar on the right to manually add the flowsheet.
2. On the Blood Transfusion flowsheet you need to document:
 - a. **Pre-Transfusion Checklist:** Patient transfusion history and Blood Consent data.
 - b. **\$Daily Blood Charge:** This charge is applied once per day and applied to any blood product received from the Blood Bank (PRBC, FFP, Platelets, Whole Blood, etc.)
 - c. **Transfusion Vitals:** before, after initiation, and upon completion of blood product administration.

	0540	0800	1200	1730
Pre-Transfusion Checklist				
History of Blood Transfusion				
Blood Consent				
\$Daily Blood Charge				
\$Daily Blood Product Admin Charge				
Note to Blood Bank				
Note to BB				
Transfusion Vitals- Within 30 minutes before, 15 minutes after initiation & upon completion				
Temp		37.7 (99.9)		
Temp Source				
Heart Rate/Pulse		92		
Resp		18		
SpO2		10u		
O2 Delivery				

Transfusion Report

3. Open the **Transfusion Report**.
 - a. Add a note to the Blood Bank informing them where to send the blood. This is critical to get your blood delivered.

Note to Blood Bank

Time taken: 5/2/2023 2044

Note to Blood Bank

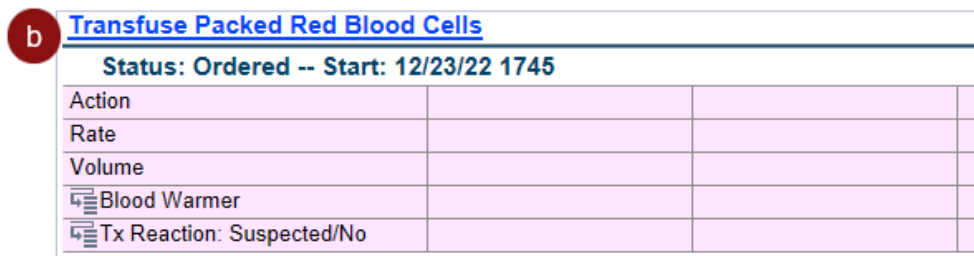
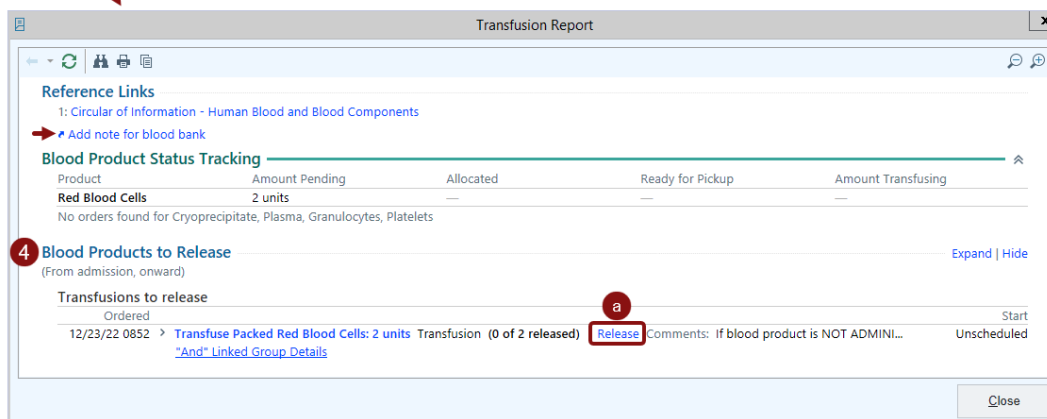
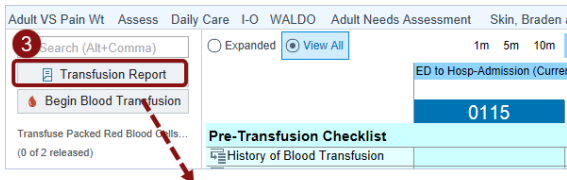
Create Note

Accept Accept and Neg Cancel

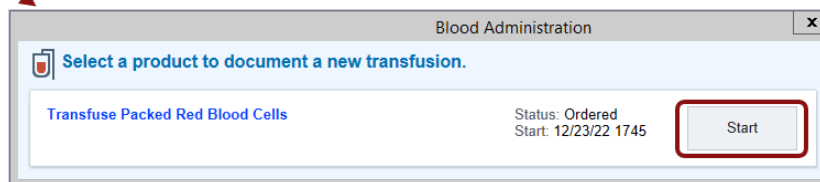
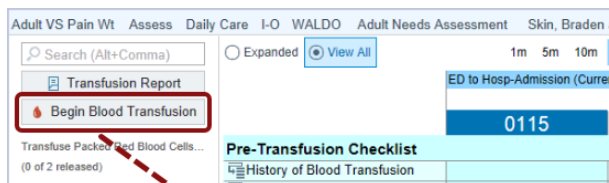
Epic Tip Sheet: Inpatient Nurses

HP: Blood Product Administration

4. Go to the **Blood Products to Release** section. Click the blue **Release** link to release the blood product from the Blood Bank then **Close** the Transfusion Report.
 - a. A requisition will print on the unit and in the Blood Bank.
 - b. A blood product transfusion group will be added to the flowsheet for documentation.
 - c. When ready, secure blood products per unit procedures.



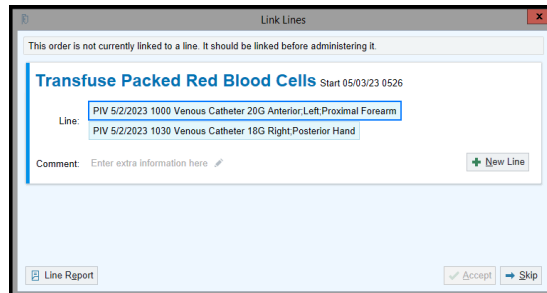
5. Once the blood product is on the unit, go to the Blood Transfusion flowsheet, select **Begin Blood Transfusion** or scan the patient's wristband. Select the appropriate blood product and link the IV line.



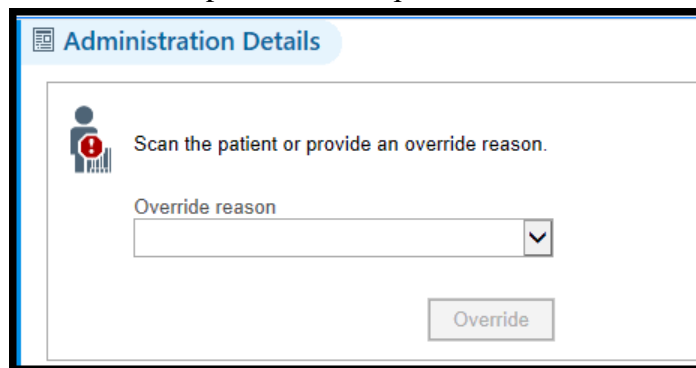
Epic Tip Sheet: Inpatient Nurses

HP: Blood Product Administration

6. Link an existing line or add a New Line



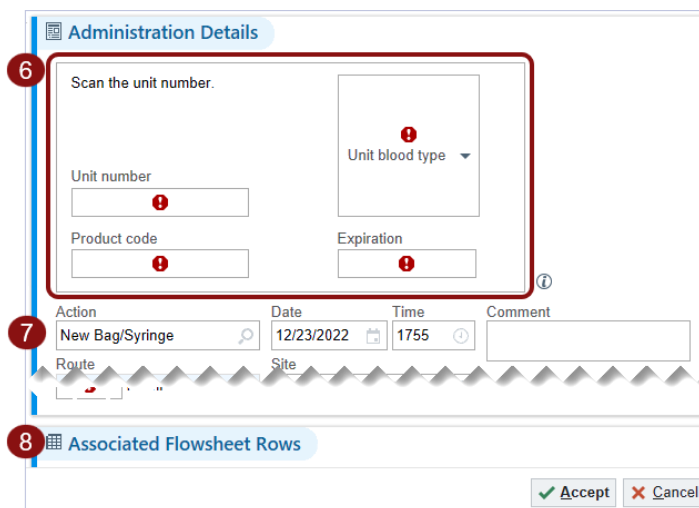
7. The MAR Administration window will open. Scan the patient's armband.



8. Scan the barcodes on the blood bag. The data will populate and confirm the blood product matches the patient.

9. Ensure the **Action** is **New Bag/Syringe** and enter a **Rate**.

10. Fill out the **Associated Flowsheet Rows** and click **Accept**. Complete the **Dual Sign Off** with a second nurse. Go to the Blood Transfusion flowsheet to view the blood product is now documented as transfusing.



Epic Tip Sheet: Inpatient Nurses

HP: Blood Product Administration

11. Manage rate changes in the Blood Transfusion flowsheet. When the transfusion is complete, enter a rate of zero (0) in the **Rate** row and complete the documentation.

Transfuse Packed Red Blood Cells - PIV 6/9/2022 1000 Venous Catheter 20G Anterior;Left;Proximal Forearm			
Status: Stopped -- Unit: H1234 56 789012 W-E1234V00			
Action	New Bag/Syringe	Rate/Dose Change	Stopped
Rate	75	125	0
Volume			247.92
<input type="checkbox"/> Blood Warmer			No
<input type="checkbox"/> Tx Reaction: Suspected/No			No

12. Hover over the transfusion group, right-click, and select **Complete** to complete the group and hide it in the flowsheet.
13. Release additional units as needed following above Steps 3-10.

Suspected Transfusion Reaction

If the patient exhibit symptoms of a blood product transfusion reaction, follow facility protocol and document on the Blood Transfusion flowsheet.

1. In the blood product transfusion group, document **Suspected** in the **Tx Reaction** row. A **Transfusion Reaction** group will open for more documentation. Document as appropriate and **File**.
2. A Best Practice Advisory will open directing the Nurse to place a Per Protocol **Transfusion Reaction Evaluation** order.
3. Complete the order as appropriate per facility policy.

BestPractice Advisory - Banner, Andy-IPCD

Transfusion Reaction

The last flowsheet documentation indicates that this patient may have experienced a TRANSFUSION REACTION.

Please click ACCEPT to enter the Transfusion Reaction order. Use the "PER PROTOCOL" mode when signing.

Order Do Not Order Transfusion Reaction Evaluation

Acknowledge Reason _____

Chart Review Only

Accept

Downtime Process

1. Go to the **Flowsheets** activity in the patient's chart and open the **Blood Transfusion** flowsheet.
 - a. You may need to search "Blood" in the search bar on the right to manually add the flowsheet.
2. On the Blood Transfusion flowsheet document:
 - a. **Pre-Transfusion Checklist:** Patient transfusion history and Blood Consent data.
 - b. **\$Daily Blood Charge:** This charge is applied once per day and applied to any blood product received from the Blood Bank (PRBC, FFP, Platelets, Whole Blood, etc.)
 - c. **Note to Blood Bank:** Documentation will be added to the requisition that prints in the Blood Bank when the transfusion order is released.
 - d. **Transfusion Vitals:** before, after initiation, and upon completion of blood product administration.
3. Call the Blood Bank to request the blood product for administration and pick up per unit protocols.

Epic Tip Sheet: Inpatient Nurses

HP: Blood Product Administration

- Administer the blood products.
- Once blood product administration is complete, go to the **MTP/Emergent Blood Volumes** flowsheet group and enter the mL of appropriate blood product and fluids that were infused.

Adult VS Pain Wt Assess Daily Care I-O WALDO Blood Transfusion

Expanded View All

1m 5m 10m 15m 30m 1h 2h 4h 8h 24h Interval

N04N ED to Hosp-Admission (Current) from 12/26/2022 k

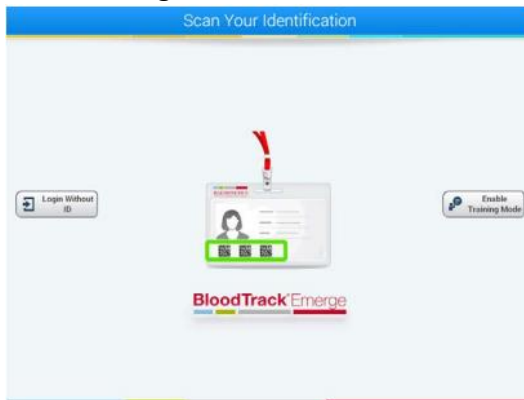
12/26/2022

5 Search (Alt+Comma)

	1m	5m	10m	15m	30m	1h	2h	4h	8h	24h
MTP / Emergent Blood Volumes										
0.9% NS			100							
PRBC			245							
FFP										
Platelets							150			
Cryoprecipitate										
[+] Whole Blood										

Bloodtrack MTP User Guide

1. Scan ID badge



2. Select Touch Here for MTP Packs



3. Scan or Enter Patient's CSN number



Bloodtrack MTP User Guide

Verify patient's displayed information: **Yes No**

4. You will be prompted to remove MTP Pack
 - a. **Scan MTP Pack QCR code** or
 - b. Touch **Logout** to cancel (Blood Bank will receive an alert)
5. At the bedside verify the blood products and patient information
6. Release an **Epic MTP Pack Emergency release order**
7. Complete the **Yellow Emergency Release form** found with the MTP Pack bag and send to Blood Bank tube station #400

Approved and current. Effective starting 5/9/2021. UCMC 4939.2F (version 2.1) BB-Emergency Release Authorization Form

UChicago Medicine
BB - Emergency Release Authorization Form

PATIENT NAME (REQUIRED)	MRN (REQUIRED)	Storage Location: <input type="checkbox"/> UCAN <input type="checkbox"/> L&D <input type="checkbox"/> Comer ED <input type="checkbox"/> ED BloodTrack <input type="checkbox"/> Comer OR <input type="checkbox"/> CDOR BloodTrack
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Indication for transfusion: _____

1. Emergency Release transfusion (Uncrossmatched RBC, whole blood and/or thawed plasma)
 2. Massive Transfusion Protocol (MTP)
 3. FDA required tests not complete on donor unit(s)
 4. Other. Specify: _____

PHYSICIAN SIGNATURE REQUIRED: *Send Signed Form to Blood Bank, Tube Station 400*****
I believe the patient requires an emergency transfusion and cannot wait for completion of routine testing. As determined within my medical judgement, the increased risks outweigh the benefits of testing or special blood requirements. Required testing will be performed as soon as possible.

_____, M.D. _____ (Date) _____ (Time) _____ (Pager #)
 (Signature / Licensed Physician)

Print Name: _____ M.D.

TO BE COMPLETED BY BLOOD BANK - TECH ID: _____			DATE: _____	
Donor # (Include part #)	Product	UCAN Only	Donor # (Include part #)	Product
1	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other	<input type="checkbox"/> Transfused <input type="checkbox"/> Discarded Data Logger Temp: _____ °C	7	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other
2	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other		8	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other
3	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other		9	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other
4	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other		10	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other
5	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other		11	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other
6	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other		12	<input type="checkbox"/> RBC <input type="checkbox"/> Plasma <input type="checkbox"/> Other

8. Return unused blood products to Blood Bank tube station #400

Massive Transfusion Protocol and Emergency Release Documentation Tip Sheet

Summary

MTP and Emergency Release products are administered when a patient experiences acute or prolonged massive hemorrhage. Patient resuscitation should be prioritized, but documentation is still required. This tip sheet covers how to document products that are administered.



Step-by step

1. Obtain products from remote refrigerators, blood bank runners, or pneumatic tube stations, whichever is applicable.
2. Verify products with a second identifier.
3. Document vital signs in EPIC flowsheets.

Transfusion Vitals- Within 30 minutes before, 15 minu	
Temp	37.7 (99.8)
Temp Source	
Heart Rate/Pulse	140
Resp	31
BP	96/62
MAP	
Arterial Line BP 1	
Arterial Line MAP 1	
SpO2	94
O2 Delivery	



4. Administer products to patient.
5. In EPIC, Select MTP/Emergent Blood Volumes. This can be found in the blood transfusion flowsheet.

Search (Alt+Comma)

Transfusion Report

Begin Blood Transfusion

Hide All Show All

PRE-TRANSFUSION ▾

TRANSFUSION ▾

MTP/EMERGENT BLOOD ▾

MTP / Emergent Blood Volumes ▾

EXCHANGE TRANSFUSION ▾



Massive Transfusion Protocol and Emergency Release Documentation Tip Sheet

- Document the volume given for each product in Blood Transfusion flowsheets or intake and output.


MTP / Emergent Blood Volumes	
0.9% NS	
PRBC	
FFP	
Platelets	
Cryoprecipitate	
[+] Whole Blood	
Exchange Transfusion	
Exchange Transfusion Trigger	

←

Document volume given in subsequent flowsheet rows

- The first and second verifiers must physically sign the Report of Blood Transfusion forms for each subsequent transfusion.

FORM 26.52 (3/22)



26.52

THE UNIVERSITY OF CHICAGO MEDICINE
CHICAGO, ILLINOIS

REPORT OF BLOOD TRANSFUSION

INDICATIONS FOR TRANSFUSION:
ENTER INDICATION CODE FROM BACK OF THIS COPY OR OTHER REASON IN THIS SPACE.

CODE: _____ OTHER REASON: _____

PHYSICIAN'S ORDER WRITTEN: _____ YES ___ NO
CONSENT SIGNED: _____ YES ___ NO

PRIOR TRANSFUSION REACTIONS: ___ YES **X** ___ NO ___ UNABLE TO DETERMINE
BLOOD PRODUCT EXPIRATION DATE CHECKED & CURRENT: **X** ___ YES ___ NO

CONFIRMATION OF PATIENT IDENTITY: I CERTIFY THAT THE IDENTITY OF THIS RECIPIENT AND OF THIS DONOR BLOOD OR BLOOD PRODUCT HAS BEEN CONFIRMED, ITEM BY ITEM, AND I HAVE FOUND NO DISCREPANCY WITH THE COMPATIBILITY LABEL FOR CROSSMATCHED BLOOD ATTACHED TO THIS UNIT.

SIGNATURE: *Jenny Wong* ←

SIGNATURE: *Bob Joe* ←

TRANSFUSION RECORD
(TO BE COMPLETED BY TRANSFUSIONIST)

STARTED BY: Jenny Wong	DATE: 4/30/23	TIME: 1300	A.M. <input type="checkbox"/>	P.M. <input type="checkbox"/>
COMPLETED BY: Jenny Wong	DATE: 4/30/23	TIME: 1600	A.M. <input type="checkbox"/>	P.M. <input type="checkbox"/>
BLS PROC. ADMINISTERED: 276	FLUIDS GIVEN WITH TRANSFUSION: 0.9 Normal Saline			

IF NOT COMPLETED, EXPLAIN:
1. POSSIBLE TRANSFUSION REACTION: YES NO
2. OTHER: _____

OR TRANSFUSED IN OPERATING ROOM YES (SEE ANESTHESIA NOTES)

RECIPIENT IDENTIFICATION NUMBER: 123456789	Ward # T14300
Name: Rogers, Fred	
Room # Location: 3018A	ATTENDING PHYSICIAN: BAKER, TALIA
Unit Expiration: XX/XX/XXXX 2359	
PATIENT'S TYPE: O-POS	DONOR TYPE: O-POS
VOLUME: 276	
RED BLOOD CELLS	
CROSSMATCH ID: W204019000415	ISSUE DATE: 3589
	EXPIRES: 4/30/2023

- Place Report of Blood Transfusion form(s) in the patients chart.

Transfusion Safety Committee Returning Products to Blood Bank: Nursing

Summary

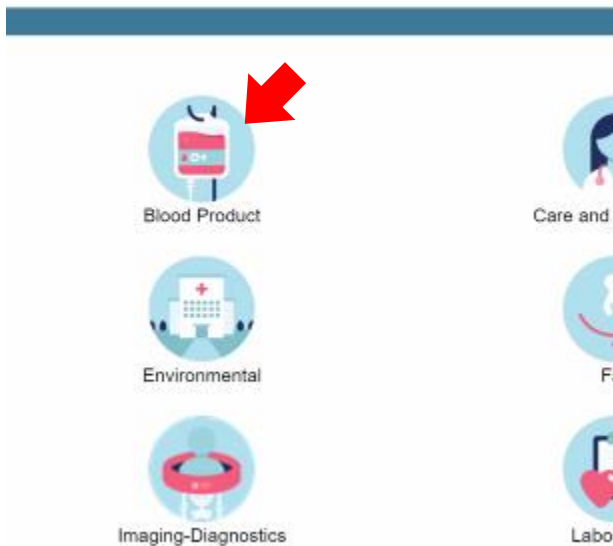
This tip sheet outlines how to document returning a product to blood bank as a nurse.

As a reminder:

1. Blood products should be started as soon as possible upon arrival to the unit.
2. Blood products **must be completed** within four hours from the time the blood bank issues the product.
3. Products that are **not** going to be administered **must be returned** to the blood bank within 20 minutes of arrival to the unit.
4. Nurses must denote the tube station that they would like their blood sent to in EPIC before releasing a blood product.

Step-by-Step

1. If the product cannot be transfused within 4 hours, or if you have to return a product for any reason, submit an event report.
2. Access Risk Connect
3. Select Blood Product



4. Complete event Report. The event report details must include:
 - a. Unit/Floor
 - b. Estimated time that the product was released in EPIC
 - c. Reason for returning the product examples can include but not limited to:
 - i. Order discontinuation
 - ii. Unable to scan product
 - iii. Patient status change
 1. Febrile
 2. patient access could not be reobtained
 - iv. Note any other surrounding details

Transfusion Safety Committee Returning Products to Blood Bank: Nursing

12345678

Event Description

delay return due to lost iv access

Date of Event

4/17/2023

Time of Event

12:00

Primary Facility

CENTER FOR CARE AND DISCOVER

Primary Location

N04S

Room Number

Injury

5. Select the type of product being returned

Type-Blood Product

PRBC

Indicator

--None--

Whole blood

PRBC - unused product to blood bank

Platelets

Plasma

Cryoprecipitate

Granulocytes

Lymphocytes

Albumin

Factors

IVIG

Rhlg

Other

Save and Continue

6. Select “Delay in returning unused product to blood bank” as the indicator

Transfusion Safety Committee Returning Products to Blood Bank: Nursing

Type-Blood Product

PRBC

Indicator-Blood Product

Delay in returning unused product to blood bank

- Delay in initiating investigation of adverse reaction
- Delay in issuing product
- Delay in returning unused product to blood bank
- Delay in transfusion/ administration
- Hemolytic Reaction
- Incorrect ABO/Rh type
- Incorrect IV fluid (i.e., administered product with incorrect IV fluid)
- Incorrect patient
- Incorrect product
- Incorrect product preparation
- Incorrect rate
- Incorrect sequence of administration of products
- Incorrect use of expired or inappropriately stored products
- Incorrect volume (e.g., number of units or milliliters)
- Missing consent
- MTP Related
- Non-Hemolytic Reaction
- No transfusion order
- Other
- Unknown

Continue

CAUTI Prevention, Bladder Scanning, & External Female Catheter

Related UCM Protocols:

- [Urinary Catheterization](#)
- [Protocol for External Female Urinary Device](#)

1. Urinary catheter alternatives

- a. Remember No Foley = No CAUTI
- b. Scheduled toileting: Commode/bedpan/urinal (male & female)
- c. External female catheter **Must meet criteria for appropriate use (see protocol [HERE](#))
- d. Male external catheter
- e. No diapers for adult unless up in chair/ambulating
- f. Maintain good bowel regime; a common reason for urinary retention is full bowel

2. Urinary Catheter Insertion

What to do before putting in catheter:

- a. Verify Order/Indication
 - i. Does the patient really need the Foley? Remember No Foley = No CAUTI
- b. Wash hands, clean patient with soap and water, gather supplies, explain to patient, provide education, 2nd person to assist
- c. Review all contents of the insertion kit
- d. Clean hands, clean patient again with the castile towelette, drape patient
- e. Prepare all items sterile, Lube catheter 3-4", no need to test balloon
- f. Females: Spread labia/expose meatus: Betadine swab right, left and center: clean meatus with betadine, then wipe down toward vagina, don't let labia fall back on meatus
- g. Males: Maintain penis **taut** at 90-degree angle, using a circular cleansing of the meatus and glans, use all three betadine sticks. Gentle ¼ turn at the prostate helps with elderly male insertion, insert catheter all the way to the bifurcation, before inflating balloon.

3. Maintenance processes:

- a. Bag below bladder
- b. Securement device in place, change every 7 days, when loose or soiled
- c. No kinks, no dependent loops— be sure urine is free-flowing
- d. Empty bag when half-full, before road trips, and at least every 4-6 hours
- e. Be sure bag is not resting on the floor, must be hooked to bed or chair (maintaining below bladder level at all times)
- f. Be sure to keep drainage spigot free of contamination- wash hands before handling, wear clean gloves, use a clean collection container when emptying
- g. Keep CHG cap on the specimen port

4. Nurse-driven pediatric and adult standard pathway for urinary catheter removal

- a. Review of daily BPA with appropriate indications
- b. Extended urinary catheters

- c. Removal of Urology placed catheter
- d. Place order to maintain or discontinue, no need to call providers for additional orders, this is the protocol

5. Post Catheter Removal Protocol

- a. Assist all pt to void, provide fluids unless contraindicated, up to commode, run water, hands in water, Credé maneuver (The Credé maneuver is executed by exerting manual pressure on the abdomen at the location of the bladder, just below the navel)
- b. Pediatric notify providers of bladder scan volumes
- c. Adult
 - i. Bladder scan if >400ml. Straight cath per protocol...No need for provider order...
 - ii. Avoid replacing Foley

6. Bladder Scanners

- a. Use appropriate setting: Child, Male, Female, Female no uterus = Male
- b. Warm the gel!
- c. Scan 3 times and take the highest reading.
- d. Concerns: patients with ascites, colorectal, bladder, uterine cancers
- e. Notify providers of post void residuals per orders

7. Documentation

- a. WALDO DOCUMENT at least every shift, indication, urinary catheter care at least every shift and prn
- b. Removal Earlier removal prevents CAUTIs
- c. Document urinary catheter care, not pericare, explain the difference!

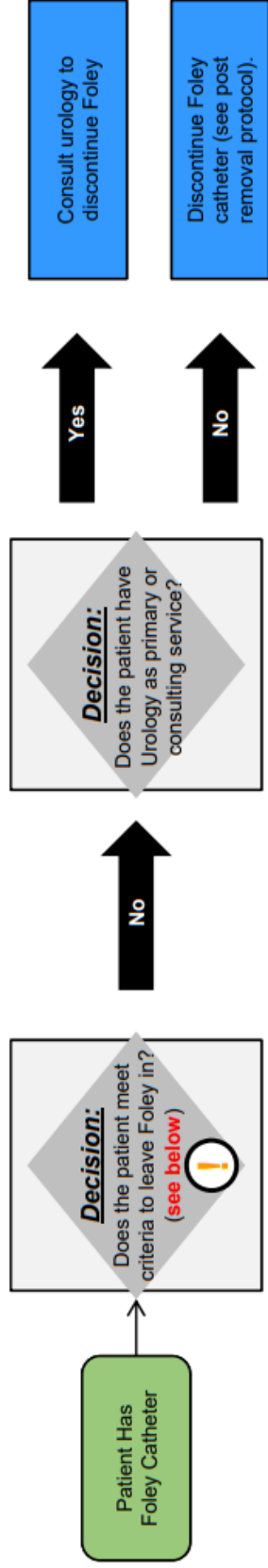
8. Urinary Catheter Care

- a. Soap and water, foam soap, Castile wipes, or meatal wipes if unit is using.
- b. Provide urinary catheter care after all stools
- c. Refer to Elsevier skills

9. Specimen Collection from Indwelling Urinary Catheter

- a. Consult with provider regarding order to remove/replace urinary catheter prior to obtaining specimen
- b. Clamp catheter tubing 12" below the specimen port for 30-60 minutes
- c. Remove CHG cap from specimen port
- d. Cleanse specimen port with CHG swab for 5 sec. and allow to dry
- e. Attach sterile vacutainer to specimen port
- f. Insert gray urine culture tube into vacutainer first, allow to fill
- g. Insert yellow urine tube into vacutainer, allow to fill
- h. Attach new sterile CHG cap to specimen port
- i. Unclamp catheter tubing to allow urine to free-flow into drainage bag.

Standard Pathway for Prevention of Catheter-Associated Urinary Tract Infections



Maintain Foley Catheter:

- 1) Assess need for catheter daily
- 2) Perform Pericare Q shift and PRN
- 3) Use catheter securement device
- 4) Maintain drainage bag lower than level of the bladder
- 5) Maintain tubing free of kinks and loops
- 6) Provide patient education about indwelling urinary catheters

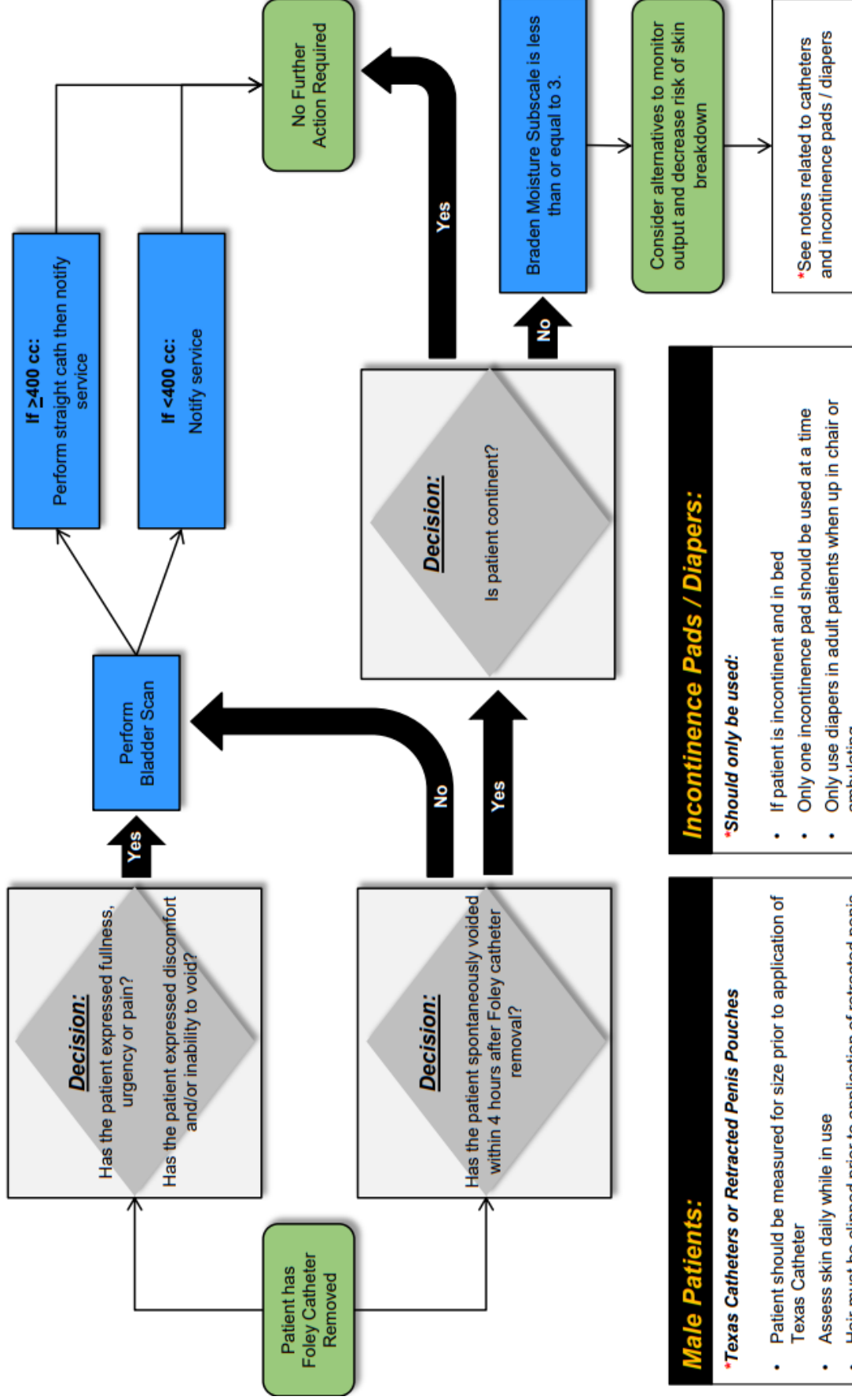
Examples of Surgery on a Contiguous Structure:

- **Urologic** – Prostatectomy, neobladder
- **Gynecologic** – Radical hysterectomy, modified radical hysterectomy, extensive dissection around the ureter/bladder, repair of cystostomy or oversew the bladder
- **Colorectal** – abdominoperineal resection, ileoanal procedure, coloanal anastomosis, proctocolectomy, repair of ileo-vesicle fistula, repair of colo-vesicle fistula, major abdominal surgery in a patient with symptomatic BPH
- **Transplant** – Post Renal Transplant

! Patient meets at least one of the following criteria:

- Need for accurate measurement of urinary output in a critically ill patients
- Epidural catheter and ONE or MORE of the following:
 - Known history of urinary retention
 - Lumbar epidural catheter
 - Male greater than 65 years of age
 - Benign Prostate Hypertrophy
- Surgery on a contiguous structure (urologic, gynecologic, colorectal)
- Urinary incontinence in a patient with full thickness wound on the trunk (including muscle or skin flaps/skin graft on the trunk)
- Post-surgical within 24 hours
- Acute urinary retention or bladder outlet obstruction
- Neurogenic bladder
- Prolonged immobilization
 - Potential unstable thoracic/lumbar spine
 - Multiple traumatic injuries such as pelvic fracture
- Hematuria with clots (for irrigation)
- To increase comfort at end of life if needed

Adult Patient Post-Catheter Removal Protocol



Incontinence Pads / Diapers:

*Should only be used:

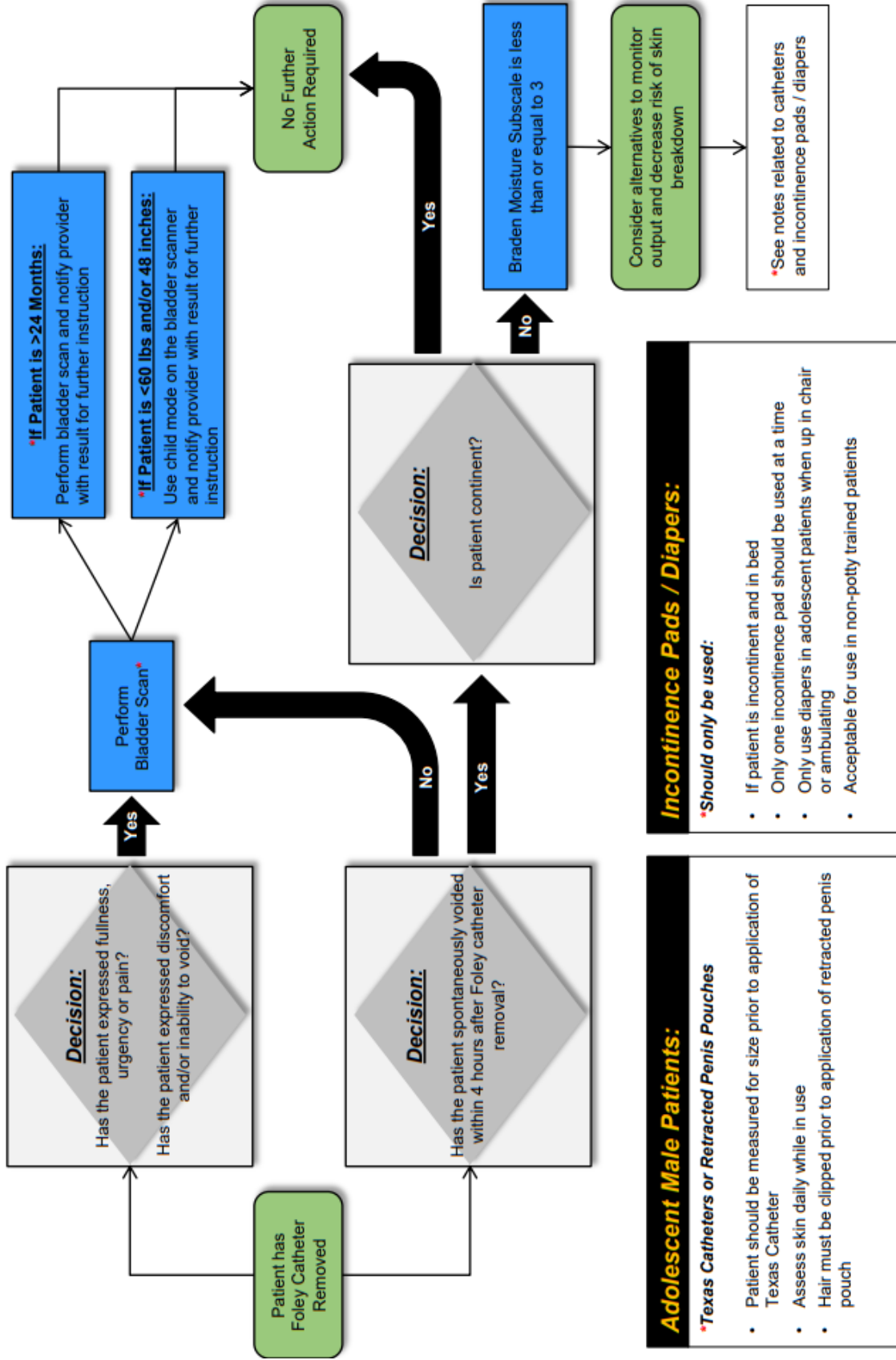
- If patient is incontinent and in bed
- Only one incontinence pad should be used at a time
- Only use diapers in adult patients when up in chair or ambulating

Male Patients:

*Texas Catheters or Retracted Penis Pouches

- Patient should be measured for size prior to application of Texas Catheter
- Assess skin daily while in use
- Hair must be clipped prior to application of retracted penis pouch

Pediatric Patient Post-Catheter Removal Protocol



Incontinence Pads / Diapers:

*Should only be used:

- If patient is incontinent and in bed
- Only one incontinence pad should be used at a time
- Only use diapers in adolescent patients when up in chair or ambulating
- Acceptable for use in non-potty trained patients

Adolescent Male Patients:

*Texas Catheters or Retracted Penis Pouches

- Patient should be measured for size prior to application of Texas Catheter
- Assess skin daily while in use
- Hair must be clipped prior to application of retracted penis pouch

Bladder Scanner

Verathon Bladderscan i10. (If you are using the BVI 9400 model on your unit, please skip to pg. 11.) Press the On/Off button; be sure that the machine has at least 20% power. (It will not perform an exam if connected to power outlet, FYI.)

Allow the system to start. When the system has started completely, the Home screen appears as shown in the following figure.



From this screen, review the following touchscreen icons:

ICON	FUNCTION
	Saved Exams—On the Home screen, view all exams that are saved to the console.
	Settings—On the Home screen, open the Settings screen.
	Tutorial—On the Home screen, view the onboard tutorial.
	Position—On the Home screen, select which side of the patient you are located on during the exam.
	Scan—Start scanning the patient.

OPTIONAL: Turn the BladderScan device on and view the “onboard tutorial.” While the tutorial is playing, you can take these actions:

- View the previous frame of the tutorial (tap Previous)
- View the next frame of the tutorial (tap Next)
- Pause the tutorial (tap Pause) or continue the tutorial when paused (tap Play)
- When you are done viewing the tutorial, tap Exit.

**If you choose to skip the onboard tutorial during this training session, I would strongly encourage staff to view it on their own.

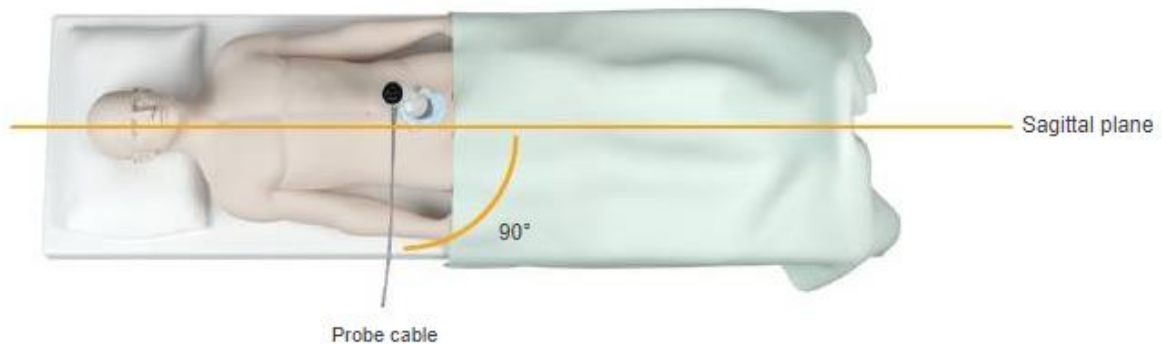
Steps for Measuring Bladder Volume

1. On the Home screen, select whether you are standing on the patient's left or right side by clicking on the correct “position” icon. (You do not need to specify the patient's age or sex to obtain an accurate result.)

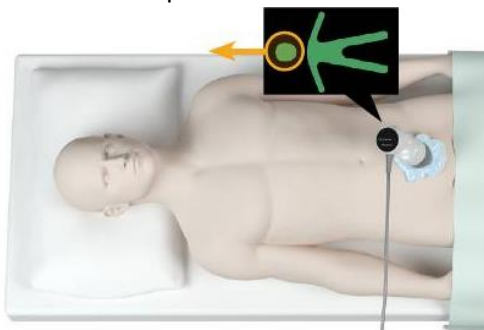
2. With the patient lying in a supine position and with the abdominal muscles relaxed, palpate the patient's pubic bone.



3. Squeeze a large amount (golf ball size) of ultrasound gel, with as few air bubbles as possible, midline on the patient's abdomen, approximately 3 cm (1 inch) above the pubic bone. **Must be ultrasound gel. Do not substitute with lubricant or other.
4. Hold the probe by grasping it with the probe cable running up your wrist and forearm.
5. Gently press the probe onto the lower abdomen through the gel. The probe cable should be oriented at 90 degrees to the sagittal plane of the patient.

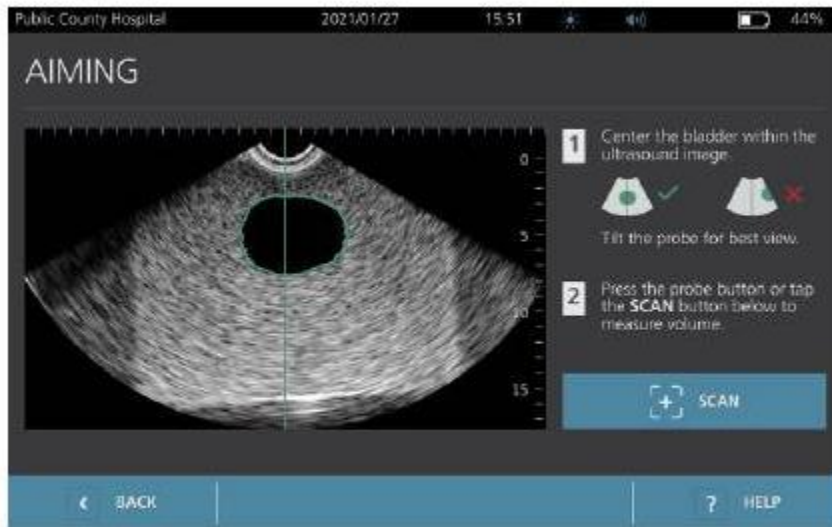


6. Look at the position indicator icons on the top of the probe. Make sure the head of the lighted direction indicator points in the same direction as the head of the patient.

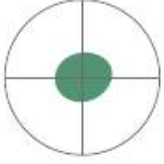
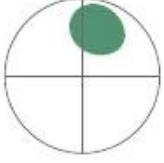
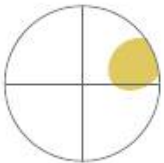
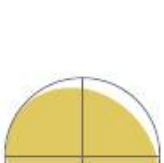
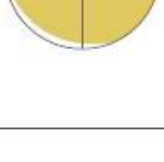


7. If you are scanning an obese patient, lift as much abdominal adipose tissue out of the way of the probe as possible. Apply more pressure to the probe to reduce the amount of adipose tissue through which the ultrasound must pass, but use no more pressure than necessary.
8. Make sure that there are no air gaps between the probe and the patient's skin, and that you are applying enough pressure to maintain adequate skin contact, until the scan is complete. If necessary, add more gel to ensure proper contact.

9. Angle the probe slowly from the patient's left to right until the dark (bladder) area is centered on the vertical green line on the aiming screen. Once the bladder is centered, angle the probe slightly up or down the patient's midline to obtain the largest possible dark area.



10. Once you are finished aiming the probe, press the probe button or tap Scan on the screen. The scanning process begins. (You do not need to hold the button down while the scan is taking place. Just hit once, and release.)
11. Hold the probe steady while the scan is in process. When you hear the end-scan tone, the scan is complete. Continue to the procedure "Review Exam Results."
12. When the Results screen appears, check whether a yellow greater than (>) symbol appears next to the recorded volume and the bladder is shown in yellow. A greater than symbol (>) along with a yellow post scan result indicates that the bladder boundary may be outside the scan area or partially obstructed by the pubic bone. Actual volume may be underestimated. You should aim the probe again and rescan the patient. For guidance on improving the scan results, see table below:

RESULT	AIMING GUIDANCE	EXAMPLE
Successfully Centered	If the bladder is centered in the field of view, with all edges visible and no gray areas showing, then the scan was successful and the results are as accurate as possible.	
Not Centered	If the bladder is not centered in the field of view, you may move or angle the probe in the direction of the bladder on the display to optimize your results.	
EdgeScan	If one side of the bladder is not within the field of view, then a portion of the bladder was not included in the scan. The system displays a greater than symbol (>) before the measured result, indicating the actual bladder volume may exceed the displayed result. Move or angle the probe in the direction of the bladder on the display to optimize your results.	
Bladder larger than view	If more than one side of the bladder is not within the field of view, then multiple portions of the bladder were not included in the scan. The system displays a greater than symbol (>) before the measured result, indicating the actual bladder volume may exceed the displayed result. You may attempt to capture the entire bladder by rescanning while applying less pressure to the abdomen. However, the bladder may be larger than the field of view, and it may not be possible to capture the entire bladder within the view.	
Pubic bone interference	If a gray area appears, this indicates that the pubic bone is inside the field of view. Although the bladder may be centered and your measurement may be complete, there is a possibility the pubic bone is obscuring part of the bladder. The system displays a greater than symbol (>) before the measured result, indicating the actual bladder volume may exceed the displayed result. You may move or angle the probe to optimize your results.	

13. If you want to rescan the patient, on the Results screen, tap Scan. Repeat the scanning procedure as necessary to adjust your aim or confirm the initial measurement.
14. When you are satisfied with the results, record the exam results in the patient's chart and notify the nurse of results.

FYI-When you perform more than one scan, the Results screen displays the largest volume obtained. Above the largest volume measurement, the screen indicates the most recent scan volume.

Disinfecting the Bladder Scanner

1. If the system is on, press the On/Off button to turn it off.
2. Wipe any ultrasound gel completely off the probe with a paper towel and discard.
3. Using a germicidal wipe (Sani-Cloth-either purple or orange top, orange for c.diff patients) wipe the console, probe, and probe cable according to the directions on the cleaner. Repeat as needed to make sure that all visible contamination is removed.
4. Allow the probe to air dry completely before use to ensure disinfection.

Charging

1. Be sure the charging cable is securely attached to the console.
2. Plug the power adapter into a standard wall outlet.
3. If the battery indicator LED on the console remains unlit, press the On/Off button. The LED should light up to indicate that the battery is charging.

Important: The probe does not operate when the system is connected to an outlet. To scan patients, the console must have a charged battery and the system must be unplugged from external power

**Reference: © 2021 Verathon Inc, BladderScan i10, Verathon

For units still using BVI 9400 scanners- see quick reference below:

BVI 9400 User's Quick Reference

Noninvasive, Accurate, Reliable, Easy to Use

1




Turn on the BladderScan[®] BVI 9400 by pressing the POWER ON/OFF button.



2

Select scanning mode

The BladderScan BVI 9400 is designed to scan in three patient-specific modes. Select the proper exam mode to ensure the accuracy of your scan. Simply press the button repeatedly until the desired setting appears:

-  Select to scan a male patient, or a female patient who has had a hysterectomy
-  Select to scan a female patient who has not had a hysterectomy
-  Select to scan a small child under 48 inches (122cm) tall and weighing less than 60 lbs (27kg)



3

With the patient supine, apply gel

Have the patient lie in the supine position with abdominal muscles relaxed.

Palpate the patient's symphysis pubis (pubic bone). Place an ample quantity of gel (with as few air bubbles as possible) midline on the patient's abdomen, approximately one inch (3 cm) above the symphysis pubis.



4

Aim toward the bladder

Standing at the patient's right side, place the Probe on the gel and aim toward the expected location of the bladder. For most patients, this means tilting the Probe slightly toward the patient's coccyx (tailbone) so the scan clears the pubic bone.



5

Press the SCAN button

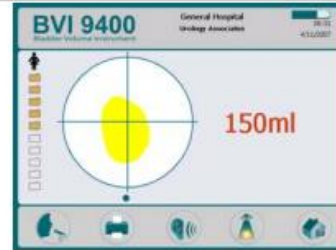
Press the SCAN button, located on the underside of the Probe. As the scan progresses, sections of the bladder will appear on the console screen. When you hear the end-scan tone, the scan is complete.



6

Verify the scan

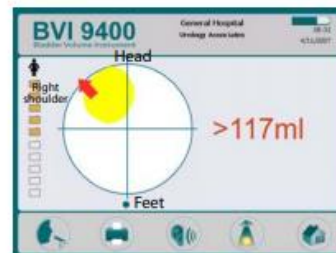
If the scan is "on target" all 8 arrows will flash on the Probe screen, and the bladder will be shown in the center of the crosshairs on the Console screen. Since no re-aiming is needed, no arrows will appear on the Console screen.



6a

Re-aiming

If the scan is "off target" the Probe will show an arrow indicating the direction to move the Probe to be "on target." If the arrow is solid, it means you are slightly "off target." If the arrow is flashing, it means you are significantly "off target" and must re-aim and re-scan. On the Console, the bladder will not be on the crosshairs, and there will be an arrow pointing in the direction for re-aiming.



6b

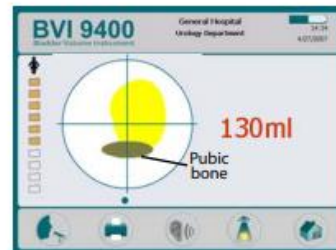
To re-aim

To re-aim, note that the small dot at "6 o'clock" on the Console target represents the feet of the patient. The "12 o'clock" position represents the head of the patient and the upper left quadrant (9-12 o'clock) represents the right shoulder of the patient. This orientation should help you in re-aiming the Probe to capture the complete bladder in the ultrasound "cone."

6c

Pubic Bone

You may also see a screen that indicates the pubic bone is "inside" the ultrasound cone. If this occurs, you may want to re-aim and re-scan. Although the bladder may be shown as centered in the ultrasound cone, and your measurement could be complete, there is a possibility that the pubic bone is obscuring some of the bladder. By re-aiming, you can ensure you have captured the bladder fully inside the ultrasound cone.



7

Save, review and print exam results

To save the exam, you must annotate it.

To annotate, press and release the RECORD button on the Console. When you see the RECORD button icon turn to a STOP button icon, record your patient information by speaking into the Probe microphone. Press the STOP button on the Console. When the hourglass icon disappears, press the LISTEN button to replay the annotation.

To review the images of your scan, press the REVIEW button (you must first save the exam before you can review it).

To print exam results via on-board printer, press the PRINT button.

To perform another exam, press the HOME button.



8

Finish exam

Once you have completed the scan, wipe the ultrasound gel off the patient and the Probe.

For ScanPoint® subscribers, logging on to ScanPoint® automatically transfers and saves your annotated exams.

To order additional rolls of paper (0800-0319) or batteries (0400-0066), contact Customer Care at 800.331.2313.

Reporting Values

- Alert the RN if your patient tells you they are experiencing any of the following:
 - Bladder feeling full
 - Urge to void, but cannot
 - Pain or discomfort
 - Patient has gone longer than four hours without voiding, especially after a Foley catheter was removed
- Alert the RN of any results of any bladder scans you complete
 - If bladder scan is over 400ml, immediately notify the RN- Treat anything over 400ml as a critical value.
 - If you are having difficulty obtaining an accurate result, consult the RN.

Contraindications

- The BladderScan i10 system is not intended for fetal use or for use on pregnant patients, patients with open skin or wounds in the suprapubic region, or patients with ascites (fluid in the abdomen).
- Patients under 24 months of age may have inaccurate bladder scan results.

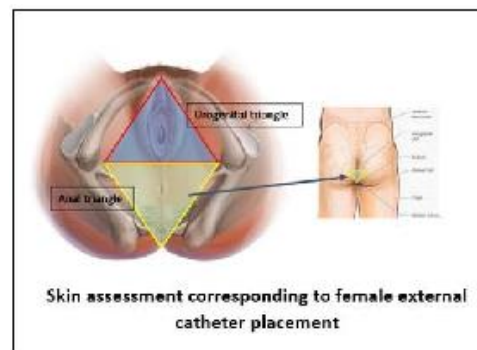
Key Points to Remember

- The BladderScan i10 system includes an onboard tutorial. It is recommended that you watch the tutorial prior to using the system. If you start the tutorial from the Home screen, the entire tutorial plays. If you start the tutorial from any other screen, the tutorial begins at the relevant section.
- It is recommended that you use ultrasound gel (not any other form of gel) to ensure accurate results. Additionally, the use of adequate ultrasound gel is very important. Scanning with the wrong gel, or without enough gel is likely to result in inaccurate readings. Place an ample quantity of ultrasound gel (2-3 cm thick/20 grams), with as few air bubbles as possible, midline on the patient's abdomen, approximately 3 cm (1 inch) above the pubic bone. Do not spread gel into a thin layer before scanning.
- Target the bladder by aiming the probe, first toward the feet, then slowly toward the head to find the widest diameter of the bladder. Angle the probe slowly side to side to center the vertical green line on the bladder. Press and release the green scan button once, or tap SCAN on the screen. The scanning process begins. Hold the probe steady while the scan is in process.
- After the scan is complete, a post scan result will appear on the touch screen display. If the post scan results indicate that the probe was not properly aimed (i.e., the bladder was not centered within the range of the ultrasound beam), re-aim and scan again as necessary
- If the screen displays a "greater than" symbol (>) next to the bladder volume measurement, then you do not have the bladder within full range of the probe and the patient's true bladder volume may be greater than the volume displayed on the screen.
- Press the print icon to print the largest volume measured during the exam.
- Alert the RN of any results of any bladder scans you complete
 - If bladder scan is over 400ml, immediately notify the RN- Treat anything over 400ml as a critical value.

External Female Catheters

Intended for patients who require strict I&O and are unable to use bedpan, urinal or commode AND have limited mobility AND/OR require immobility and/or supine positioning.

- 1. This device is not intended for incontinence management or to replace bedpan/commode/toilet use.**
 - Promote patient mobility: Assist patients to the bathroom toilet, bedside commode or use bedpan.
- 2. Tip Do not use in patients who have contraindications:**
 - Incontinence and no medical necessity for accurate I&Os
 - Wounds (sacral, coccyx, lower abdomen, groin, perineum or inner thighs)
 - Ability to toilet with assistance (either bedpan, urinal or bedside commode)
 - Concern for fecal contamination (incontinent of stool, diarrhea)
 - Agitation/Delirium/Dementia
 - Pelvic/Trunk Sensory Deficits (paraplegia)
 - Sensory perception issues (inability to communicate pain/sensations)
 - Impaired coagulation (low platelet count, high risk for bleeding, bruising)
 - Suicide Precautions (ligature risk)
 - Age less than 18
 - Small or Large body habitus (improper fit, inability to assess skin integrity)
 - Prone positioning
 - Upright positioning, HOB>45 degrees
 - Pregnancy/Labor
 - Urinary retention
 - Rectal or Vaginal bleeding/Menstruation
 - Prolapses Uterus/Rectum
 - Trauma: Pelvic/Rectal/Vaginal/Perineal/Urological
 - Fistulas: Pelvic/Rectal/Vaginal/Perineal/Urological
 - Surgery: Pelvic/Rectal/Vaginal/Perineal/Urological
 - Anuria
 - Moisture associated skin damage
- 3. Assess position of the device at least every 2 hours; assess for skin breakdown/pressure injury, especially perineum, urogenital triangle, anal triangle, intergluteal cleft at least every 2 hours and when repositioning.**



4. Documentation Tip: Add an LDA and chart assessment/interventions in WALDO

The image displays the WALDO software interface for documenting a Female External Urinary Catheter (LDA). It is divided into three main sections:

- Properties Form:** A form on the right side of the screen for entering details about the catheter. It includes fields for Placement Date and Time, Earliest Known Present date, and Placement by (with options like EMS, Nursing home, etc.). It also has sections for Hand Hygiene Completed (Yes/No), Removal Date and Time, and Removal Reason (with options like Drain/catheter damaged, Drainage, Occluded, etc.).
- Flowsheet 1 (Assessments):** A table for charting assessments. The 'External urinary catheter site assessment' row is highlighted in purple, indicating it is the active assessment.
- Flowsheet 2 (Interventions):** A table for charting interventions. The 'External Urinary Catheter Interventions' row is highlighted in purple, indicating it is the active intervention.

At the bottom of the interface, there are buttons for 'Accept and Stay', 'Accept', and 'Cancel'.

Continuous Bladder Irrigation (CBI) Guide

Common Indications

- TURP
- Urinary retention with gross hematuria with significant clots

Images:

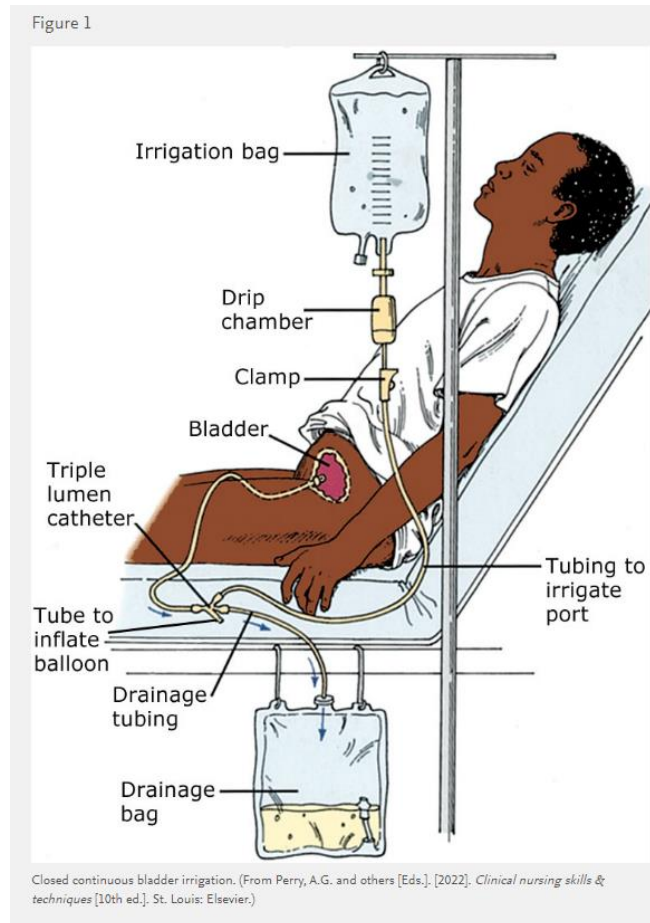
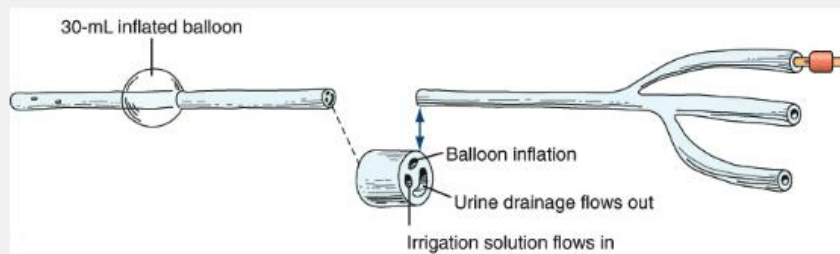


Figure 2



Triple-lumen catheter for continuous closed irrigation (cross-section). (From Perry, A.G. and others [Eds.], [2022]. *Clinical nursing skills & techniques* [10th ed.]. St. Louis: Elsevier.)

Nursing Interventions

There is a significant risk for a catheter-associated urinary tract infection (CAUTI) after the insertion of an indwelling catheter. The catheter should be removed as soon as possible once it is no longer needed.

Route tubes and catheters having different purposes in different, standardized directions (e.g., IV lines routed toward the head; enteric lines toward the feet).

1. Perform hand hygiene before patient contact. Don appropriate personal protective equipment (PPE) based on the patient's need for isolation precautions or the risk of exposure to bodily fluids.
2. Introduce yourself to the patient.
3. Verify the correct patient using two identifiers.
4. Check the patient's record for the purpose of bladder irrigation, the practitioner's order for the type and amount of irrigation fluid, and the practitioner's order for a closed urinary drainage system and triple-lumen (three-way) catheter (one lumen to inflate the balloon, one to allow urinary drainage, and one to instill irrigation solution) (Figure 2).
5. Assess the color of the urine and look for mucus, clots, or sediment.
6. Assess the patient for bladder distention.
7. Assess the existing closed continuous irrigation system.
 - a. Assess the ongoing urinary output and the amount of irrigating solution infused.
 - b. Observe the amount of fluid remaining in the irrigating solution container.
8. Review the I&O record.
9. Assess the patient for abdominal pain or spasms, a sensation of bladder fullness, and urine leaking around the catheter.
10. Assess the patient's knowledge regarding the purpose of catheter irrigation.
11. Perform hand hygiene and don gloves. Don additional PPE based on the patient's need for isolation precautions or the risk of exposure to bodily fluids.
12. Explain the procedure and ensure that the patient agrees to treatment.
13. Raise the bed to an appropriate working height. If the side rails are raised, lower the one on the working side.
14. Provide privacy by pulling the curtains around the bed. Then fold back the covers to expose the connection of the catheter and the drainage tubing.
15. With the patient in the supine position, remove the catheter securement device anchoring the catheter to the patient. **Do not pull on the catheter.**
16. Close the clamp on the irrigation tubing. Then hang the bag of irrigating solution on the IV pole.
17. Use aseptic technique to insert the tip of the sterile irrigation tubing into the bag containing irrigation solution (Figure 3). Fill the drip chamber half full by squeezing the chamber.
18. Open the clamp and allow the solution to flow through the tubing, keeping the end of the tubing sterile. Close the clamp and recap the end of the tubing.
19. Swab the catheter port with an antiseptic and allow it to dry.

20. Use aseptic technique to connect the tubing securely to the irrigation port of the triple-lumen catheter. **Do not attach the irrigation tubing to the balloon inflation port because doing so causes the balloon to rupture.**
21. Adjust the clamp on the irrigation tubing to begin the flow of solution into the bladder. Be sure the clamp on the catheter drainage tubing is open and check the volume of drainage in the drainage bag (Figure 1).
22. Anchor the catheter to the patient's leg or thigh with a catheter securement device.
23. Label the tubing at the connection site closest to the patient and the source when there are multiple access sites or multiple solutions.
24. Assist the patient to a comfortable position.
25. Lower the bed to lowest position and position the side rails appropriately.
26. Assess, treat, and reassess pain.
27. Discard supplies, remove PPE, and perform hand hygiene.
28. Document the procedure in the patient's record.

Troubleshooting:

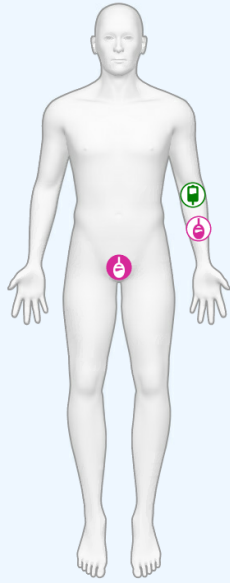
- Ensure no dependent loops
- Urinary collection bag below the bladder
- Titrate irrigation to urine "cool-aid" color and decrease in clots

Emergency:

- Sudden cessation of urinary output with significant increase in pain

Documentation

Avatar



View back

← Back Urethral Cath (Indwelling) 10/05/23 1518 CBI / 3 Way (Indwelling) 24F

Properties

Responsible Restgtr Show Row Info Show All Choices

Placement Date: 10/5/2023 Placement Time: 1518

Earliest Known Present: 10/5/2023

Inserted By: Arrived With: RN UCMC Provider Outside Provider Other

Inserted By Name:

Urethral Catheter Type: Foley (Indwelling) CBI / 3 Way (Indwelling) Coude (Indwelling)

Catheter Size: 3F 3... 4F 5F 6F 8F 10F 12F 14F 15F 16F 18F 19F 20F 22F 24F 26F 28F 32F 36F O... U...

Fill Amount: 0 mL 1.5 mL 3 mL 5 mL 10 mL 15 mL 20 mL 30 mL NA Other

Lumens: 2 3

Removal Date: Removal Time:

Earliest Known Removed:

Removal Source:

LDA?

Flowsheets

File Add Rows LDA Avatar Add Col Insert Col Compact Hide Comg'd Last Filed Reg Doc Graph Gg to Date Responsible Refresh Hide Device Data Macro

Adult VS Pain Wt Assess Daily Care One Hour ICU WALDO I-O Adult Needs Assessment Bedside Procedure FRAIL Screening Tool

Search (Alt+Comma) Expanded View All 1m 5m 10m 15m 30m 1h 2h 4h 8h 24h Interval Start: 0700 Reset Now

ED to Hosp-Admis... 10/5/2023 1500

Unsuccessful PIV Attempts

Unsuccessful PIV Attempts

Urethral Cath (Indwelling) 10/05/23 1518 CBI / 3 Way (Indwelling) 24F

Urethral Cath (Indwelling) Properties Placed: 10/5/2023 1518 Earliest Known Present: 10/5/2023 Inserted By: UCMC Provider Show all properties

Reassessment	
Catheter Status	
Output Description	
Bag Type	
[+] Volume Irrigated (mL)	
[] Urine Cath Output (mL)	
Urinary Cath Indication	
Urinary Cath Care Performed	
Cath Securing Device in Use	
Cath Securing Device Changed	
Urinary Cath Patient Education	

TIP SHEET: External Female Catheters

Intended for patients who require strict I&O and are unable to use bedpan, urinal or commode AND have limited mobility AND/OR require immobility and/or supine positioning.

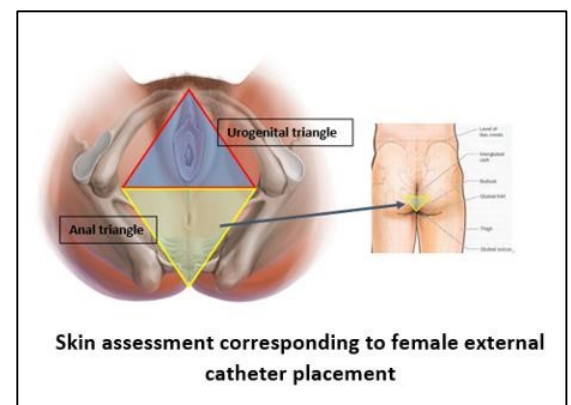
#1 Tip This device is not intended for incontinence management or to replace bedpan/commode/toilet use.

- Promote patient mobility: Assist patients to bathroom toilet, bedside commode or use bedpan.

#2 Tip Do not use in patients who have contraindications:

- Incontinence and no medical necessity for accurate I&Os
- Wounds (sacral, coccyx, lower abdomen, groin, perineum or inner thighs)
- Ability to toilet with assistance (either bedpan, urinal or bedside commode)
- Concern for fecal contamination (incontinent of stool, diarrhea)
- Agitation/Delirium/Dementia
- Pelvic/Trunk Sensory Deficits (paraplegia)
- Sensory perception issues (inability to communicate pain/sensations)
- Impaired coagulation (low platelet count, high risk for bleeding, bruising)
- Suicide Precautions (ligature risk)
- Age less than 18
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- Prone positioning
- Upright positioning, HOB>45 degrees
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- Urinary retention
- Rectal or Vaginal bleeding/Menstruation
- Prolapses Uterus/Rectum
- Trauma: Pelvic/Rectal/Vaginal/Perineal/Urological
- Fistulas: Pelvic/Rectal/Vaginal/Perineal/Urological
- Surgery: Pelvic/Rectal/Vaginal/Perineal/Urological
- Anuria
- Moisture associated skin damage

#3 Assess position of the device at least every 2 hours; assess for skin breakdown/pressure injury, especially perineum, urogenital triangle, anal triangle, intergluteal cleft at least every 2 hours and when repositioning.



#4 Documentation Tip: Add an LDA and chart assessment/interventions in WALDO

LDA Avatar

Female External Urinary Catheter

Properties

Responsible Restore Show Row Info Show All Choices

Placement Date Placement Time

Earliest Known Present

Enter the earliest date that this LDA is known to have been present. This is intended for documenting LDAs placed at other facilities. When no insertion date is documented, this is used as the starting date for the LDA.

Placed by External Staff?

Placed by

Hand Hygiene Completed

Removal Date Removal Time

Removal Reason

Properties Audit Trail (Placement Time)

Flowsheets

NICU VS NICU2 Assess NICU Daily I-Q WALDO Peds Needs Assess RETIRED BLOOD TRANSFU NICU Discharge Checklist Assess

7/5/23 1500

External urinary catheter skin assess...
 Select multiple options (FS)
 Clean, dry and intact
 Dermatitis (rash)
 MASD (Moisture Associated Skin Damage)
 Erythema
 Pressure injury
 Other (describe)
 Comments (AB+M)

Female External Urinary Catheter	Placed: 6/28/2023 1720	Placed by External Staff?: Nursing home	Hand Hygiene Completed: Yes
Criteria for external urinary catheter			
Adhesive/silicone tape intact?			
External urinary catheter skin assessment			
External Urinary Catheter Interventions			
Wall Suction (mmHg)			
External urinary catheter changed?			
Suction tubing changed?			
Suction canister changed?			
Output (mL)			

Flowsheets

NICU VS NICU2 Assess NICU Daily I-Q WALDO Peds Needs Assess RETIRED BLOOD TRANSFU NICU Discharge Checklist Assess

7/5/23 1500

External Urinary Catheter Interventions
 Select multiple options (FS)
 Position verified
 Repositioned
 Skin assessment completed
 Removed for transport or therapy
 Comments (AB+M)

 Remove device if soiled, leaking, skin breakdown occurs. Enter wound consult for skin breakdown.

Female External Urinary Catheter	Placed: 6/28/2023 1720	Placed by External Staff?: Nursing home	Hand Hygiene Completed: Yes
Criteria for external urinary catheter			
Adhesive/silicone tape intact?			
External urinary catheter skin assessment			
External Urinary Catheter Interventions			
Wall Suction (mmHg)			
External urinary catheter changed?			
Suction tubing changed?			
Suction canister changed?			
Output (mL)			

Barcode Scanning for Blood Administration using Rover

Rover Overview

- Rover is fully rolled out at Comer; IP, ED, and Pre/Post-Op.
 - o Rover applications utilized include
 - Epic Medication Admin
 - BPAM – as of 4/29

Rover software is used on an iPhone device allowing for **barcode scanning** during **Blood** and **Medication Administration**.

- The iPhone device carries the following synchronized **mobile versions of Epic Hyperspace**.
 - o Haiku – used by Physicians.
 - o **Rover – used by other Clinicians.**



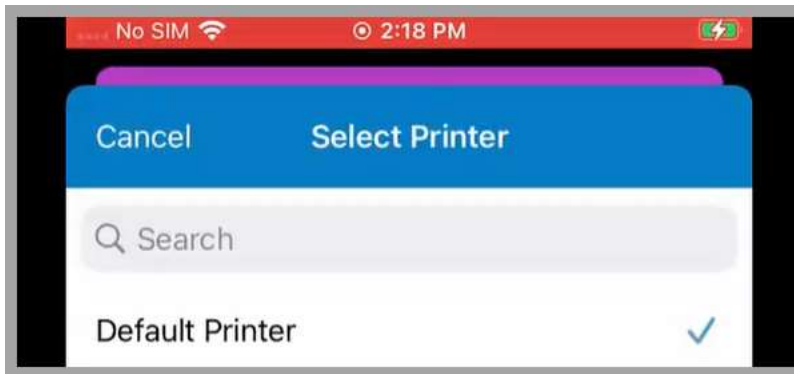
Start using Rover

1. From the iPhone, select the **Rover** icon.
2. Login to the Playground environment as a nurse using IPRN## (where ## can be from 60 – 99).
Password train1234



Barcode Scanning for Blood Administration using Rover

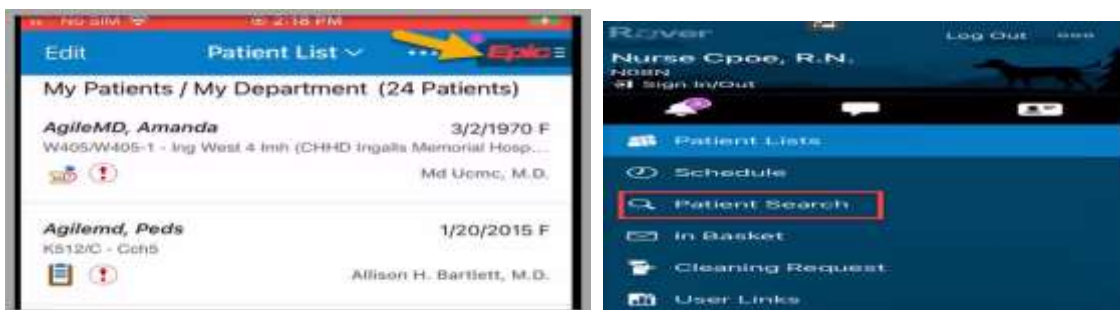
3. You will be prompted to select a default printer.



4. You are prompted to enter your **Shift Details** (*Signing in*).
 - Note the location of the **Skip** and **Next** buttons used for screen advancement.

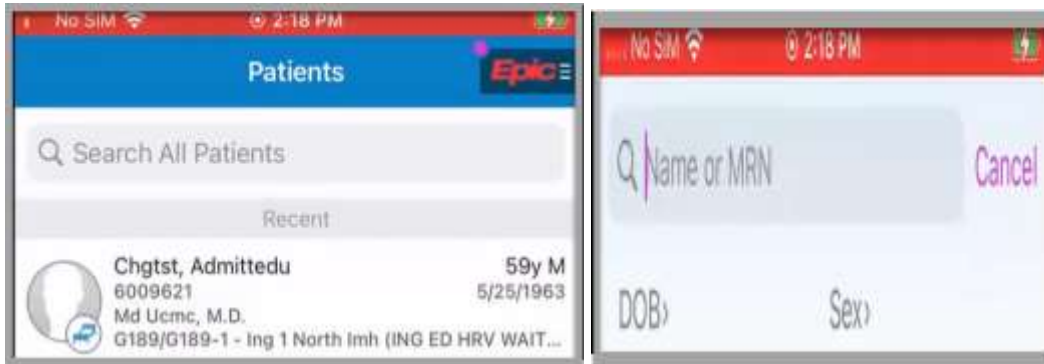


5. You are now at Patient List which is equivalent to what shows on your Patient List in Epic Hyperspace.
 - By selecting the red **Epic button** it takes you to your main menu where you can search for a Patient.



Barcode Scanning for Blood Administration using Rover

6. Selecting Patient Search brings up **Search All Patients** window showing recent searches.
 - Enter Patient's Name, your user name, Kent
For example, if your user name is Sydney Palmero, look for Kent Palmero



7. Patient's chart is now opened to **Summary** which is equivalent to **Patient Summary** in Hyperspace.



8. Selecting the red **Epic** button, takes you to your MENU showing the Flowsheets → Templates → Blood transfusion
9. Within this section, complete the Pre-transfusion Checklist, \$Daily blood charge as well as Note to blood bank
10. Selecting the red **Epic** button, takes you to your **Menu** showing the different Activities available.

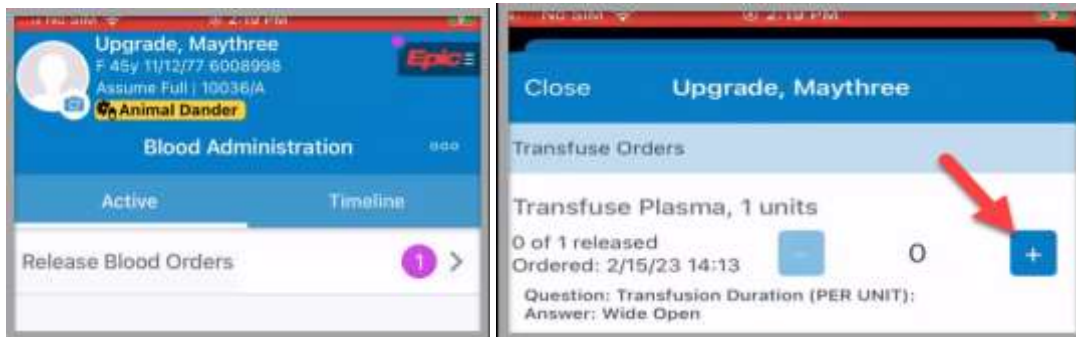


11. Select **Blood Administration** opening to the Blood Administration window as shown in this example with **one unit to be released**.

- Select the Release blood orders only release 1 unit at a time)+ sign releasing the Unit.

Barcode Scanning for Blood Administration using Rover

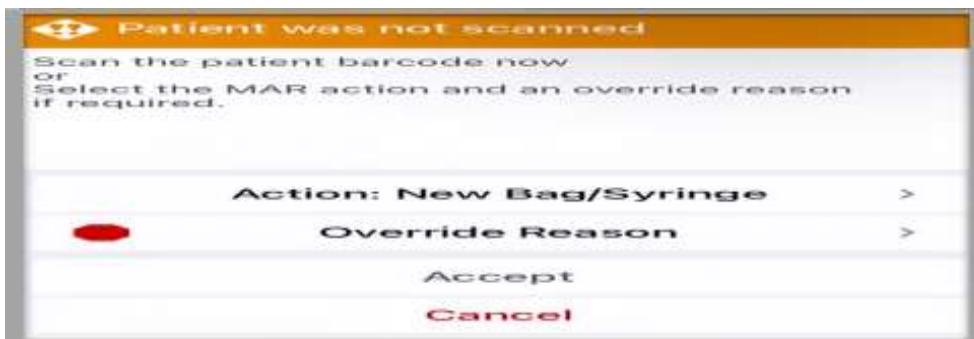
- Upon release a **Print Form** is sent to the Blood Bank for Unit to be dispensed to the floor.



12. At the lower end of the screen is the **Scan Barcode icon**.

- Select and scan the Patient's wristband.
- **All Patients wristbands MUST be scanned.**

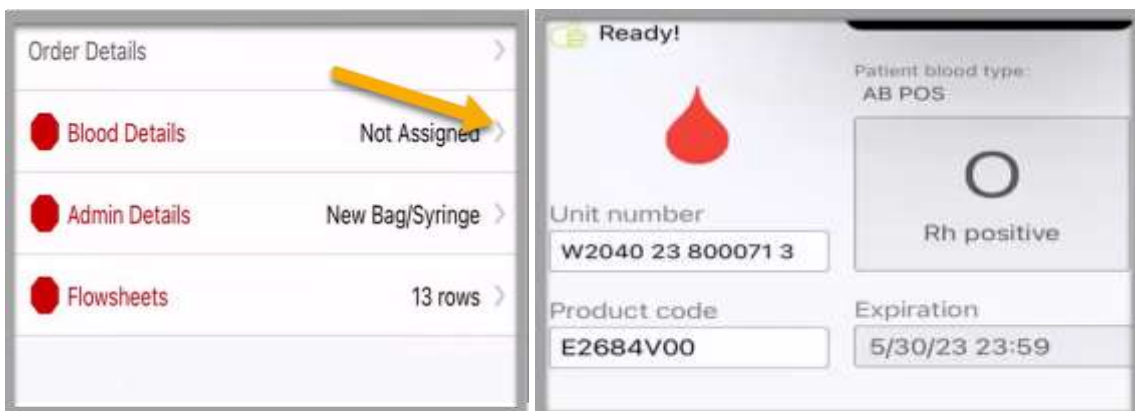
13. Create new Admin option if Patient cannot be scanned- the following window will appear.



14. Selecting the **Scan Barcode icon** allows for you to scan the contents in the Blood Details Row.

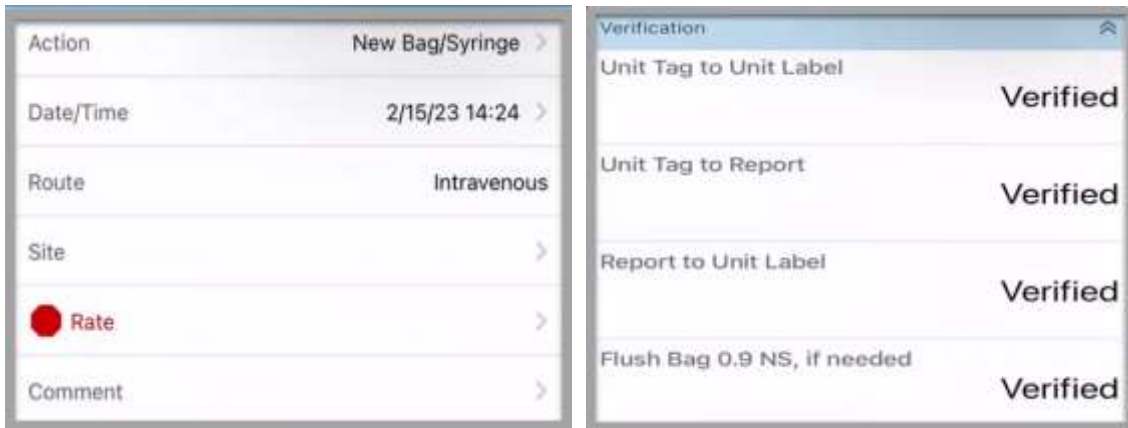
15. Select the **Blood Details** side arrow and scan the Unit number, Product code, Patient blood type and expiration date will default into the appropriate fields.

- Look for the **Green thumbs up "Ready" icon** confirming successful scanning.

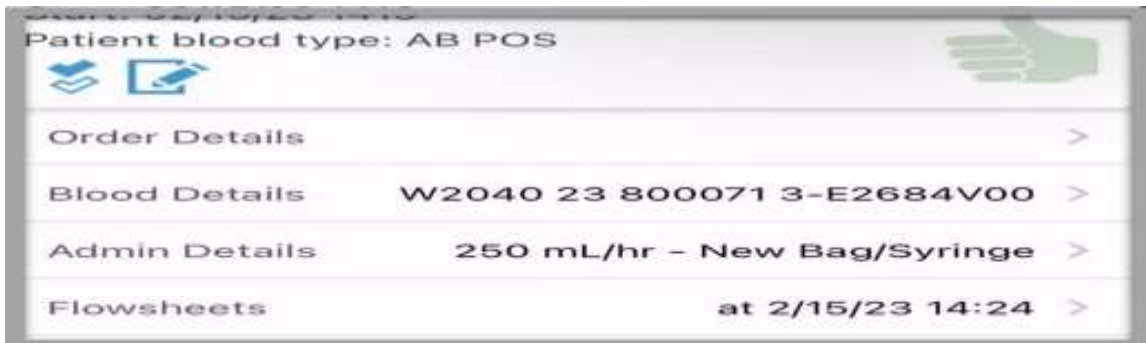


Barcode Scanning for Blood Administration using Rover

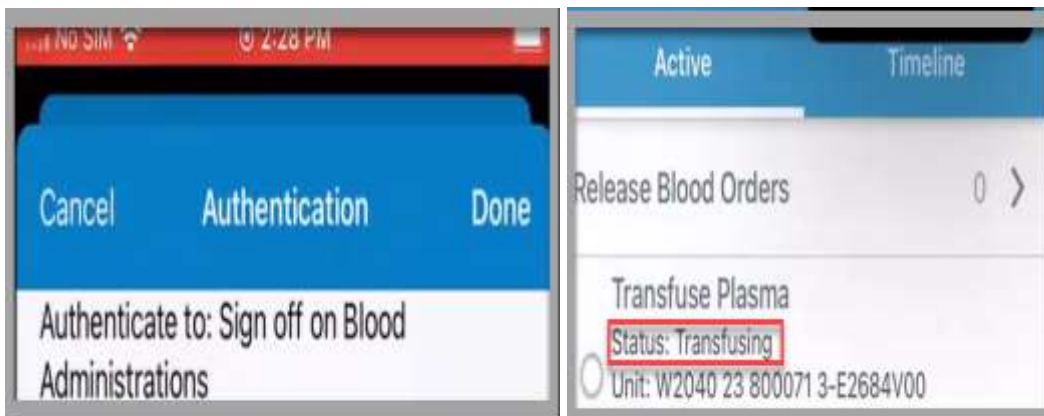
- At the bottom of the screen select **Admin Details** and document appropriately.
 - Next select **Flowsheets** and enter *previously obtained manual verification information*.



- Look for the **green thumbs** up confirming that documentaion has been successfully completed.



- Dual Sign-off prompt** now appears for second Nurse to authenticate and sign off on Blood Administration using her User ID and Password.
 - Look for Active **Status: Transfusing**.



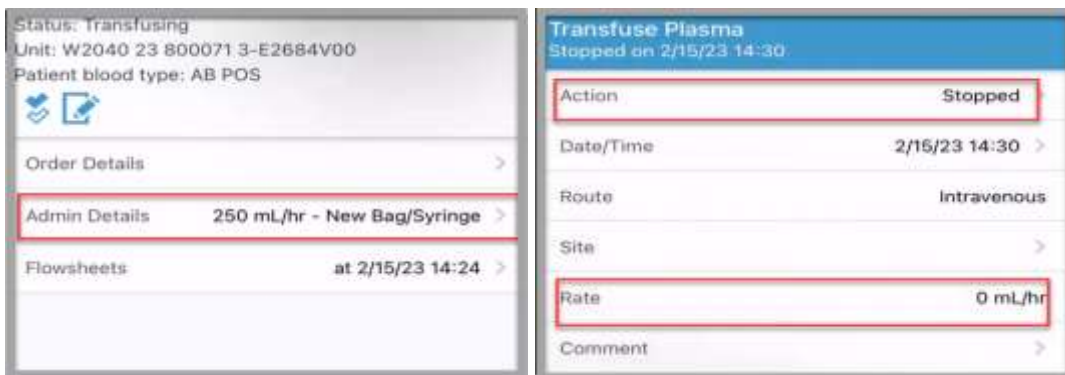
Barcode Scanning for Blood Administration using Rover

Stop the blood Transfusion

1. Edit the transfusing bag by first selecting **CREATE NEW ADMIN**
 - Choose and Accept the time you are making the change (*similar to Add or Insert a column in Hyperspace*).



2. **Create new admin** will open to allow for selection of **Admin Details**, Choose the **Action of Stopped**.
 - **Rate row** will indicate 0 mL/hr.
 - Accept to save.
 - Select **Flowsheets** and complete appropriate documentation.



Barcode Scanning for Blood Administration using Rover

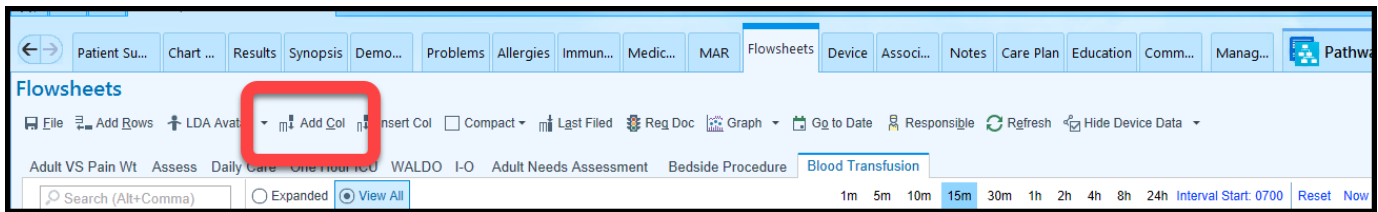
Epic Tip Sheet: Inpatient ALL – Blood Product Completion Documentation

Summary

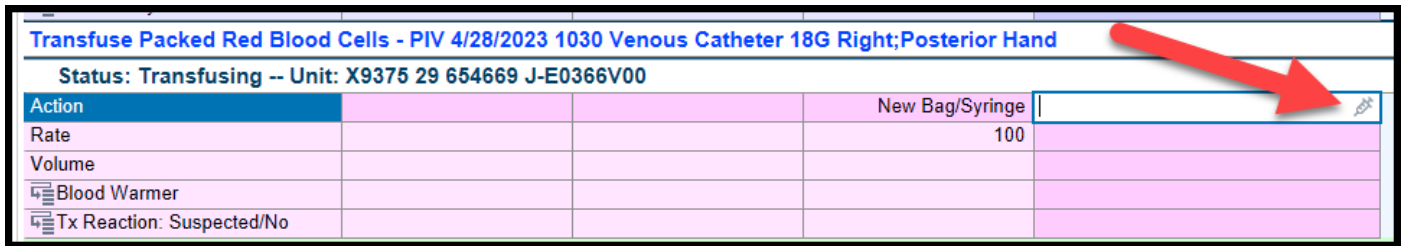
When a blood product is finished transfusing, document stopping the transfusion and complete and accept the flowsheet rows.

Step-by-Step

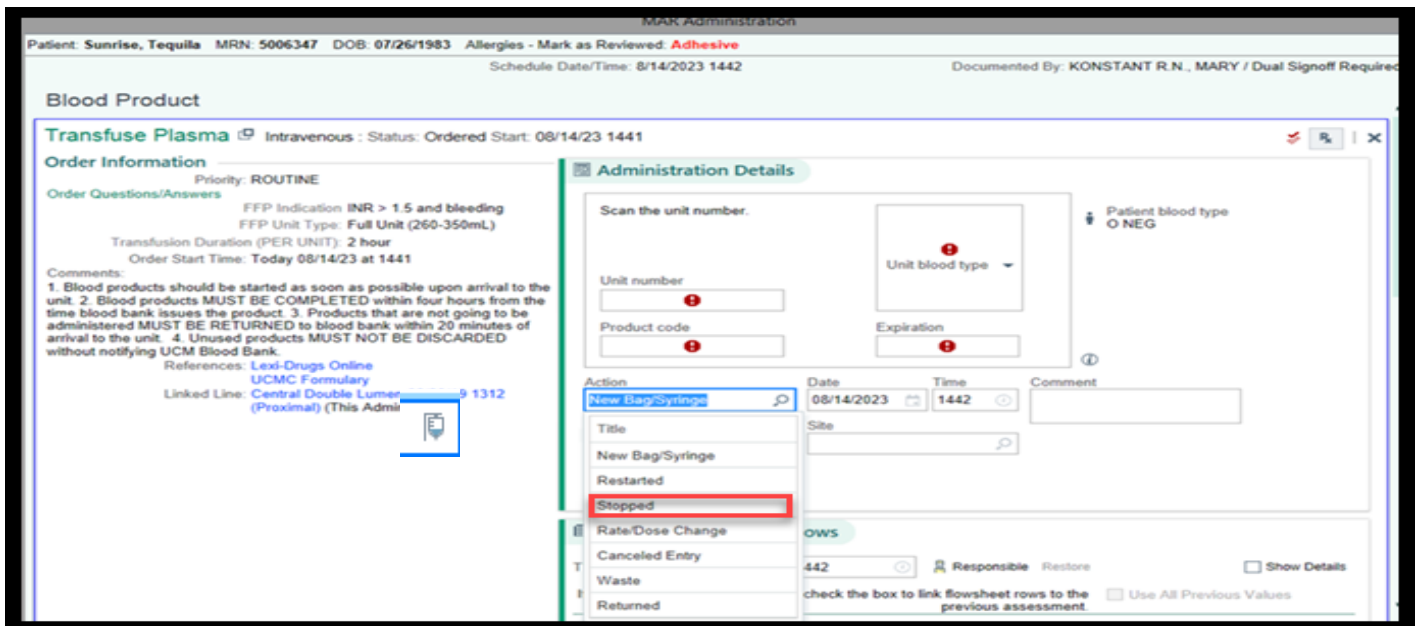
1. Click **Add Col** to add a column for the current time.




2. Access the Blood product Action row & click on the syringe icon

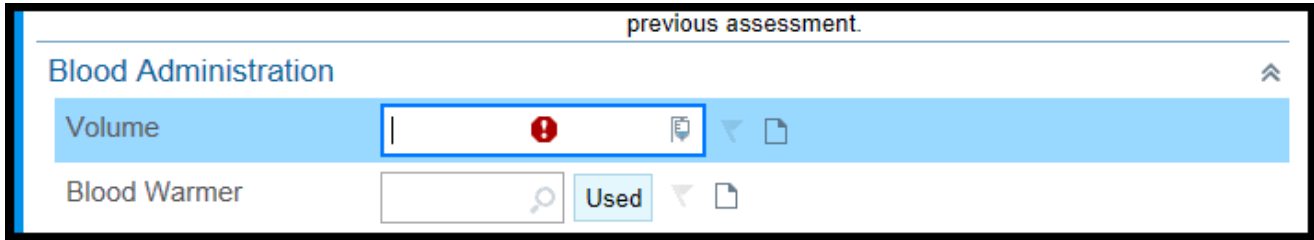


3. Document the Action as **Stopped**.

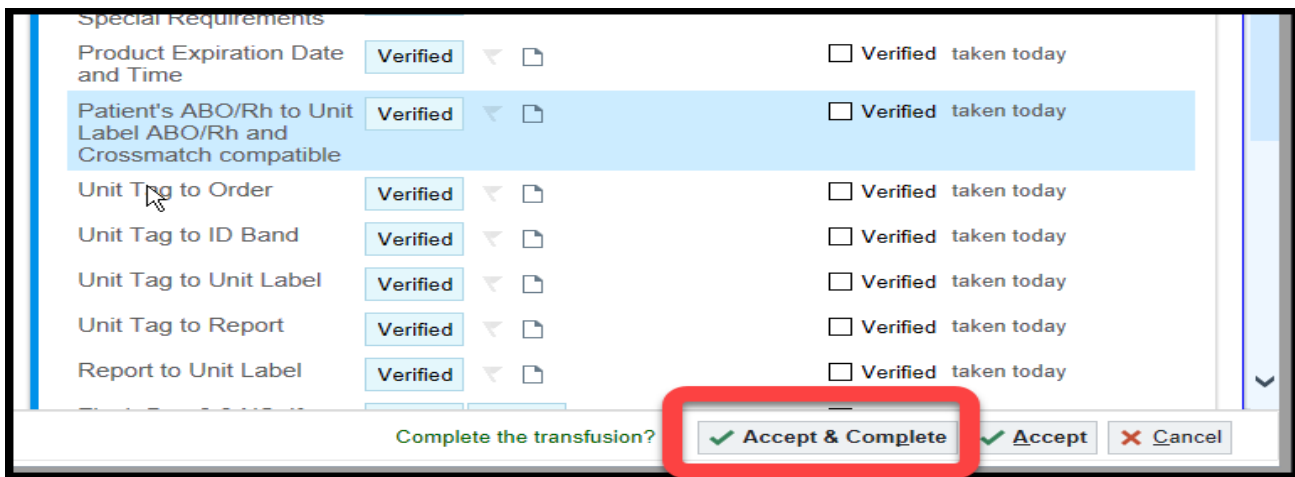


Epic Tip Sheet: Inpatient ALL – Blood Product Completion Documentation

- In the Volume row, click  to calculate the total volume of blood that was transfused. Verify that these numbers are accurate. **Be sure to only document the total volume once.**



- Scroll down to click Accept & Complete.



- If you transfused only some of the ordered blood products and don't need the remaining units, ask the physician to discontinue the original Transfuse order so that the remaining units can no longer be released.

Date	Summary of Revisions	User
4/29/23	Created tip sheet	S. Webb
8/15/2023	Updated	C. Coleman

TIP SHEET: Blood Transfusion Reaction

Blood Products, Procurement and Administration Policy Number: PC 83 states “All patients receiving blood products must be assessed and reassessed for signs and symptoms of a transfusion reaction.”

Symptoms of adverse transfusion reactions include:

Acute symptoms

- Rise in temperature $\geq 1^{\circ}\text{C}$ to 38°C or above
- Chills with or without rigors
- Respiratory distress, including wheezing, coughing, or dyspnea
- Hyper- or hypotension
- Abdominal, chest, flank or back pain, or pain at the infusion site
- Urticaria, rash, flushing, pruritus, localized edema/swelling
- Nausea, vomiting

Delayed symptoms

- Jaundice, hemoglobinuria, oliguria or anuria

If Reaction Signs Occur:

#1 Tip: Immediately stop blood product(s) transfusion; clamp tubing if reaction suspected.

#2 Tip: Initiate emergency resuscitation if needed.

#3 Tip: Notify the patient’s provider

#4 Tip: Notify the Blood Bank (2-6827)

#5 Tip: Replace blood filter administration set with IV administration set, and keep IV open with sterile normal saline solution.

#6 Tip: Do not discard tubing or blood product(s).

#7 Tip: Securely cap the end of the blood administration set tubing using a needleless cap.

#8 Tip: Recheck patient's identification using PPID against the Unit Tag and Report of Blood Transfusion if used. Check IV tubing and solution.

#9 Tip: RN places the medical order for the “Transfusion Reaction Evaluation” for any patient demonstrating suspected symptoms of a transfusion reaction as described above.

- This order should be entered “per protocol” by the RN.
- The RN will then proceed to draw a new sample in a pink top vacutainer, label with patient label, and write phlebotomist initial and date/time of collection on the label
 - This sample can be used for transfusion reaction testing and (if ordered) a new Type and Screen.
- Ensure the sample is properly labeled at the patient’s bedside.

#10 Tip: Place the blood product bag(s) and capped blood administration tubing in a large plastic bag and seal or tie-off.

#11 Tip: Send the Transfusion Reaction Evaluation sample and blood product bag(s) with attached IV solutions to the Blood Bank via the pneumatic tube system at station 400.

#12 Tip: Documentation:

- Complete the Transfusion Reaction Flowsheet in EPIC.
- Record nursing note of blood transfusion reaction in the medical record.
- Complete an event report.

Blood Transfusion Facilitator Guide

Relevant Policies:

- PC 83: Blood Products, Procurement and Administration
- PC 235: Emergency Mass Transfusion Protocol

Common Indications

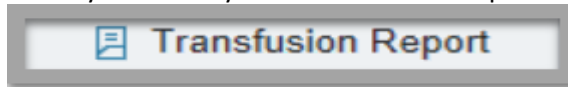
- Hgb <7
- Hemorrhage

Nursing Interventions

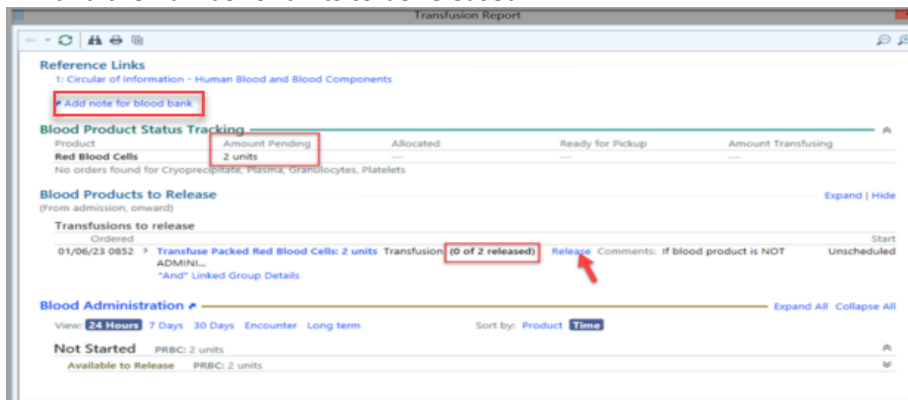
- Blood product procurement
 - RN acknowledges the order
 - RN releases the order in EPIC when she/he is ready to start the transfusion
 - Make that IV access is available/patent prior to releasing the order
 - Make sure the patient vital signs are stable prior to releasing the order
 - Blood product will be sent to the nursing unit via the tube station
 - Add Note to Blood Band For Accurate Delivery
 1. From the Blood Transfusion Flowsheet tab, click the Transfusion Report & then the link Add note for blood bank.

Requesting Blood from Blood Bank

1. When you're ready to release the blood products, click the **Transfusion Report** button.



2. The **Transfusion Report** window opens showing the number of units that have been ordered and the number of units to be released.



3. Select **Add note for blood bank**. Enter in Tube Station number that blood bank should send the product to. **(Example: tube station 223)**



Be sure to complete "Add note for blood bank" including tube station number **before** clicking Release.

The screenshot shows the EHR interface with the 'Transfusion Report' window open. The window title is 'Transfusion Report'. It contains several sections: 'Reference Links' with a link 'Add note for blood bank' highlighted in a red box; 'Blood Product Status Tracking' showing 'Red Blood Cells' with '2 units' pending and '1 unit' ready for pickup; and 'Transfusions to release' with a row for 'Transfuse Packed Red Blood Cells: 2 units' with a 'Release' button. A red box also highlights the 'Transfusion Report' link in the top navigation bar.

The screenshot shows the 'Note to Blood Bank' dialog box. The title is 'Note to Blood Bank'. It has a text input field containing '5/12/2023' and a 'Create Note' button. A red box highlights the 'Note to Blood Bank' label and the input field. At the bottom right, there are three buttons: 'Accept', 'Accept and Neg', and 'Cancel'. A red arrow points to the 'Accept' button.

2. Close the Transfusion Report when you are finished.
3. The note information appears on your Flowsheet.

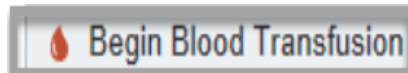
ED to Hosp-Admission (Current) from 5/1/2023 in N08N				
	0540	1826	1937	2044
Pre-Transfusion Checklist				
History of Blood Transfusion				
Blood Consent				
\$Daily Blood Charge				
\$Daily Blood Product Admin Charge				
Blood Product Delivery				
Note to Blood Bank				tube station 22

Blood Product Administration Reminders

- Do not send a patient off the floor while a blood product is infusing unless accompanied by a R.N. or provider.
- RBC's must be completed within 4 hours of start.
- Blood administration sets are changed every 4 hours.
- If the blood product will not be infused within 30 minutes of receiving it, tube it back to Blood Bank and call them to tell them the reason.
- Vital signs must be taken before the start of transfusion. Then take vital signs 15 minutes after the start of the transfusion and at the end of the transfusion.

Document Administering Blood

1. When you have **received** the Blood Product from the Blood Bank click the **Begin Blood Transfusion** button on Blood Transfusion flowsheet



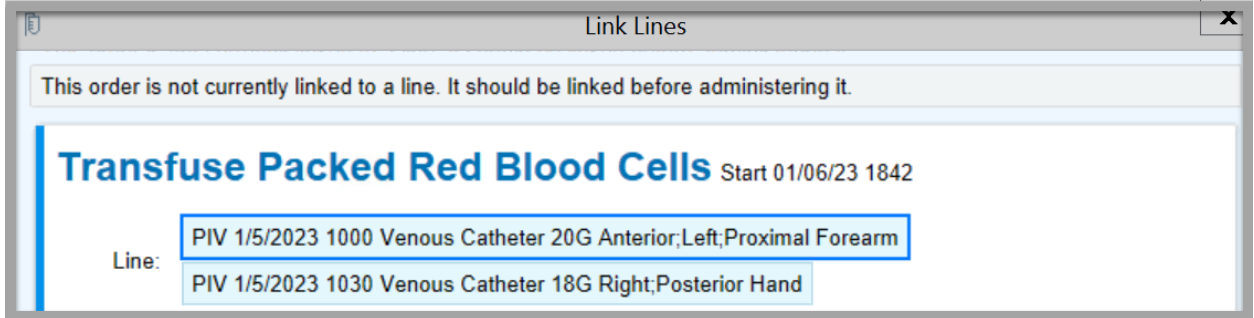
2. Select **Start**.

 A dialog box titled "Blood Administration" with a close button (X) in the top right corner. The main text reads "Select a product to document a new transfusion." Below this, there is a section for "Transfuse Packed Red Blood Cells" with "Status: Ordered" and "Start: 01/06/23 1842" to its right. At the bottom right, there are two buttons: "Start" and "Cancel" (with a red X icon).

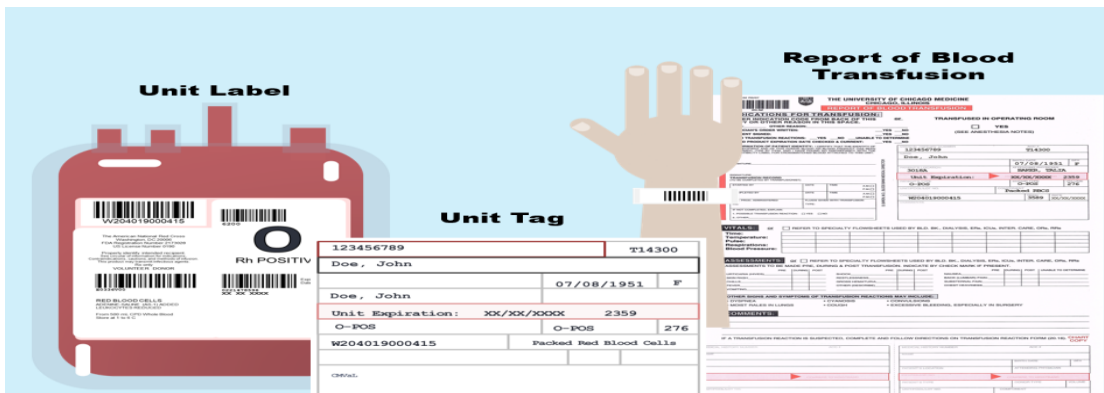
3. **You must Scan your patient wristband.** Only Select appropriate override reasons when applicable (*there is an audit trail collecting data for no-patient scans*).

 A dialog box titled "Administration Details" with a close button (X) in the top right corner. It features a red icon with a white plus sign and the text "Scan the patient or provide an override reason." Below this is a list box labeled "Override reason" containing the following items: Unreadable Barcode, Scanner Broken, Scanner Not Available, System Downtime, Emergency, Patient Refused, Intra-Procedural Medication Administration, and Damaged Barcode. At the bottom left, there is an "Action" field with "New Bag" selected.

4. Link to an appropriate Line and select Accept opening up to the MAR Administration Details window.



5. At a **MINIMUM**, the following vital signs should be taken and recorded at the following times:
 - a. Pre-transfusion vitals no greater than 30 minutes prior to the start of transfusion
 - b. Vitals 15 min after starting transfusion
 - c. Vitals at the conclusion of transfusion
6. **Manually** verify the product with a second verifier. You will later be able to document this information in the **MAR Administration/Verification** window within Epic.
 - i. Verify patients name and DOB as written on **ARM BAND**
 - a. *"I have John Doe. DOB is June 8th 1951. MRN is 12345657"*
 - b. The patient should **verbally confirm their name and date of birth**, if they can participate.
 - ii. Patient has a non-expired documented **Blood Consent**
 - iii. **Correct component type** (e.g. RBC), and **Special Requirements**
 - iv. Product **Expiration Date/Time**
 - v. Check the **patient's ABO/Rh** against the **donor unit ABO/Rh**
 - vi. **Unit Tag** to Blood Product **Order**
 - vii. **Unit Tag** to **Patient's ID Band**
 - viii. **Unit Tag** to **Unit Label**
 - ix. **Unit Tag** to **Report of Blood Transfusion**
 - x. **Report of Blood Transfusion** to **Unit Label**
 - xi. Flush Bag is **0.9 NS** (if needed)



7. When items have been successfully verified, move forward **with scanning the blood product**.

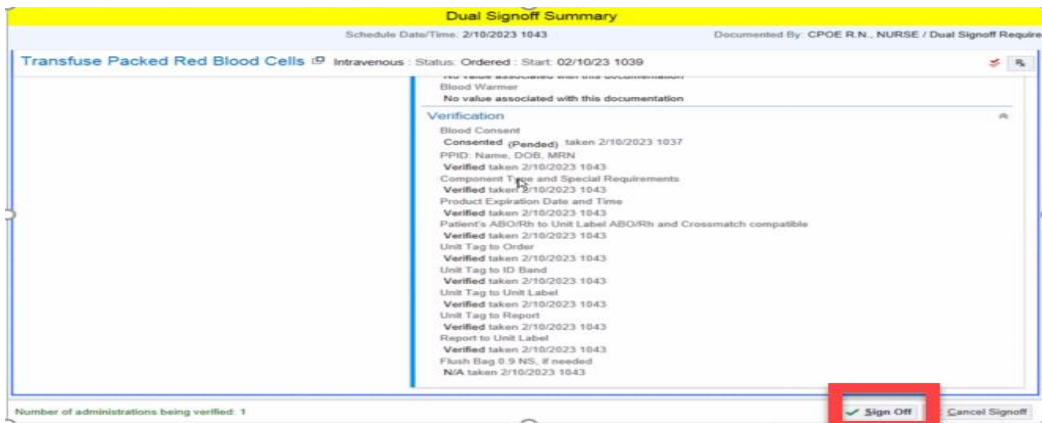
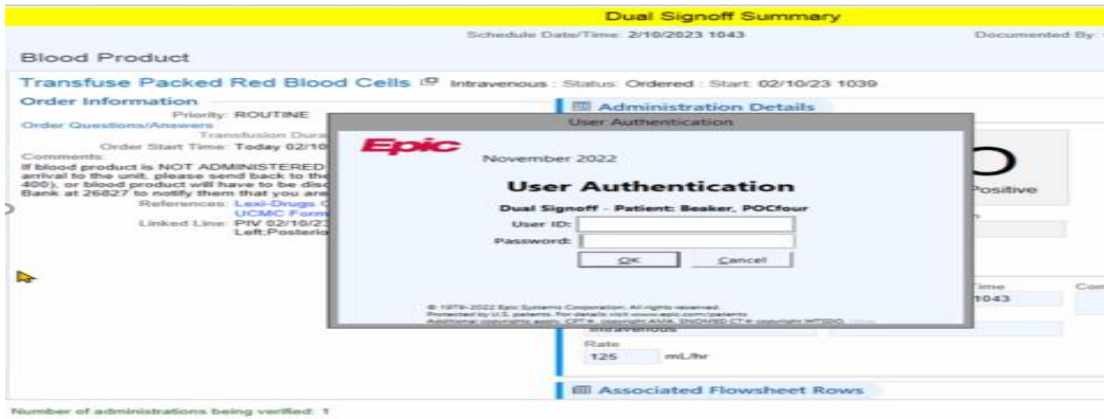
8. Follow the on-screen prompts to scan the barcodes on the blood product. After you scan each barcode, the value appears in the corresponding field.
 - a. Scan the unit number.
 - b. Scan the product code.
 - c. Scan the Unit blood type.
 - d. Scan the expiration date.

9. When scanning is completed. Look for the **“Green thumbs up Ready!”** symbol as confirmation that scanning is complete.

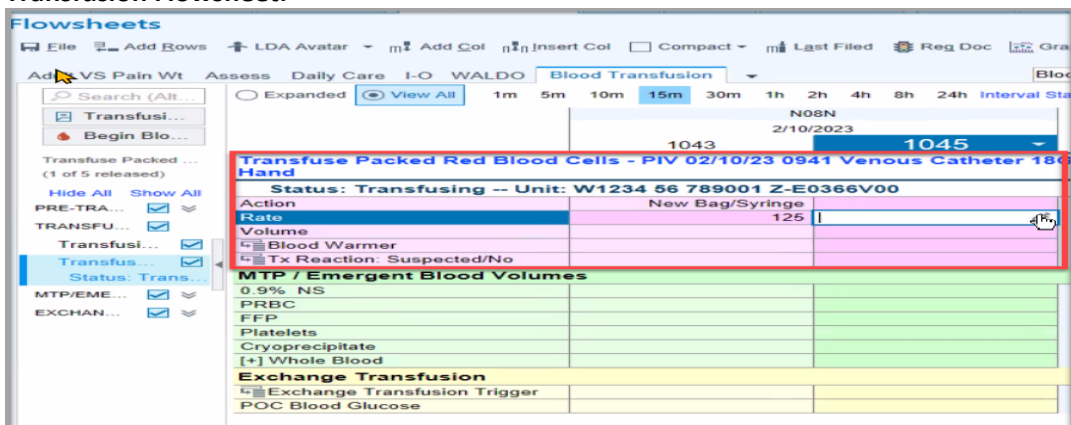
10. Document that Manual Verification you collected earlier by selecting the items appropriately in the Epic **MAR Administration/Verification** window at the bottom of the screen.

11. Click **Accept**.

- A Dual Sign-Off Summary/User Authentication window will open, asking the second verifier to confirm verification of **ALL information in the MAR Administration Details** window. Second verifier will sign-in and select **Sign Off**.



- After the other Second Verifier signs-off, the **Unit Number and Rate** appears in the **Blood Transfusion Flowsheet**.

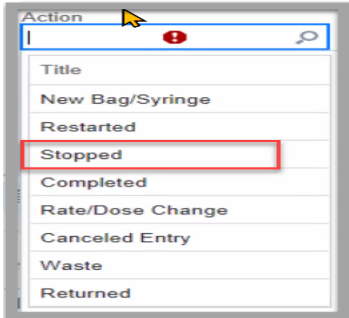


- The Nurse continues to document vital signs and other assessments as needed throughout the transfusion.

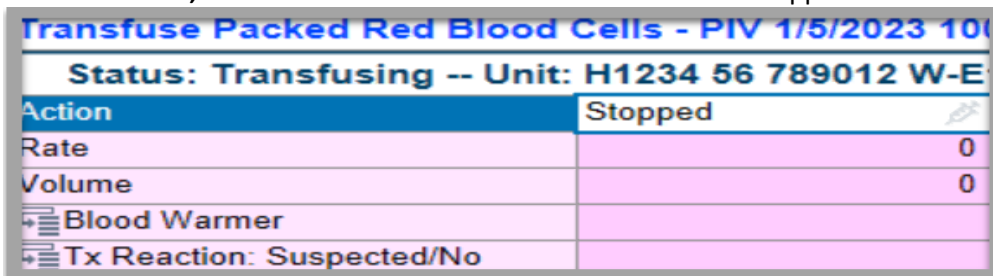
Stop a Blood Transfusion

When the blood is finished transfusing, document the action of **stopping** the transfusion and complete the flowsheet rows:

1. Click **Add Col** to add a column for the current time.
2. In the **Action** row, select the syringe icon which opens to the MAR Administration window where you can choose the action of Stopped.



3. In the **Rate row**, enter "0" to document that the transfusion is stopped.

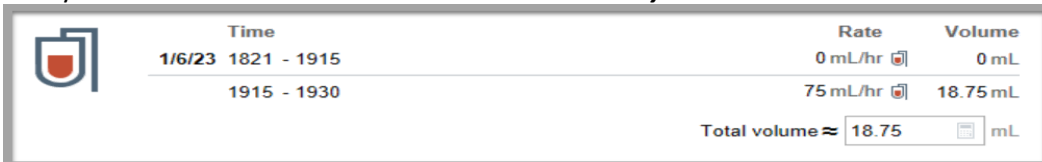


Transfuse Packed Red Blood Cells - PIV 1/5/2023 10	
Status: Transfusing -- Unit: H1234 56 789012 W-E	
Action	Stopped
Rate	0
Volume	0
Blood Warmer	
Tx Reaction: Suspected/No	

4. Click the **Volume Calculator** to calculate the total volume of blood that was transfused.



5. Verify that these numbers are accurate. **Be sure to only document the total volume once.**



Time	Rate	Volume
1/6/23 1821 - 1915	0 mL/hr	0 mL
1915 - 1930	75 mL/hr	18.75 mL
Total volume ≈		18.75 mL

! *Nurse should always document if a transfusion reaction was suspected. Document in the TX Reaction: Suspected/No Row.*

6. Click **Accept**.
7. If you transfused only some of the ordered blood products and don't need the remaining units, ask the Provider to discontinue the original Transfuse order so that the remaining units can no longer be released.

Document a Reaction to Blood Transfusion(Information Only)

Order a transfusion reaction workup

When a patient meets the criteria for a blood transfusion reaction, A BPA fires to order the Transfusion Reaction Evaluation.

BestPractice Advisory - Pecorino, Andrew-IPRN

Transfusion Reaction

The last flowsheet documentation indicates that this patient may have experienced a **TRANSFUSION REACTION**.

Please click **ACCEPT** to enter the Transfusion Reaction order
Use the "PER PROTOCOL" mode when signing.

Order **Do Not Order** **Transfusion Reaction Evaluation**

Acknowledge Reason _____

Chart Review Only

Accept

1. Begin the process by selecting Order and Accept.
2. In the Manage Orders complete the Transfusion Reaction Evaluation and Accept.

Transfusion Reaction Evaluation **Accept** **Cancel**

Process Instructions:

1. STOP transfusion/clamp tubing
2. Notify provider
3. Care team to notify Blood Bank at 2-6927
4. Replace new IV administration set and keep IV open with sterile normal saline
5. Recheck patient ID with blood product
6. Collect and properly label a pink-top post-transfusion sample.
7. Send post-transfusion sample, blood bag, and attached IV solutions to Blood Bank tube station 400.

Contact Blood Bank for further instruction if the reaction occurred during a massive transfusion.

Reference Links:

- [Blood Administration Policy](#)

Priority: **ROUTINE** **ROUTINE** **STAT**

Frequency: **ONCE** **Once** **Now** **Next Sweep**

At: 2/15/2023 **Today** **Tomorrow** 0913

Patient Diagnosis: _____

Type of product: Red Blood Cells Plasma Platelet Cryo Granulocyte

Next Required **Link Order** **Accept** **Cancel**





3. Click **Sign**. Choose an order mode of **per protocol: cosign required** and enter the ordering provider and authorizing providers.

Document a Transfusion Reaction

1. You should have already stopped the Blood Transfusion.
2. Open the **Blood Transfusion** flowsheet.
3. Add or insert a column at the time when the reaction was noted.
4. Enter Suspected in the **Tx Reaction: Suspected/No** Row.
5. Complete the additional rows in the Suspected **Transfusion Reaction** group to finish documenting the reaction.

Transfuse Packed Red Blood Cells

Status: Ordered -- Start: 02/15/23 0909

Volume		
 Blood Warmer		
 Tx Reaction: Suspected/No		Suspected  
Transfusion Reaction		
Transfusion S&S		
Name of Provider Notified		
IV Tubing Changed		
Keep IV Open		
Reaction Blood Sample		
Tubing/Bag Sent to Blood Bank		
Second Verification		

MTP Protocol & Blood Bank Route

Relevant Policies:

- **PC 235 Emergency Release and Mass Transfusion Protocol**

Emergency Release Transfusion

- Transfusion of blood products before pre-transfusion testing is complete or without regard to completed testing. Emergency Release is appropriate for acute, emergency, but not massive hemorrhage. A provider may request any combination of red blood cells (RBCs), fresh frozen plasma (FFP or plasma), or a plateletpheresis (PLT) within the maximum quantities listed below:

Process

1. GIVE O NEG RBCS FROM REFRIGERATOR IF AVAILABLE
2. CALL BLOOD BANK: 2-6827
 - a. "I need ___ (quantity) units of emergency release _____."
 - b. "The patient's name is _____ and MRN is _____."
 - c. "Patient is ___ years old and their date of birth is _____."
 - d. The patient is a _____ (male or female)."
 - e. "Patient's location is _____ (unit), room _____."
 - f. "We are placing the order in Epic right now."
 - g. "Please send the blood via _____."
 - i. (Tube system or send a runner from care team)Order need to be placed, can occur after calling
3. You may request:

Blood Product	Maximum Quantity
Red Blood Cells	1-5 units
Fresh Frozen Plasma	1-3 units
Plateletpheresis	1 unit

- a. Allow up to 5 minutes to receive products
 - b. Plasma may require up to 30 minutes if thawing is required
4. Place Transfusion order(s) in Epic
 - a. Nurse can enter the initial order- MD to cosign
 - b. Keyword search "emergency", "transfuse", or "release"
 5. Call blood bank if more products needed 2-6827
 - a. Type & Screen TAT = 80 minutes from receipt
 - b. ABO verification TAT = 15 minutes from receipt

Massive Transfusion Protocol (MTP)

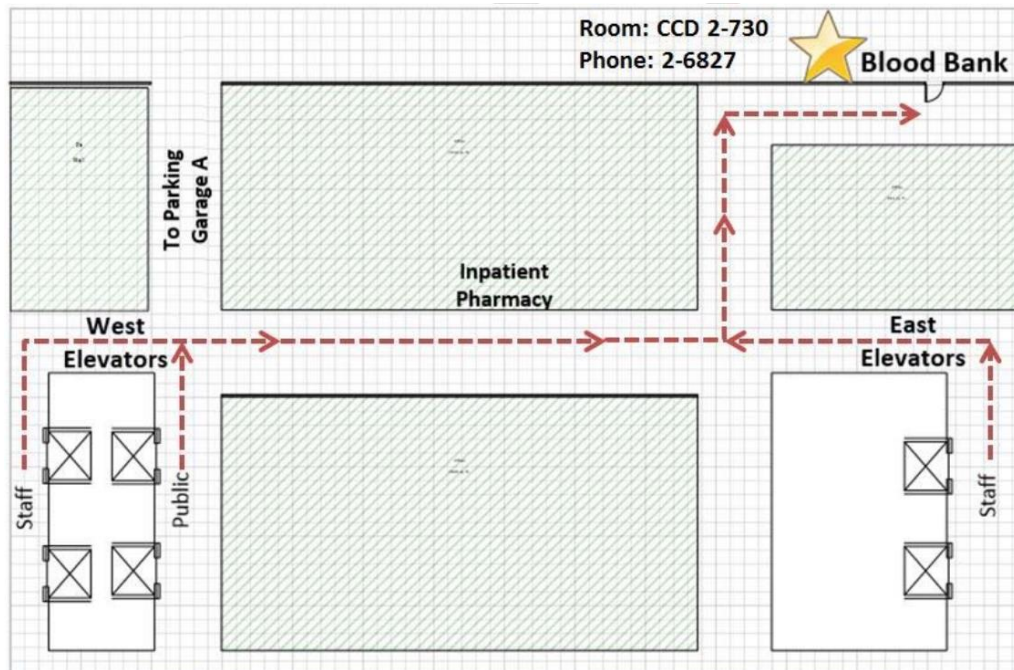
- ****ACTIVATE MTP IF >5 RBCS NEEDED FOR AN ADULT****

- The transfusion of a large quantity of blood products according to a pre-determined ratio for optimized hemostasis. MTP is appropriate for acute or prolonged massive hemorrhage.
- Each MTP pack will contain red blood cells, plasma, and a plateletpheresis.
- Cryoprecipitate (cryo) is included in all obstetric MTP activations. Cryo is only available by request for non- obstetric patients
- Transfusion indication is based on fibrinogen or TEG results for non-obstetric patients.
- Blood product quantities may not be customized except to request cryo.

	Adult Patient	Labor & Delivery Patient	Pediatric Patient <40 kg	Pediatric Patient ≥ 40 kg
Each MTP pack contains:	6 RBCs	6 RBCs	3 RBCs	6 RBC
	4 FFP	4 FFP	2 FFP	4 FFP
	1 PLT	1 PLT	1 PLT	1 PLT
	Cryo available upon request	1 Cryo Pool	Cryo available upon request	Cryo available upon request

Blood Bank Location

- BLOOD BANK IS IN CCD EAST, 2ND FLOOR ROOM: 2-2730
- PHONE: 2-6827
- TUBE: 400



MTP Administration

1. Obtain products from remote refrigerators, blood bank runners, or pneumatic tube stations, whichever is applicable.
2. Verify products with a second identifier.
3. Document vital signs in EPIC flowsheets

Transfusion Vitals- Within 30 minutes before, 15 minu	
Temp	37.7 (99.8)
Temp Source	
Heart Rate/Pulse	! 140
Resp	! 31
BP	96/64
MAP	
Arterial Line BP 1	
Arterial Line MAP 1	
SpO2	94
O2 Delivery	

4. Administer products to patient.
5. In EPIC, Select MTP/Emergent Blood Volumes. This can be found in the blood transfusion flowsheet.

Search (Alt+Comma)

Transfusion Report

Begin Blood Transfusion

Hide All Show All

PRE-TRANSFUSION ▾

TRANSFUSION ▾

MTP/EMERGENT BLOOD ▾

MTP / Emergent Blood Volumes ▾

EXCHANGE TRANSFUSION ▾

- Document the volume given for each product in Blood Transfusion flowsheets or intake and output.

MTP / Emergent Blood Volumes	
0.9% NS	
PRBC	
FFP	
Platelets	
Cryoprecipitate	
[+] Whole Blood	
Exchange Transfusion	
Exchange Transfusion Trigger	

←

Document volume given in subsequent flowsheet rows

- The first and second verifiers must physically sign the Report of Blood Transfusion forms for each subsequent transfusion.

FORM 05-02 15357

THE UNIVERSITY OF CHICAGO MEDICINE
CHICAGO, ILLINOIS

REPORT OF BLOOD TRANSFUSION

INDICATIONS FOR TRANSFUSION:
 ENTER INDICATION CODE FROM BACK OF THIS COPY OR OTHER REASON IN THIS SPACE. *or* TRANSFUSED IN OPERATING ROOM

CODE: _____ OTHER REASON: _____

PHYSICIAN'S ORDER WRITTEN: _____ YES _____ NO

CONSENT SIGNED: _____ YES _____ NO

PRIOR TRANSFUSION REACTIONS: _____ YES NO _____ UNABLE TO DETERMINE

BLOOD PRODUCT EXPIRATION DATE CHECKED & CURRENT: YES _____ NO

YES (SEE ANESTHESIA NOTES)

CONFIRMATION OF PATIENT IDENTITY: I CERTIFY THAT THE IDENTITY OF THIS RECIPIENT AND OF THIS DONOR BLOOD OR BLOOD PRODUCT HAS BEEN CONFIRMED, ITEM BY ITEM, AND I HAVE FOUND NO DISCREPANCY WITH THE COMPATIBILITY LABEL FOR CROSSMATCHED BLOOD ATTACHED TO THIS UNIT.

SIGNATURE: *Jenny Wong* ←

SIGNATURE: *Bob Joe* ←

TRANSFUSION RECORD
(TO BE COMPLETED BY TRANSFUSER)

STARTED BY	DATE	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>
Jenny Wong	4/30/23	1300	<input type="checkbox"/>	<input type="checkbox"/>
COMPLETED BY	DATE	TIME	AM <input type="checkbox"/>	PM <input type="checkbox"/>
Jenny Wong	4/30/23	1600	<input type="checkbox"/>	<input type="checkbox"/>

B.S. PRICE ADMINISTERED: 276 FLUIDS GIVEN WITH TRANSFUSION: 0.9 Normal Saline

IF NOT COMPLETED, EXPLAIN:
 1. POSSIBLE TRANSFUSION REACTION: YES NO
 2. OTHER: _____

RECIPIENT IDENTIFICATION NUMBER: 123456789 AGE: T14300

NAME: Rogers, Fred

UNIT LOCATION: 3018A ATTENDING PHYSICIAN: BAKER, TALIA

Unit Expiration: → XX/XX/XXXX 2359

BLOOD TYPE: O-POS SCALAR TYPE: O-POS VOLUME: 276

DEPARTMENT: RED BLOOD CELLS

IDENTIFICATION NUMBER: W204019000415 LOT: 3589 EXP: 4/30/2023

COMMENTS:

- Place Report of Blood Transfusion form(s) in the patients chart.

Items to Remember

- Best way to administer Emergency release and/or MTP blood products
 - Rapid Infuser
 - Pressure Bag
 - Warmed- If you resuscitate with cool or cold fluids, the patient may become hypothermic, causing DIC – once a bleeding patient experiences DIC, it becomes very challenging to control further bleeding

- Keep MTP products in the cooler until used
- Administer products within 20 minutes of removal from cooler/refrigerator
- Use filter

Level 1 Resources

Level 1® H-1200 Fast Flow Fluid Warmer

D-Series Disposable IV Administration Set
(D-70/D-100/D-300/D-60HL)

Step-by-Step Guide

IMPORTANT: Please refer to the Operator's Manual supplied with the product for detailed instructions, contraindications, warnings, and cautions. Refer to the IFU for D-60HL Administration Set for specific priming instructions.

1 Push the bottom end of the Heat Exchanger firmly into #1 block.



2 Snap the Heat Exchanger into Guide.



3 Slide #2 block down firmly.



4 Move the pinch clamp connector on the Patient Line of the Gas Vent/Filter Assembly next to the Luer connector. Close the pinch clamp.



5 Open #3 Clamp Slot door. Press down on the metal tab and pull door down and away from Clamp Slot.



6 Insert the Patient Line in the Clamp Slot and push it back into the slot.



7

Push door up to engage the top hinge and then push door in to engage the metal tab to close.



8

Press Gas Vent/Filter Assembly into #4 block.



9

Close pinch clamps above the Heat Exchanger and below the IV Fluid bag spikes.



10

Hang spiked IV Fluid bags in Pressure Chambers.



- Choose the hook that allows the bag port to hang freely in the indented slot at the bottom of the chamber door.

Close the doors and secure the latches.

11

Prime through the Gas Vent/Filter Assembly.



- Open pinch clamp/s below IV Fluid bag spike, squeeze drip chamber and prime the line through the Gas Vent/Filter Assembly.
- Open remaining pinch clamp/s below IV Fluid bag spike/s to prime additional line/s.
- When lines are primed, close pinch clamps, leaving 1 open for infusion.

12

Press the green Power ON button.



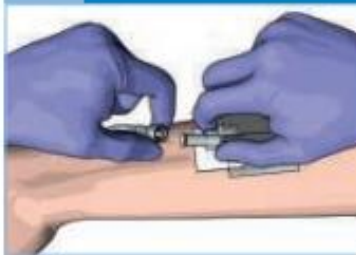
13

Open pinch clamp below Gas Vent/Filter Assembly to prime the patient line and remove all air, and then close the roller clamp.



14

Make patient connection.



15

Open roller clamp on the patient line to begin infusion.



16

Move Pressure Chamber lever to the + position.

**When IV Fluid bag empties:**

1. Move the Pressure Chamber lever to the – position.
2. Close the pinch clamp below empty IV Fluid bag.
3. Move lever on the other Pressure Chamber to + position and open pinch clamp to begin infusion.
4. Open door of de-pressurized Chamber and replace empty IV Fluid bag with new bag with ALL air removed (Steps 10 & 11).
5. Alternate between Pressure Chambers.

DO NOT PRINT DIELINE - WORK WITH YOUR LOCAL PRINTER FOR DESIRED FINISHING

Level 1® H-1200 Fast Flow Fluid Warmer/D-Series Disposable IV Administration Set (D-70/D-100/D-300/D-60HL)

WARNING: Do not turn OFF the Fluid Warmer when the Air Detector alarm is active. If the Fluid Warmer is powered OFF in an active alarm state, the Air Detector/Clamp will open and the Air Detector will become disabled. This could allow any air within the patient line to be delivered to the patient resulting in serious injury or death.

Troubleshooting*

No power or LEDs do not light up:

- Check that the power cord is plugged into a working electrical receptacle.
- Check that the unit is turned ON by pressing the green Power ON button.

Heat Exchanger is difficult to install:

- Lubricate O-Rings in #1 and #2 blocks with silicone lubricant. Silicone lubricant part #80-04-002.

Kinked administration set tubing:

- Do not leave clamps closed for extended periods as it will cause the tubing to become kinked.

Pressure Chamber not activated:

- Check that the unit is turned ON.
- Check that the Pressure Chamber lever is in the + position.
- Check that the pneumatic tubing is fully seated into fittings on the rear of the Pressure Chambers and Fluid Warmer.

Slow flow rate:

- Use large bore needles or catheters to maximize flow rate.
- Check that the IV Fluid bag port is fully spiked.
- Choose the hook that allows the bag port to hang freely in the indented slot at the bottom of the chamber door.
- Check that all clamps are fully open.
- Check that the Pressure Chamber is activated. Move the Pressure Chamber lever to the + position.
- Check that the Gas Vent/Filter Assembly is not clogged. Replace the Gas Vent/Filter Assembly every 3 hours or when clogged.
- Spike blood bags with the Level 1® PF-1 Pre-Filters to extend the life of the Gas Vent/Filter Assembly.
- Use the PF-1 Pre-Filters rather than 40-80 micron filters which may restrict flow.
- Use only Level 1® accessories: Y-INJ, Y-30 or X-36 Extension Sets and SC-3 3-Way Stopcock.

Fluid Warmer Alarms:



Check Disposable Indicator:

- Check the position of the Heat Exchanger in the #1 block (Step 1).
- Check the position of the Heat Exchanger in the Guide (Step 2).
- Check that the #2 block is pressed down firmly (Step 3).
- Check the position of the Gas Vent/Filter Assembly in the #4 block (Step 8).



Add Recirculating Solution Indicator:

- Add recirculating solution to the Fluid Warmer's reservoir (Refer to the Operator's Manual for solution preparation and filling instructions).



Over Temperature Indicator:

- Immediately close all clamps on the Administration Set.
- Press the orange Power OFF button.
- Press the green Power ON button.

Air Detector / Clamp Alarms:



Check Tubing Indicator:

- The patient line is not properly inserted into the Air Detector/Clamp Slot or the Clamp Slot door is not closed properly.
- Open #3 Clamp Slot door. Press down on the metal tab and pull door down and away from Clamp Slot (Step 5).
- Insert the Patient Line into the Clamp Slot (Step 6).
- Push door up to engage the top hinge and then push door in to engage the metal tab to close. (Step 7).

  **Air Detected / Clamped Indicator:**

- Immediately close all clamps on the Administration Set.
- Move the Pressure Chamber lever to the – position.
- Remove any air from the Administration Set. Hang new air-free IV Fluid bag and prime Administration Set (Steps 9 - 12).
- Move the Pressure Chamber lever to the + position.
- Open clamps and resume infusion.

* If the suggested solutions do not correct the problem, discontinue use of the H-1200 Fast Flow Fluid Warmer, remove from service, and contact Smiths Medical.

For more information visit our website at www.smiths-medical.com

PRODUCT(S) DESCRIBED MAY NOT BE LICENSED OR AVAILABLE FOR SALE IN CANADA AND OTHER COUNTRIES

MMSPCA-0011

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Hotline Fluid Warmer

Step 1- Set up the HOTLINE Warmer

1. Check that the level is above the minimum level mark on the reservoir. Add recirculating solution to the reservoir through the fill-port if required.
2. Check the condition of the HOTLINE Warmer with visual inspection before using. Remove from service any HOTLINE warmer that shows physical damage.
3. Plug the HOTLINE Warmer into properly grounded power outlet.



Step 2- Set up the HOTLINE Fluid Warming Set

1. Remove the reflux plug from the socket on the right side of the HOTLINE warmer
2. Plug the Twin-Tube connectors on the HOTLINE Fluid warming set into the socket.
3. Turn ON the power switch.
 - a. The green Operating LED on the display panel illuminates
 - b. The recirculating solution temperature display will begin to increase
 - c. The recirculating solution path in the HOTLINE fluid warming set will automatically prime.
4. Remove the end cap and inspect the patient end of the HOTLINE fluid warming set for leaks to confirm the integrity of the intravenous pathway.

Step 3- Connect the Intravenous Administration Set

1. Connect the IC fluid and the intravenous administration set to the HOTLINE fluid warming set.
2. Fully prime the intravenous administration set, the HOTLINE Fluid warming set and patient extension set (if used).
3. Connect the distal end of the HOTLINE fluid warming set to the patient's intravenous access site without entrapping air.

Step 4 Using the HOTLINE warmer

1. The recirculating solution temperature display will reach 37C from ambient in about 4 minutes
2. Adjust the rate of IV fluid using the clamp on the intravenous administration set or via the IV pump.
NOTE: Do not kind the Fluid warming set. Do not restrict the circulation of solution through the tubing.

Step 5 After Use

1. Turn OFF the power switch
2. Remove the HOTLINE fluid warming set and insert the reflux plug into the socket
3. After use handle and dispose of the HOTLINE fluid warming set as a potential biohazard.
NOTE: Dispose of the HOTLINE fluid warming set in in a safe manner according to local guidelines for disposal of contaminated medical waste.

Troubleshooting:

1. **Alarms:** visual (red indicator light) and Audible (pulsed alarm).
Check disposables and confirm that the HOTLINE fluid warming set is properly installed. Push the twin-tube connectors firmly into the socket on the right side of the HOTLINE warmer.
2. **Difficult Insertion of HOTLINE Warming Set into Warmer:** Lubricate the O-rings in the socket. Refer to section 10 of Operators manual for the procedures.
3. **Recirculating solution leaks at the Socket:** Replace the O-rings. Refer to section 10 of the operator's manual for the procedure.

TUBING



FLUID WARMER



EMERGENCY RELEASE BLOOD REQUEST

Adult, OB, Pediatric

1. GIVE O NEG RBCS FROM REFRIGERATOR IF AVAILABLE
2. CALL BLOOD BANK: **2-6827**

- a. "I need ___ (quantity) units of emergency release _____."
- b. "The patient's name is _____ and MRN is _____."
- c. "Patient is ___ years old and their date of birth is _____."
- d. The patient is a _____ (male or female)."
- e. "Patient's location is _____ (unit), room _____."
- f. "We are placing the order in Epic right now."
- g. "Please send the blood via _____."
(Tube system or send a runner from care team)

3. YOU MAY REQUEST

BLOOD PRODUCT	QUANTITIY
RED BLOOD CELLS	1-5 UNITS
FRESH FROZEN PLASMA	1-3 UNITS
PLATELETPHERESIS	1 UNIT

- a. Allow up to 5 minutes to receive products
- b. Plasma may require up to 30 minutes if thawing is required

4. PLACE TRANSFUSION ORDER(S) IN EPIC

- a. Keyword search "emergency", "transfuse", or "release"

5. CALL BLOOD BANK IF MORE PRODUCTS NEEDED **2-6827**

- a. Type & Screen TAT = 80 minutes from receipt
- b. ABO verification TAT = 15 minutes from receipt

EMERGENCY RELEASE BLOOD REQUEST

Adult, OB, Pediatric

****ACTIVATE MTP IF >5 RBCS NEEDED FOR AN ADULT****

BLOOD BANK IS IN CCD EAST, 2ND FLOOR

ROOM: 2-2730

PHONE: 2-6827

TUBE: 400

