County of Los Angeles **Department of Health Services**

OLIVE VIEW-UCLA MEDICAL CENTER
POLICY & PROCEDURE

NUMBER: 1082
VERSION: 2

SUBJECT/TITLE: **NICU/PEDIATRIC BLOOD AND BLOOD COMPONENT ADMINISTRATION**

POLICY:

1. Blood and blood components shall be given only with a physician's written order.
2. The patient's medical record shall be checked for the presence of a consent and physician's order prior to ordering the sample.
3. Only a Registered Nurse (RN) or physician/NP may initiate a blood transfusion.
4. Compatibility testing (type and cross match) must be done prior to administration of whole blood or red cell component transfusions. Exception, O negative uncross-matched blood taken on Emergency Request by NICU physician /Nurse Practitioner (NP). Note: Emergency O negative, 'uncross-matched" blood risks are minimal provided a recent maternal antibody screen was performed and records indicate that the maternal antibody screen is negative. Routine pre-transfusion testing on the neonate can be performed concurrently or retrospectively to the emergency release of blood. It is recommended that emergency blood transfusions be clearly communicated to the blood bank ASAP and that the emergency blood be provided in a blood cooler to the NICU ahead of intended transfusion.
5. Blood samples for compatibility testing must be drawn and labeled by a registered nurse or physician.
6. Two individuals, one of whom must be a RN or physician/NP, must check all blood components for unusual appearance, expiration date, and the correct requested component. Donor number and blood type must match the attached transfusion record.
7. Blood not immediately used must be returned to the blood bank, unless provided in a validated blood bank cooler.
8. No blood will be stored in the nursing unit refrigerator. Blood may only be stored in an approved blood refrigerator or blood cooler provided by blood bank. Blood may be stored in the cooler for 3 hours before needing to be returned.
9. Blood/blood component in the NICU/Pediatric units are to be given via peripheral IV. (In emergencies, or when a peripheral IV cannot be established, blood/blood components may be administered via the UAC/UVC with a physician's order. Blood/blood components (including plasmanate, Albumin, Plasma, Platelets and Cryoprecipitate) must be filtered.
10. Transfusion shall be initiated within twenty minutes after leaving the blood bank or removed from the blood cooler.

PURPOSE: To outline the management of neonatal or pediatric patients receiving a blood/blood component transfusion.

DEPARTMENTS: **NURSING**, Medicine, Pathology (Blood Bank).

DEFINITIONS: Blood/blood components include: Packed red blood cells (PRBC's), whole blood, frozen plasma (FP), cryoprecipitate, platelets, Plasmanate (albumin 5% and 25%), and white blood cells. Blood/blood component transfusion is given to maintain and/or improve oxygenation, volume, hemoglobin level, etc.

PROCEDURE:

1. Verify physician's order for administration of blood/blood component and informed consent, Physician's order should include: (a) type of blood/blood component to be infused; (b) amount of blood/blood product to be infused; and (c) time period to be infused (usually 2 hours).
   - All emergency orders need to be called to Blood Bank.
2. Assess parents understanding of procedure and check for history of transfusion reaction.
3. Wash hands prior to gathering supplies.
4. Provide route of administration.
5. Order appropriate blood product pick-up slip. Check box for appropriate blood component based on MD order.
   - Start/use peripheral IV. The UAC/UVC sites may be used in emergencies or when a peripheral IV cannot be established. PICC may also be used (**pediatrics only >4Fr**) but should be used as a last option due to a potential risk of the PICC line clotting off.
6. There will be an electronic alert that blood is ready.
7. Take blood product pick-up slip to pick up blood.
   - Blood may be picked up only by OV-UCLA MDs or trained Nursing personnel, including unit clerks.
8. Check with laboratory technician that the unit of blood, requisition, and patient's OV# and name match. Sign in appropriate spaces on requisition form. Double check that aliquot bag is properly labeled for identification.
   - Blood bank will dispense 10ml more than ordered to fill tubing.
   - Blood bank will provide an additional label for the syringe to be used after filtering the blood.
   - **CORRECT IDENTIFICATION OF PATIENT AND LABEL OF BLOOD/BLOOD COMPONENT IS THE SINGLE MOST IMPORTANT STEP IN PREVENTING COMPLICATIONS.**
9. Two (2) RNs and/or physicians must verify blood product with the chart at the patient's bedside for:

a) Type and volume.
b) Patient's name and OV#.
c) Donor number, blood group, and type of both donor and recipient.
d) Expiration date.
e) Patient's ID bracelet.

FOR ANY DISCREPANCY RETURN BLOOD TO BLOOD BANK IMMEDIATELY.

10. Sign lab slip before administration of blood.
11. Wash hands and don non-sterile gloves.
12. Check patient's identification bands before administration of blood- 2 patient identifiers.
13. Assess for any signs or symptoms that might be confused with transfusion reaction (rash, fever).
14. After filtering blood with filter set, label syringe with appropriate label provided by the blood bank.
    - Do not give medications through the blood
15. Attach syringe to extension tubing. Record date and time transfusion is started on the transfusion record slip provided by blood bank.
16. Discard filter system in appropriate receptacle (red biohazardous bag).
17. Record patient's vital signs prior to infusion.
18. Flush line with Normal Saline before transfusion and keep syringe with NS at bedside to be used in case of transfusion reaction.
19. Administer transfusion via appropriate site chosen, over the time ordered by physician using infusion pump. Dial in correct settings to insure infusion over prescribed time.
    - Document vital signs 15 minutes before transfusion starts, every 15 minutes for the first hour, every 30 minutes for the next hour, then every hour until transfusion is complete, then one-hour post-transfusion.
    - Transfusion is usually given in the NICU over 2 hours (in emergency over 20-30 minutes). Transfusion time not to exceed 4 hours per syringe.
20. Monitor infusion site every 10-15 minutes; observe for adverse reaction to blood; observe for infiltration.
    - Observe to be sure pump is working appropriately.

ALERT PHYSICIAN IMMEDIATELY IF ANY ADVERSE REACTIONS OCCURS DURING TRANSFUSION

24. Once transfusion is complete, turn off pump and disconnect line.
25. Flush with 0.5-1cc of normal saline or heparin flush (10u/cc) to clear blood

and resume previous IV fluids, maintain as a heparin lock, or if no longer needed and infant is stable, then disconnect the IV.

26. Document as outlined below.
27. The completed transfusion record will be scanned in the patient's chart
28. Continue to observe infant for any adverse reaction of blood administration.
    - Stop infusion if neonate exhibits the following:
        - Tachycardia, bradycardia or arrhythmia
        - Hypoglycemia
        - Temp >38˚ C
        - Cyanosis
        - Skin rash, hives, flushing
        - Hematuria
        - Systolic increase 15 or more, unless this is the desired effect.
29. If an adverse reaction occurs, the following should be done:
    a. Stop infusion immediately, maintain patency of IV, flush.
    b. Notify physician.
    c. Notify blood bank. Send remaining blood to the blood bank.
    d. Report suspected reaction on "Suspected Transfusion Reaction" form (OV1367) in duplicate: one copy to the laboratory and the other to the infant's chart.
    e. Bag the infant for urine and send the first urine passed by the infant after the reaction, or suspected reaction.
    f. Label and send urine specimen to laboratory.
    g. Chart the incident on the patient's chart.
31. Clean infusion pump with appropriate cleaner and make sure to leave the pump plugged in appropriately to charge.
32. Obtain post Hct 4-6 hours after transfusion, or when ordered by provider.

DOCUMENTATION: **NICU UNIT**

Charting: (EHR)

1. Chart component given, amount given, time started and completed, site of transfusion, rate of flow, donor number, reaction of patient, and condition of IV site at the beginning, during, and completion of the transfusion.
2. Hourly charting on the intake section of site check and amount infused.
3. Place a copy of the Transfusion record to be scanned into the EHR.

Blood balance tab:

1. Chart component given, amount, time, and donor number.
2. "Zero" blood balance tab.

PEDIATRIC UNIT

Document transfusion information in patient EHR as follows:

Type and volume of blood component, Vital Signs, IV-gauge, site time infusion initiated, time completed.

Patient signs/symptoms before, during, or after transfusion. Indicate use of blood warmer, including temperature when applicable.

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References:

American Association of Blood Banks, Technical Manual, ,18th Edition, Bethesda,.2016

American Association of Blood Banks, Neonatal Transfusion Guidance, 2012

American Association of Blood Bank and American Red Cross. Circular of Information for the Use of Human Blood and Blood Components, December 2017.

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