



PEDIATRIC NEWBORN MEDICINE CLINICAL PRACTICE GUIDELINES

Feeding During Packed Red Blood Cell (PRBC) Transfusion



Implementation Date: July 22, 2014



Clinical Guideline Name	Feeding During Packed Red Blood Cell (PRBC) Transfusion
CWN Clinical Practice Manual Policy Number	DPNMCPG B.4.1
Implementation Date	July 22, 2014
Due for CPC Review	July 2015
Contact Person	DPNM Medical Director and NICU Nurse Educator
Approved By	NICU Collaborative Practice Committee <u>7/10/14</u> MSEC _____ CWN PPG <u>2/11/15</u> BWH SPP Steering <u>2/18/15</u> Nurse Executive Board/CNO <u>3/9/15</u>
Keywords	PRBC transfusion, feeding guidelines, low gestational age infants, transfusion-associated NEC

This is a clinical practice guideline. While the guideline is useful in approaching feeding during packed red blood cell (PRBC) transfusion, clinical judgment and / or new evidence may favor an alternative plan of care, the rationale for which should be documented in the medical record.

I. Purpose:

These guidelines establish when a specific infant population who are cared for in the NICU should be NPO during PRBC transfusion. These guidelines apply to infants born \leq 29 weeks gestation **and/or** \leq 1250 grams, **and** who are \geq 21 days at the time of PRBC transfusion.

II. All CPGs will relay on the [NICU Nursing Standards of Care](#). All relevant nursing PPGs are listed below.

- [NICU I.2 Intravenous Angiocatheter Insertion](#)
- [NICU I.3 Changing of Intravenous Solution and Tubing](#)
- [NICU G.2 Blood Glucose Testing for NICU Infants](#)
- [NICU B.4 Administration of Blood and Blood Products](#)

III. Scope

These guidelines apply to specific NICU infants as outlined above.

IV. Guidelines

A. Blood transfusion administration in one aliquot over four hours (see example below)

1. Four hours before transfusion, infant receives last feeding and is then NPO
 - o Place saline lock prior to feeding



- Start IV fluids of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL at 100 mL/kg after feeding is completed
- 2. Begin transfusion four hours following last feeding
 - Stop IV fluids during transfusion and use same IV site to administer transfusion
- 3. Administer transfusion over four hours
- 4. Check bedside blood glucose (BBG) two hours after starting blood transfusion
 - If infant is hypoglycemic, start 2nd IV of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL at 100 mL/kg
 - Check follow-up BBG one hour after infusion of IV fluids
[Hyperlink NICU G.2 Blood Glucose Testing for NICU Infants](#)
- 5. Restart IV fluids at 100 mL/kg/day when transfusion is finished and infuse for 4 more hours
 - a. Infant remains NPO for four hours after the end of the transfusion
- 6. Four hours after end of transfusion, d/c IV and resume feedings at previous amount and caloric density

B. Blood transfusion is administered in two aliquots over four hours (see example below)

- 1. Four hours before transfusion, infant receives last feeding and is then NPO
 - Place saline lock prior to feeding
 - Start IV fluids of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL at 100 mL/kg after feeding is completed
- 2. Begin transfusion four hours following last feeding
 - a. Stop IV fluids during transfusion and use same IV site to administer transfusion
- 3. Administer transfusion over four hours
- 4. Check bedside blood glucose (BBG) two hours after starting blood transfusion
 - a. If infant is hypoglycemic, start second IV of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL at 100 mL/kg/day
 - b. Check follow-up BBG one hour after infusion of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL
- 5. Restart IV fluids at 100 mL/kg/day when transfusion is finished
 - a. Infant remains NPO for four hours after the end of the first aliquot transfusion
- 6. Four hours following the end of the first aliquot transfusion, second aliquot transfusion begins and is administered over four hours
 - a. Stop IV fluids during transfusion and use same IV site to administer transfusion



7. BBG is checked two hours after starting blood transfusion
 - a. If infant is hypoglycemic, then start second IV of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL at 100 mL/kg/day
 - b. Check follow-up BBG one hour after infusion of D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL
8. Restart IV fluids at 100 mL/kg/day when transfusion is finished
9. Four hours after end of transfusion, d/c IV and resume feedings at previous amount and caloric density

Example A timeline: Blood transfusion administration in one aliquot over four hours

(NPO for 12 hours):

- 8am: saline lock placed, infant fed, infant then NPO, IV fluids started
- 12noon: Stop IV fluids and use same IV site to administer transfusion. Blood transfusion begins
- 2pm: BBG checked
 - if BBG WNL, no change
 - if hypoglycemic, second IV placed and D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL
 - started at 100mL/kg/day
- 3pm: Recheck BBG
- 4pm: Blood transfusion finished. IV fluids are restarted.
- 8pm: infant feeding resumes
- *Number of potential sticks, including IVs and BBG check: 2 or 3*

Example B timeline: Blood transfusion is administered in two aliquots over four hours for each aliquot (NPO for 20 hours):

- 8am: saline lock placed, infant fed, infant then NPO, IV fluids started
- 12noon: Stop IV fluids and use same IV site to administer transfusion. First aliquot transfusion begins
- 2pm: BBG checked
 - if BBG WNL, no change
 - if hypoglycemic, second IV placed and D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL
 - started at 100mL/kg/day
- 3pm: Recheck BBG
- 4pm: First aliquot transfusion finishes, infant remains NPO and IV fluids resume
- 8pm: Stop IV fluids and use same IV site to administer transfusion. Second aliquot transfusion begins



- 10pm: BBG checked
 - if BBG WNL, no change
 - if hypoglycemic, second IV placed and D₁₀W with 2 mEq NaCl/100 mL and 1 mEq KCl/100 mL
 - started at 100mL/kg/day
- 11pm: Recheck BBG
- 12midnight: Second aliquot transfusion finishes. IV fluids are restarted.
- 4am: Infant feeding resumes
- *Number of potential sticks, including IVs and BBG check: 3 to 6*

V. Issues relevant to order and delivery of blood from blood bank

- Physician orders blood, RN prints up the order, and order is handed off to UC.
- UC transmits the order to the blood bank that includes information that the infant will be NPO during the transfusion.
 - RN will write “Infant NPO” on blood order if infant is NPO for transfusion.
- The RN will let the UC know when the patient will be NPO x4 hour, which is the time the blood will be hung.
- The UC will tube the blue slip down to the blood bank 15 minutes prior to the time the blood will be hung, and the blood bank will immediately release the blood and send it to the NICU.
- The key step is for the UC to make the final request that will prompt the blood bank to release the blood. This step will only take a few minutes, and should be timed to coincide with the time that the infant will have been NPO x 4 hours and is ready for the transfusion to begin.

VI. References

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