



## CAPTURING INDICATIONS FOR

# Red Blood Cell Transfusion

This document summarizes Intermountain's Surgical Services Clinical Program 2011 blood utilization board goal and outlines a process to ensure that indications for packed red blood cell (PRBC) transfusion are captured appropriately. This initiative is being **piloted in 2011 in the following hospitals**, with **system-wide implementation in 2012**:

- Intermountain Medical Center
- LDS Hospital
- Dixie Regional Medical Center

## ► Why Focus ON RESTRICTIVE RED BLOOD CELL USE?

**The evidence:** Many patients are given allogenic red blood cell transfusions as part of their treatment. However, there are risks associated with exposure to allogenic blood — including infection, allergic reactions, fever, and death — so physicians try to avoid giving blood unless necessary. **Restrictive red cell transfusion practice** is an approach to give transfusion only if certain hematocrit (HCT) and/or hemoglobin (HB) thresholds are met at the time of transfusion. This approach is supported by the following evidence:

- **A Cochrane meta-analysis** of 9 clinical trials showed that implementing a restrictive PRBC transfusion practice decreased the probability of PRBC transfusion by 42%, and the volume of PRBCs transfused was reduced without compromising patient outcomes.<sup>1</sup>
- **Surgical Services Clinical Programs**, in 2009, implemented a standardized order set for ordering PRBCs and educated physicians on the benefits of a restrictive PRBC transfusion process. The outcome of these interventions has shown a significant decrease in PRBC utilization through 2009 and 2010.

**Intermountain's efforts:** Surgical Services has been working for the past 3 years to redesign the entire blood utilization process in HELP. The newly developed documentation program will enable ordering, requesting, and documentation of blood products, including PRBCs. Using the HELP system to “capture” and document transfusion indications will give us a better understanding of exactly when and how blood is being used and help us design appropriate restriction programs moving forward. Data gathered will also enable us to measure clinical outcomes in relation to blood utilization.

**Note:** The **Joint Commission** is recommending new measures to support patient blood management. Among these measures is documentation of indications for red blood cell transfusion.<sup>2</sup>

## ► 2011 BLOOD UTILIZATION BOARD GOAL

Implement an automated process that captures the indication for packed red blood cell (PRBC) transfusion to prepare the system for a 2012 optimization in PRBC usage.

The ultimate goal is to minimize exposure to allogenic blood by decreasing the quantity of unnecessary PRBC transfusions.

**Measure:** Percent of electively transfused, cross-matched blood with a documented transfusion indication.

- **Entry goal:** 75%
- **Target goal:** 85%
- **Stretch goal:** 95%

## ► GOALS OF THIS DOCUMENT

- Educate healthcare providers on the reasons for restrictive PRBC transfusion practices and the role of capturing indications at the time of blood administration.
- Explain changes in existing procedures to enable capturing and documenting indications.
- Help create a culture in which the necessity of transfusion is discussed openly.

### INDICATIONS AND THRESHOLDS

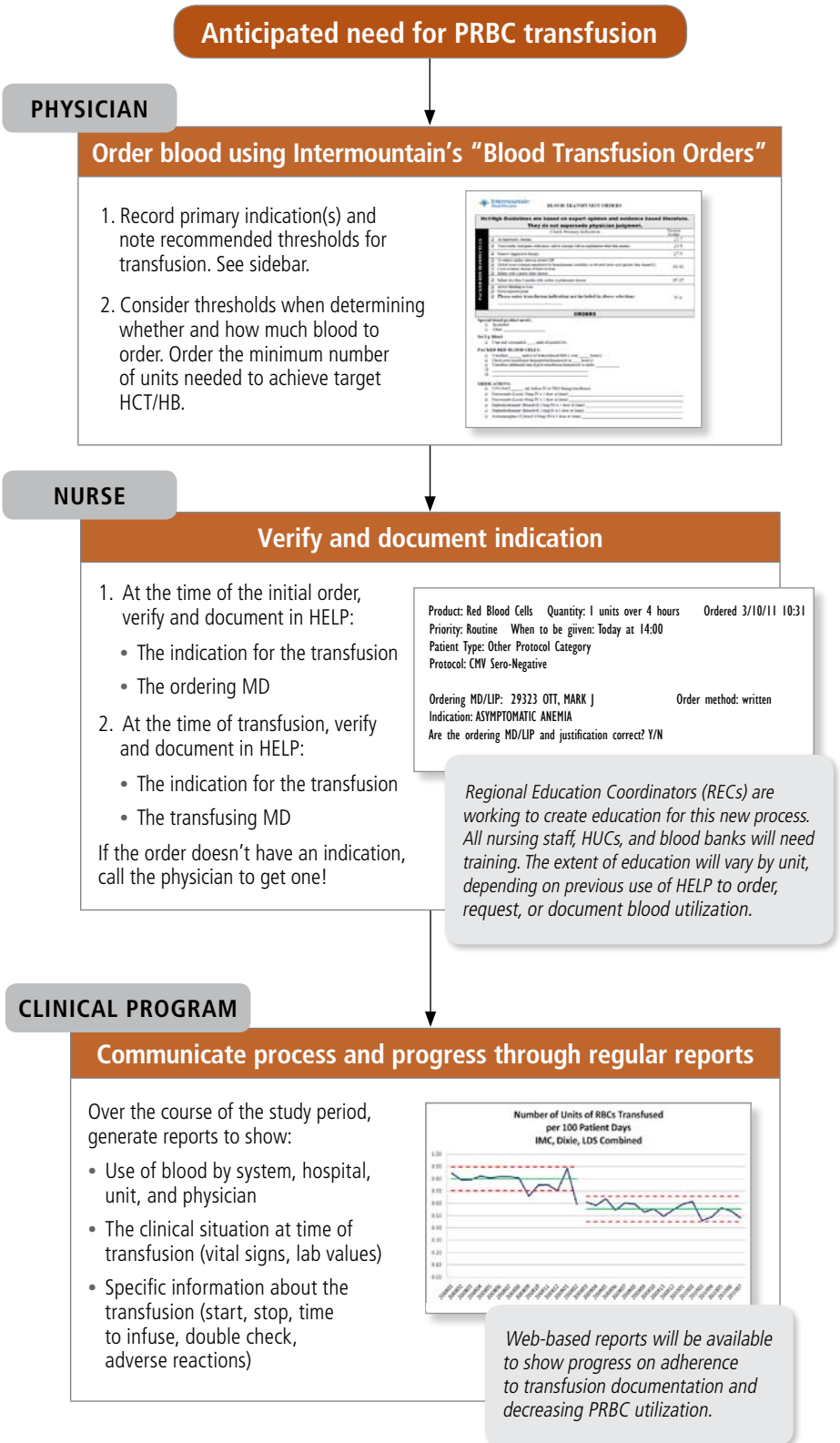
The guidelines on the order set are based on expert opinion and evidence-based literature. They do not supersede physician judgment.

INDICATION	Threshold HCT/HB
Asymptomatic anemia	21/7
Tachycardia, tachypnea, orthostasis, and/or syncope with no explanation other than anemia	24/8
Marrow suppressive therapy	27/9
To reduce cardiac stress in severe CHF	30/10
Global tissue ischemia manifested by hemodynamic instability or elevated lactic acid (greater than 4mmol/L)	30/10
Local ischemic disease of heart or brain	30/10
Infants with cyanotic heart disease	30/10
Infants less than 4 months with cardiac or pulmonary disease	45/15
Active bleeding or loss	as needed
Extracorporeal prime	as needed

### REFERENCES:

- Hill SR, Carless PA, Henry DA, Carson JL, Hebert PC, McClelland DBL, Henderson KM. Transfusion thresholds and other strategies for guiding allogeneic red blood cell transfusion (Review). Cochrane Database of Systematic Review 100, Issue 1. Art. No.: CD002042. DOI: 10.1002/14561858. CD002042.
- The Joint Commission. Patient blood management performance measures project. [http://www.jointcommission.org/patient\\_blood\\_management\\_performance\\_measures\\_project/](http://www.jointcommission.org/patient_blood_management_performance_measures_project/). Published January 3, 2011. Accessed March 3, 2011.

### ALGORITHM: CAPTURING PRBC TRANSFUSION INDICATIONS



These guidelines apply to common clinical circumstances, and may not be appropriate for certain patients and situations. The treating clinician must use judgement in applying guidelines to the care of the individual patients. For information about this document, contact Matt Peters at 801-442-3703.