

## Ordering Blood

- ✓ Order type and crossmatch if blood is to be given immediately or scheduled to be given within 3 days
- ✓ Order type and screen if blood may not be given; crossmatch can be completed quickly
- ✓ Crossmatch is needed only for red cells; plasma and platelet orders do not require crossmatch, but do require a patient blood type on record

## Platelet transfusion (adult)

- ✓ Store only at room temperature, do not refrigerate
- ✓ Each dose of platelets should raise count by  $\sim 30 \times 10^9/L$

### Platelets are most likely appropriate:

- Stable without bleeding  $< 10 \times 10^9/L$
- Bone marrow transplant  $\leq 20 \times 10^9/L$
- With significant bleeding  $< 50 \times 10^9/L$
- Before major procedures & up to 72 hr after  $< 50 \times 10^9/L$
- Interventional radiology exceptions:
  - Elective arterial procedure  $< 75 \times 10^9/L$
  - Non-vascular procedure  $< 75 \times 10^9/L$
- Neurosurgery or ophthalmology procedure  $< 100 \times 10^9/L$
- Bleeding or pre-operative and any count
  - Documented platelet dysfunction; or
  - Abnormal platelet function by thromboelastograph

### Platelets are most likely NOT appropriate:

- Patients with immune thrombocytopenic purpura (ITP), thrombotic thrombocytopenic purpura (TTP) or heparin-induced thrombocytopenia (HIT) unless they have life-threatening hemorrhage

## Plasma Transfusion

- ✓ Minimum effective adult dose is 2 units ( $\sim 500$  ml)
- ✓ Be aware of patient's volume status, do not overload
- ✓  $INR \geq 1.6 \approx PT > 5$  sec above upper normal

### FFP is most likely appropriate:

- Bleeding or before most procedures  $INR \geq 1.6$
- Interventional radiology exceptions:
  - Emergent arterial procedure  $INR > 2.0$
  - Central venous line  $INR > 2.0$
  - Venous procedure  $INR > 3.0$
- Significant bleeding in patients with DIC any INR

### FFP is most likely NOT appropriate:

- Stable patients with  $INR < 1.6$
- For treatment of hypovolemia or hypoalbuminemia
- Correction of isolated prolonged PTT (usually due to heparin or lupus anticoagulant)
- To replace single factor if concentrate is available (i.e. hemophilia and von Willebrand Disease)

## Cryoprecipitate transfusion

- ✓ Appropriate dose is one 5-pack which will raise fibrinogen 40-50 mg/dL

### Cryoprecipitate is most likely appropriate:

- Isolated hypofibrinogenemia ( $\leq 100$  mg/dL)
- Patients with dysfibrinogenemia
- Uremic patients if DDAVP and estrogens fail or are contraindicated
- As part of massive transfusion

### Cryoprecipitate is most likely NOT appropriate:

- Patients with concurrent clotting factor deficiency and hypofibrinogenemia (use FFP instead)
- Patients with von Willebrand disease or hemophilia A (use factor concentrates instead, when available)

## Red blood cell transfusion (adult)

- ✓ One unit will raise Hgb by approximately 1 g/dL
- ✓ Hgb 8 g/dL  $\approx$  Hct 25%, Hgb 10 g/dL  $\approx$  Hct 30%

### RBCs are most likely appropriate:

- 72 hr before and after surgery Hgb  $< 8$  g/dL
- Chronic anemia if other therapy fails Hgb  $< 8$  g/dL
- Clinical symptoms of anemia Hgb  $< 10$  g/dL
- Massive blood loss any Hgb ( $> 750$  cc or  $> 15\%$  blood volume)

### RBCs are most likely NOT appropriate:

- Asymptomatic patients with Hgb  $> 8$  g/dL

## Modified Red Blood Cell Units

- ✓ Orders for "fresh" or "washed" RBCs are appropriate in a very select few patients
- ✓ Orders will be considered on a case-by-case basis

## CMV-negative Products

- ✓ For nearly all patients leukoreduced blood is equivalent to CMV-negative blood
- ✓ CMV-negative blood is not routinely stocked

## Blood Irradiation

- ✓ To prevent graft vs. host disease in susceptible patients
- ✓ Does not sterilize product or reduce risk of infection

### Irradiation is most likely appropriate:

- Intrauterine transfusion
- Newborns who received intrauterine transfusions
- Congenital cell-mediated immunodeficiencies (DiGeorge's, SCID, Wiskott-Aldrich, etc)
- Bone marrow transplant recipient or scheduled for bone marrow transplant
- History of Hodgkin's lymphoma
- Receiving purine analogs (fludarabine, 2-CDA, etc.)

### Irradiation is most likely NOT appropriate:

- Patients with AIDS or HIV
- Solid organ transplant recipients
- Patients receiving immunosuppressive therapy or chemotherapy who do not meet above criteria
- Congenital humoral immunodeficiencies (agammaglobulinemia, hypogammaglobulinemia)

## Leukoreduced Products

### Leukoreduction is most likely appropriate:

- Bone marrow, heart or lung transplant recipients or scheduled for transplant
- Newborns up to 1 month of age
- Patients with hematological malignancy
- Oncology and other patients receiving multiple transfusions over an extended time

*continued, next panel*

- Patients who require CMV-safe products
- Patients with AIDS or HIV

### Leukoreduction is most likely NOT appropriate:

- Patients more than 1 month after successful organ transplants
- Other patients receiving chemotherapy or immunosuppressive therapy

## Supplementary Pediatric Guidelines

### RBCs are most likely appropriate:

- Shock due to perinatal blood loss
- Infants on mechanical ventilation with:
  - MAP > 8 and FIO<sub>2</sub> > 0.4      Hct < 35%
  - FIO<sub>2</sub> < 0.4      Hct < 28%
  - Recently extubated with FIO<sub>2</sub> > 0.4      Hct < 28%
- Clinical signs of anemia, such as      Hct < 25%
  - Unexplained bradycardia or apnea for 48 hours
  - Serum lactate > 2.5 mEq/L
  - Poor weight gain with adequate calories
  - Unexplained lethargy
- Prior to surgery      Hct < 25%
- Without signs of anemia      Hct < 20%

### Platelets are most likely appropriate:

- Preterm infants with increased risk of bleeding      < 50 x 10<sup>9</sup>/L

OTR07029 -/- (02/09) DOD

# Concise Blood Product Ordering And Administration Guidelines

**Blood Bank: 8-4444**

Based on guidelines prepared by:  
UCD Blood Utilization  
Review Committee

Complete guidelines available at:  
<http://www.uch.edu/for-healthcare-professional/Clinical-Laboratory/transfusion-services.aspx>

Updated: February 2009