

## Pediatric Transfusion Medicine

### **Pediatric specific risks:**

**Bacterial and Viral contamination**, the same as for adults.

**Hypothermia**, (given pediatric surface area to weight ratios),  
Consider blood warmer especially if large volumes to be transfused

**Hyperkalemia**, especially if whole or irradiated blood used

**Hypocalcemia**: All colloids chelate calcium! A rapid transfusion may cause hypotension since  $\text{Ca}^{++}$  is a potent inotrope in infants and children.

### **Special preparations:**

**Irradiated Blood** is used to eliminate possibility of Graft vs. Host disease. Donor-derived T cells can engraft in an immuno-incompetent recipient. Indications for irradiated blood are all neonates and children with severe known or suspected congenital or acquired immunodeficiency states

**Leukocyte reduced blood products** are used to prevent febrile, non-hemolytic transfusion reactions. Microaggregate Filters are suitable to prevent febrile transfusion reactions and are useful in patients who have received blood frequently in the past. However, Leukopore Filters are needed to decrease risk of CMV transmission and HLA alloimmunization.

### **PRBCs**

One unit of PRBC is approximately 250-350cc. Transfusing 1 unit in an adult patient will raise their hemoglobin by 1 gm/dl (or hematocrit by 3%)

Transfusing a pediatric pt with 4cc/kg will increase Hb 1gm/dl

A good rule of thumb is transfusing 10-15cc/kg at a time.

Consider Lasix mid-transfusion or after transfusion if concerned about fluid overload.

### **Platelets** - (Random or Pheresed?)

Each unit has a volume of approximately 50-60 cc while a single pheresis unit is equivalent to 6-10 random units

Transfusing 1unit/5kg of body weight will increase count by roughly 50,000.

**Fresh Frozen Plasma** – Dose is usually 10 ml/kg (If close round up/down to closest unit)  
FFP should not be given faster than 1cc/kg/min or should be chased with Calcium.

**Cryoprecipitate** - 1bag / every 5-10kg (Source of fibrinogen and factor VIII)