

## Blood Products for ECLS Circuit Priming

### **Blood Bank Policy**

Blood bank will maintain a dedicated supply of Fresh (<7 day old) O NEG PRBCs at all times, specifically marked and held for possible ECMO. Four units of this blood will be labelled and placed in an ECMO basket. Once dedicated blood is >7 days old, it will be put into circulation for general use and ECMO basket will be replaced with fresh units. If supply of fresh O NEG blood is low, the blood bank will alert the ECMO team. Units >7 days may require washing, which will prolong preparation time.

### **Requesting Blood for Circuit Priming**

- Call blood bank for ALL ECMO and possible ECMO. Notify them one of the following scenarios:
  - Alert Blood Bank of any “**Possible ECMO**” so that they may confirm necessary supply and order Type Specific blood for future use.
  - Standard Patient – Ask for fresh “**Emergency O NEG RBCs**” for all ECLS patients without known antibodies.
  - Patient with antibodies- Ask for “**STAT type specific and crossmatched RBCs**”.
- Irradiation: All units will be **IRRADIATED** to reduce the risk of graft versus host disease. *(This is especially critical in infants <1yr and immunocompromised patients)*
- Washing:
  - Washing of PRBCs removes proteins, extracellular potassium, inflammatory cytokines etc. reducing their adverse immunomodulatory potential
  - Washing blood adds an additional 30-60 min of processing time
  - ECMO RBCs will NOT require washing as they should all be <5-7 days old.
  - Blood >7 days should prompt discussion weighing stability of patient versus urgency of ECMO of cannulation. Page on call Transfusion Attending if needed.
- CMV: Emergency release O NEG blood is leukoreduced which significantly reduces the risk of CMV.
- Sickle cell: Emergency release O NEG ECMO blood is Sickledex neg

### **Platelets**

- Ordering 1 full unit decreases preparation time for blood bank allowing for release of platelets in conjunction with emergency O NEG RBCs.
- Administer only 20ml/kg of platelets to neonatal patients upon ECMO initiation.
- Administer 1 unit of platelets to pediatric patients upon ECMO initiation.

### Ordering Blood in Apex

- Order **3 units of PRBCs** for both Neonatal and Pediatric patients
- Order "STAT" irradiated, leukoreduced blood
- Order **1 unit of platelets** for both Neonatal and Pediatric patients.
- Order "STAT" platelets
- Notify RN that order has been placed!

### Nursing and Pickup

- **RN MUST release the order** before Blood Bank can dispense.
- RN to print pickup sheet needed for running to obtain blood

### Turnaround Timing

Routine PRBc	4 hours
"Stat" PRBC- Typed and crossmatched	~ 1 hour
"Emergency release" PRBCs- O NEG	Immediate
Washing	+ 30-60 min
Irradiation	+10 min