** RBC Transfusion **

▶ Indications : Improve O_2 carrying capacity, → Bleeding; Chronic anemia & symptomatic; Peri-op. management

▶ Preparation : ① CMV −ve ⇒ prevent transmission

② Irradiated RBC ⇒ Prevent GVHD)

③ Leukopoor ⇒ prevent fibrile non-hemolytic reaction

④ Washed RBC ⇒ prevent hemolysis - prevent anaphylaxis

▶ Reactions

Acute (within 24hr)		Delayed (After 24hr)	
Immunologic	non-Immuno	Immuno	non-Immuno
- Hemolytic	- circulatory overload	- Alloimmunization	- Iron-overload
- Febrile	- Hemolytic → physical	- GVHD	- viral
- Allergic	Bacterial	- Post-trans. purpura	- malaria
- Anaphylactic	- Air embolus	- Immunomodulation	
- TRALI	- Metabolic reaction		

2 staff members should confirm the matching

Protocol for All acute reactions : STOP immediately → ABC → IV with 0.9% NaCl → check patient ID → Notify blood bank & send blood sample & urine to it → support pt. as necessary.

Platelet transfusions

▶ Types → Platelet concentrate (Random donor)
→ Pheresis platelets (single donor)

- Target level [>10-20K/ML] / Bleeding - surgical [>50K/ML]

▶ Complications :

- Higher incidence than in RBC transfusion / Bacterial contamination
- Alloimmune destruction of platelets (HLA ag)

Non - immune → Microangiopathic hemolytic anemia / Coagulopathy / Splenic Sequestrations
Fever / infection / (Amphotericin - vancomycin - Interferons)

Fresh frozen plasma

▶ Indication : ① Multiple coagulation deficiencies < Liver disease / Trauma ② DIC
③ Warfarin reversal ④ Coagulation def. (factor XI or VII)

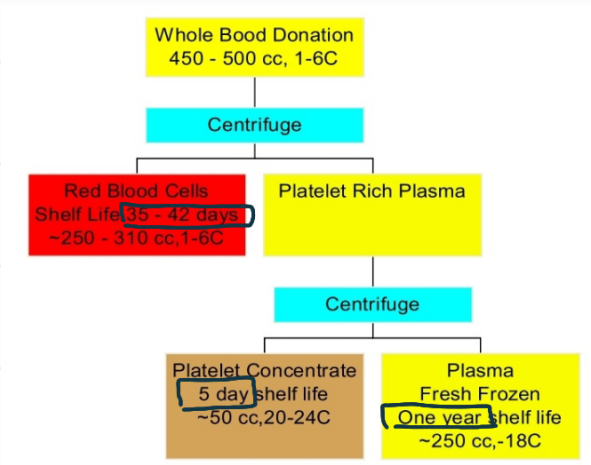
Viral screened # ABO compatible

Blood Donation Process

Blood donar Criteria

① Age (17-65)
② weight > 50 Kg
③ General health
④ specific illness
⑤ contact with infection

Blood collection & manufacturing



- 475 mls blood ⊕ 63 mls anticoagulat

  Plasma , Buffy coat (platese) , RBC

- RBC + optimal additive solution

  ↳ Saline / Adenine / Glucose / Mannitol

▶ Leucodepletion benefits → less fibrile reaction / less alloimmunisation
→ less CMV / ↓risk of vCJD transmission

TRALI

- Mainly with fresh frozen plasma
- fatal
- occur 1-4 hrs at starting transfusion

▶ Clincal features >>

- ARDS / fever with chills / dry cough
- cyanosis / hypotenstion / chest pain
- Bilateral pulmoncay edemen .

▶ CXR >> Bilateral infiltrates in hilar region

▶ Classical theory >> (Immune)

Donar ab vs patient neutrophils

↓

neutrophils sequestrate in pulmony vasculture

↓

endothilical damage => capillary leak

▶ Management >>

Supportive treatment / O2 / steriods

▶ 2 hit theory >> (non-immune)

Predisposing conditions → sepsis
→ Surgery
→ Trauma
→ hemato. malignancy

Female after get pregnent

ab ↑↑