

Contents



1 Blood groups

2 Collection & Storage of blood

3 Blood product & indication

4 Complication of blood trans fusion

5 How to avoid complication of blood trans fusion



2

Type of blood transfusion

1

Whole Blood transfusion

2

Packed red blood cells

3

Leukocytes depleted blood

4

Platelets transfusion

5

Granulocyte transfusion

6

Plasma





GUIDELINES FOR USE OF BLOOD COMPONENTS

Transfusion Indication	Options	Desired Effect	Preference	Reasons
To Increase HB%	1. Packed Red Cells In Additive Solution (PCV)	Hb by 1 g% HCT by 3%	✓ ✓ ✓	-Least chances of transfusion reactions as total plasma is removed. -Viability of RBCs is better. -Platelets and Plasma can be utilised for another patient.
	2. Whole Blood (WB)	Hb by 1 g% HCT by 3%	✓	-More chances of transfusion reactions due to plasma proteins. -It is like unnecessary multidrug therapy.
To Replace Blood Loss	1. PCV	As per volume of PCV	✓ ✓	- If you want to replace blood loss less than two liters.
	2. Whole Blood	As per volume of WB	✓ ✓	- If you want to replace blood loss more than two liters quickly.
To Increase Platelet Count	1. Single Donor Platelets (SDP)	Increases Platelet count by 50,000-70,000/ml per unit	✓ ✓	-Recipient is exposed to single donor. -Leucoreduced platelets are obtained so risk of transfusion reaction and platelet refractoriness is reduced.
	2. Random Donor Platelets (RDP)	Increases Platelet count by 5,000-8,000/ml per unit	✓	-Recipient is exposed to many donors. -Risk of alloimmunization and so platelet refractoriness -Chances of transfusion reaction are more as leucoreduction is not always possible.



1

Whole Blood transfusion:



❖ Storage life :2-5 w

❖ The main indications are:

- 1. Acute hemorrhage external or internal.
- 2. Operative and post-operative replacement.
- 3. Severe burn.
- 4. Intestinal strangulation.
- 5. Raising the resistance to sepsis.
- 6. Exchange transfusion in cases of erythroblastosis fetalis.

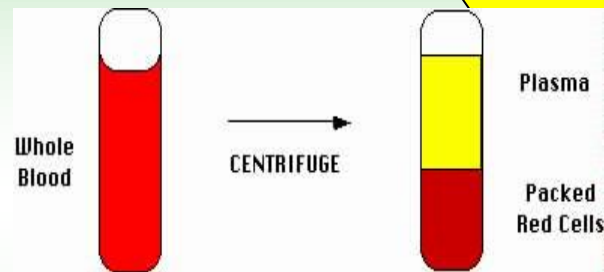


. Packed red blood cells:

❖ The main indications are:

- Chronic anemias
- Renal & liver diseases
- Eldery

To avoid volume overload & disease transmission



❖ The usual dose is 15 ml/Kg infused slowly

Packed red blood cells



- ❖ Method ; By use of leukocytes filters
- ❖ The main indications are :-
 - Chronic hemolytic anemia
 - Bone marrow transplantation
 - immune deficiency states
 - Chronic renal failure

❖ The indication of platelet transfusion

- Thrombocytopenia (1ry&2ry)
- Platelet dysfunction disorders

❖ Platelets prepared as form of: -

- Fresh platelet rich plasma.
- Pooled platelets (from multiple donors,
- Platelets concentrate by platelet-phersis.

❖ Storage life 2-5d

❖ Platelets in one unit of blood increases the circulating number of platelets between 10.000-15.000/ul

