Blood and Blood Products Used in Surgery.

Blood Products.

- Fresh heparinised whole blood.
- Citrated whole blood or packed cells.
- Fresh frozen plasma.
- Platelets.
- Cryoprecipitate
- Albumin.

Fresh Heparinised Blood.

- Used within 24 hours of donation.
- “Normal” electrolyte levels.
- High yield of robust RBCs.
- Anticoagulated with 25mg of Heparin.

Fresh Blood.

- Whole blood or packed cells.
- Contains citrate as anticoagulant.
- Used up to 4 weeks post donation.

Platelets.

- Play a vital role in haemostasis.
- Life span of 9 - 12 days.
- Activated by damage to blood vessel lining.
- Activated by foreign surfaces.

Mechanism of Platelet Action.

Plasma.

- Contains proteins, electrolytes.
- Anti-coagulated with citrate.
- In continuous communication with interstitial fluid via capillary pores.

Plasma Proteins & Electrolytes.

- Exert colloid osmotic pressure.
- Contribute to buffering capacity.
- Necessary for normal nerve conduction.
- Essential for haemostasis.

Albumin.

- Plasma protein solution.
- Use in a number of clinical situations.
- 2 concentrations available locally.

Albumin.

Albumex 20

- 200 g/L.
- hyperoncotic.
- maintains plasma colloid osmotic pressure.
- carries intermediate products in transport & exchange of tissue metabolites.

Albumex 4

- 40 g/L.
- iso-osmotic with human serum.
- Expands circulating blood volume.
- carries intermediate products in transport & exchange of tissue metabolites.

Cryoprecipitate

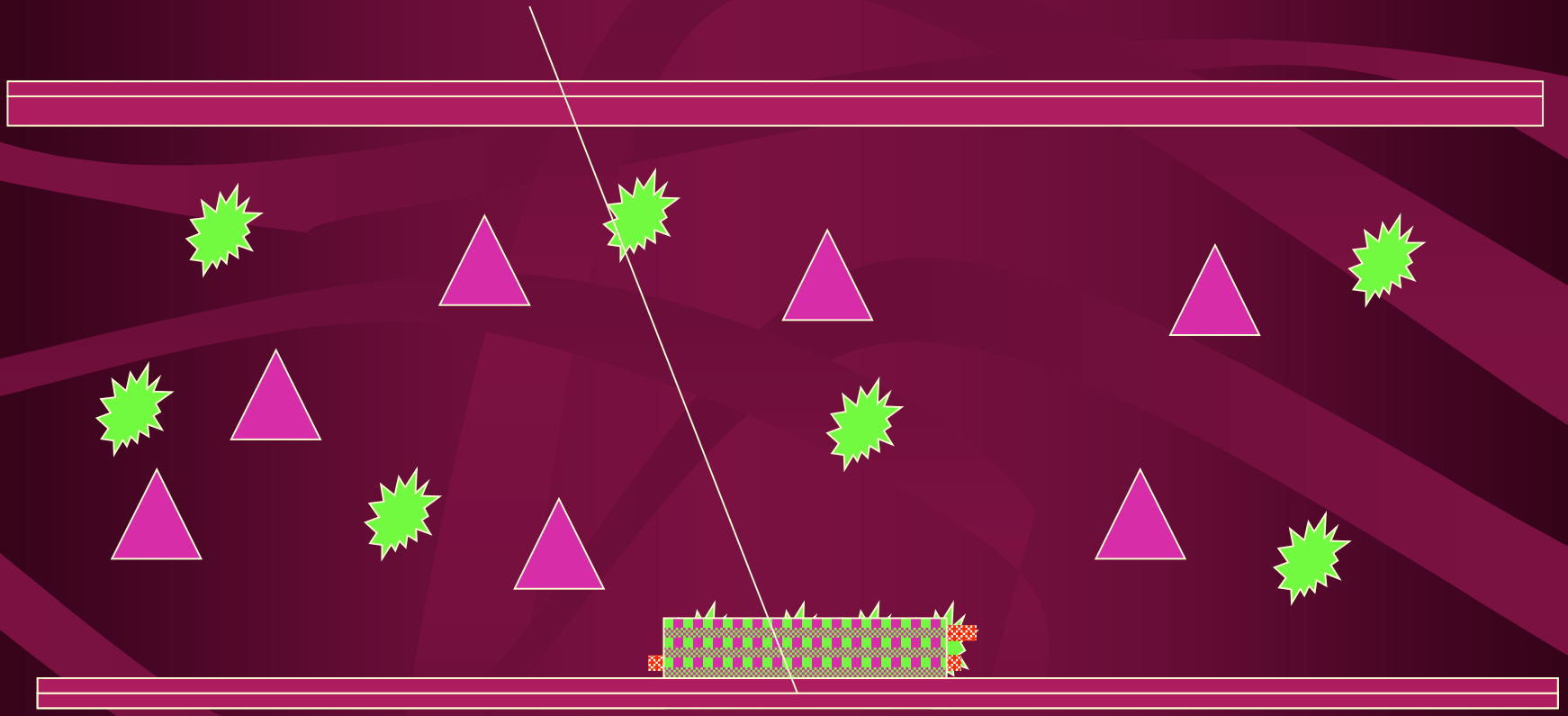
- A component of plasma.
- Rich in factors V, VIII and fibrinogen.

Haemostasis.

- Vascular constriction.
- Platelet plug formation.
- Fibrin clot formation
- Fibrin lysis.

Haemostasis.

Platelet plug - Fibrin Clot - Fibrin Lysis



Blood and Blood Product Conservation.

- Cell saving.
- Haemofiltration.
- Autologous donation