



D.PHARM 2ND YEAR

2026-27

PHARMACY LAW AND ETHICS

BLOOD BANK



CHAPTER 15

CLICK ON BANNER TO WATCH BANNER

Chapter - 15

Blood Bank

Introduction:-

- Blood Banking is a laboratory-based process that ensures safe safe collection, processing, testing, storage and distribution of blood and blood components for transfusion and other medical procedures.
- In blood banks, collected blood is separated into major components that it can be used efficiently according to the patient's clinical needs:-

- Red Blood Cells (RBCs) — Transport oxygen to tissues.
- Platelets — Help in blood clotting.
- Plasma — Contains clotting factors and proteins essential for healing.

* Blood Banking also involves blood grouping, cross-matching and testing of infectious diseases to ensure transfusion safety.

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Objectives :-

The main objectives of a blood bank are :-

- to ensure a continuous supply of safe, high quality blood and blood components with minimum risk to donors & recipients
- to identify and eliminate errors in the transfusion chain to improve the safety and effectiveness of transfusion services.

* Basic requirements for a Blood Bank :-

To establish and operate a Blood Bank, the following basic requirements must be fulfilled :-

→ Space :- minimum 10m^2 area

* Hygiene and infection control.

* air-conditioned environment.

* Man Power : —

→ at least one trained medical professional or technician.

→ Training must include : —

- * Blood collection & Storage

- * Blood grouping and Cross - matching

- * Handling and Release of blood units

* Electricity : —

→ 24 hours x 7 uninterrupted power supply.

→ Backup generators to maintain cold chain and equipment operation.

* Equipment : —

Each Blood Bank must have the following essential equipment

- Refrigerator (Capacity - 50 Blood units)
- Deep freezer.
- Microscope for blood examination.
- Centrifuge for separation of blood components.
- Insulated transport boxes with ice packs to maintain the cold chain.

* Consumables:—

adequate quantities of consumables and reagents must be available for blood grouping & cross matching.

Annual Consumable Requirements

Consumables	Quantity Required
→ Pasteur Pippettes	12 dozen / year.
→ Glass tubes (7.5 - 10 mm)	100 dozen / year.
→ Glass slides (1" = 2")	Boxes 20-25 each / year
→ Test tube racks	6 Racks (24 tubes each)
→ Rubber teats	6 dozens / year.
→ Disposable rubber gloves	500 pairs / year.
→ Blotting / tissue paper	As required
→ Alcohol based marking pen	As required
→ Toothpicks	As required

* Reagents Required for Blood Bank :-

Reagent	Requirement
Anti - A	2 vials / month
Anti - B	2 vials / month
Anti - AB	2 vials / month
Anti-D (IgM + IgG)	2 vials / month
Antihuman Globulin	1 vial / month

* Functions of Blood Banks

→ Blood Collection

→ Blood Processing

RBCs
Platelets

Plasma

White Blood Cells (if required)

→ Blood Testing

HIV

Hepatitis - C

Syphilis

Hepatitis - B

→ Blood Storage

→ Blood Transfusion

Cancer

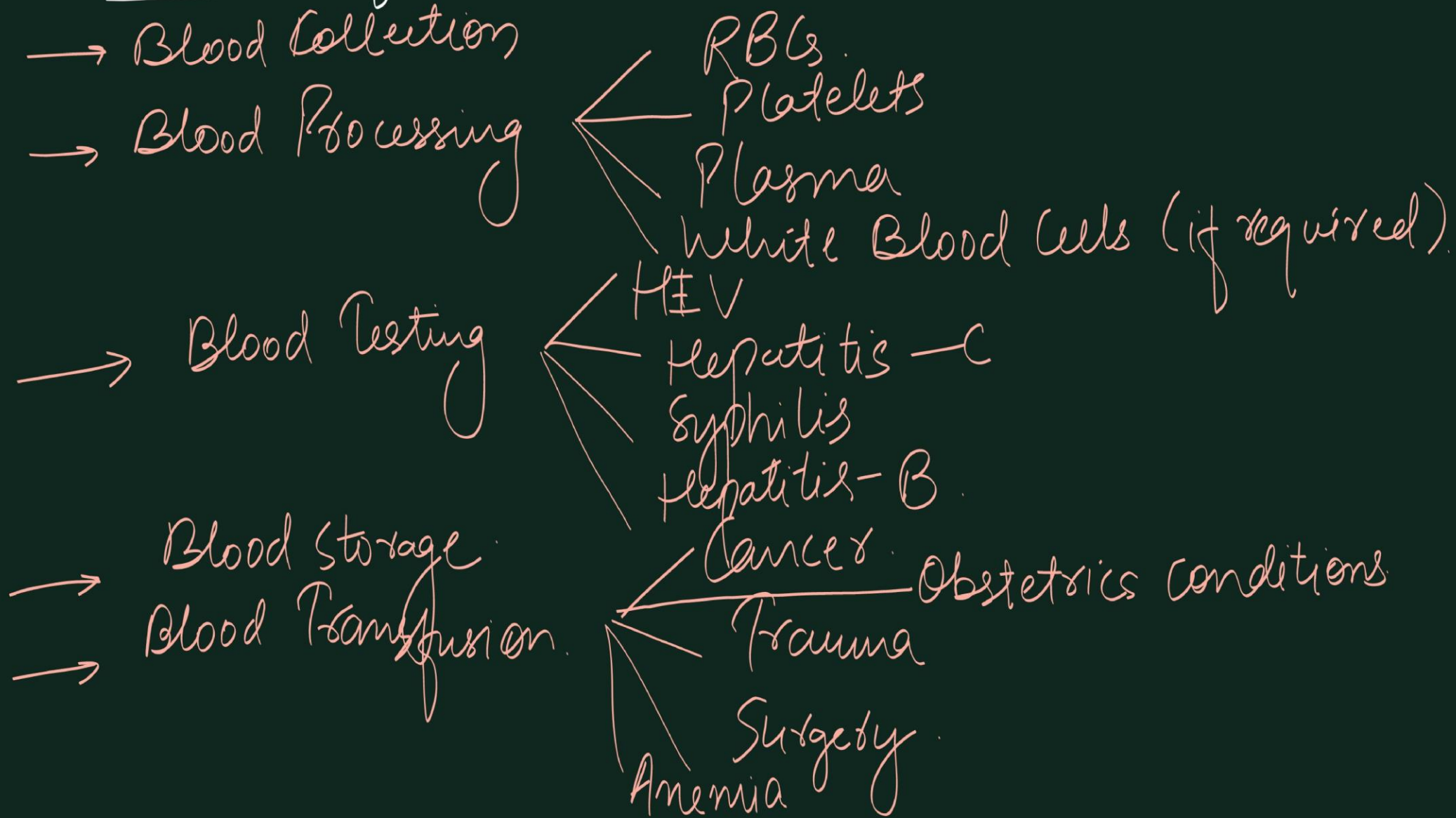
Obstetrics conditions

Trauma

Surgery

Anemia

* Functions of Blood Banks



Storage of Blood : —

- Inspect blood units regularly.
- Discard Haemolysed / turbid / discoloured units.
- Maintain clean & sterile storage.
- shelf life → 35-42 days.
- Return unused bags 10 days before expiry.

Transportation - Cold Chain Maintenance

- Use insulated transport crates
- Maintain cold chain until issue.
- Use cold boxes + clean ice packs.
- Stored blood at 4°C — 6°C with continuous monitoring.
- Maintain proper temperature during transit.



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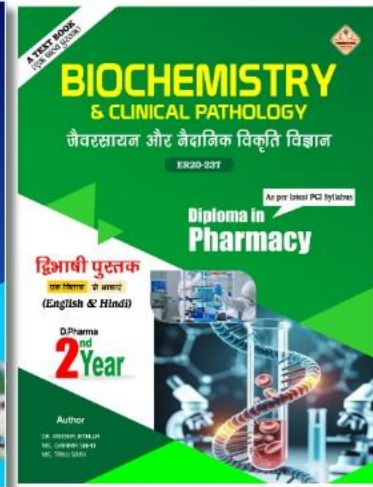
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