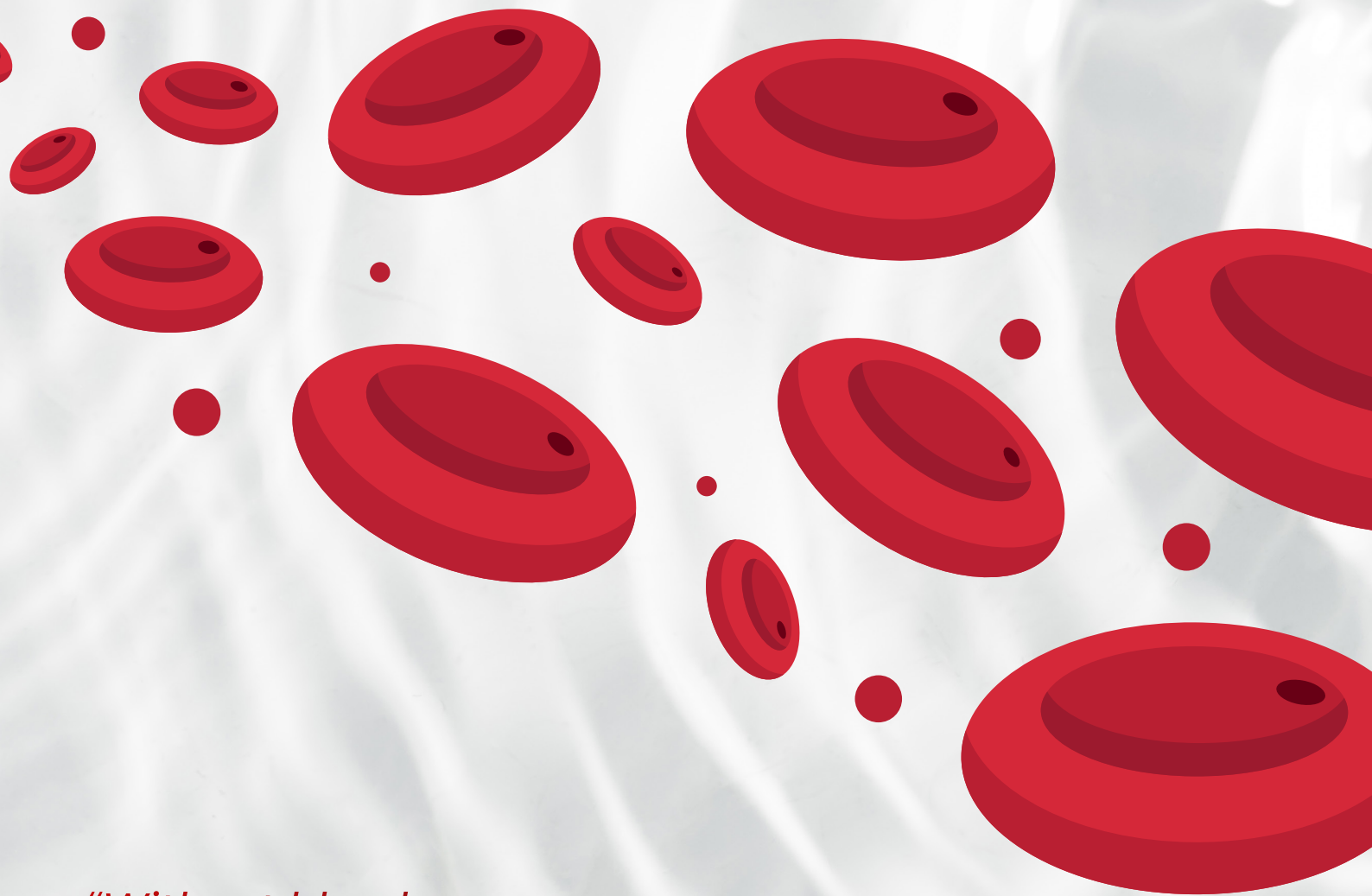


Vein to Vein

The Blood Journey



*“Without blood,
there would be no life.”*

Step 1: Donor Recruitment- The Hero's Entry

The initial phase of the blood donation process involves:

-  Public education
-  Awareness creation
-  Promotion of voluntary, non-remunerated blood donation

Once individuals express willingness to donate, they are directed to designated blood donation sites or centers, where comprehensive health screenings and eligibility assessments are conducted to determine their suitability for donation.

These assessments typically include:

- » A review of the donor's medical history
- » Evaluation of body weight
- » Measurement of blood pressure

Red Blood Cells



Uses

Chronic anaemia, significant trauma (childbirth, surgery), to treat blood disorders such as sickle cell disease

Storage and Shelf-Life

1 to 6°C, and can last 35 to 42 days ^[4]

Platelets



Uses

Medical procedures, cancer treatment, trauma and surgery

Storage and Shelf-Life

Room temperature with constant movement, last 5 to 7 days ^[4]

Plasma



Uses

Trauma, burns, clotting factor deficiencies, creating therapies for immune deficiencies and bleeding disorders - depending on protocols

Storage and Shelf-Life

Frozen, lasts up to a year or even 3 years depending on protocols ^[4]

White Blood Cells



Uses

Supporting individuals with weakened immune systems

Step 2: Blood Collection-Where the Journey Takes Shape

Once a donor is deemed eligible, blood collection is carried out by trained professionals a process that typically takes around 10 minutes. ^[1] The blood is drawn into sterile blood bags, usually made of polyvinyl chloride (PVC), which contain an anticoagulant to prevent clotting. In addition to the main collection, small samples are taken in separate tubes for mandatory testing.

Following collection, the blood bags are stored under controlled temperature conditions in cold storage, suitable for preserving the quality of the blood and preparing its various components.

The blood is then transported to testing and processing facilities.



Approximately 470 millilitres of blood is collected during the donation, a volume the body naturally replenishes within 24 to 48 hours. ^[1]

Each blood bag and accompanying sample tube is labelled with a unique barcode, ensuring traceability back to the individual donor.



Step 3: Testing and Processing - Blood Gets a Makeover

Testing

Blood group serology and infectious disease screening are performed on the samples collected at the time of donation for every unit of whole blood. These tests include screening for: ^[2]

-  Human Immunodeficiency Virus (HIV)
-  Hepatitis B and C
-  Syphilis

The components within the bags are then pressed into individual bags for different uses, labelled and dated clearly and stored at the appropriate temperatures.

Processing

Blood components are separated from whole blood no more than 8 hours after collection. ^[2]

Blood bags are placed in a centrifuge, spinning at 1500 to 2500 revolutions per minute (RPM) where the blood is separated into the following parts;

- Top layer-plasma
- Middle layer- buffy coat (containing platelets and white blood cells)
- Bottom layer containing red blood cells (RBCs) ^[3]



Step 4: Hospital – Blood on demand

Blood components are dispatched to hospitals based on demand, with transportation adhering to strict cold chain protocols to preserve quality.

Upon arrival at the healthcare facility, thorough checks are conducted to:

- » *Verify the integrity of the components*
- » *Confirm expiry dates*
- » *Ensure appropriate storage temperatures were maintained throughout transit* ^[2]

Before transfusion, compatibility between the donor and recipient is confirmed through crossmatching procedures.

These include testing for ABO blood type incompatibility and ensuring the recipient's serum or plasma is compatible with the donor's red blood cells—typically using a segment from the original blood unit. Only after confirming a safe match is the blood issued for transfusion. ^[2]

The transfusion itself is administered with care, and the patient is closely monitored for any adverse reactions.



Though deeply clinical, this final step is also profoundly human it is the point where one person's act of giving becomes another person's chance to live.



Why This Journey Matters

Every step in the blood journey plays a critical role. A breakdown at any point whether in collection, testing, storage, or delivery can lead to dangerous delays, increased risk, or even the loss of life. But when each link in the chain works as it should, the outcome is powerful and life-saving.

In many parts of Africa, where health systems are still evolving and resources are limited, strengthening the entire vein-to-vein process is not just a health improvement, it is a vital step toward achieving Universal Health Coverage and delivering truly equitable care. Because behind every unit of blood lies a second chance and making that journey count is a responsibility we all share.

References

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CONTACT FOR PARTNERSHIP

Empower our mission by joining CoBA and championing the cause of safe, sufficient, and sustainable blood in Africa!
Together, we have the power to save lives.

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"Without blood, there would be no life."