

Every minute, someone needs blood. Any human being may have to face situations such as surgeries, frequent accidents, illnesses, natural calamities. Such a situation necessitates a person to receive blood from fellow human beings.

The idea of blood transfusion appeared in the fifteenth and sixteenth centuries with the belief that transfusion of blood from a young and healthy person to an aged or debilitated individual would restore youth and health. Since the implementation of Safe Blood transfusion, careful screening and exclusion of donors with potential risk factors and new methods for testing donated blood have greatly reduced the possibility of all types of transfusion-acquired infections.

Blood transfusions always carry the risk of transmitting infection, prevention of Transfusion Transmitted Infection (TTI), This can be reduced by screening for the presence of Transfusion Transmitted Infections (TTI) such as HIV, Hepatitis, B&C, Malaria. Even though the blood is screened it is not 100 per cent safe. Hence blood should be used judiciously.

Safe blood means:

Donation should be safe to the donor.

The transfusion should be safe to the recipient

The whole process should be safe for those handling the blood.

Donor Criteria

It is mandatory to screen all donated blood for HIV, HBV, HCV and Malarial parasite. In addition to this both doctor and patient must be aware that blood should be used only when the transfusion is absolutely necessary.

- * A mismatch between the donor and recipient can trigger an immune-mediated response that ranges from a simple fever to a life-threatening hemolytic reaction.

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A person within the age group of 18-65 years with a minimum body weight of 45 kgs or above and with a normal pulse rate, body temperature, blood pressure and hemoglobin of more than 12.5 are eligible to donate blood. There are conditions which permanently defer donors

- * One can donate blood once in three months.
- * Females in the menstruating age they can donate once in 4 months.
- * The donor should eat at regular mealtimes and drink plenty of fluids.
- * The donor needs no other special diet. A routine balanced diet is adequate.
- * The donor's blood volume gets replenished within 24-48 hours.
- * The donors with history of epilepsy, psychotic disorders, abnormal bleeding tendencies, severe asthma, cardiovascular disorders, and malignancy are permanently unfit for blood donation.
- * People suffering from disease like hepatitis, malaria, measles, mumps, and syphilis may donate blood after full recovery with 3-6 months gap. Also people who have undergone surgery and blood transfusion may safely donate blood after 6-12 months.
- * A donor should avoid rigorous physical work for a few hours after donating blood.

Quality control is to prevent Transfusion Transmitted Infections by

- # Collecting blood only from healthy volunteers.
- # Subjecting all donors to a thorough pre-donation evaluation.
- # Screening all donated blood for various infectious diseases.

□ FREQUENCY OF BLOOD TYPES

O+ 1 person in 3	O- 1 person in 15
A+ 1 person in 3	A- 1 person in 16
B+ 1 person in 12	
B- 1 person in 67	

AB+ 1 person in 29 AB- 1 person in 16

- Those belonging to the O- blood group are called universal blood donors. The red blood cells of a universal blood donor may be transfused to anyone regardless of their blood type.
- The plasma of those belonging to the AB blood group may be transfused to anyone regardless of blood type