Give blood
for those who give life

World Blood Donor Day
Safe blood for saving mothers 14 JUNE 2014

FAQs

Frequently Asked Questions on

Blood Donation

World Health Organization
Regional Office for South-East Asia

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Foreword

Safe blood saves millions of lives each year. Provision of safe blood is a fundamental need for the health system of every country. Blood cannot be synthesized artificially. Human beings are the only source of this life-saving product. But a shortage of safe blood in several developing countries often leads to unnecessary deaths or ill-health. Hence, there is an urgent need for more people to donate blood on a regular basis to save precious lives. Against an annual estimated requirement of 18 million blood units in the South-East Asia Region, only around 15.5 million units are collected every year.

Blood can also be a potential source of transmission of several diseases. These include among others, HIV, hepatitis B and hepatitis C. The shortage of blood and the risk of often fatal infections can be considerably reduced by promoting voluntary, non-remunerated blood donations. All over the world it has been shown that regular, voluntary, non-remunerated donors from low-risk population groups are the safest donors. In the South-East Asia Region, only around 82% of donated blood is obtained from voluntary donors. However, there is a great variation between, as well as within, the countries. Clearly, there is an urgent need for social and political leadership to prioritize this critical area.

World Blood Donor Day (14 June) was designated as an annual event by the World Health Assembly in 2005. Since then, countries around the world celebrate this day. The event serves to raise awareness of the need for safe blood and blood products and to thank voluntary non-remunerated blood donors for their life-saving gifts of blood. The celebration of this day by several partners including WHO, the International Federation of Red Cross and Red Crescent Societies, the International Society of Blood Transfusion, and the International Federation of Blood Donor Organizations also aims to raise awareness globally about the need for regular and voluntary blood donation. The ultimate goal is that every country should achieve 100% voluntary and unpaid blood donation. The focus for this year's campaign is "Safe blood for saving mothers". Globally, more than 287 000 women die each year during pregnancy, childbirth or in the postpartum period – 99% of them in the developing world; availability of safe blood can save many of them.

WHO is continuously providing technical support to global efforts in augmenting the availability of safe blood and is working closely with the collaborating organizations for promoting voluntary blood donations through active involvement of governmental and nongovernmental organizations. Together, we are striving towards the ultimate aim of assuring universal access to safe blood and blood products.

While there has been a steady increase in voluntary blood donations in developing countries, several myths are still prevalent among communities that prevent them from becoming regular blood donors. This document has been developed to provide information to eliminate misconceptions about blood donations.

I sincerely hope that readers will find this FAQs booklet informative and useful and that it will facilitate rapid increase in voluntary blood donations in our Region.

Dr Poonam Khetrapal Singh
Regional Director

FAQs

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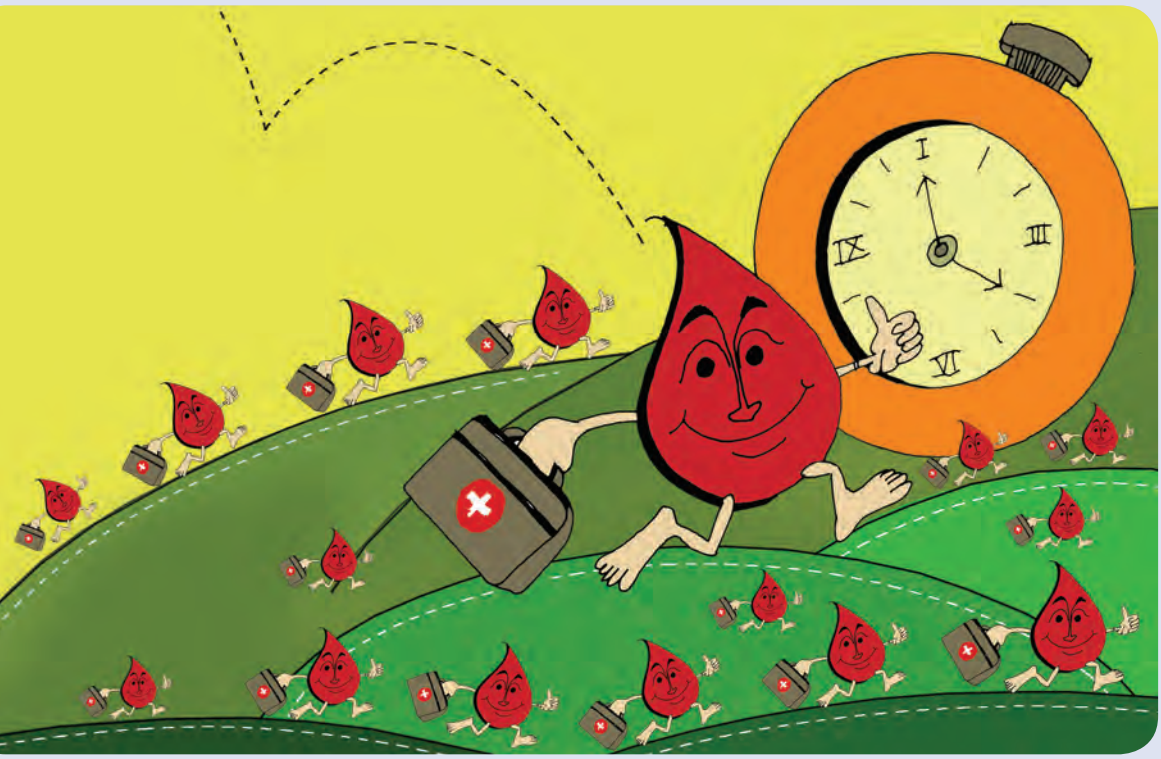


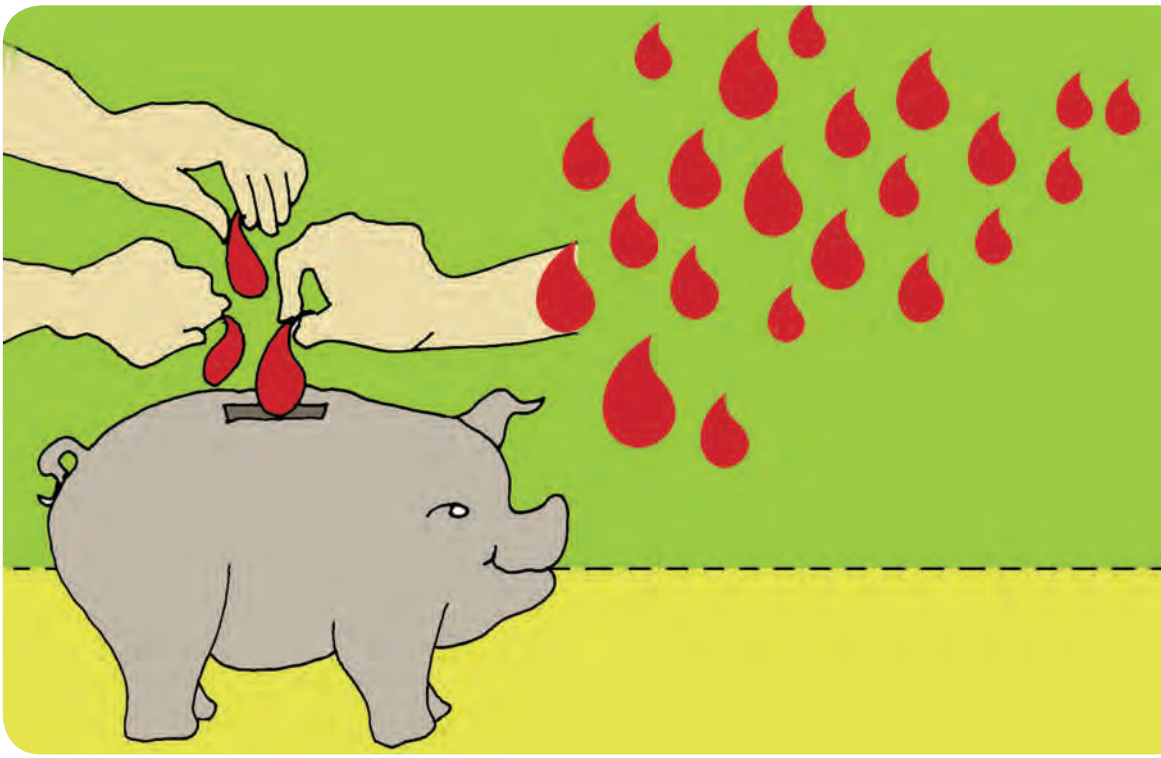
"Every 2 seconds someone in the South-East Asia Region needs a blood transfusion".

Q 1: What is blood? How much blood does a human body contain?

A: Blood is the red coloured fluid flowing continuously in the human body's circulatory system. On average, a human being has about 5–6 litres of blood flowing in the body. About 7% of the body weight of a healthy individual is accounted for by blood.

Q 2: What is the composition of blood?

A: Blood mainly contains a fluid called plasma which has three types of cells – red blood cells or RBCs, white blood cells or WBCs and platelets. Plasma acts as a vehicle to carry nutrition including protein, glucose, enzymes, and hormones etc. Red blood cells carry oxygen from the lungs to various body tissues. White blood cells help the immune system of the body and platelets facilitate the process of clotting and coagulation of blood.



Q 3: How is blood formed?

A: The RBC, grannulocytes of WBC and platelets are produced mainly by bone marrow. The lymphocytes and monocytes are formed in the lymphoid and reticulo-endothelial tissues. The orderly proliferation of the cells in the bone marrow and their release into the circulatory system is carefully regulated according to the needs of the body. Every day, new blood cells are produced in the bone marrow and every day old cells die and are removed from the body.

Q 4: What is the natural life of blood cells?

A: Red blood cells have a life of about 120 days, white blood cells live for a few days and platelets for a few hours. The addition of new cells and removal of old cells is a continuous process.

Q 5: What is haemoglobin?

A: Haemoglobin is a substance present in the red blood cells. It helps in carrying oxygen and carbon

"More than 38 000 blood donations are needed every day in the South-East Asia Region."

"One out of every 10 people admitted to hospital needs blood."

dioxide to different parts of the body. On average, the haemoglobin level for a healthy male should be between 14 and 16 g/dL and for a female between 12 and 14 g/dL.

Q 6: What are blood groups?

A: Every individual belongs to two major types of blood groups. The first is called the ABO group and the second type is called the Rh-group. In the ABO-group there are four categories namely: A, B, O and AB. In the Rh-group either the individual is Rh-positive, or Rh-negative. Rh denotes the Rhesus factor, named for Rhesus monkeys.

Thus every human being belongs to one of the following groups.

A positive or A negative
B positive or B negative
O positive or O negative
AB positive or AB negative

The positive or negative aspect is based on the Rh factor.

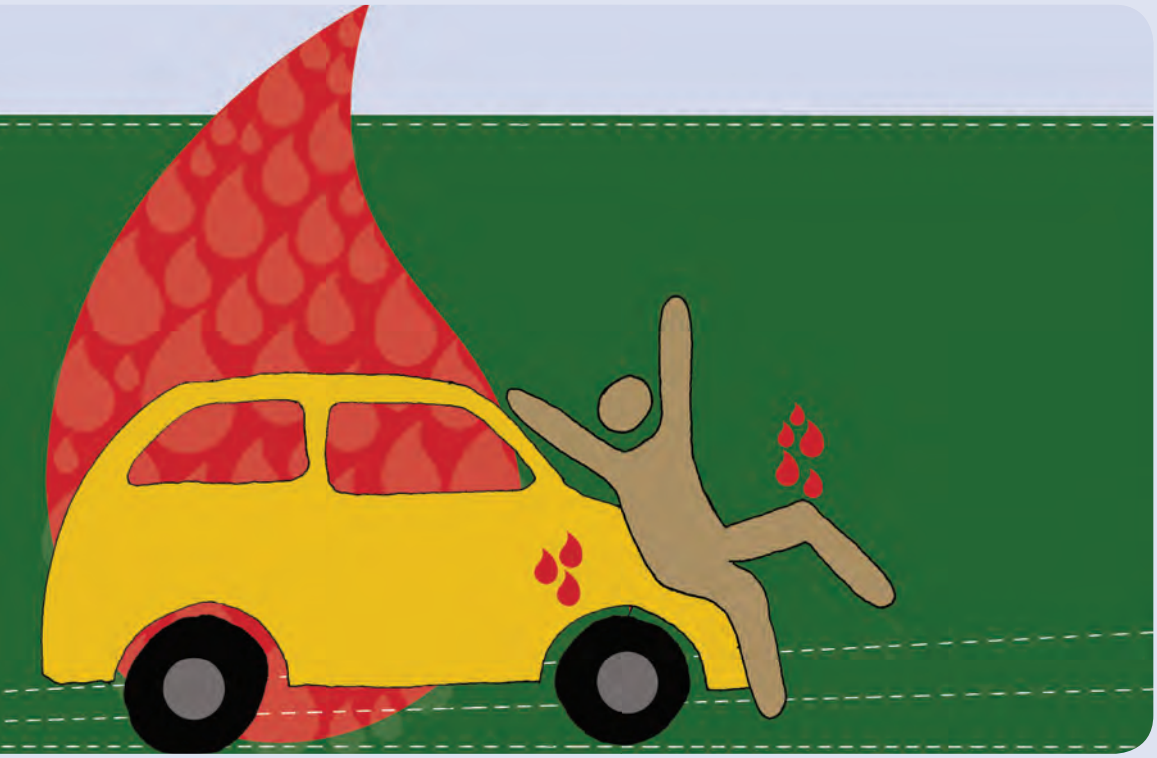
Q 7: What is the importance of knowing the blood groups?

A: For all practical and routine purposes, it is ideal to transfuse to the patient the same group of blood which he/she belongs to. Under no circumstances can an O group person get any other blood except O. Similarly, an A group patient cannot be given B group blood and vice versa. It is only in a dire emergency that we take O group as a universal donor and AB groups as universal recipient.

Q 8: Why is an A group person not given B group blood?

A: The blood of an A group person contains anti-B group antibodies. In those with B group blood, there are anti-A group antibodies. If we give A group blood to a B group patient, it is bound to be incompatible and will result in serious consequences.

"The total number of blood units collected annually in the South-East Asia Region is around 15.5 million."



One roadside accident victim can require as many as 100 units of blood.

Q 9: Why are Rh negative and Rh positive incompatible?

A: A patient with Rh-negative blood cannot be given Rh-positive blood as the antigen–antibody reaction will result in severe consequences. In cases where a woman is Rh negative and her husband is Rh positive, the first child with Rh positive may be normal. But, subsequently, the woman may not conceive or may have repeated abortions. There may be intrauterine fetal death. If the child born is alive, it will suffer from a fatal disease called "erythroblastosis fetalis". Now, mothers can be given an injection of anti-D within 24 hours of the delivery of a Rh-positive child and thus protect the next baby from this catastrophe.

Q 10: What is a unit of blood?

A: Blood is collected in plastic bags that contain a liquid chemical which prevents blood from coagulating. On an average, about 450 mL of blood is collected from a person. This blood, plus the amount of anticoagulant present in bottle or bag, is known as one unit of blood.

Q 11: For how long can blood be stored?

A: Whole blood can be stored for up to 35 days, when kept in CPDA anticoagulant solution and refrigerated at 2–4 °C.

Q 12: Can blood be separated into its components?

A: Several components from blood can be separated and used to treat specific conditions. This helps in utilization of one unit of blood for several patients. These components are : packed RBCs, fresh frozen plasma, platelet rich plasma, platelet concentrate, cryoprecipitate, factor VIII and IX, albumin, globulin and many others.

Now, with the advent of cell-separater machines a particular component from the donor can be collected while blood circulates through the machine and the rest of the blood constituents go back to the donor.

"Blood cannot be manufactured – it can only be donated by humans."

"Blood donation is a safe and simple four-step process that takes around 30 minutes."

Q 13: In which situations do patients need blood transfusion?

A:

- There are many situations in which patients need blood to stay alive:
- A patient needs blood after a major accident or surgery in which there is loss of blood.
- On average, for every open heart surgery, about six units of blood are required.
- After a miscarriage or childbirth, the patient may need a large amount of blood to be transfused for saving her life and also the child's.
- For patients with blood diseases like severe anaemias especially anaemias, leukaemias (blood cancer), haemophilia (bleeding disorder), thalassemia repeated blood transfusions are the only solution.
- In many other situations like poisoning, drug reactions, shock and burns, blood transfusion is the only way to save precious human life.

Q 14: Is all the collected blood tested?

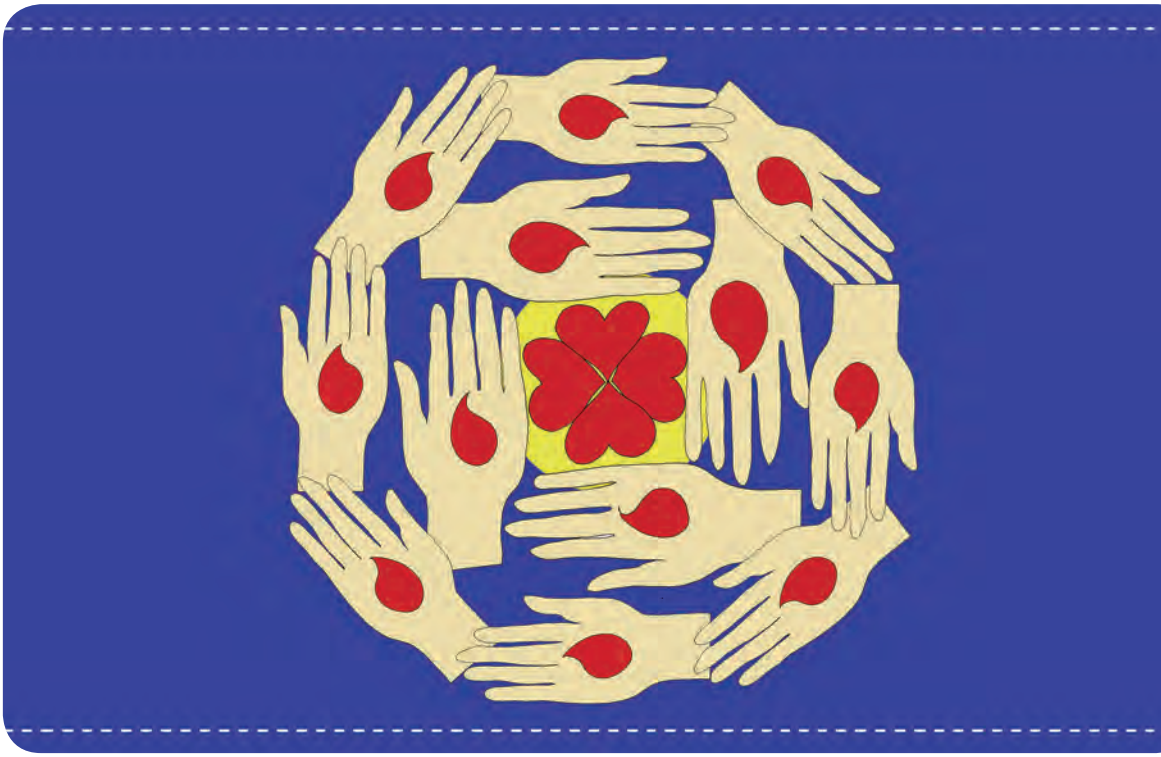
A: Yes. All blood units are tested for HIV/AIDS, hepatitis B, hepatitis C, malaria and antibodies to syphilis. Only those units of blood are transfused which are free from these infectious markers.

Q 15: In which situations do people generally donate blood?

A: There are three types of blood donors:

1. Professional blood donors – they sell their blood, which may be is of very poor quality and can transmit very dangerous diseases to the recipient.
2. Replacement blood donors – healthy relatives and friends of the patient give their blood, of any group, to the blood bank. In exchange, the required number of units of the required blood group is given to the patient.
3. Voluntary blood donors – here, a person donates blood voluntarily. The blood can be used for any patient even without divulging the identity of the

The most common reason for people to donate blood is because they "want to help others".



The most common reason cited by people who do not give blood is: "never thought about it".

donor. This is the best type of blood donation where a motivated human being gives blood in an act of selfless service.

Q 16: Who is a healthy donor?

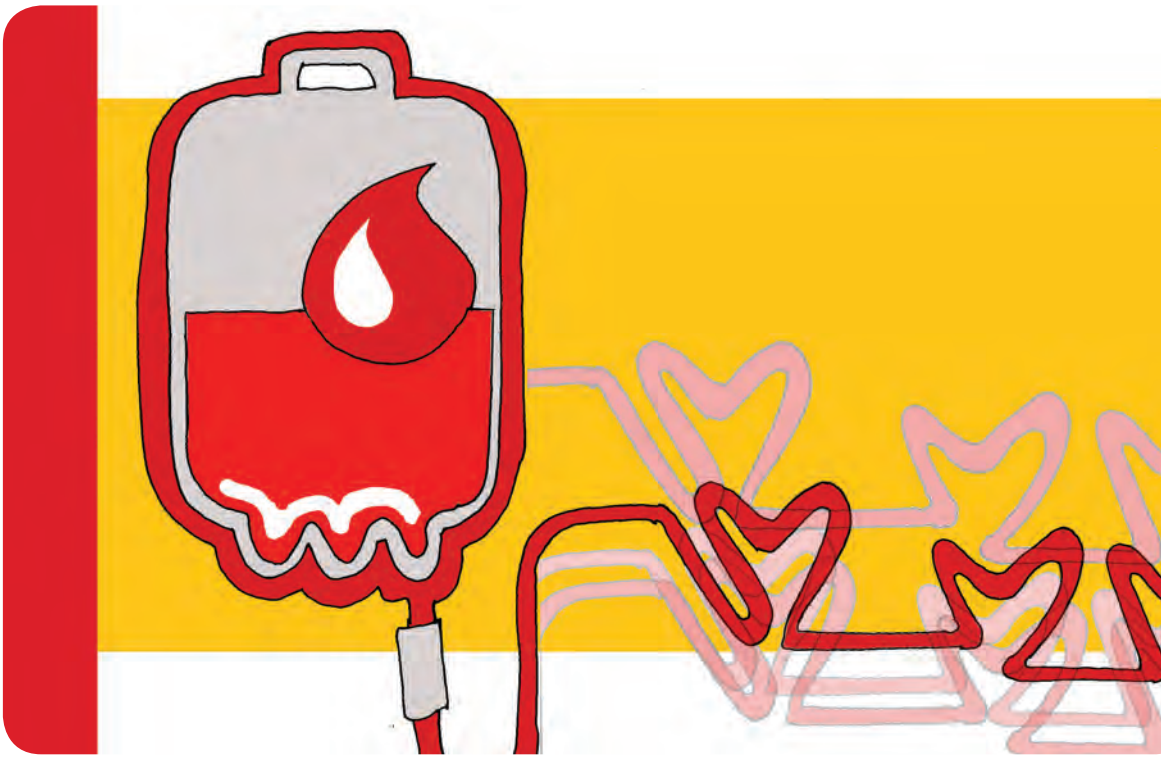
A: Usually, any person within the age group of 18–60 years with a minimum body weight of 45 kg, and having a minimum haemoglobin content of 12 g/dL is eligible to donate. However, all countries have criteria for blood donation in their respective countries.

Q 17: Does a donor need to do anything special before donating blood?

A: Nothing special. The donor should eat at regular meal times and drink plenty of fluids.

Q 18: How long does it take to donate blood?

A: The procedure is done by skilled, specially trained technicians and takes three to eight minutes. However, from start to finish (filling form, post-donation rest etc.) the entire process should take around 30 minutes.



Q 19: Can blood of animals be transfused to human beings?

A: No. Only the blood of a human being can be transfused to a human.

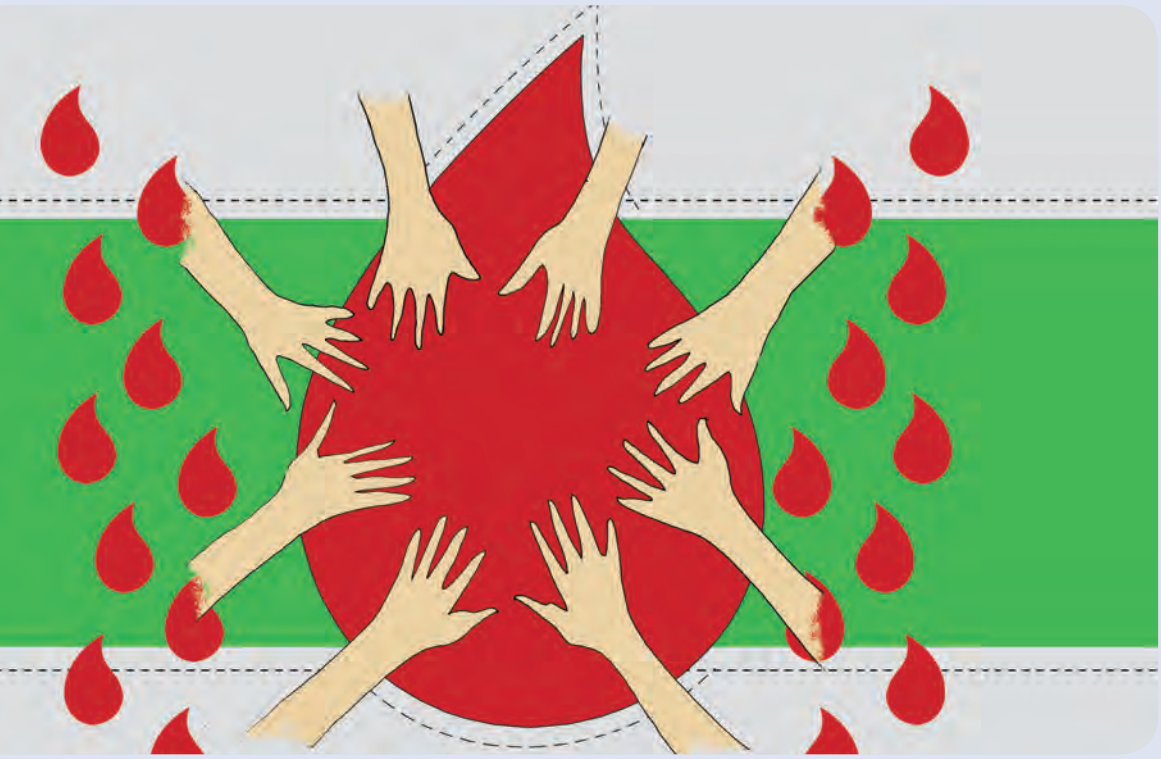
Q 20: Does the person suffer from any harmful effects after donating blood?

A: Absolutely not. Rather a donor after having given blood voluntarily gets a feeling of pleasure and peace. Within a period of 24–48 hours, the volume of blood donated is again formed in the body.

Q 21: Is any special diet required for a donor after giving blood?

A: Not really. After resting for a while, the donor is given something to drink. It may be a cup of coffee or milk or fruit juice along with a few biscuits or fruit. The donor needs no other special diet. A routine, balanced diet is adequate.

The donation of one unit of blood (450 mL) can potentially save at least three lives.



If you begin donating blood at age 18, donate every 90 days until age 60, you will donate 75 litres of blood and may save over 500 lives!

Q 22: How long will it take for the body to replenish the donated blood?

A: The body replaces blood volume or plasma within 24 hours. Red blood cells need about four to eight weeks for complete replacement.

Q 23: How frequently can one donate blood?

A: A three-month gap between donations is a very safe interval.

Q 24: Can a donor work after donating blood?

A: Of course! Routine work is absolutely fine after the initial rest. Rigorous physical work should be avoided for a few hours.

Q 25: Does any disease debar a person from donating blood?

A: Yes, if the donor has suffered from any of the following diseases:

Fever: the donor should not have suffered from fever for the past 15 days.

Jaundice: a donor should not have tested positive for hepatitis and suffered from jaundice.

Blood transmitted diseases: syphilis, malaria, filaria etc. debar a donor from donating blood until treatment is over and the donor is disease-free.

Drugs: if a person is taking drugs like aspirin, anti-hypertensives, anti-diabetics, hormones, corticosteroids etc., he/she is unfit to donate blood.

No HIV-positive person can be allowed to donate blood.

Q 26: Are there any other benefits of blood donation?

A: Yes, blood donation is a noble, selfless service! It gives the donor a feeling of joy and contentment. Also it is an expression of love for humankind, as blood knows no caste, colour, creed, religion or race.

Globally, more than 287,000 women die each year during pregnancy, childbirth or in the postpartum period – 99% of them in developing countries; availability of safe blood can save many of them.

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Every year on 14 June we celebrate World Blood Donor Day to raise awareness of the need for safe blood and blood products, and to thank blood donors for their life-saving gifts of blood.

The FAQs aim to dispel some of the myths surrounding blood donation, and to provide information on the topic. Become someone's hero – donate blood today!

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