



**PROCEDURE OF BLOOD COLLECTION FROM DONOR**

**1. Introduction**

Blood banks use various processes to try to prevent infections that can be transmitted by infected blood donation. One of these processes is to ask donors before blood donation, a series of additional screening questions (these will vary by region) to ensure both donor and recipient safety.

**2. General requirements for donor eligibility**

The infographic consists of six numbered cards arranged in two columns. Each card has a red circle with a white number in the top left corner and a red circle with a white number in the top right corner. The cards contain the following information:

- 1 Healthy and Well:** Donors must be in good health and feeling well. Free of colds, open cuts, cold sores and infections. (Icon: two people's faces)
- 2 Adequate Sleep:** Have a good night's sleep the night prior to donation. (Icon: crescent moon and 'Z's)
- 3 Eat a Meal:** Eat a substantial meal 4 hours prior to donation. (Icon: fork, knife, plate with apple)
- 4 Hydrate:** Drink plenty of hydrating fluids (water/milk/juice) the day prior, day of and after donation. (Icon: water bottle)
- 5 Age:** Donors must be at least 16 years old to donate with parent consent. (Icon: ID card)
- 6 Weight:** Donors 16 years old must weigh 120 lbs and donors 17 years old and over must weigh 110 lbs. (Icon: scale)

**3. Acceptable Allogeneic Blood Donation Criteria**

Test	Acceptable Value(s)
Age	≥17 years or conforming to applicable state law
Weight	110 lb; If weight <110 lb, then a maximum of 10.5ml/kg, including samples, can be collected
Donation Interval	≥ 56 days after whole blood donation
	≥ 112 days after 2-unit RBC donation
	≥28 days after infrequent plasmapheresis
	≥2 days after plasma-, platelet-, or leukapheresis
Hemoglobin; Hematocrit	≥12.5 g/dl/; 38% (not by earlobe puncture)
Blood pressure	≤180mm Hg systolic
	≤100mm Hg diastolic
Heart rate	50–100bpm without pathologic irregularities
	<50bpm if otherwise healthy athlete
Temperature	≤37.5°C (99.5°C) measured orally
Antecubital fossa	Free of lesions, “track marks”, scars (i.e., signs of IV drug use)



4. General components required for blood collection from donor

<p>Donor Consent Form</p> 	<p>Tourniquet or Blood Pressure Cuff</p> 	<p>70% Ethanol</p> 
<p>Cotton Wool</p> 	<p>Blood Collection Bag attached with 16-gauge Needle (CPDA Bag)</p> 	<p>Sterile Pair of Scissors</p> 
<p>Plastic Clips</p> 	<p>Weighing Scale</p> 	<p>Machine for Mixing of Blood</p> 
<p>Band Aid</p> 		



## 5. Procedure for Donor Blood Collection

**Step 1:** Identify donor and label blood collection bag and test tubes.

- 1) Ask the donor to register their full information on donor consent form.
- 2) Ensure that:
  - ✓ the blood collection bag is of the correct type.
  - ✓ the bag has not reached batch expiry date as recorded on the bag.
  - ✓ the sealed pouch of unused bags has not been unsealed more than 14 days.
  - ✓ the bag unit is not creased, and the pilot tubing is not badly bent or twisted.
  - ✓ there is no evidence of holes or leaks in the bag.
  - ✓ the anticoagulant-preserved is not discolored or cloudy.
  - ✓ the needle sheath is securely locked in place.
  - ✓ the labels on the blood collection bag and all its satellite bags, sample tubes and donor records have the correct information.
  - ✓ the labelled information on the bag matches with the donor's information on consent form.

**Step 2:** Select the vein

- 1) Select a large, firm vein, preferably in the antecubital fossa, from an area free from skin lesions or scars.
- 2) Apply a tourniquet or blood pressure cuff inflated to 40-60 mm Hg, to make the vein more prominent.
- 3) Ask the donor to open and close the hand a few times.

**Step 3:** Disinfect the skin

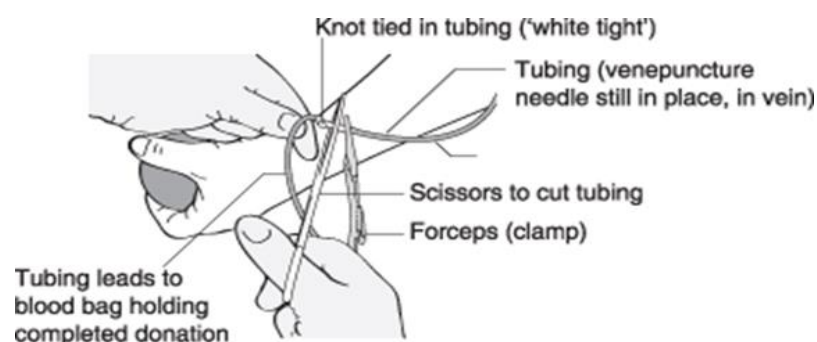
- 1) The selected skin is disinfected with 70% isopropyl alcohol or other antiseptic and cleaned the area in concentric circles spiraling outward from the puncture site.
- 2) The site is allowed to dry for 30 to 60 seconds (do not blow on it).

**Step 4:** Perform the venipuncture

- 1) Blood must be collected by a trained phlebotomist using aseptic methods, and a sterile closed system.
- 2) The blood unit should be collected from a suitable vein in a single venipuncture, within the antecubital fossa of the donor's arm, after the pressure device (blood pressure cuff or tourniquet) has been deflated and re-inflated.
- 3) Whole blood is collected into a closed blood collection set consisting of a sterile collection bag containing anticoagulant, integrally attached tubing, and a large bore needle (CPDA bag).
- 4) A balance system or scale is used to measure the amount of blood being collected. The total amount collected from the donor, including segments and specimen tubes, should not exceed 10.5ml/kg of donor weight (whole blood collections); typically, 70ml of anticoagulant is in a container to collect 500±50ml of whole blood.
- 5) About every 30 seconds during the donation, mix the collected blood gently with the anticoagulant, either manually or by continuous mechanical mixing.

**Step 5:** Remove the needle and collect samples

- 1) The disconnection of the blood donation is performed by clamping the tubing, sealing it appropriately by means of a plastic clip or knot, and then cutting the tubing between the seal and the clamp. The needle is still in the vein when the donation is disconnected





and with the cut and drip method, the samples would be collected at this point as shown in Fig: 2.

- 2) The donor should be asked to relax his/her fist and the pressure on the tourniquet or cuff should be released. Only after releasing the pressure should the needle be withdrawn. If this is not done, blood will spurt out, causing distress
- 3) The venipuncture site should be covered with cotton wool.
- 4) Cut off the needle using a sterile pair of scissors.
- 5) Collect blood samples for laboratory testing.

### **6. After a blood donation**

#### **a. Donor care**

After the blood has been collected:

- ask the donor to remain in the chair and relax for a few minutes.
- inspect the venipuncture site; if it is not bleeding, apply a bandage to the site; if it is bleeding, apply further pressure.
- ask the donor to sit up slowly and ask how the person is feeling.
- before the donor leaves the donation room, ensure that the person can stand up without dizziness and without a drop in blood pressure.
- offer the donor some refreshments.

#### **b. Blood unit and samples**

- Transfer the blood unit to a proper storage container according to the blood center requirements and the product.
- Ensure that collected blood samples are stored and delivered to the laboratory with completed documentation, at the recommended temperature, and in a leak-proof, closed container.

### **Reference**

- <https://www.ncbi.nlm.nih.gov/books/NBK138671/>
- <https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.eugenics-myanmar.com%2Fproduct%2Fblood-bag%2F&psig=AOvVaw1L8mBAWPQXWEZuZFNKaJKm&ust=1635323232135000&source=images&cd=vfe&ved=0CAoQ3YkBahcKEwjI7r330-fzAhUAAAAAHQAAAAAQAw>
- <https://www.donatebloodmyanmar.org/>
- <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1751-2824.2008.00191.x>