

SKIN BANK PROCEDURES AND DOCUMENTATION

Table of Contents

Protocols – Donor Call	Page 2-4
Protocols – Evaluate Donor	Page 5
Protocols – Procure Skin	Page 6-7
Protocols – Process and Store Skin	Page 8-9
Protocols – Graft Skin	Page 10
Documentation – Donor Pledge Form	Page 11
Documentation – Container Labels	Page 12
Documentation – Caller Tracking (Red)	Page 13
Documentation – Donor Consent (Green)	Page 14
Documentation – Donor Tracking (Orange)	Page 15
Documentation – Test Tracking (Blue)	Page 16
Documentation – Patient Tracking (Yellow)	Page 17
Documentation – Patient Consent (Purple)	Page 18

Donor Call

NOTE: In case of any concerns, doubts, and/or questions, contact the Skin Bank Manager on call

NOTE: Call Tracking Form to be completed with carbon copy must be given to procurement team

Document(s) needed:

- Caller Tracking Form (x2) - **RED FORM**
- Certificate of Appreciation - **GREY FORM**

Process to receive and document skin donor call:

1. Skin Bank Manager receives call for potential skin donation
 2. Skin Bank Manager expresses condolences for the family's recently-deceased
 3. Skin Bank Manager completes Caller Tracking Form with the following information
 - a. Name and phone number of the caller
 - b. Name of the deceased individual and the cause of death
 - c. Time of death (approximation is acceptable)
 - d. Address of the deceased and details of the place where the skin procurement will occur:
 - If deceased is at home, obtain the full address
- OR**
- If deceased is at a hospital, obtain the hospital name, floor, ward, and room number
- e. Suitability of deceased for skin donation
 - Death occurred within the last 3 hours
 - Deceased age is greater than 16 years
 - No history of Hepatitis B, Hepatitis C, or HIV
 - No history of skin cancer, eczema, recent skin infections (within the last month)
 - Death not due to septicemia and/or sepsis
4. Skin Bank Manager should answer questions that the relative(s) may have about the donation process
 5. Skin Bank Manager assures the relative that their call will be attended to immediately and express condolences for the family's loss
 6. Skin Bank Manager asks for a family member to wait outside the house/hospital room of the deceased, in order to assist the Procurement Team in locating the deceased
 7. If skin procurement is to occur at a hospital, Skin Bank Manager contacts hospital and provides instructions to prepare for Procurement Team arrival

8. Skin Bank Manager phones a nurse/technician to inform him/her about the donation
 - a. Nurse/technician is then responsible for additional coordination of the procurement team
 - b. Nurse/technician contacts additional team members until four people (including Skin Bank Manager) are available for the procurement
 - c. Nurse/technician assigns the team member closest to the hospital to retrieve the procurement kit and documentation forms from the hospital, to bring the kit to the site of procurement.
 - d. Other team members should go directly to the site of procurement
9. Skin Bank Manager creates a new Donor Procurement Record and container labels (see procedures below), to bring to the site of procurement
10. DISPATCH HARVEST TEAM

Procedure to create a new donor procurement record and container labels:

1. Skin Bank Manager will maintain a Master Logbook for all donors and will track the Donor Procurement Records; this record is unique to each donor that the Procurement Team is dispatched to visit
 - a. DO create a Donor Procurement Record for donors that pass initial phone screening
 - b. DO NOT create a Donor Procurement Record for donors ruled out during initial phone screening (due to medical history, cause of death, medical history, etc.)
2. Each Donor Procurement Record will contain the following information:
 - a. Donor name
 - b. Donor Record Number (see Step 3)
 - c. Date and time of initial donor call
 - d. Location of donor body
 - e. Members of procurement team contacted
 - f. Members of procurement team dispatched
 - g. Date and time of procurement procedure start
 - h. Date and time of procurement procedure completion
 - i. Date and time of initial graft storage in small pre-testing freezer
 - j. Date of testing completion and transfer to permanent freezer
 - k. Date of graft usage
 - l. Name of patient receiving graft
3. Skin Bank Manager creates the **Donor Record Number**, which will be used to track all samples from a particular donor, including tracking forms, skin grafts, skin samples, and blood samples
 - a. Donor Record Number will be assigned in the format of **YEAR/###/HOSPITAL**
 - b. **YEAR** is the year during which the skin graft was procured
 - c. **###** is the number of skin donors that have been procured that year
 - d. **HOSPITAL** is the name of the hospital when the skin graft is being stored

- e. For example, a Donor Record Number of 2014/14/KIR means that the donor was the 14th skin donor at Kirtipur Hospital in the year 2014

Equipment to be carried in the NON-STERILE compartment of the Procurement Kit:

- Betadine solution bottle
- Normal saline
- 50% glycerol solution bottle
- Hand rub
- Steridrapes – 2
- Disposable 10 cc syringe with 16 G IV cannula – 2
- Tubes for the blood samples - 2
- Wear-on plastic aprons – 2
- Lignocaine jelly
- Waste disposal bag

Equipment to be carried in the STERILE compartment of the Procurement Kit:

- Dermatome – 1
- Cap and mask – 3 pairs
- Skin grafting blades – 2
- Humby knife – 1
- Shaving razor - 1
- Wooden boards – 2
- Kidney trays – 2
- Plain forceps – 1
- Scissors – 1
- Bedsheets – 2
- Towels – 4
- Gowns – 2
- Sterile gloves 6 pairs – 2 each of 6.5, 7, 7.5 size
- Gauze, bandages

Equipment to be carried to skin procurement in the Ice Box:

- Ice packs – 4
- Screw capped bottles – 3

Evaluate Donor

NOTE: Treat the body of the deceased with respect and thank the family members of the deceased for their kind gesture

NOTE: Issue the Certificate of Appreciation regardless of donor suitability

NOTE: Do not accept money from the relatives of the deceased

Document(s) needed:

- Donor Consent Form (2x) - **GREEN FORM**
- Donor Tracking Form - **ORANGE FORM**

Procedure for physical examination of donor:

1. Read aloud the full consent form to family members present at donor site
2. Confirm both verbal and written consent for skin donation from the closest kin
3. Request family representative to sign the **Donor Consent Form**
4. Give a copy of Donor Consent Form to family
5. Ask the family for the deceased's medical records, if available
6. Ask family if they would like to spend more time with the deceased prior to graft collection
7. Thank the family members of the deceased for their kind gesture and then ask the family members to leave the room.
8. Remove all of donor's clothes and make note of any of the following physical conditions.
 - Lymphadenopathy
 - Evidence of percutaneous drug use (needle marks)
 - Blue or purple spots consistent with Kaposi's sarcoma
 - Jaundice and/or hepatosplenomegaly
 - Physical evidence of sepsis (general rash)
 - Physical evidence of vaccinia (large scabs, vesicular rash, necrotic lesions)
9. Results of the physical examination determine the next steps:
 - a. If ALL above conditions are negative, skin is SUITABLE to procure. Proceed to Procure Skin
 - b. If ANY physical condition(s) are positive, skin is UNSUITABLE to procure.
 - i. Redress the deceased in original clothes
 - ii. Issue Certificate of Appreciation for the family's kind gesture
 - iii. Dispose of any consumable materials used and return to hospital.

Procure Skin

NOTE: Procurement Team consists of at least three members; all members will wear a cap and mask; one member will work as a circulating nurse while the other two members will scrub and wear sterile gowns and gloves

NOTE: Skin will be procured in sequence from anterior thigh → posterior thigh → posterior buttocks → posterior back

NOTE: If patient previously had corneas also procured, skin can only be procured from the anterior aspect of the donor. Do NOT turn the patient over and procure from the posterior aspect of the body

Document(s) needed:

- Donor Consent Form - **GREEN FORM**
- Donor Tracking Form - **ORANGE FORM**
- Container Labels - **RED LABELS ONLY**

Procedure to procure skin:

1. Ask family to leave the procurement area; Ensure that sterile conditions are maintained throughout the procedure
2. Remove hair from each area to be procured using the shaving razor
3. Clean all of the donor areas with Betascrub followed by normal saline
4. Paint all of the donor areas donor area with betadine
5. Drape the donor areas with steridrape
6. Draw 10 ml of blood by either brachial or femoral puncture in 2 vacutainers (5 ml in each). If neither puncture is successful, use cardiac puncture for blood draw
7. Label each vacutainer with Donor Record Number and set aside in ice-box
8. Mount sterile skin grafting blade on skin grafting handle
9. Adjust the space (between blade and handle) to get the required skin thickness
10. In supine position, graft to be taken from anterior aspect of thighs; with the help of assistant flatten the thigh and retrieve the graft
11. Deposit the graft in a wide mouth container with 50% glycerol
12. Label the container with the first RED container label
13. Place skin procured in a sterile container, which is then kept in an ice-box
14. Turn the body over
- 15. Repeat steps 7-11 to retrieve grafts from posterior aspect of thighs, buttocks, and back**
16. Keep the skin containers and blood vacutainers in the ice-box for transport

17. Wash off remaining Betadine from donor
18. Cover the donor sites with gauze and roll bandages
19. Re-dress donor body with clothes that were removed for physical examination
20. Pack up all disposables and consumables that were used during the procurement procedure into the disposable bag, and store them in the non-sterile compartment of the Procurement Kit.
21. Bring family back into the procurement room and thank them for their generous gift
22. Give family Certificate of Appreciation for the donation

Process and Store Skin

NOTE: Storage temperature must be maintained between 4-7°C inside the refrigerator

Document(s) needed:

- Test Tracking Form - **BLUE FORM**
- Container Labels - **GREEN LABELS ONLY**

Procedures upon returning back to the burn unit:

1. Procurement Team keeps the containers and vacutainers in the ice-box and transport to the Skin Bank department
2. Skin Bank Manager deposits ALL samples (blood and skin) in the small “pre-testing” refrigerator until blood test reports are available
3. Skin Bank Manager requests blood samples to be sent for serological testing:
 - a. If the blood tests are reactive for any of the following tests, then the Skin Bank Manager **discards all skin from donor:**
 - i. HIV 1/2 Ab (HIV)
 - ii. HCV Ab (Hepatitis C)
 - iii. RPR, STS, or IgG (Syphilis)
 - iv. HbsAg (Hepatitis B surface antigen)
 - v. HbcAb (Hepatitis B core antibody)
 - b. If the blood tests pass all of the above tests, then Skin Bank Manager **sends skin for microbial testing**
4. Microbiologist will process the skin in the biosafety cabinet for microbiology testing:
 - a. The skin will be removed from the storage container and washed with sterile saline several times
 - b. A small piece (~1cm x 1cm) will be cut from a graft and transferred to a sterile petri dish with enough sterile saline to cover the skin
 - c. The sterile petri dish will be labeled with the second RED container label
 - d. Send this skin sample and dish to the lab for both fungal and bacterial testing
5. Microbiologist assesses skin sample culture test results:
 - a. Skin sample is tested for fungus and bacteria for the first time:
 - i. If **NEGATIVE**: Skin Bank Manager transfers the skin samples into clean fridge and marks that the skin with a GREEN label; **SKIN IS READY FOR GRAFTING**

- ii. If POSITIVE: Microbiologist tests microorganisms for antibiotic sensitivity/resistance and then treats the entire skin sample with sensitive antibiotics
 - b. (SKIP THIS STEP if skin samples previously tested negative for microorganisms) Skin sample is tested for fungus and bacteria for the second time
 - i. IF NEGATIVE: Skin Bank Manager transfers the skin samples into clean fridge and mark that the skin with a GREEN label; SKIN IS READY FOR GRAFTING
 - ii. IF POSITIVE: Discard the skin
6. Skin Bank Manager processes fully-tested skin for storage and use:
 - a. Trim the skin into a rectangle; Measure the dimensions of each graft and note on a GREEN container label
 - b. Roll skin in wet gauze soaked in saline solution, antibiotics (inj ampicillin 1 gm and inj gentamycin 60 mg) and keep in a sterile container
 - c. Label the sterile container with the GREEN container label
 - d. Repeat Steps a-c for each skin graft procured
 - e. Store all processed containers in the CLEAN compartment of the skin bank refrigerator.
 - f. Organize processed containers by groupings of DATE PROCESSED and SIZE OF GRAFT
 - g. Skin can now be used for patient grafting
7. Skin Bank Manager checks the available grafts in the CLEAN compartment of the refrigerator once per week. If the skin was procured more than three weeks prior, the skin will be transferred to a 85% glycerol solution

Graft Skin

NOTE: Give copy of patient consent form to family

Document(s) needed:

- Patient Consent Form (2x) - **PURPLE FORM**
- Patient Tracking Form - **YELLOW FORM**

Procedure to graft skin:

1. Skin grafts are removed from the refrigerator in anticipation of use and allowed to warm to room temperature
2. Grafts are thoroughly rinsed to remove all glycerol
3. Surgeon obtains consent from the indicated burn patient and his/her relatives to transplant cadaveric skin
4. Surgeon explain risk of complications (including transmission of viral diseases) to patient and his/her relatives
5. Surgeon and Patient Family sign consent form to receive skin grafts
6. Surgical team grafts skin onto burn patient
7. Skin Bank Manager complete patient tracking form with skin samples used

Donor Pledge Form

I, Mr/Ms/Mrs/Dr _____ am pledging for donation of skin after my death on my own will. My skin can be used to be transplanted to any person needing it as determined by the treating medical team.

I also want to donate my eye: **YES / NO**

Date of birth:

Age of donor:

Address:

VDC/Municipality:

Warn No:

District:

Telephone No:

Email ID:

My relatives for contact:

Name:

Relation:

Contact No:

Signature

Date

**Signature of
witnessing relative(s)**

Time

Container Labels



INCOMPLETE - DO NOT USE

Donor name:

Date of procurement:

Donor Record Number:



COMPLETE - READY TO USE

Donor name:

Date of procurement:

Donor Record Number:

Size of graft:



INCOMPLETE - DO NOT USE

Donor name:

Date of procurement:

Donor Record Number:



COMPLETE - READY TO USE

Donor name:

Date of procurement:

Donor Record Number:

Size of graft:



INCOMPLETE - DO NOT USE

Donor name:

Date of procurement:

Donor Record Number:



COMPLETE - READY TO USE

Donor name:

Date of procurement:

Donor Record Number:

Size of graft:



INCOMPLETE - DO NOT USE

Donor name:

Date of procurement:

Donor Record Number:



COMPLETE - READY TO USE

Donor name:

Date of procurement:

Donor Record Number:

Size of graft:

Caller Tracking Form

1 Call receiver (your name):

2 Initial caller information

Name of caller:

Relationship of caller to deceased:

Phone number of caller:

Date of call:

Time of call:

3 Deceased patient information

Name of deceased:

Age of deceased:

Time of death (approx.):

Current location:

Cause of death:

4 Inclusion criteria

- Death occurred less than 4 hours ago
- Deceased is older than 16 years old
- No history of Hepatitis B, Hepatitis C, or HIV
- No history of skin cancer, eczema, skin infections
- Death not due to septicemia and/or sepsis

OR

- Patient not suitable for graft donation

***** **Name of documenter:**

Date:

Donor Consent Form

I/We, the relatives of(deceased patient), give the consent, on our free will, to allow the donation of skin.

I/we have understood that the team will evaluate the deceased's body to ensure that s/he is suitable to donate skin.

I/we have understood that the team will only procure skin from areas of the body that we approve.

I/we have understood that the deceased's body will be treated with respect and cleaned for cremation or burial after the grafts have been taken.

I/we have understood that the procedure is done for benefit of other burn patients. The skin can be used for any person needing it, as determined by the treating medical team.

Name of deceased

Donor Record Number

Name of relative(s)

Signature of relative(s)

Name of procurement technician

Signature of procurement technician

Date

Time

Donor Tracking Form

1 Donor information

Name of donor:

DOB of donor:

Donor Record Number:

2 Physical examination

Name of procurement technician:

Date of exam:

Time of exam start:

Time of exam end:

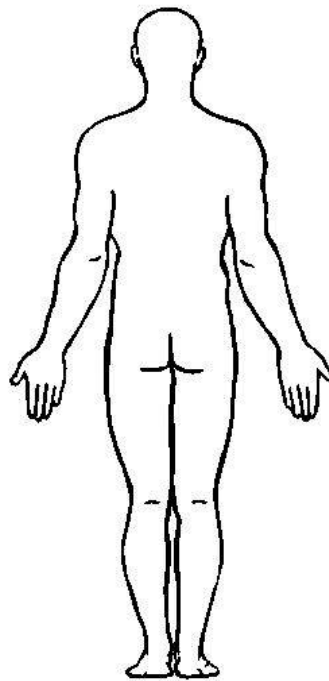
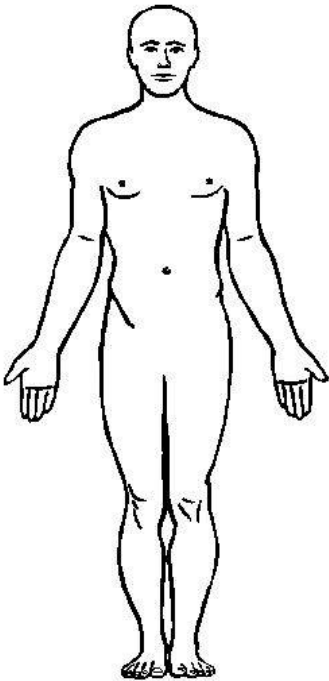
Physical exam findings:

- | | |
|---|---|
| <input type="checkbox"/> Evidence of percutaneous drug use | <input type="checkbox"/> Lymphadenopathy |
| <input type="checkbox"/> Spots consistent with Kaposi's Sarcoma | <input type="checkbox"/> Evidence of sepsis |
| <input type="checkbox"/> Jaundice and/or hepatosplenomegaly | <input type="checkbox"/> Evidence of vaccinia |

OR

- None of the above

3 Sites of procurement (Color areas that were procured)



* Name of documenter:

Date:

Test Tracking Form

1 Donor information

Donor Record Number:

2 Serological testing

Name of tester:

HIV 1/2 Ab	Date of test:	
	Pass?	YES / NO
HCV Ab	Date of test:	
	Pass?	YES / NO
Syphilis	Date of test:	
	Pass?	YES / NO
HbsAg	Date of test:	
	Pass?	YES / NO
HbcAb	Date of test:	
	Pass?	YES / NO

3 Fungal and microbiological testing

Name of tester:

First test	Date of test:	
	Pass?	YES / NO
	Additional comments	
Second test (if necessary)	Date of test:	
	Pass?	YES / NO
	Additional comments	

* **Name of documenter:**

Date:

Patient Tracking Form

1 Patient information

Name of patient:

DOB of patient:

Day of surgery:

Time of surgery:

2 Donor Record Number for Grafts Used (list all donors):

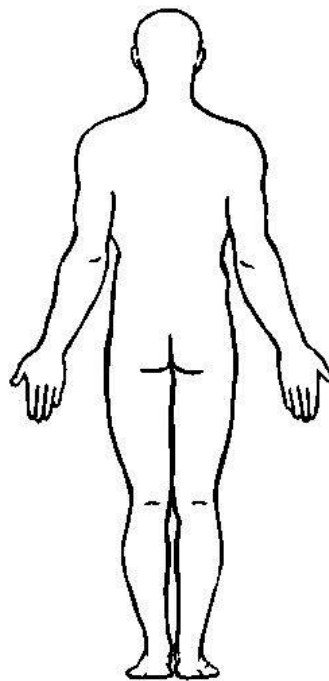
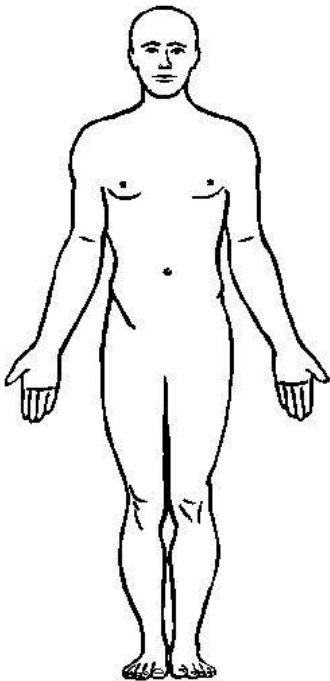
Donor Record Number 1:

Donor Record Number 2:

Donor Record Number 3:

Donor Record Number 4:

3 Sites of patient grafts (Color areas where grafts were used)



* Name of documenter:

Date:

Patient Consent Form

I/We, the relatives of(burn victim), give the consent, on our free will, to allow the transplant of cadaveric skin.

I/we have understood that the procedure is done for benefit of patient only.

I/We have also understood that there is a small possibility of complications associated with this procedure, which includes infection, bleeding, risk of transmission of HIV and Hepatitis.

If any complications occur, then I/we shall take the full responsibility and will not accuse the treating medical team or the hospital.

Name of burn patient

Date

Name of relative(s)

Time

Signature of relative(s)