Kenya National Blood Transfusion Service

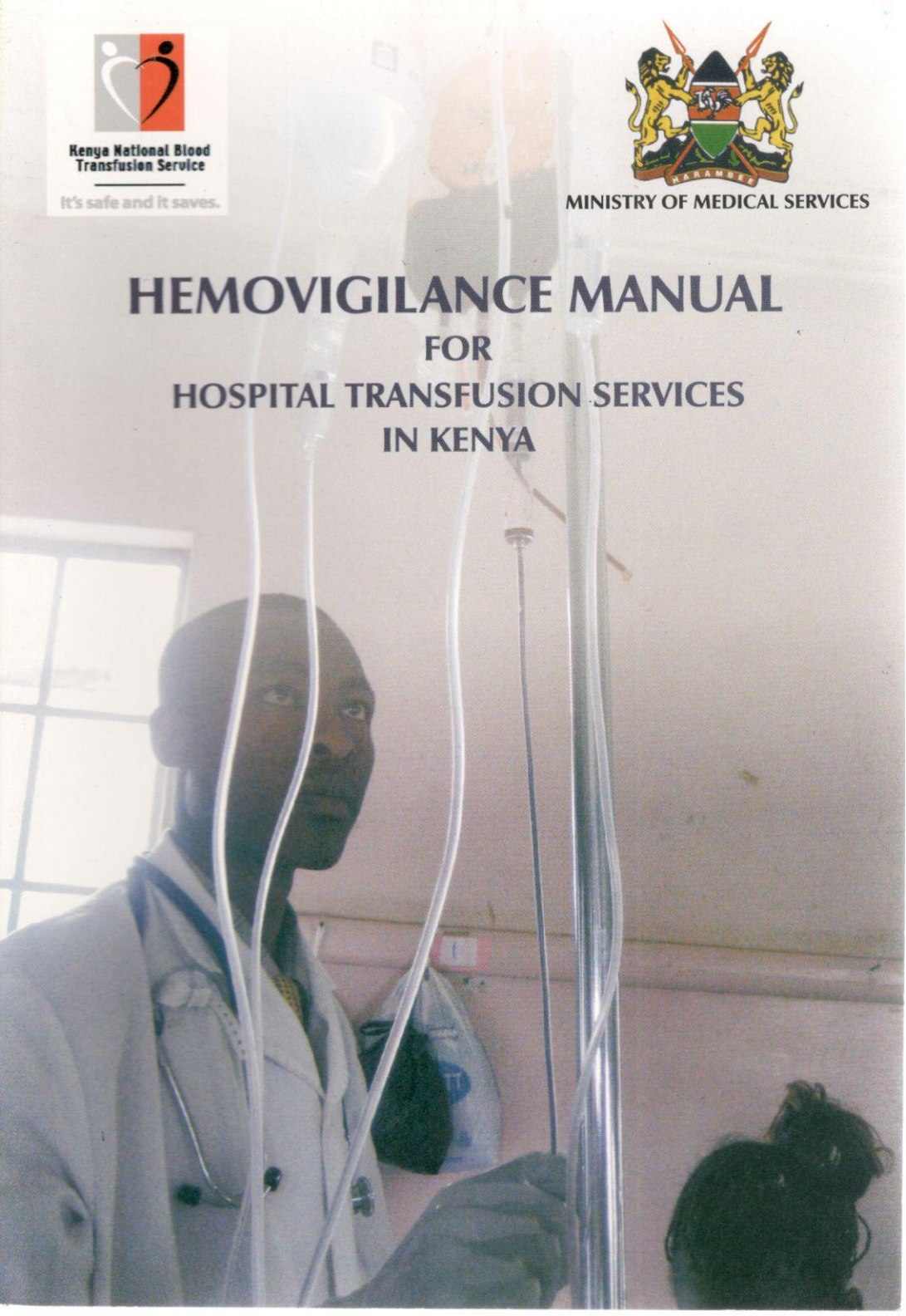
It's safe and it saves.

MINISTRY OF MEDICAL SERVICES

HEMOVIGILANCE MANUAL

FOR

HOSPITAL TRANSFUSION SERVICES IN KENYA



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for

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Contents

Acronyms

FEFO	First to Expire First Out
HTC	Hospital Transfusion Committee
JICA	Japan International Cooperation Agency
NBTS	National Blood Transfusion Service
NBTS/JICA	NBTS/JICA Blood Safety Project
PGH	Provincial General Hospital
RBTC	Regional Blood Transfusion Centre
SOP	Standard Operating Procedure
TSO	Transfusion Safety Officer
TTI	Transfusion Transmitted Infections

Foreword

When requesting for blood, the clinician makes the assumptions that the blood has been properly screened for the relevant TTIs and has been processed to acceptable national standards. The patient receiving the blood or component trusts that the clinician understands what he is doing, and that the transfusion will be safe and effective. These assumptions, therefore, place a great deal of onus on the part of the health care workers involved in the transfusion service.

The transfusion of a patient is normally a team effort involving various people including the blood donor and various steps up to the time of the transfusion. The large number of personnel involved and the multiplicity of the necessary steps to be taken makes it imperative that the process follows the laid down guidelines and is closely monitored. This manual seeks to provide simple steps to assist hospital transfusion service to monitor blood use and ensure safe transfusion.

The manual has been written in simple points format to allow for easy and quick reading. For any extra information on the points raised in the manual, the reader is referred to more detailed textbooks. It is now recognized that it is the simple procedures such ensuring that the correct sample is taken from the right patient and appropriately labeled that make the difference on whether a transfusion is safe or not. While many of the points in the manual may be mundane, they are critical for a safe and effective transfusion. You will be surprised at how often senior and experienced personnel make these simple mistakes that often cost a patient's life. It is my hope that all health care workers in hospitals will find this manual useful and that it will contribute to patient's safety and overall risk reduction.

This manual has been developed by NBTS with technical support from JICA under the NBTS/JICA Blood Safety Project. A large portion of this manual draws from the experience gained during the implementation of this project in the three model hospitals (Nakuru PGH, Naivasha District Hospital and Koibatek District Hospital). I trust that all health care workers will find it useful in their daily tasks.

Dr. Francis Kimani
DIRECTOR OF MEDICAL SERVICES

SECTION A

1.0 GENERAL PRINCIPLES OF HEMOVIGILANCE

1.1 Background

The National Blood Transfusion Service (NBTS) is committed to providing adequate and safe blood and blood products to hospitals as elaborated in the Policy Guidelines of 2001. While considerable effort has gone into meeting these objectives, there is still more to be done to ensure that blood is transfused safely and appropriately.

Efforts to address appropriate use at the hospital level have consisted of establishing Hospital Transfusion Committees with varying rates of success. Experience gained from the three model hospitals has shown that with support and mentorship, functional HTCs can be established. Currently, functional HTCs have been established in each of the model hospitals. These HTCs meet monthly to review transfusion practice in their respective hospitals. The main agenda at these meetings is to receive and discuss the report of the Hemovigilance Officer for the preceding month. Through this mechanism, various recommendations are made. These recommendations are contributing to the improvement of the hospital transfusion practice.

Although there has been marked improvement in prescribing and blood administration habits of many clinicians, there is still a lot that remains to be done. Some of the issues and challenges observed are:

1. The hemovigilance officers are appointed monthly on a rotational basis. While this is understandable considering the workload and that the officers have other full time duties, it still limits the opportunity for continuity and skill building. A policy, depending on the situation in each hospital, of a more permanent appointment may help build skills, experience and lead to peer recognition and respect.
2. Many of the hemovigilance officers do not as yet fully understand the work they should perform and how it contributes to good patient management and the quality of care.
3. The haemovigilance reports still focus on reporting of adverse events. There is little emphasis placed on prevention of the same.
4. There is little uniformity, from one officer to another, in reporting to the HTC as the reports vary in detail and scope.
5. There is lack of proper documentation and reporting of any deviations and adverse events. In particular, there is no adverse events registry at both the hospital and RBTC levels.

This manual has been developed to address some of the challenges raised above. It should, however, be recognised that it has been developed in the absence of a written overall risk management policy and hospital blood transfusion management policy. It is drawing its mandate from the national policy guidelines.

1.2 Definition (Hemovigilance)

The term hemovigilance is derived from the Greek word "Haema" meaning blood and the Latin word "Vigilance" meaning paying particular attention to. Hemovigilance can therefore be defined as "an element of transfusion safety that involves several surveillance procedures carried out at the time of blood collection, during the entire blood component processing chain, blood administration and recipient follow-up". This guideline will deal with those surveillance and monitoring activities taking place at the hospital level. At this level the hemovigilance officer is sometimes referred to as the Transfusion Safety Officer (TSO).

1.3 Purpose

The overall purpose of hemovigilance is twofold:

1. Provide surveillance over the activities of the transfusion process to anticipate any adverse events and take necessary steps to prevent their occurrence. The hospital will identify certain critical steps where errors may occur and keep a watchful eye over them. It may require the development of guidelines, flowcharts and SOPs to facilitate staff in correctly and accurately undertaking those tasks.
2. Ensure that all adverse events are identified, investigated, reported and corrective measures taken. These may be events that adversely affect the index case or people beyond the index case.

It should be emphasized that the primary goal of hemovigilance should be to prevent errors from occurring in the first place and if they occur take corrective actions.

1.4 Objectives of Hemovigilance

- Promote blood safety and the prevention of adverse events
- Identify weak and under-performing areas of transfusion
- Ensure safe and efficient use of blood and blood products
- Maintain awareness of transfusion adverse events
- Recognise incidence of adverse reactions
- Provide a method for documenting and investigating transfusion reactions

1.5 Importance

While the quality system provides internal mechanisms to ensure that processes and products meet agreed standards, hemovigilance on the other hand evaluates the risks to the blood supply system and applies vigilance to ensure continuous monitoring of the safety of the blood supply chain. It is useful in alerting hospitals and blood transfusion services of those adverse events that have impact beyond the index case and provides avenues for instituting preventive and corrective measures.

Hemovigilance will be useful in a hospital setting in the following ways:

- To monitor trends in adverse reactions
- To identify areas of increased adverse reactions needing attention
- To track common indications for transfusion
- Track supply and demand for blood
- To monitor and evaluate hospital response to adverse reactions
- Self-evaluation tool for hospital transfusion practice

2.0 OFFICER

The Hemovigilance Officer will be that individual who has knowledge and experience in transfusion medicine and designated by the hospital management to be responsible for blood safety surveillance and monitoring activities within the hospital. The officer will be appointed as per hospital management policy. He/she should be known, identifiable and accessible to all hospital staff and especially those involved in the transfusion process.

2.1 Job Description

The officer should be an individual who is involved in the transfusion process within the hospital and could be a doctor, clinical officer, nurse or laboratory technologist. Whoever is appointed to this position, he/she must command respect among peers and hospital personnel and should be able to discuss issues across disciplines and cadres.

The officer, reporting to the HTC, will be responsible for the following:

1. Take custody of and ensure easy availability to all staff involved in the transfusion process, all national and hospital policies, guidelines and standards regarding the practice of transfusion medicine.
2. Monitor adherence to blood use guidelines.

3. Identify areas of possible risk to the transfusion process and institute preventive measures.
4. Document all transfusion adverse events.
5. Follow up all adverse events investigations.
6. Prepare monthly reports to HTC, hospital management and RBTC.

2.2 Hemovigilance Activities

The procedure will normally start with the detection or reporting of an adverse event or a near miss in a recipient. This is then followed by an analysis and evaluation of the causes against hospital and national policy guidelines. This process may involve investigating the transfusion procedures and policies in the hospital including the products used. If it is concluded that the likelihood of a repeat of the event is high, then a review of the policies will be necessary including reporting to the NBTS. However, it should be recognized that hemovigilance is much more than just investigating and reporting adverse events. It is important that activities primarily focus on ensuring that the transfusion process is safe and effective. Therefore, recognizing and preventing the occurrence of adverse events should be the primary role of any hemovigilance officer. Below is a summary of the expected hemovigilance activities:

1. Prevention of adverse events
2. Hospital blood ordering practices
3. Patient identification policy
4. Sample collection and labeling
5. Documentation and investigation of transfusion adverse events
6. Documentation of near misses
7. Blood use and discard practices
8. Promoting appropriate use of blood
9. Blood administration policies
10. Ability of service to meet patient's needs
11. Compliance with peer review recommendations

2.3 Reporting

It is human nature to try and hide mistakes. It should be appreciated that many more lessons are learned and experience gained from mistakes committed. Therefore, prompt and accurate reporting of errors may help safe lives in the future. A system of strict confidentiality will go a long way in encouraging self-reporting of any errors of commission or omission. Accurate and prompt reporting has several advantages. In particular, it helps to put in systems to

avoid bigger errors in the future, take preventive action and improve on the work environment. Staff should be encouraged and facilitated to report errors without victimization. A system of feedback should be in place to provide information and action taken to correct errors. While the nursing profession has had a longstanding tradition of reporting and handing over, this tradition needs to be strengthened among other medical professions.

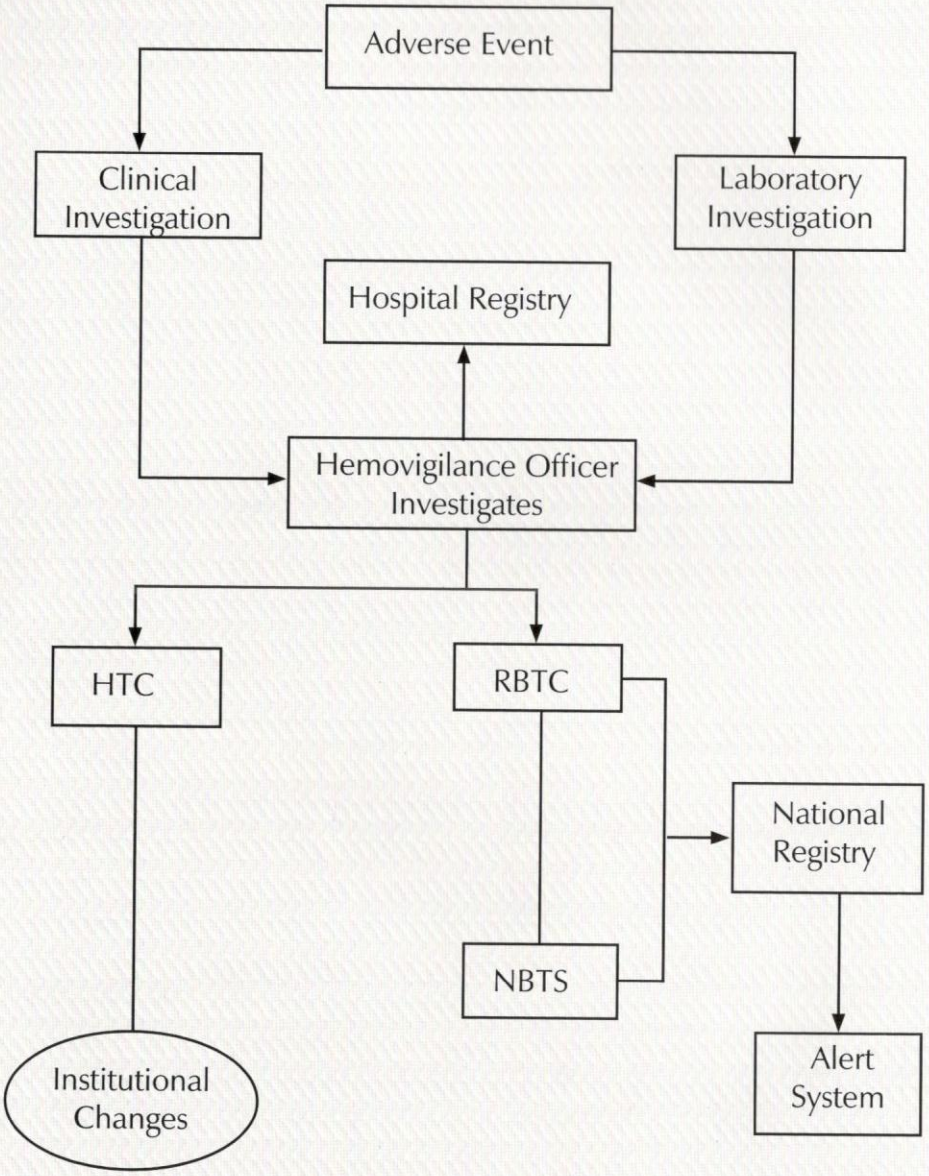
2.4 Adverse Event Reporting

It is the responsibility of all personnel to ensure that the transfusion process is both safe and effective and to take all measures to minimize risk to both the patient and the staff. In the event that an adverse event occurs, the person involved has the responsibility to trigger an investigation to determine the likely causes and report to the hemovigilance officer who will in turn report them to the HTC for deliberation.

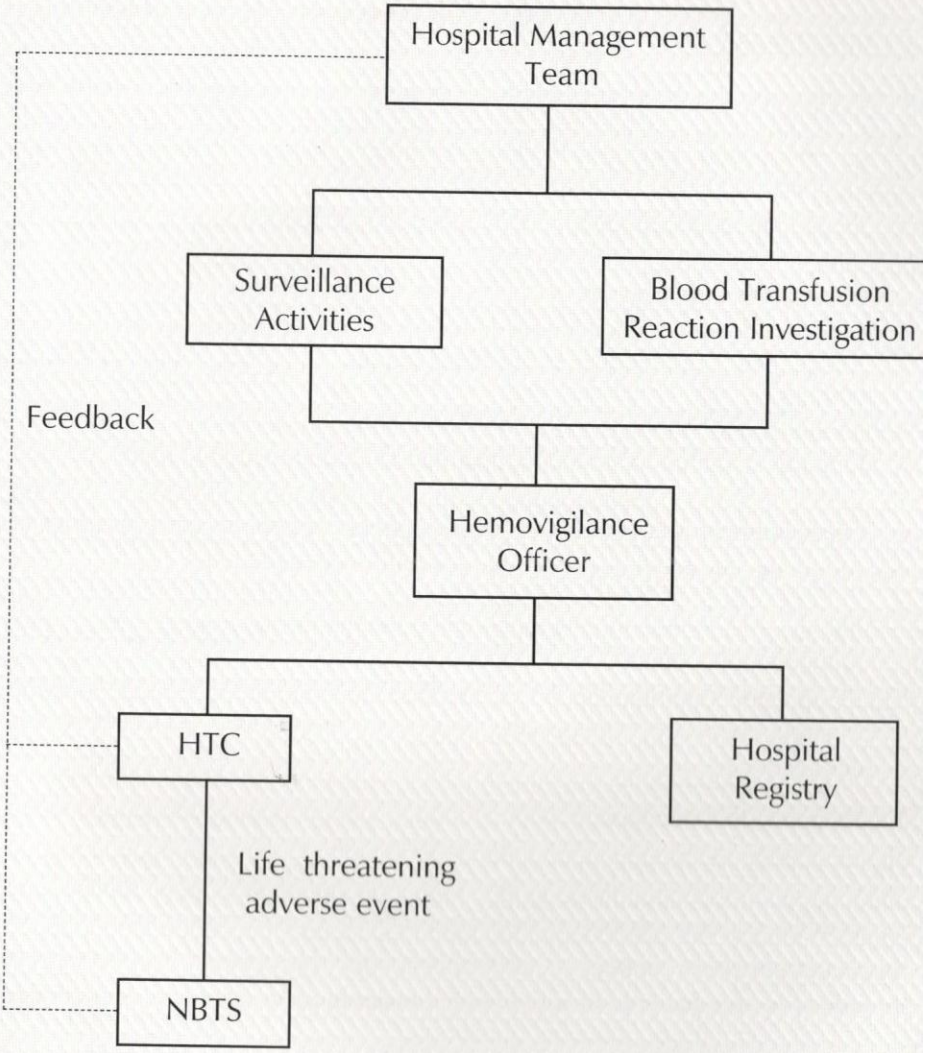
- Adverse events reportable to Transfusion Committee:
  - Both life threatening and non-life threatening events (these need not necessarily be investigated)
- Adverse events reportable to transfusion committee, RBTC and NBTS
  - Life threatening events (these have to be adequately investigated and documented, follow up done and may lead to review of policy)

Non-life Threatening	Life Threatening
Fever	Acute Pulmonary Oedema
Chills	Hyperbilirubinaemia/Icterus
Urticaria	Hypotension and shock
Pain	Oliguria or Anuria
Nausea and Vomiting	Laboratory confirmed ABO incompatibility
Anxiety	Bacterial Contamination
Dyspnoea without hypoxia	Death

2.5 Adverse Event Reporting System



3.0 HEMOVIGILANCE SYSTEM



SECTION B

4.0 TRANSFUSION PROCESS

4.1 Introduction

Blood transfusion is an inter-disciplinary process that may involve as many as 10 steps. The key players will be the clinician ordering the blood, the phlebotomist, the hospital porter, the nurse and the laboratory technologist. The important steps will be:

1. Attending clinician decides to transfuse the patient and orders for the same
2. Clinician obtains consent
3. Clinician draws an appropriate sample for compatibility testing
4. Sample, accompanied by a duly filled request for blood, is submitted to the laboratory
5. Laboratory technologist performs the necessary testing
6. Laboratory technologist issues appropriate and compatible units
7. Clinician or nurse picks up the ready units from the laboratory
8. Nurse performs the identification checks, examines the product for suitability, starts the transfusion and monitors the patient
9. In the event of a reaction or other adverse event, the nurse/clinician stops the transfusion, institutes appropriate management and reports the same as per requirements
10. Laboratory technologist acting on this information performs transfusion reaction work-up, documents the same and gives feedback to the clinicians

4.2 Decision to Transfuse

The attending clinician is the one on whom the responsibility rests to decide when to transfuse and how much. However, in making that decision, the clinician should be guided by the patient's clinical condition and national/ hospital transfusion policy. In all respects, the transfusion process must be beneficial to the patient. In arriving at the decision to transfuse, the clinician should ask himself the following questions:*

1. What improvement in the patient's clinical condition am I aiming to achieve?
2. Can I minimize blood loss to reduce this patient's need for transfusion?
3. Are there any other treatment options I should give before making the decision to transfuse, such as intravenous replacement, fluids, drugs or oxygen?

4. What are the specific clinical or laboratory indications for transfusion for this patient?
5. What is the time frame of decision making - desperate/urgent/elective?
6. What is the hematological defect?
7. Is a blood component indicated and what component is most appropriate?
8. What are the risks of transmitting HIV, hepatitis, syphilis or other infectious agent through the blood products that are available to this patient?
9. Do the benefits of transfusion outweigh the risks for this particular patient?
10. How should the component be administered and monitored and its efficacy documented?
11. Is the component easily available?
12. What other options are there if no blood is available in time?
13. Will a trained person monitor this patient and respond immediately if any acute transfusion reactions occur?
14. Have I recorded my decision and reasons for transfusion on the patient's chart and the blood request form?
15. Is the patient/relative fully informed and consenting to medical decisions?
16. If this blood was for myself or my child, would I accept the transfusion in these circumstances?

** Adapted from Indiamedica*

4.3 Transfusion Requests

Having made the decision to transfuse, a request should be made to the transfusion service (hospital laboratory) for the appropriate blood component. Each request should have the following:

1. Duly filled order on the prescribed transfusion request form
2. At least two identifiers of the patient in accordance with hospital policy
3. Identification of the component needed, the quantity and any special conditions e.g fresh blood
4. The diagnosis, reason for transfusion and any relevant medical information to assist the laboratory process the order and solve any problems

4.4 Patient Identification

The persons taking the specimens and administering the transfusion should positively identify the patient and document the same.

In a setting where many hospitals have population catchments that are culturally homogenous, the likelihood of people sharing family names is very high. The chances, therefore, of confusing two patients in a busy ward are very high.

These chances may be increased where a new shift of staff is taking over from the previous one which initiated the order. It is therefore necessary that the hospital develops a policy of patient identification for both routine and emergency situations.

5.0 SAMPLE COLLECTION

Special attention should be exercised at time of sample collection as many errors are likely to occur at this point. The phlebotomist should take the following steps to minimize errors:

1. Prepare in advance all the items needed for the phlebotomy including the duly filled order form. All these should then be carried to the patient's side.
2. Positively identify the patient and where possible have the patient confirm his/her identity and whether he is aware of a possible transfusion on self.
3. Proceed to draw the blood and put the correct quantities into the correct specimen containers.
4. Before leaving the side of the patient label the samples with the correct patient identifiers as earlier confirmed and as they appear on the request form. The label should include the date and time of collection and initial the label.

Samples once collected should be kept and transported appropriately to the laboratory. In any case, all samples should reach the laboratory within 24 hours of collection.

5.1 Sample Reception at the Laboratory

All samples for group and cross-match should be logged in the cross-match register, as soon as they are received in the laboratory, and duly signed indicating date and time received. Before the sample is accepted, the laboratory technologist should be satisfied that the sample is the right one for the analysis requested. Also that it is the correct amount and in the right container, there have been no leakages that may suggest contamination and that the label on the sample matches with the information on the request form. The hospital should develop sample rejection criteria and have this understood by all concerned.

6.0 SELECTION OF BLOOD FOR CROSS-MATCH

At all times, patients should receive only blood of the same type. However, in some situations, blood of the same type may not be readily available in which case the technologist may be forced to select an out of type unit. In this event, the selection order suggested below should be followed. It is emphasized that in order to avoid such situations, the hospital transfusion service should maintain a proper blood inventory system. Blood for compatibility testing should be selected according to the FEFO policy unless there is a specific request otherwise.

6.1 Suggested ABO Group Selection Order For Transfusion of RBCs (Adapted from AABB Technical Manual 14th Edition)

Recipient ABO	Components ABO			
	1st Choice	2ndChoice	3rd Choice	4th Choice
AB	AB	A	B	
A	A	O		
B	B	O		
O	O			

6.2 Compatibility Testing

The request should be processed as per the agreed national standards operating procedures for serologic and compatibility testing of blood. As much as possible the patient's sample should be cross-matched against the same ABO and Rh donor unit types. Even where known, the patient's as well as the donor's red cell ABO and Rh types must be reconfirmed.

6.3 Four Tube Compatibility Procedure Table

Phases	Saline RT	Saline 37ºC	Albumin 37ºC	Coombs' 37ºC
Pt's serum	2 drops	2 drops	2 drops	2 drops
4% red cell suspension	2 drops	2 drops	2 drops	2 drops
Bovine Albumin	-	-	2 drops	-

For a unit to be declared compatible, there should be no reaction in any of the phases.

6.4 Issuing of Blood

The laboratory should inform the ward as soon as the blood is ready for collection and this is noted in the register. When the ward personnel arrive to pick the blood, the following should be counterchecked by both the ward staff and the person issuing the blood and ensure that the information on the unit and request form corresponds:

1. Inspection of the unit for any haemolysis, possible infection, clots or leaks
2. Recipient name and number
3. Recipient ABO and Rh blood types
4. Component unit number
5. Donor ABO and Rh types
6. Interpretation of cross-match results
7. Properly labeled as screened for TTIs and expiry date
8. Date and time of issue

This process is to confirm that the identifying information, the request, records, and unit are in agreement and that any discrepancies have been resolved. The issuing and delivery of blood to the wards should be in accordance with hospital policy. Where no policy exists the hospital can adopt the guidelines in the *Nursing Council of Kenya, Manual of Clinical procedures, 3rd edition, page 149.*

7.0 SETTING-UP THE TRANSFUSION

The unit or blood component should be collected from the laboratory only if there is a qualified person to set it up within 30 minutes, failure to which it must be returned to the laboratory immediately. The patient's bedside provides the last chance to detect any discrepancies and correct them before a transfusion is set-up. It is recommended that at least two people should perform this last check before starting the transfusion. The following final checks should be done:

1. Check the unit for any colour changes, haemolysis, leaks or clots
2. Reconfirm that the information on the unit and on the request forms correspond
3. Reconfirm the identity of the patient and if the patient is able to have him/her confirm the information. If the hospital has a patient identification policy, this should be followed.
4. Once satisfied, document the same and start the transfusion and adjust to the desired rate.

Double Checking Patient Identity

1. One person reads the information on the request/crossmatch form while the second person counterchecks the information on the blood/component label
2. Reverse the roles and repeat the same process with the second person reading the information on the form and the first counterchecking on the blood label
3. Transfuse only if the information on the form and the blood/component label agrees
4. Any discrepancies should be sorted out before transfusion

Clinicians should be constantly reminded that no drugs or fluids should be added to the blood component or administered through the blood giving set. Drugs should be given through another IV line preferably on the opposite arm.

1. Blood warming is not necessary when infusing 1-3 units over several hours.
2. Routine administration of furosemide is not recommended. Diuretics should be given only when there is risk of volume overload.

7.1 Calculating Transfusion Rates

Depending on the condition of the patient, blood should be administered in 2 – 4 hours. The rate should, therefore, be adjusted to the desired drops per minute to allow for the blood to run for the set time for that patient. On average, each drop of blood is approximately 0.1ml, 10 drops should therefore be equivalent to 1ml. Depending on the volume of the component in the bag, the rate in drops/minute should be calculated to allow for the blood to run for the desired time. Under normal circumstances, the rate should be between 10 – 20 drops/minute. Please note that this applies only to whole blood and packed red cell transfusions using normal transfusion giving sets. Other components have different rates depending on the component.

1. Remember that volumetric giving sets used for children have different rates ranging from 40-60 drops/ml depending on manufacturer.

2. If a patient is going to be transfused several units over several hours, ensure that the giving set is changed every 12 hours

7.2 Monitoring the Transfusion

It is a safety and policy requirement that patients must be monitored during and immediately after a transfusion. Many of the fatal reactions will occur during the first few minutes of the transfusion hence the patient should be closely monitored during the first 15 minutes. It is not uncommon for reactions to occur much later into the transfusion and sometimes even after the transfusion. Patient monitoring should therefore be continued throughout the transfusion and up to 4 hours after. In the event of a suspected reaction, the transfusion should be stopped immediately and the attending doctor informed. In some cases immediate intervention may be necessary to avert possible death.

The clinicians and nursing staff should be made aware of the possible reactions that may occur and how to recognize and manage them. All reactions should be investigated as per requirements and reported to the hemovigilance officer. The monitoring protocol and parameters are as given in annex 8.2.

7.3 Blood Bag Disposal

All used blood bags and giving sets should be incinerated either at the hospital or in a facility provided by the NBTS. The hospital should follow national policy on the storage, transportation and disposal of such bags and sets.

7.4 Recipient Follow-up

Patients once transfused should be followed up. At present Kenya does not yet have a policy and a system for post-transfusion follow up of patients. Many patients once transfused are lost to subsequent follow-up. Such a system once put in place will help the hospitals put in place a more complete surveillance system. This does not, however, stop any hospital from setting-up a local follow-up system.

8.0 ANNEXES

8.1 Blood Requisition Form

MINISTRY OF MEDICAL SERVICES

Ministry of Medical Services
National Blood Transfusion Service
Blood Requisition Form

Serial Number

Name:	
Age: Sex: M F	
Ward:	
IP number:	
Body weight: Kg (If Under 12 years)	

Date of blood transfusion (planned)	Time Day Month Year / / /
Blood group	ABO( ) Rh( ): Not known
History of blood transfusion	Yes No Not known Last time: Day Month Year / /
History of adverse reaction of blood transfusion	Yes No Not known If yes: Day Month Year / /
History of pregnancy	Yes No Not applicable
Diagnosis	Reasons of blood transfusion

Number of blood packs request

Type		No. of Pack
Packed Red Cells	Pediatric 125 ml	
Fresh Frozen Plasma		
Platelets		
Whole Blood	450 ml	
State reasons of requesting Whole Blood		

Data of examination hematolgy Day Month Year / /

Hb: Platelet: PTI:

Others

Degree of urgency
- Desperate
- Urgent
- Elective

Patient's Consent: ☐ Yes ☐ No Signature: Date:

Name medical doctor who filled this form: Signature: Date:

Name of consultant: Signature: Date:

Blood group of this patient: ABO ( ) Rh ( )

Blood Bag Number	Blood Group	Volume	Expiry date	Results of X-match	Date and time of Issue	Lab Tech	Person Collected	Date and time of transfusion	Volume transfused
1.									
2.									
3.									

Date of X-match and blood Group examination: Day / Month / Year Sign (Lab)

Any transfusion reaction observed: ☐ Yes ☐ No Day / Month / Year Sign (Lab)

In case of any transfusion reaction, send following samples to Laboratory: 10ml of blood into a plain tube, 2ml of blood into an EDTA tube, the first voided urine, the blood that reacted together with that attached transfusion set, all empty blood bags of already transfused units.

(1) Original keep in a patient's file with Observation Chart, (2) Back to laboratory after transfusion, (3) Leave in Laboratory

8.2 Blood Transfusion Observation Chart

Name of Patient: ..... IP No: .....

Ward: ..... Age: .....

Sex: M ☐ F ☐

Inpatient No: ..... Ward: ..... Bed: .....

Diagnosis: ..... Date of Transfusion: .....

Blood Product Transfused:
Whole Blood ☐ PRC (Adult) ☐ PRC (Paed) ☐ FFP ☐

Platelets ☐ Cryoprecipitate ☐ Other (Specify) .....

Transfusion started by: ..... Counterchecked by: .....

Time Transfusion started: ..... Rate of Transfusion .....drops/min

OBSERVATIONS

INTERVALS	TIME	BP	TEMP	PULSE	RESP	REMARK
Before						
00 min						
15 min						
45 min						
1hr 15min						
1hr 45min						
2hr 15min						
2hr 45min						
3hr 15min						
3hr 45min						
4hr 15min						
4hr After Transfusion						

Time Transfusion ended: ..... Amount Transfused: .....ml

Transfusion Reaction: Yes ☐ No ☐

If 'Yes'; Type of Reaction:

- ☐ **General:** Fever, Chills/Rigors, Flushing, Nausea/Vomiting
- ☐ **Dermatological:** Urticaria, other skin rash
- ☐ **Cardiac/Respiratory:** Chest Pain, Dyspnoea, Hypotension, Tachycardia
- ☐ **Renal:** Haemoglobinuria, Oliguria, Anuria
- ☐ **Haematological:** Unexplained bleeding
- ☐ Others (specify): .....

Action taken: .....

.....

Name of Doctor/ Anaesthetist /Nurse: .....

Signature: ..... Date: .....

8.3 Checklist for Hemovigilance Officer

1. Review of Blood Requisition Form

	1	2	3	4	5	6	7	8	9	10	Total
Part A **Patient's Name**											
IP/OP number											
Sex											
Age											
Ward											
Bed											
Consultant in-charge											
Clinician											
Patient's Group											
Hb											
Date of previous transfusion											
Details of any reaction to transfusion											
DEGREE OF URGENCY											
PRODUCT REQUIRED											
No of pints required											
Date and time required											
Name											
Signature											
Date											
Part B	**Information in Laboratory Registers**										
Specimen received by: Name:											
Date:											
Time:											
Sign:											
Blood Group (Unit)											
Cross-matched by											

Number of patients with the form filled completely =____,Percentage = %
("completely" means that all 24 items are filled)

Number of patients with the form filled moderately =____,Percentage = %
("moderately" means that 19-23 items are filled)

The item which the form was poorly filled =_____

2. Review of Blood Transfusion Observation Chart

	1	2	3	4	5	6	7	8	9	10	Total
Name of Patient											
Age											
Sex											
IP number											
Date											
Diagnosis											
Type of Blood Transfused											
Blood Unit Donor Number											
Transfusion Started by											
Counter Checked by											
Transfusion Started at											
Ended at											
Rate of Transfusion											
Observation done as per Chart											
In case of Transfusion Reaction, Type of Reaction											
Intervention/Drugs given											
Name and Signature of the Clinician											

Number of patients with the form filled completely = _____, Percentage = %
("completely" means that all 17 items are filled)

Number of patients with the form filled moderately = _____, Percentage = %
("moderately" means that 11-16 items are filled)

The item which the form was poorly filled=_____

3. Review of Clinician's Transfusion Note

	1	2	3	4	5	6	7	8	9	10	Total
Clinicians instructions in patient file or treatment sheet											

4. List of the patients with any symptoms/signs of suspected Transfusion Reactions in the Observation Chart by Haemovigilance Officer

(1)
(2)
(3)
(4)
(5)

5. Outcome of Patient (chose one from ☐ to ☐)

☐ Stable, ☐ Required medical intervention, ☐ Prolonged hospital stay,
☐ Life threatening, ☐ Death (date)

(1)
(2)
(3)
(4)
(5)

6. Review of the deaths above.

Reaction Information:
Date of Reaction: _____ Time of Reaction: _____

Patient information:
Age: _____ Sex: ☐ Male ☐ Female
Diagnosis: _____
Reason for Transfusion: _____
Current Medications: _____
Obstetric history: ☐ N/A ☐ Gravida ☐ Para
Previous Transfusion: ☐ Yes ☐ No Comment: _____
Previous Reaction: ☐ Yes ☐ No Comment: _____

Vital signs: Before: BP_____ During: BP_____ After: BP _____
T_____ T_____ T_____
P_____ P_____ P_____
R_____ R_____ R_____

Clinical signs: ☐ **General**: Fever, Chills/Rigors, Flushing, Nausea/Vomiting
☐ **Dermatological**: Urticaria, Other skin rash
☐ **Cardiac/Respiratory:** Chest pain, Dyspnoea, Hypotension, Tachycardia
☐ **Haematological:** Unexplained bleeding

Others_____

Laboratory investigation:
☐N/A Outcome: _____
_____
_____
_____

Assessment:

Type of Reaction: ☐ Septic ☐ Acute Hemolytic ☐ Allergic ☐ Febrile Nonhemolytic
☐TRALI ☐ Delayed ☐ Hemolytic ☐ Anaphylactic ☐ Post-Transfusion Purpura

☐ Mild Febrile Reaction ☐ Others (specify)_____

Diagnosis: _____
_____
_____

8.4 Progress Report of the Hospital Transfusion Committee (HTC)

Name of the hospital: _____
Date of the HMT: _____/_____/_____
Hemovigilance Officer: _____

1. Report of HTC meetings for the last 3 months

1) Date of regular meeting of the HTC and the number of participants

① _____/_____/_____ (participants)
② _____/_____/_____ (participants)
③ _____/_____/_____ (participants)

2) Major topics in the HTC meetings related to the HTC's Action Plan

①
②
③

3) New challenges found in the HTC

①
②
③

4) Number of reported case(s) of death to the HTC meeting (Explain about the case briefly to the HMT)

5) Number of reported case(s) of transfusion adverse/unexpected reactions to the HTC meeting (Explain about the case briefly to the HMT)

2. Summary of Cross-match Examinations for the last 3 months

1) Classification by release, return and issue

	Month ( )	Month ( )	Month ( )
1. Number of X- match			
2. Number of blood units issued to wards			
3. Number of blood units unclaimed and X-matched again			
4. Number of blood units Returned and X-matched again			
5. Number of blood units Returned and discarded as unviable			
6. Number of blood discarded in lab after X-match			
7. Cross-match/Transfusion Ratio			

2) Classification by age groups

	Month ( )	Month ( )	Month ( )
1. Number of X-match			
2. Number of X-match done for adult and the (percentage)	(%)	(%)	(%)
3. Number of X-match done for children (under 2 years) and the (percentage)	(%)	(%)	(%)
4. Number of X-match done for children (between 2 & 12 years) and the (percentage)	(%)	(%)	(%)

Explanation of Terms

Reported case(s) of death: The death which is related to the administration of blood or remains to be determined whether it was related to the administration of blood.

Issue: This is the action of the laboratory allowing the ward staff to collect cross-matched blood for transfusion within 30 minutes of collection.

Unclaimed/Released: Action that laboratory can take to make the X-Matched blood in the "X-Matched refrigerator" be returned to the "un-X-Matched refrigerator", if the blood has not been collected after 48 hours of X-Match.

Returned: These are units issued to the wards but for some reason are not transfused and are therefore returned to the laboratory. Those that are returned **within 30 minutes of collection** from the laboratory can be accepted back as viable units for cross-match to other patients while the rest are considered unviable and therefore discarded.

Discarded: These are units considered unfit for use either because they are contaminated, short or the blood cold chain has been broken and are consequently removed from the blood pool and destroyed.

8.5 Blood Transfusion Register

No.	Name of Patient	IP No	Age	Sex	Wt	Hb	Blood Unit No.	Date of transf.	Time started	Time ended	Type of Product	Vol. transf.	ADR

8.6 Transfusion Reaction Work-up

1. Stop the transfusion but keep the IV line open with normal saline
2. Monitor the vital signs of the patient
3. Inform the laboratory about a possible transfusion reaction
4. Check the clerical information to ensure that the patient is receiving the correct blood
5. Take the following samples from the patient (from the opposite arm)
   - 10ml of blood into a plain tube. Check the colour of the plasma for haemolysis
   - 2ml of blood into EDTA tube
   - Collect a sample of the first voided urine
6. Send to the laboratory
   - All samples correctly labeled
   - The blood that reacted, together with the attached transfusion set
   - All empty blood bags of already transfused units
   - Duly filled in laboratory request form
7. Report all investigations to the Hospital Transfusion Committee

8.7 Sample Rejection Checklist

Reject specimen sample if:

Request Form

- Request form not received with specimen
- Specimen not received along with request form
- Missing collection date on specimen container or request form
- Name and signature of requesting clinician missing
- Mismatch of information details on request form with details on specimen container
- Request form contaminated with specimen

Specimen

- Container used not appropriate for investigation requested
- Specimen unlabelled or has inadequate labeling
- Specimen container broken
- Specimen container leaked or cracked
- Duplicate specimens received
- Specimen volume not sufficient for the required investigation
- Delay between collection of specimen and arrival in laboratory
- Specimen not appropriately packaged

Tests Requested

- Requested test not performed in the laboratory
- Inappropriate specimen is provided for the requested test
- Test requested is inappropriate to the clinical condition

NOTES

NOTES

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