Implementation of NABH Standards for Blood Bank Department

By

Vandana Gupta

Dissertation submitted for the partial fulfillment of the

MBA Hospital and Health Management

Academic year, 2015-2017

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INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr.Vandana Gupta** student of MBA Hospital and Health Management in Health and Hospitals from The IIHMR University, Jaipur has undergone internship training at **Jindal Institute of Medical Sciences, Hisar, Haryana** from **6th February 2017 to 6th May 2017.**

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.
The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

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The certificate is awarded to

DR. VANDANA GUPTA

In recognition of having successfully completed her Internship in the department of

OPERATIONS

and has successfully completed her Project on

Implementation of NABH Standards in Blood Bank

9th may, 2017

Jindal Institute of Medical Sciences, Hisar, Haryana

He/She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish him/her all the best for future endeavors

Senior Manager Operations

Head-Human Resources

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation **"Implementation of NABH Standards in Blood Bank Department".** and submitted by **Vandana Gupta** Enrollment No. **0361** under the supervision of **Dr. Neetu Purohit** for award of MBA in Hospital and Health Management in Health and Hospitals of the University carried out during the period from **6th February 2017 to 6th May 2017** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Vandana

Signature

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled **"Implementation of NABH Standards in Blood Bank".**

Vandana

Signature of student

1 Introduction:

Blood storage centres are an important part of health care system. NABH Accreditation Will help in improving the quality of blood storage centre.. The accreditation programme assesses the quality and operational systems in place within the facility. The accreditation includes compliance with the NABH standards, applicable laws and regulations.

Assessment Criteria

Blood storage centres willing to be accredited by NABH must ensure the implementation of NABH standard in their organization. The assessment team shall check the implementation of NABH Standard in organization. The blood storage centres shall be able to demonstrate to NABH assessment team that all the requirements of NABH standard, as applicable, are implemented & followed.

Benefits of Accreditation

Benefits for Users & Patients or Donors Users

Donors are the biggest beneficiary among all the stakeholders. Accreditation results in improving the quality and safety of blood and blood products. They all are serviced by credential medical staff and their rights are respected and protected. Users , patients, donors satisfaction are regularly evaluated on safety Parameters.

Benefits for Blood storage centres

Accreditation to a blood storage centres stimulates continuous improvement. It enables blood storage centres in demonstrating commitment to quality. It raises community confidence in the services provided by the blood storage centres. It also provides opportunity to blood storage centres to benchmark with the best

Benefits for Staff :

The staff in an accredited blood storage centres is satisfied lot as it provides for continuous learning, good working environment and leadership. It improves overall professional development of all the staff including Medical and Para Medical Staff.

2 Review of Literature

The study findings showed that preparation for the accreditation survey results in significant improvement as 74% of the measures had a significant positive pre accreditation slope.
There is residual benefit from accreditation three years later with performance maintained at approximately 90% which is 20% points higher than the baseline level in 2009 *(Impact of Hospital Accreditation on Quality Measures-an interrupted time series analysis)*

NABH accreditation improved the quality awareness among hospital staff when they did various procedures .patients are the biggest beneficiaries.accreditation result in high quality of care and patient safety.
In a NABH accredited hospital 0% staff were unaware about the 9% standards and policies.
38% staff having less knowledge and 62% staff having very high knowledge.
(study on quality improvement and awareness of NABH Accreditation standards in A cardiac speciality Hospital)

3. **Research Questions**

3.1.What are the gaps between the expected and actual status of blood bank as per NABH standards in Jindal Institute of Medical Sciences, Hisar?

4 Objectives

4.1 To analyze the gaps in existing process of Blood Bank.

4.2 To Implement the necessary tools of documentation and fulfillment of other Requirements in Blood Bank (According to NABH standards)

4.3 To measure the effectiveness of implementation by calculating key performance indicators of Blood Bank.(*NABH CQI.3f.23,24,25,26)*

5 Study Methodology:

5.1 **Study Design**: Descriptive study.

5.2 **Study Area**: 600 bedded multispecialty tertiary care center (NCJIM & OPJICACRE) in Hisar.

5.3 **Study Population**: Records of Patients who received Blood and Blood component transfusion

5.4 **Duration of Study**: 90 Days. (06-02-17 TO 06-05-17)

5.5 **Sample Size**: All transfusion cases were included for (KPI 23,24, 25),

for KPI NO. 26 - 300 Samples were taken Randomly from all Transfusion Cases

[KPI NO. 23 –Percentage of Transfusion Reaction

KPI NO. 24 a-Percentage of Wastage of Blood and Blood component ward Level /Blood Bank (24 b)

KPI NO. 25-Percentage of Blood Component used

KPI NO. 26-Turn around time for issue of Blood and Blood component (The time when the Request were Raised for Blood & Blood components to the time When Blood & Blood components reached to the clinical units)]

5.6**Study tool**: Checklist, flowchart, Form and formats which were implemented at blood bank ,wards and ICUs.

5.7 **Sample Selection criteria**:

5.7.1 Inclusion criteria:

1.)Patients who were receive transfusion (Blood and Blood Components) from JIMS Blood Bank in the JIMS Hospital.

5.7.2 Exclusion criteria:

1.)Patients who bought blood from outside (Other than JIMS blood bank) were not included in study.

5.8 Data collection procedure:

- Primary data was collected through observation to identify key stakeholders. Later on Brainstorming was done to design forms and formats.
- Form and formats which were implemented in blood bank, Wards and ICUs in the Hospital.
- Key Performance Indicators calculated on the basis of collected data.

5.9 Study Phases:

Study was done in Two Phase:

1.) In first Phase Gap Analysis was done
2.) In Second Phase Implementation of Various Procedures were done.

6.Results :were presented in two phases ,in frist phase gap analyses was done,in 2nd phase Implementations was done after that performance was measured on the basis og key performance indicators**.**

6.1Phase 1:

Gaps in Pre Existing Process Flow of Blood Bank:

Sr. No .	**Agenda**	**Compliance** **PC=Partial Compliance** **NC=Non Compliance** **C=Compliance**
1.	Indication of Transfusion (Blood & Blood components) documented in Requisition form.	NC
2.	Inventory and ordering schedule were also not documented at the time of request of (Blood & Blood components)	NC
3.	Cold Chain Maintenance- intra Hospital Transportation of Blood & Blood components	NC
4.	Consent for Transfusion From Patient or from Patient Attendant (in case when Patient is unconscious or altered sensorium or not in a state of giving consent) .	NC

5.	Post Transfusion Feedback submission in blood bank (reporting of Transfusion Reactions)	NC
6.	Process in case of transfusion reaction.	NC
7.	Donor consent before Blood Donation.	NC
8.	family Education about Blood donation.	NC
9.	Turnaround time of reaching of Blood & Blood components	NC
10.	Process of Availability of Blood & Blood components in case of Emergency	NC
11.	Equipment Calibration	NC
12.	Biomedical waste management practice	PC
13.	Wastage of Blood & Blood component in clinical units and blood bank documentation.	PC
14.	Crash cart with Life saving Drugs.	PC
15.	Code Blue ,Code Red Training	NC
16.	Pest control Preventive measure in Blood	NC

	Bank.	
17.	Hand hygiene practice	NC

Overall 17th Gaps were found out of that 15 Non- Compliances found and partial compliance for Emergency Drugs and Bio Medical Waste practice were found. So following Implementations were done on the basis of Gap Identified.

6.2 Phase 2:

Implementations of Standards with Respect to Gaps Analyzed:

Gap: Indication of Transfusion (Blood & Blood components) documented in Requisition form.

Gap: Inventory and ordering schedule were also not documented at the time of request of (Blood & Blood components)

Implementation of Procedures:

New Requisition (order) form was designed for blood & components with proper Addressogram

(Requirements for sample label (addressogram)

- Last name of patient
- First name of patient
- UHID
- Date of sample collection
- Phlebotomist's name
- Ward/location

of patient, issue & arrange quantity, indication of Transfusion.

Blood Requisition Form was implemented in all clinical units and to be filled by Medical officer or Sr. Nursing Incharge Blood requisition form has detailed list of indications for

use of blood & blood components in adult & paediatrics patients. The indications for using a particular blood & blood components must be highlighted in the blood requisition form by the treating doctor

Gap: Process In Critical Case:

Implementation of Procedures:

In emergency situations, blood / blood components may be transfused prior to a completed cross match provided.The hospital staff shall inform blood bank regarding an incoming or newly arrived trauma or critical patient requiring emergency blood transfusion clearly stating the emergency situation.

Blood Waiver Form must fill by the Medical officer OR Nursing staff.

A blood waiver form is completed and signed by the ordering physician. A blood specimen shall be submitted to the blood bank at that time with the blood waiver form.

Medical officer will sent Blood Waiver form along with blood sample mentioning clearly patient's condition and request of PCV without cross matching. Or Rapid cross match done and blood issued in 15 mins.

If the Specimen for cross matching is not submitted at the time of sending blood waiver from the it must be submitted to the blood bank as soon as possible.

Gap: Informed Consent For Transfusion:

Implementation of Procedures:

Informed consent for transfusion of blood & blood component must be taken from the patient/family members. Consent will be taken in the "consent form for transfusion for the transfusion of blood & blood components.

An informed consent shall be completed prior to administration of Blood / Blood components. The same consent is valid for multiple transfusion of blood/blood components in a given admission (inpatient) for a period of 15 days. A fresh consent will be taken after 15 days even within the same admission period.

Informed consent for blood transfusion during surgery shall not be clubbed with the surgery consent form.

In transfusion dependent patients example haemophilia, thalassemia, dialysis etc. the consent will be taken at the first instance & once in six months. The patient/ competent relative/guardian endorses (just signs on previous consent) the consent at each repeated transfusion. Such consent shall have defined validity, period but not more then six months.

The patient may choose not to consent to the transfusion of blood / blood products. The refusal to consent to Blood transfusion shall be completed for patients who refuse transfusion. Forms are available in the clinical unit.

Once the consent for transfusion of blood & blood components is taken, patient & family will be educated about the donation in the above informed consent .

Gap: Procedures of Issue of Blood and Blood Components:

Implementation of Procedures:

Upon receipt of the blood order form, the blood bank (SR. technician Blood Bank /Nurse) shall dispense the blood / blood component along with a transfusion record. The transfusion record shall be returned to the nursing unit with the blood / blood component and utilized for documentation of bedside verification, and / or other data as indicated on the form.

Blood Bank is warranted to issue only the number of units requested, balance units has to be kept in blood bank.

Blood Bank Technician shall provide the following documents with each blood unit issued from blood bank: -

- Patient's details on the cross match label & compatibility report
- Patient's ABO group and Rh factor
- Blood group of the blood unit

Gap: Transfusion of right blood to right patient (patient identification):

Implementation of Procedures:

Verification prior to transfusion:

a) Red blood cells, pheresis platelets, fresh frozen plasma, and cryoprecipitate shall be verified in the patient's presence at the bedside, prior to transfusing by the RN/doctor.
b) The unit to be transfused shall be compared with the transfusion record for a complete match, including patient identification using two identifiers(by two staff/one staff one doctor), patient compatibility for red cells, and expiration date of unit.
c) The verifying nursing / doctor shall sign their full signature on the transfusion record in the space provided.

Note: The Transfusion Record shall not be signed until after the verification process has been completed and deemed accurate.

Gap: Procedure for administration of blood and blood components:

Implementation of Procedures:

Assessment: -

a) Assess the past and present health status of the patient.
b) Assess for any H/o allergy or Hypertension.
c) Assess history of blood transfusion within 6 months
d) Check body weight.

Monitor vital parameters by Clinician or Nursing staff.

Pre –Procedure

a) Pre medications to be given if indicated
b) Before starting transfusion "blood transfusion monitoring & post transfusion feedback form" must be documented.
c) Confirm that transfusion has been prescribed and check Doctor's order.
d) Check Hemoglobin report
e) Explain the procedure to the patient.
f) Make the patient aware of the signs & symptoms during transfusion reaction (itching, hives, swelling, Shortness of Breath, fever, chills)
g) Monitor vital parameters to establish a baseline for comparing vital signs during transfusion
h) All will be documented in high alert medication performa

i) Use hand hygiene and wear gloves in accordance with standard precaution. Arrange all the articles required for blood transfusion.

j) Vein puncture-follow the SOP for vein puncture on page 15

k) Blood transfusion should be completed within stipulated time. Time for transfusing specific blood products is as follows (approximately – may change depending on patient condition)

- PCV – 4 hours,
- FFP -30 Min
- RDP - 15 min.
- SDP- 45min.

Intra –procedure:

a) Check blood for gas bubbles or any abnormal color

b) Make sure transfusion is initiated and completed within the prescribed time.

c) Observe the patient for adverse effect.

d) Monitor vital signs at regular intervals.

e) Inform physician if any adverse reaction occurs. Stop infusion immediately.

f) Flush the line with heplock after transfusion

g) Administering medications with blood transfusion:

- No medications shall be administered simultaneously with blood/blood components via the same
- Intra Venous (IV) line.
- Note: Although the Multi-Lumen Central Venous Catheter (CVC) is one line, the different ports may be utilized to transfuse blood, medications, Total Parental Nutrition (TPN), etc at the same time.
- The distal port of the Multi-Lumen Central Venous Catheter (CVC) should be utilized to administer blood/blood components while the middle and proximal ports can be utilized to administer IV fluids + Medications (IVPB's), Total Parental Nutrition (TPN), etc.

h) Transfusion reaction:

- The patient shall be closely observed and assessed for a possible transfusion reaction, especially during the first 15 minutes of blood / blood component transfusion with appropriate documentation recorded on the form. A transfusion reaction may occur either during or with in several hours following the blood transfusion reaction may occur but is not limited to, any of the following:
- Fever or any rise in temperature of 1ºC or 2 ºF from baseline temperature as recorded in the transfusion record.
- Chills.
- Back pain.
- Dyspnea, including wheezing.
- Hypotension or hypertension.
- Hemoglobinuria
- Bleeding
- Pain at infusion site
- Hives, urticaria, or itching. This is an allergic reaction. Notify the physician immediately so medications (i.e. diphenhydramine) can be administered.
- In the event of a suspected transfusion reaction, the transfusion shall be stopped immediately and the
- responsible physician notified. If it has been determined that a reaction has occurred, the following steps shall be taken:
- **STOP** the transfusion and maintain Intra Venous (IV) access
- **RECHECK** all blood labels and patient identification.
- **DRAW** blood samples in vaccutainer/EDTA.
- **DRAW** blood cultures in all cases of febrile reactions.
- **COMPLETE** appropriate blood transfusion monitoring & post transfusion feedback form to be filled.
- **SUBMIT** all paperwork with blood specimen, blood bags, and transfusion set to the Blood Bank.
- A transfusion reaction work-up shall be performed by the Blood Bank. No additional blood/blood components shall be dispensed prior to completion of work-up unless a Blood Waiver form is completed and signed by the physician.

Post –Procedure:

Record vital signs and compare with base line data. Blood transfusion monitoring & post transfusion feedback form.

- Attach bag label in patients file.
- Dispose the used materials in the red bag
- Document procedure in patient's medical record in legible handwriting.
- Monitor patient for response to and effectiveness of procedure.
- Any error in patient identification will notified as near miss via transfusion reaction form.
- Post transfusion feedback form must be filled & return to blood bank in all cases of transfusion

Gap: Process for Transfusion record copies:

Implementation of Procedures:

- The yellow copy of the Transfusion Record shall be returned to the Blood Bank following complete and uneventful transfusion, and the white (top) copy placed in the space provided in the medical record.

Gap: Bio Medical Waste Management Practice:\

Implementation of Procedures:

Disposal of blood & blood component bag(empty & full)

- All empty bags will be disposed in red colour dustbin as per bio-medical waste management policy.

Full/unused/expired blood & blood component bags will be autoclaved.

Gap: Infection Control practices:

Implementation of Procedures:

- Random blood bag is sent once a month to the Microbiology lab for culture and sensitivity.
- And Blood Bank staffs were sensitized about hand Hygiene practice by Infection control team.

Gap: Handling & transportation in cold chain and delivery of Blood & Blood Components at the right source:

Implementation of Procedures:

- The blood and blood components are issued on the prescription of registered medical practitioner (RMP) after ensuring the compatibility and testing results. The blood bank must ensure that the blood is not wasted and made available to needy patients following first-in-first-out (FIFO) policy.
- It is the responsibility of the blood bank technician to issue the blood for which requisition is received and he is also responsible for the issue of blood to the respective hospitals ward on the understanding that the blood will be issued within 30 minutes.
- It is the responsibility of blood bank technician/ medical officer following are completed
- Issue register
- Master record for blood (Stock Register)
- Requisition form duly filled and signed
- Compatibility report
- Thermal box/Blood transport box to Maintain proper temperature.

Gap: Process of Blood Donation:

Implementation of Procedures:

Blood Donor Consent: Must Be Taken Prior Donation.Patient & family will be educated & counseled about the donation of the blood. The same will be recorded in blood donor record. (Informed consent for blood donation)

The donor will be sent to blood bank where a history & medical examination will be done as per standardize Performa(medical examination Performa) clearly ruling out when not to take donation.

Selection of Donors

- All Donors are asked to fill the Donor Screening Questionnaire for Preliminary Screening of Donors.
- Properly screened healthy donor is selected for donation.
- Donor should not be fasting prior to the donation, however should refrain from oily/fatty food.
- The donor should fulfill the following requirements for Blood Donation:
- Donor could be of two types
    - Voluntary
    - Replacement / Non-Remunerated Donor
- Minimum interval between two blood donations should be no less than 3 months
- Age group- 18 to 60 years
- Weight- for 350ml donation minimum 45kg and for 450ml donation minimum 60kg
- HB not less than 12.5 g/dl
- BP within range of 100/60 to 160/90 mm of Hg
- Normal temperature 98.4˚F and pulse 60 – 100 / minute.
- Free from acute respiratory diseases, indications or skin diseases at the site of phlebotomy and blood transfusion transmissible diseases. Skin over Phlebotomy site should be healthy & free from needle prick marks.

Permanent Deferral Criteria

- Prospective donors who have, or have a history of, any of the following:
- Autoimmune disease if more than one organ is affected.
- Cardiovascular disease
- Central nervous system disease.
- Malignant disease except after successful treatment for non-invasive cervical cancer and rodent ulcer.
- Abnormal bleeding tendency
- Fainting spells (syncope) or convulsions
- Severe or chronic gastrointestinal, haematological, metabolic,respiratory, or renal disease.
- Infectious disease-person suffering or having suffered from
- Hepatitis B & C
- HIV/AIDS
- HTLV-I / II
- Leprosy
- Kala Azar
- Q fever
- Syphilis
- Chagas disease (trypanosome cruzi)
- Babesiosis
- Chronic alcoholism
- Diabetes, if treated with insulin
- Intravenous (IV) drug abuse
- Cornea / Dura mater transplantation recipient
- Epilepsy
- Pituitary hormone of human origin (growth hormone) recipient.

- Sexual behaviour that place them at high risk of transmitting infectious disease
- Xenotransplant recipients
- Allergy-individual with a documented history of anaphylaxis
- Asthma
- Endocrine disorders and psychotic disorders (schizophrenia)

Temporary Deferral Criteria

Ineligible for five years

- Acute glomerulonephritis (following complete recovery)

Ineligible for two years

- Osteomyelitis (after declared cured)
- Toxoplasmosis (after recovery and absence of IgM antibody)
- Brucellosis (after full recovery)
- Rheumatic fever (after an attack if no evidence of chronic disease)
- Infectious mononucleosis (after declared cured)

Ineligible for one year

- Tuberculosis (after declared cured)
- Typhoid (after declared cured)
- Accidental exposure to blood or blood contaminated instruments
- Transfusion with blood or blood component
- Endoscopic examination
- Treatment involving use of catherter
- Tissue or cell transplant
- Major surgery
- Acupuncture
- Tattoo
- Body piercing
- Drug allergy, in particular allergy to penicillin (after last exposure)

- Close contact with case of hepatitis B & C
- Rabies vaccine (if post exposure)
- Tick born encephalitis vaccine (if post exposure)

Ineligible for six months

- Pregnancy (after delivery)
- Abortion
- Minor surgery (with complication)
- Fracture
- Infectious mononucleosis (after recovery)
- Hepatitis vaccination

Ineligible for three months

- Malaria (after recovery)
- Previous whole blood donation
- Minor surgery (without complication)

Ineligible for at least two weeks

- Prophylactic immunization (following administration of vaccine with attenuated bacteria and viruses (four weeks)
- Minor infectious disease
- Fever above 38ºC, flue-like illness (following cessation of symptoms)

Ineligible for 72 hours

- Following administration of vaccines (desensitizing)
- Alcohol intake
- Aspirin

Ineligible for 48 hours

- Treatment by dentist or dental hygienist
- Following administration of killed / inactivated viral / bacterial and rickettsial vaccines
- Rabies vaccine (prophylactic administration)

Others

- Hypertension - defer till controlled with or with out medication
- Diabetes on oral hypoglycemic-till blood sugar comes to the normal range
- Allergy (minor) - till symptom free
- Common cold - till symptom free
- Menstruation - till period over
- Lactation – till stops breast feeding

Gap: Training for emergency codes of Hospital:

Implementation of Procedures:

(a)code blue-NALS &PALS,

b)code red,

c)code pink, ,

d)code gray,

e)spill management training

f) (Early warning sign-clinical alarm) other necessary training

Situation	Code Assigned	Contact Number	Phone Received By	Response Team	Message
Fire	**Code Red**	**222**	**PA System**	**Fire safety officer,security Guard,Engineer Department,Maintenanace Department,Disaster Management,Incharge,Supervisor** **Hospital Authorities**	**Code Red<Location> & Assembly Point**
Cardio Pulmonary Arrest	**Code Blue**	**222**	**PA System**	**CMO,Intensivist,Physiscian ,Resident medical Officer of the Floor Area,ICU Nurse**	**Code Blue<Location >**

Abduction	**Code Pink**	**222**	**PA System**	**Nurse and Ward Incharge of the area,Security office & Guard**	**Code Pink - Brief description of child**
External Disaster	**Code Grey**	**222**	**PA System**	**Operator Emergency**	**Code Grey- “Assembly to Emergency Department**

Gap: List of emergency drugs in crash cart & availability of oxygen:

Implementation of Procedures:

Sr. No.	Drug Name	Strength	Quantity
1.	INJ. ATROPINE	0.6mg/ml	5
2.	INJ. ADRENALINE	1mg/ml	15
3.	INJ.AVIL	2ml	5
4.	INJ. AMIODARONE	150mg/3ml	5
5.	INJ. DERIPHYLLINE		
6.	INJ. DOPAMINE	200mg/5ml	2
7.	INJ. EPSOLIN	100mg/2ml	2
8.	INJ. HYDROCORTISONE	100mg/2ml	2
9.	INJ. ISOPRENALINE		
10.	INJ. HEPARIN	5000U/5ml	2
11.	INJ. LASIX	20mg/2ml	5
12.	INJ. LOXIGARD(2% XYLOCAINE WITHOUT PRESERVATIVE)		
13.	INJ. MIDAZOLAM	5mg/5ml	2
14.	INJ. NITROGLYCERINE	5mg/5ml	2
15.	INJ. PROPOFOL	10mg/1ml	2
16.	INJ. SCOLINE	50mg/1ml	2
17.	INJ.SODABICARB 7.5%/25ML	7.5%25ml	5
18.	INJ. CAL.GLUCONATE/CAL.CHLORIDE	10%10ml	5
19.	DEXTROSE 5%		1
20.	NORMAL SALINE		2
21.	VOLULYTE 6%		1
22.	RINGER LACTATE		2
23.	I.V 25% DEXTROSE 100 ml		1
24.	WATER FOR INJECTION	10 ml	10
25.	INJ. METOCLOPRAMIDE	10 mg/ml	5
26.	INJ. Mephentin	50MG/ML	1

Gap: Blood Bank Equipment Calibration:

Implementation of Procedures:

Blood bank list of equipment with asset I.D (Status label) & parameters for inspection & calibration plan

List of Blood Bank Equipment			
Si.No	Name of the Instrument	Si.No	Name of the Instrument
1	Centrifuge For Gel Card(2 such)	13	Packed Cell Refrigerator
2	Hemo control(Haemoglobin Analyzer)	14	Hot air Oven
3	Microplate ELISA Reader	15	Autoclave
4	ELISA Washer	16	Plasma Storage Cabinate
5	VDRL Shaker	17	Refrigerator Centrifuge
6	Centrifuge R8C	18	Cryo Bath
7	Platelet Agitator	19	Plasma Thawing
8	Bucket Balance	20	Microscope
9	Incubator	21	Aphresis Machine
10	Deep freezer (-80)	22	Blood collection Monitor
11	Laminar Flow	23	Tube Sealer
12	Plasma Expresser		

Table No. 14.3 Blood Bank Equipment

List of equipment with operational plan

- Operational plan for the equipment is present with BME department & with blood bank. Training is imparted to concerned user to operate the equipments

  List of equipment with preventative & breakdown maintenance planning(BME management)
- This is being done & maintained by department of bio-medical equipment of NCJIMCARE & OPJICACRE

6.3 Key Performance Indicators

Percentage of transfusion reactions= 0.95%

$$\frac{\text{No of transfusion reactions}}{\text{No of units transfused}} \times 100$$

No. of units transfused= unit issued-wastage at wards

Percentage of wastage of blood & blood components at ward level = 0.095%

$$\frac{\text{Number of blood and blood components units wasted among those issued}}{\text{Number of blood and blood components units issued from the blood bank}} \times 100$$

Percentage of wastage of blood & blood components at Blood Bank= 4.088%

$$\frac{\text{Number of blood and blood components units wasted at blood bank/blood storage center}}{\text{Number of blood and blood components units stored in the blood bank}} \times 100$$

Percentage of blood component usage = 93.69%

$$\frac{\text{Number of components used}}{\text{Number of blood and blood components used}} \times 100$$

Turnaround time for issue of blood & blood components = (1:13:15)

$$\frac{\text{Sum of time taken}}{\text{Total number of blood \& blood components issued}} \times 100$$

Sr.no.	KPI	RESULT
1.	Transfusion Reactions	0.95%
2.	Blood & Blood component wastage(clinical unit)	0.095%
3.	Blood & Blood component wastage(blood bank)	4.088%
4.	Blood component usage	93.69%
5.	Turnaround time for issuing of Blood and Blood Component	1:13:15

Root cause analysis of discarded bloodand blood components

Discarded Reactive Units : 24

Name of unit	No. of Discarded Unit	Cause of Discard
Whole Blood	2	1 HCV Positive 1 HPB Positive
PRBC	11	1 HIV Positive 10 HCV Positive
FFP	11	1 HIV Positive 10 HCV Positive

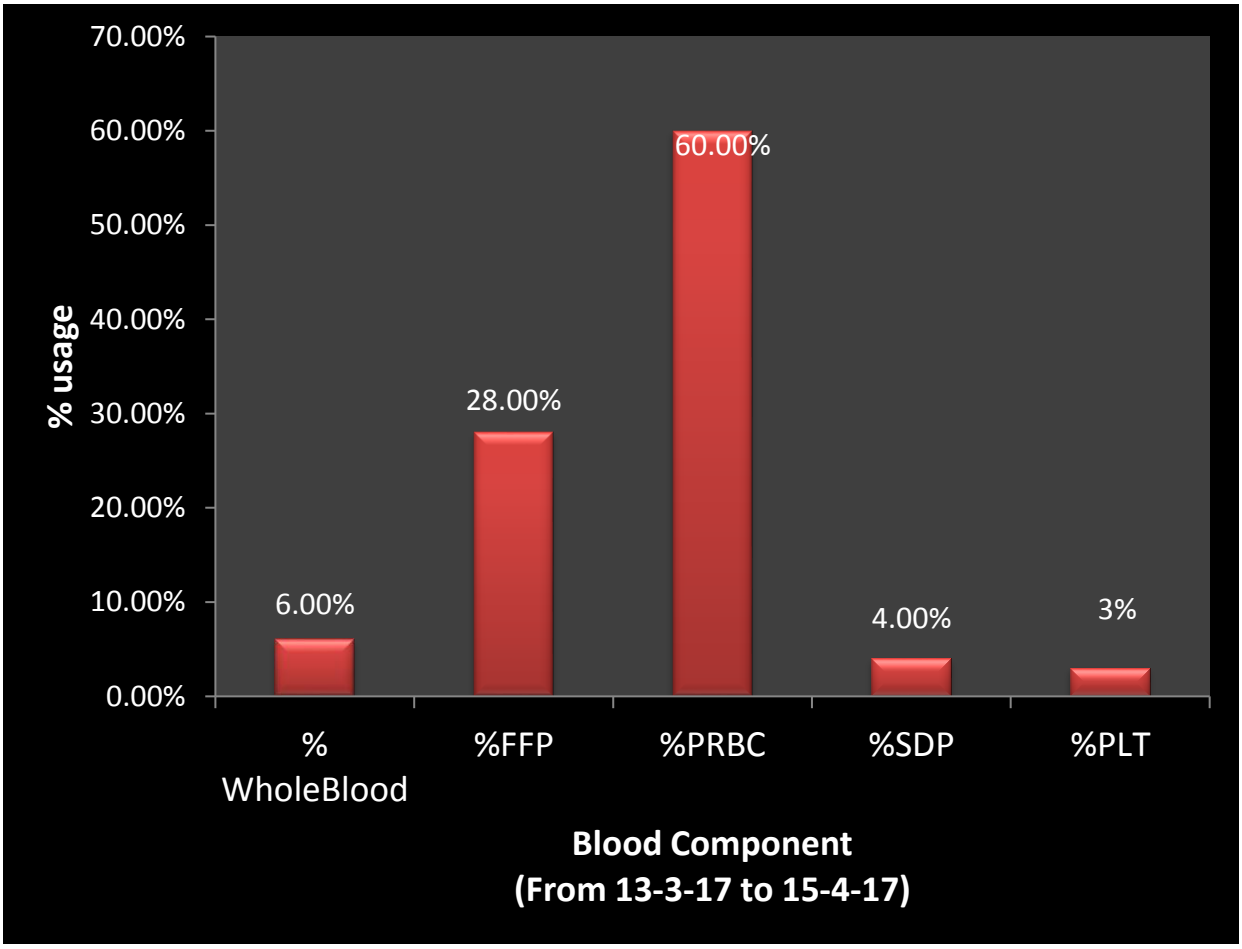
Discarded Other Units : 24

Name of unit	No. of Discarded Unit	Cause of Discard
Whole Blood	5	UNDERWEIGHT CLOTTED
PRBC	3	CLOTTED
PLATELETS	4	EXPIRY

FFP	12	BOKEN LEAKAGE

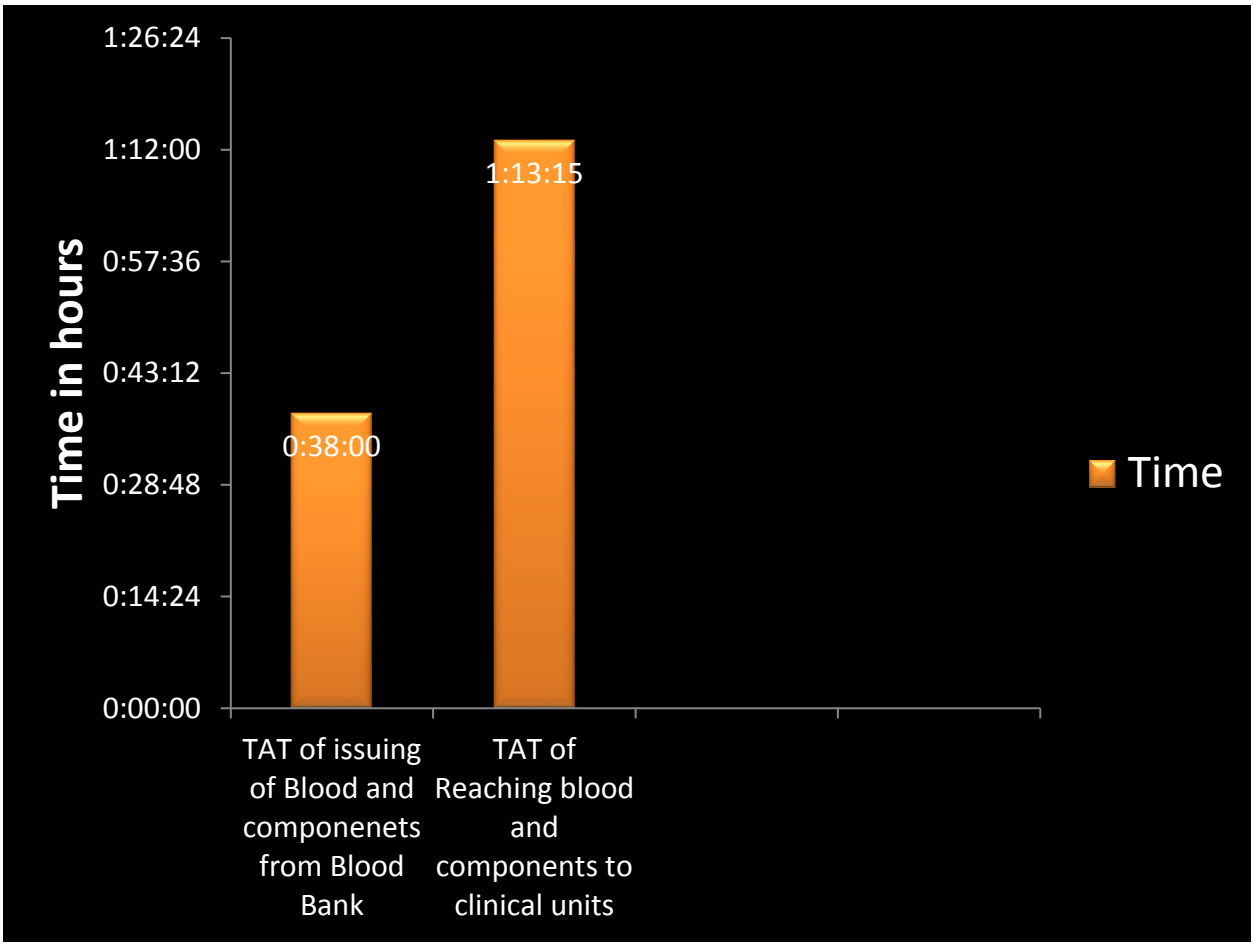
6.4 Graphs:

Percentage of blood component usage = 93.69%



Turnaround time for issue of blood & blood components

- **Turnaround time for issue of blood & blood components from Blood Bank:00:38**
- **Turnaround time for Reaching of Blood & Blood Component to clinical unit:01:13:15**



Annexure:

1.Standards For Blood Bank written under chapter Care of Patients (COP 8) ,in NABH Guidelines for Hospital and Health care Providers *(4th Edition, December 2015)*

a. Documented policies and procedures are used to guide the rational use of blood and blood components. *

***Interpretation*:** This shall address the conditions where blood and blood Components can be used. It shall also address inventory and ordering schedules (Planned and unplanned).

b. Documented procedures govern transfusion of blood and blood components *

***Interpretation*:** This shall at a minimum include how the orders are written including pre-medications if any (rate needs to be mentioned for paediatric Care of Patients (COP)

(National Accreditation Board for Hospitals and Healthcare Providers 48)

patients), transport of blood, how the blood/blood product is verified prior to transfusion, how the patient is identified and how the patient is monitored. This shall include procedures for availability and transfusion of blood/blood components for emergency use/in an emergency.

A good reference guide is the NABH standards for blood banks.

In case the organisation does not have a blood bank, it shall have a MOU with a blood bank/organisation having a blood bank and ensure that patient care does not suffer. Verification, transportation, cold chain and delivery at the right source should be taken care of. Blood shall be transported from the external blood bank in a safe and proper manner.

c. The transfusion services are governed by the applicable laws and regulations.

Interpretation: Refer to Drugs and Cosmetics Act.

d. Informed consent is obtained for donation and transfusion of blood and blood components.

***Interpretation*:** Consent should be taken for transfusion of blood or blood components when there is a requirement for transfusion. The same consent may be valid for multiple transfusions of blood/ blood components in a given

admission (in-patient) which has a defined validity period.

In case of patients who are transfusion dependent (e.g. haemophilia, thalassemia etc.) the consent can be taken at the first instance and once in six months. Such consent shall have a defined validity period but not more than 6 months. The patient/competent relative or guardian endorses the consent at each repeat transfusion.

The consent should include risks, benefits and possible complications of multiple transfusions.

e. Informed consent also includes patient and family education about the donation.

***Interpretation*:** This could be in the form of a booklet/leaflet. This has to be given along with the consent form.

f. The organisation defines the process for availability and transfusion of blood/blood components for use in emergency situations. *

***Interpretation*:** The organisation shall define as to what constitutes ―use in an emergency situation‖ and accordingly develop procedures.

This is applicable even if the organisation doesn't have the blood bank facility in house.

It is preferable that the organisation also define the time frame within which blood must be available for use in an emergency situation. Use in emergency includes both for emergency stand-by and use in an emergency.

g. Post-transfusion form is collected, reactions if any identified and are analysed for preventive and corrective actions.

***Interpretation*:** The organisation shall ensure that any transfusion reaction is reported. It is preferable that the organisation capture feedback regarding every transfusion (including the ones without reaction) as this would enable it to capture

all transfusion reactions. These are then analysed (by individual/ committee as decided by the organisation) and appropriate corrective/ preventive action is taken. The organisation shall maintain a record of transfusion reactions. For ―transfusion reactions‖ refer to the glossary. .

h. Staff are trained to implement the policies.

***Interpretation*:** This shall include doctors and can be done either by training and/or by providing written instructions. Records of the same should be available.

Care of Patients (COP)

2.

17.1 INTERNAL AUDIT CHECK POINTS: Blood bank COP;8/ 50 / 4ed

CQI.1.f.g/133 **The Quality improvement programme (**CQI.1.. g/134/ 4ed// **updated at least once in a year) needs to be reviewed by the quality improvement committee at regular pre-defined intervals as defined by the organization in the quality improvement manual but at least once in three months.**

CQI.1.f/133 **The review shall include**

- **focused audits,**
- **organizational performance,**
- **Analysis of key indicators as identified and determined by the organization including the mandatory indicators as laid down in CQI 3 and 4.**
- **The minutes of the review meetings should be recorded and maintained**

CQI.1.h/134//4ed: **all the areas of the organization shall be covered by a hospital wide internal audit at least once in 6 months as per a scheduled plan.**

- **This internal audit shall be done by a identified staff or a multi-disciplinary team (preferably trained in NABH standards).**
- **The assessors shall be either trained internally or externally in NABH standards.**
- **The internal audit of a particular area shall include all the applicable standards and objective elements**

They shall assess areas independent of their area of work.

COP.8.a.50/ 4ed. **Policies and procedures are used to guide the rational use of bloodand blood components .**

COP.8.b.50/ 4ed. **Blood bank manual should be documented, updated at least once in a year based on findings of audits, the review carried out by the committee, etc.**

- **how the orders are written including pre-medications if any**
- **transport of blood,**
- **how the blood/blood product is verified prior to transfusion,**
- **how the patient is identified and**

- **How the patient is monitored.**
- **Availability and transfusion of blood/blood components for emergency use/in an emergency.**
- **Verification, transportation, cold chain and delivery at the right source are to be taken care**

COP.8.c.50/ 4ed **applicable laws and regulations**

COP.8.d.50/ 4ed . **Informed consent is obtained for donation and transfusion of blood and blood components.**

COP.8.e.50/ 4ed : **Form or booklet/leaflet for organ donation in blood transfusion consent.**

COP.8.f.50/ 4ed : **Availability and transfusion of blood/blood components for use in emergency situations**

COP.8.g.50/ 4ed : **Post-transfusion form is collected; reactions if any identified and are analyzed for preventive and corrective actions.**

COP.8.h.50/ 4ed : **Staff which includes doctors is trained to implement the blood bank policies**.

MOM : DEPARTMENT : Quality of nursing care			**Meeting Coordinator / HOD : Nursing Superintendent / Quality manager**			
FREQUNCY : Monthly			**DATE OF LAST MEETING:**			
MOM of last meeting :			**Compliance report of last meeting :**			
DATE:		**VENUE: ROOM NO. 49**			**TIME: 1 PM**	
MEMBERS: **(Number of members)**	**1.Clinical pharmacologist**	**2 BME**	**3. IF doctor**	**4. ICN**	**5. MICROBIOLOGIST**	**6. HVAC incharge**
QUORAM (50%-atleast)	**7. Operations**	**8. Quality**	**9. HOD PATHOLOGY** **(OPTIONAL)**	**10. CSSD**	**11.NS**	**12. consultant gynae**
	13. Nurse in charge ICU-trained in using excellence	**14.PSO**	**15. Nurse in charge-Emergency**	**16. Nurse in charge-CTVS**	**17.MO INCHARGE**	**18. HOI**

S.No	Agenda / Observation/ Objective element	Discussion-	Decision- NC / PC / C	Responsibility	Time Frame	Remarks/ OFI/ Compliance to last meeting CAPA/ Statistical tool used
1.	Ownership					
2.	**A** multi-disciplinary committee	Quorum	**60 %**	MOM		

3.	Frequency	CQI.1.h/134//4ed	6 monthly			
4.	Documented Blood bank manual.	To be updated.	Yearly			
5.	Blood bank License	Valid from 4-10-2016 till 3-10-2017				
6.	Informed consent for donation	Gone for printing		Supply chain head		
7.	Informed consent for transfusion	Implemented		Ward in charges and staff who is attending the patients		
8.	Form of booklet/leaflet for organ donation in blood transfusion consent.	**Nishant sir**				
9.	Post-transfusion form	Implemented		Ward in charges and staff who is attending the patients	For every patient After transfusion	

10.	Audit of transfusion feedback and reactions	Not started yet.		Operations		
11.	CAPA of audit report of transfusion feedback and reactions					
12.	Review of : • No harm • Near miss • Adverse events • Sentinel events					
13.	Analysis of key-performance indicators					
14.	OFI					
15.	The minutes of the review meetings	Should be recorded and maintained.				

16.	Dissemination of analysis/ review.	Training/ print media				
17.	Staff which includes doctor to be trained to implement the blood bank policies**.**	induction &Yearly				
18.	Calibration of equipments					Refrigerator,apharesis machine,plasma storage calibration,cryo bath calibration ,centrifuge machine,laminar flow,incubator,oven,bucket balance last due date was 1-2-17
19.	Temp of all storage refrigerator			Blood bank technicians		Maintained
20.	BMW practice			Housekeeping in charge		Not followed
21.	Pest control checklist			Housekeeping in charge		Not followed
22.	Furniture and fixture checklist					**Do not have**
23.	AHU- Checklist					

24.	Split AC service checklist					
25.	Autoclave register					
26.	Crash cart			Shashikant sir		Do not have
27.	Emergency medicine					
28.	Code Blue			Nishant sir		Needs to be implemented
29.	Fire extinguishers					
30.	HIRA			BMW in charge		Identified , No MSDS
31.	Surveillance registers					Adverse drug register not maintained
32.	Refreshment Room					Maintained and having refreshment policies

3.Blood Requisition Form:

JIMS BLOOD BANK
NCJIMCARE & OPJICACRE
MODEL TOWN, HISAR, HARYANA
Quality Medical Care at Affordable Cost

Patient identification/Addressogram (Sticker)
Patients Name _____Age_____Sex_____ UHID_____
IPD_____Consultant Name_____ Ward _____

BLOOD REQUISITION FORM
License number: 771B [H]

Date:		Time:
Routine	Urgent	Immediate

Ward:_____ Bed No.:_____ Blood Group:_____

The blood sample of Mr./Mrs. _____is being sent along this form for blood issue & cross-matching.

1. Number of units to be arranged and kept in blood bank:_____ Date _____ Time_____

Whole Blood (BB-01)	PRBC (BB-02)	FFP (BB-03)	RDPC (BB-04)	SDPC (BB-05)	LD-PRBC (BB-07)	LD-FFP (BB-08)	LD-RDPC (BB-09)	CRYO/ CPP

2. Number of units to be issued_____Date_____Time_____
3. The blood sample must have initial of duty doctor/ MO
4. Blood to be collected in EDTA tube/vacutainer. 5ml from adult & 2ml from neonates.

***Note:**

A. If transfusion of blood product is decided, then informed consent MUST be taken.
B. Blood Bank is reuested to issue only the number of units requested, balance units has to be kept in blood bank.
C. After issue of unit from blood bank transfusion must start within 30 minutes. Once issued blood will not be taken back by blood bank.
D. Before starting transfusion " **Blood Transfusion Monitoring & Post Transfusion Feedback Performa"** must be documented.

Signatures

Ward In_charge: _____ Doctor Medical Officer :_____

Treating Doctor: _____

Stamp Of Consultant/Medical Officer

- PBRC is PACKED Red Blood cells & LD-PRBC is Leuco- depletd
- RDPC is random donor platelet concentrate & LD-RDPC is Leuco- depletd RDPC
- SDPC is single donor platelet concentrate & LD-SDPC is leuco depleted SDPC
- FFP is fresh frozen plasma
- CRYO is cryoprecipitate CPP is cryo poor plasma

Blood/Blood Component Issue Record

(For Blood Bank use only)

Whole Blood (BB-01)	PRBC (BB-02)	FFP (BB-03)	RDPC (BB-04)	SDPC (BB-05)	LD-PRBC (BB-07)	LD-FFP (BB-08)	LD-RDPC (BB-09)	CRYO/ CPP

Bag Batch No.	Bag No.	Group	Expiry Date	Date & Time	Cross Match Method	Signature Of Technician	Received By

☐ Non Reactive ☐ Negative for HIV ☐ HBsAg ☐ HCV ☐ VDRL ☐ Malaria

Signature of Issuing Officer

INDICATIONS FOR TRANSFUSION IN ADULTS

Product/ Dose	Indications: Tick The Indications	No. of Units Required	Comment
Whole Blood	1. Loss>1500-2500ml/70 kg. 2. Blood loss enough to cause hypovolumic shock. 3.Transfusion induced coagulopathy (FWB) Fresh<6 hrs old, Warm and Stored at 22 C 4. OTHERS		
Packed RBC / Leuco- depletd PRBC	1. Hbg<6 g/ dl: give & BT >10 g/ dl: don't give in general. 2.Hbg is < 10g/ dl & Hct < 30% in cardiac or cerebral insufficiency or APACHE > 20, dialysis, ARDS, polytruma 3. Anticipated /acute intraoperative loss > 20% in stable patients & > 15% in high risk patients. 4. > 10% burns with Hct < 30% 5. OTHERS		
Platelet No warming Dose =1-1.5U/ 10 kg. Neonate=1u/ 2.5/kg. 1 unit SDP = 6-7 units of plt. Leuco- depletd SDP.	1. PC< 20,000/mm : General but can hold in asymptomatic patients. 2. PC <50,000/mm : Surgical patients. 3. PC <75,000/mm : Brain& AW injury (preferably >1lac) 4.PC< 100000/ mm 5.Platelet function defect , regardlessof PC 6. OTHERS		
FFP All clotting factors. Dose=10ml/kg 1 unit=200-250ml	1. Generalized bleeding that cannot be controlled with surgical sutures or cautery. 2PT/ PTTK > 1.5x Normal 3. Plt >70,000 & patient is bleeding. 4.Replacement of isolated factor deficiency- as documented by lab evidence 5.Thrombotic thrombocytopenia purpura 6. Warfarin induced bleeding. 7. DIC 8. Massive Blood Transfusion when factor V & VII < 2.5% of normal. 9. Anti thrombin deficiencies. 10.Rx of immunodeficiency syndrome 11. OTHERS		
CRYOPPT (Fib.vii, xii,xiii, fibronectin,VW factor.) Dose= 0.25u/kg 1 unit=10-20ml	1. TT>1.5 control. 2.Fibrogen< 100mg/dl & patient bleeding 3.VIII deficiency 4.Absence of response to FFP 5. DIC 6. OTHERS		

INDICATIONS FOR TRANSFUSION IN PAEDITRIC AGE GROUP

Product/ Dose	Indications: Tick The Indications	No. of Units Required	Comment
Whole blood Dose: 80-160 ml/kg	1. Neonatal exchange 2. Blood loss >1.5-2 blood volume 3. Leukemia ,stable infant <7g / dl 4. Leukemia neotaes< 10 g/dl.		
Packed RBC / Leuco- depletd PRBC	1. Hbg<7 g/ dl ,. 2.hbg is < 10g/ dl & hct < 30% in cardiac or cerebral insufficiency, Apache > 20, dialysis, ards, polytruma, crf. 3. Anticipated /acute intraoperative loss > 10%. 4. > 10% burns with hct < 30% 5. Symptomatic anemia,pre-op pulmonary insufficiency 6. Others		
Platelet No warming Dose =1-1.5u/ 10 kg. Neonate=1u/ 2.5/kg. 1 unit SDP = 6-7 units of plt./ Leuco- depletd SDP.	**Premature. (dose= 1 unit/ 2.5 kg)** 1. Pc< 50,000/mm^3 in unstable infant. 2. Pc< 20,000/mm^3 in stable infant. **All other infants & children.(dose= 1 unit/ 10 kg)** 1. Pc< 25,000/mm^3 without bleeding. 2. Pc <50,000/mm^3 and active bleeding. 3. Pc <1, 00,000/mm^3 with active bleeding with dic or other coagulation abnormality. 4. Pc< 1, 00,000/ mm^3 and impending surgery. 5. Bleeding with qualitative platelet defect and bleeding time > 16 minutes regardless of pc. 6.chronic thrombocytopenia with mucosal bleeding 7. Others		
FFP All clotting factors. Dose=10ml/kg 1 unit=200-250ml	1. Hemolytic disease of newborn with massive blood loss. 2. Bleeding or invasive procedure with coagulation factor deficiency or markedly prolonged pt/ pttk. 3. Replacement therapy in anti-thrombin iii, protein c & s deficiency. 4. Dic with bleeding 5. Liver disease with abnormal coagulopathy profile - prophylaxis 7.warfarin effect 7.others		.

4. Blood Transfusion Monitoring & Post Transfusion Feedback Form:

JIMS BLOOD BANK
NCJIMCARE & OPJICACRE
MODEL TOWN, HISAR, HARYANA
Quality Medical Care at Affordable Cost
JIMS

Patient identification/Addressogram (Sticker)
Patients Name _____Age_____Sex_____ UHID_____
IPD_____Consultant Name_____ Ward _____

BLOOD TRANSFUSION MONITORING & POST TRANSFUSION FEEDBACK PERFORMA
(Return the form duly completed to blood bank after completion of transfusion)

Ward:_____ Bed No.:_____ Blood Group:_____

1. **Blood bag correct** ☐**Yes** ☐**No**
2. **Details of Transfusion**

Sl. No	Unit No.	Component	Blood Group	Unit Received At	Transfusion Started At	Transfusion Stopped At	Amount Transfused
					Issued But not transfused & reason		

3. **Observation during transfusion**

Period Of Observation	**Vital Signs**				
	Temp.	**Pulse**	**Respiration**	**B.P.**	**SPO2**
Pre Transfusion 00:00 hrs					
During 1st 15 Minutes					
After next 30 Minutes					
1 hour					
2nd hour					
3ird hour					
After completion of blood transfusion (post Transfusion)					
At the time of reaction					

☐**Reaction** ☐ **No Reaction**

4. **If reactions noted(time & duration first observed)**

Fall in B.P._____ChestPain_____Haemoglobinuria_____Rigors_____
Anxiety_____Hematuria_____Pain in legs_____Chill_____ Fever_____
Restlessness_____Oliguria_____Back Pain_____Headache_____ Cyanosis_____
Anuria_____Pallor_____Sweating_____Urticaria_____Jaundice_____
Bronchospasm_____Nausea_____Erythema_____Shock_____Dyspnea_____Vomiting____
Graft versus host reaction_____Precordial distress_____Pulmonary edema_____
Pruritus_____Generalised Bleeding_____Any Other_____
Measures taken to counteract the sign & symptoms observed_____

5. **In case of reaction, sent this form completed along with the following sample to blood bank.**
   - Used Blood Bag along with the administration set ☐**Yes** ☐**No**
   - 5 ml of Pt's Post-Transfusion Blood (EDTA and Clotted) in the sterile tubes. ☐**Yes** ☐**No**
   - Sample of Post transfusion specimen of urine of patient. ☐**Yes** ☐**No**

Doctor Signature_____Doctor Name_____ Designation_____

JIMS/F&F/COM/11D/00/2017

5.Informed Consent For Blood & Blood

JIMS BLOOD BANK
NCJIMCARE & OPJICACRE
MODEL TOWN, HISAR, HARYANA
Quality Medical Care at Affordable Cost
JIMS

Patient identification/Addressogram (Sticker)
Patients Name _____Age____Sex____ UHID____
IPD_____Consultant Name_____ Ward _____

CONSENT FORM FOR TRANSFUSION OF BLOOD / BLOOD COMPONENTS

Ward:_____ Bed No.:_____ Blood Group:_____

1. Number of units/ components to be transfused and kept in blood bank:_____
   Date:_____ Time : _____
2. Indications for transfusion:_____
3. I / my patient agree /s to the transfusion prescribed in the interest of proper medical care.
   मुझे डाक्टर ने सभी जोखिम के बारे में स्पष्ट रूप से समझाया है, तथा मै पूरी तरह से रक्त/रक्त घटक रक्ताधान के लिए सहमत हूँ । जिंदल सस्थान में भर्ती के दौरान, चिकित्सा के अंतर्गत, रक्त / रक्त घटक रक्ताधान के लिए सहमत हूँ । मुझे रक्ताधान प्रतिक्रिया की सभी जोखिम जैसे बुखार, एलर्जी, प्रतिक्रया रकल्यायी, आघान प्रतिक्रिया के बारे में बता दिया गया है ।
4. Benefits of transfusion in language of patient:_____
   _____
   _____
   _____
5. RISKS OF TRANSFUSION : Blood/ components have been prepared and tested in accordance with rules established by national regulation. However, there is small risk of adverse reaction such as fever with or without chills and rigor, itching, hives which are treatable. Rarely an unpredictable life threatening event can also occur.
   मुझे यह बताया गया कि दाता के रक्त की एच .आई.वी. एंटीबॉडी, हेपेटाइटिस बी. एंटीजन, मलेरिया और सिफलिस की जांच की गई है । मुझे यह भी उल्लेख किया गया है कि रक्ताधान के जांच किये जाने के बावजूद भी रक्त संक्रमित बीमारियों के होने की अति लघु किन्तु वास्तविक सम्भावना रहती है । विशिष्ट रूप से यदि रक्त दाता विंडो समय में हो । मुझे होने वाले बुरे परिणाम तथा जोखिम एवं उपलब्ध विकल्पों के बारे में बताया गया यदि मै यह चिकित्सा नही करवाता ।

In spite of screening for HIV, Hepatitis C, syphilis , malaria and others _____

_____ the risk of

acquiring these diseases are not completely eliminated

6. Alternatives of transfusion therapy:_____

_____

7. Risk of not transfusing:_____

_____

8. **I/ my patient has been informed and explained the above in the language of patient.**
   मैं/मेरे रोगी को ऊपर लिखी हुई जानकारी हमारी भाषा में बताई गई व समझाई गई है।

PATIENT'S ATTENDENT / NEXT TO KIN

The Patient is unable to give consent because _____

_____And **I**, _____

_____ (Name & relationship with the patient) therefore provides consent for the patient. I have been informed and understand the benefit, alternative and risks of the transfusion prescribed. I hereby consent to this procedure.

मरीज का परिवार / पास के रिश्तेदार

मरीज सहमती देने योग्य नहीं हैं क्यूंकि_____ और मैं _____ (नाम और मरीज के साथ सम्बन्ध) मरीज की जगह सहमती देता हूँ । मुझे प्रक्रिया से सम्बन्धित लाभ और जोखिम को बता और समझा दिया गया है । मैं चिकित्सक(डॉ.)_____को यह प्रक्रिया करने के लिए सहमती प्रदान करता हूँ ।

Name of the Patient /Attendant / Next to Kin मरीज का परिवार / पास के रिश्तेदार	Signature / Thumb Impression हस्ताक्षर/अंगूठे का निशान

Name of Witness (1): गवाह का नाम	Signature / Thumb Impression: हस्ताक्षर/अंगूठे का निशान	Date and Time: तारीख & समय
Name of Witness (2): गवाह का नाम	Signature / Thumb Impression: हस्ताक्षर/अंगूठे का निशान	Date and Time: तारीख & समय

Doctor Name डॉक्टर का नाम	Designation पद	Signature हस्ताक्षर	Date and Time तारीख & समय

6. Platelet Apheresis Donor Selection Form:

JIMS BLOOD BANK
NCJIMCARE & OPJICACRE
MODEL TOWN, HISAR, HARYANA
Quality Medical Care at Affordable Cost

Patient identification/Addressogram (Sticker)
Patients Name _____Age_____Sex_____ UHID_____
IPD_____Consultant Name_____ Ward _____

PLATELET APHAERESIS DONOR SELECTION, REGISTRATION & INFORMED CONSENT FORM
License Number: 771B [H]

1. ROUTINE APHAERESIS **2. EMERGENCY**

BB No. _____ Aphaeresis no_____

Name of Donor _____

Father's Name_____

Age/Sex _____ Nationality _____

Address_____

_____

Phone No. (Mob)_____ Phone No. (Res.)_____

Type of Donor: Voluntary/Replacement donor for: -

Name_____ MR No_____

Have you donated earlier- Yes/No

Blood _____Last date of donation_____

Blood Components_____ Last date of donation_____

Donor Information: Weight_____ Pulse_____ B.P_____Temp._____

(√) the appropriate answer

Tattooing within last six months	Yes/No	Jaundice within one year	Yes/No
Rabies vaccine within one year	Yes/No	Cancer	Yes/No
Epilepsy	Yes/No	Sexually transmit disease	Yes/No
Kidney Disease	Yes/No	Typhoid within one year	Yes/No
Tuberculosis	Yes/No	Malaria in last 3 months	Yes/No
Lung Disease	Yes/No	Heart disease	Yes/No
Abnormal bleeding disorder	Yes/No		

Have you taken any of the following during the period mentioned/

Asprin (48 hrs)	Clopidrogel (14 Days)	Ticlopidine (14 Days)
Antibiotic (72 hrs)	Steroids (72 hrs)	Immunization (72 hrs)
Alcohol (72 hrs)	Dog Bite/Rabies Vaccine (last yr.)	

I understand that: -

a. Blood donation is a voluntary act and no inducement of remuneration has been offered.
b. Donation of blood/components is a medical procedure and that by donating voluntarily, I accept the risk associated with this procedure which is safe and most people tolerate giving blood very well. Use of anti coagulant ACD solution during component aphaeresis may at time give rise to minor donor reaction. Reactions are rare but can happen, especially if a person has not eaten or it tired or nervous. Reactions that may occur include bruising around the vein, pain, infection (caused by needle stick); dizziness, fainting, nausea, vomiting (Caused by low blood volume, pain or the sight of blood) muscle spasms (Caused by anxiety and rapid breathing or fainting), or an allergic reaction (Caused by arm scrub or tape)
c. My blood will be tested for Hepatitis B, Hepatitis C, Malaria parasite, HIV/AIDs and venereal diseases in addition to any other screening tests required to ensure blood safety. The medical and personal information and results of testing will be held by the blood bank in strict confidence and will not be disclosed to anyone unless specifically authorized by me in writing or as required by the Govt. authority or legal process.

I acknowledge that I have read and understand the information provided on this form about Aphaeresis donation. I have truthfully, com pletely and accurately answered all the questions on this form.
I hereby voluntarily consent to donate my blood components to be used as directed by the blood bank as per policy of the Govt. for the blood safety.

Date_____ **Signature of Donor**

I (attendant name)_____ related to (Patient Name)_____ have been explained that my patient needs an urgent transfusion of _____(Blood product) which has to be prepared from my known directed donor.

Mr. / Mrs. (Donor Name)_____,
I, understand that since this product is needed for my patient's treatment urgently, it has to be tested for infectious disease like HIV, HCV, HBV, VDRL and MP by rapid method which have slightly tower sensitivity and may miss such infection, if present in the donor even after testing.

Keeping in view of the urgency, I am willing to take risk.

Date: Signature of the Patient's Guardian

7. Key Performance Indicators:

Sr. No.	Standard	indicator	Defination	Frequency of Data collection	Remarks
23	CQI3f	Percentage of Transfusion Reaction Recepoent.the cause include RBC incompatibility.allergic sesnsitivity to leukocyte,platelet,plasma protein,	A systemic response by body to the administration of blood incompatibility	continuous	Any adverse reaction to the transfusion will be consider as transfusion reactionit may range to mild reaction(chills,rigors)to life threatening complication like TRALI.
24	CQI3f	Percentage of wastage of blood & blood components	a)wastage at clinical units b)wastage at storage center	continuous	This also includes blood products found unfit for use
25	CQI3f	Percentage of blood component usage		Continuous	
26	CQI3f	Turnaround time for issue of blood and blood component	The time shall begin from the time that the order is raised to blood/blood component reaching the clinical unit	continuous	
	CQI3f				

Table No. 17.1

8.Surveillance Register in Clinical units:

Transfusion Register For Ward/OT

Sr. No.	UHID	IPD no.	Pt. Name	Informed consent for transfusion taken (Yes/No)	Ordering time by doctor	Required date	Ordering date & time by nurses (filling of blood requestion slip)	Date & Time when blood & blood component reached at ward level	transfusion reaction (Yes/No)	BLOOD TRANSFUSION MONITORING done (Yes/No)	POST TRANSFUSION FEEDBACK PERFORMA return to blood bank (Yes/No)	Blood & blood component returned to blood bank
1												
2												
3												
.												
.												
.												

9.Equipment Calibration:

Depart.	Name of the Equipment	Company Model No.	Serial No.	Asset I.D	Date of Installation	Calibration		Remarks/Sign.
						Due On	Done Date	
JIMS -BB	Blood Bank Refrigerator (Untested Blood)	BIO- Medica HAIER HCX 358B	BE06NNE1T00QEE5G0002	JIMS-1	31-Jan-2016	28-Mar-18	28-Mar-17	Active
JIMS -BB	Blood Bank Refrigerator (Tested Blood)	BIO- Medica HAIER HCX 358B	BE06NGE1T00B2DC20012	JIMS-2	31-Jan-2016	28-Mar-18	28-Mar-17	Active
JIMS -BB	Blood Bank Refrigerator (Tested Blood)	BBR 100(Next Generation) Authentic	16024333	JIMS-3	19-Mar-2016	28-Mar-18	28-Mar-17	Active
JIMS -BB	Refrigerator Packed Cells	Navyug	-	JIMS-4	29-Jan-2016	28-Mar-18	28-Mar-17	Active
JIMS -BB	Apheresis Machine	Comtech Fresenius Kabi	4AZT2209	JIMS-7	19-Jan-2016	28-Mar-18	28-Mar-17	Active
JIMS -BB	Centrifuge Bucket corrector	EBC 60 Mini Micro Master	14090511	JIMS-8	1-Feb-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	D1 Electrical Bio Sealer-1	9027001 MOBILEA II	4X1KF1334	JIMS-9	28-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	D1 Electrical Bio Sealer-2	XS 1010 Termo Penpol	15023394	JIMS-10	28-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Platelet incubator with Agitator	Mini Micro Master PIR 22A	14090902	JIMS-11	1-Feb-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Cryo fuge	Thermo Scientific Cryo Fuge 5500i	41504707	JIMS-12	31-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Laminor Flow	Steri Clean DM 188	06C00466	JIMS-13	28-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Cryo Bath	CRT-200 Mini Micro Master	14091001	JIMS-16	1-Feb-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Plasma Thawing Bath	PTS-37 Mini Micro Master	14091102	JIMS-17	1-Feb-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Compo Freez(-40°C)	DF40U Thermo Penpol	-	JIMS-18	1-Feb-16	28-Mar-18	28-Mar-17	Active

JIMS -BB	Deep Freezer (-80°C) for plasma /FFP	8605 Thermo Fisher	371073456	JIMS-19	31-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Multi Thermometer	-	-	JIMS-20	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Thermo Hygrometer-1	HTC-01 Instrumetic	-	JIMS-21	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Therom Hygrometer-2	HTC-01 Instrumetic	-	JIMS-22	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Incubator	Navyug	-	JIMS-23	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Centrifuge	R 23 Remi	2BGN19594	JIMS-24	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Hot Air Oven	Yorko	-	JIMS-25	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Autoclave	-	-	JIMS-26	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Weighing Machine	-	-	JIMS-27	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	RHV Box	Authentic	15114296	JIMS-28	19-Mar-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Centrifuge	T3BLD LABY	-	JIMS-30	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	VDRL Shaker	-	-	JIMS-31	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	D1 Electric Bio sealer-3	Hemo Lite Plus Fresenius Kabi	4HSQ0751	JIMS-32	19-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Blood Collection Monitor-1	Hemo Lite Plus Fresenius Kabi	4HL01616	JIMS-33	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Blood Collection Monitor-2	Hemo Lite Plus Fresenius Kabi	4HL01610	JIMS-34	29-Jan-16	28-Mar-18	28-Mar-17	Active
JIMS -BB	Blood Collection Monitor-3	4838 Fresenius Kabi	1073246	JIMS-35	29-Jan-16	28-Mar-18	28-Mar-17	Active

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11. [Internet]. 2017 [cited 13 May 2017]. Available from: http://Postgraduate Student, Department of Hospital Administration, M S Ramaiah University of Applied Sciences 2Assistant Professor, Department of Hospital Administration, M S Ramaiah University of Applied Sciences 3Assistant Professor, Faculty of management and commerce, M S Ramaiah University of Applied Sciences E-mail: 1 nixon_harnal@yahoo.com, 2 aileensings4ever@gmail.com, 3 lokesh.ms.mc@msruas.ac.in