

**Summer Training at
Sir Ganga Ram Hospital,
New Delhi**

- **Understanding the Drug Distribution System for Inpatient and Outpatient of Sir Ganga Ram Hospital**
- **Study of the Blood Donation and Blood Transfusion Process in the Blood Bank and Understanding the Reason for the Deferral Criteria of the Donors**

**By
Isharjot Kaur**

**Under the guidance of
Dr. J.P. Singh**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms. Isharjot kaur**, student of MBA Hospital and Health Management from the IIHMR University, Jaipur has undergone summer training at SIR GANGA RAM HOSPITAL, New Delhi from 1st April to 31st May, 2016.

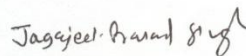
The Candidate has successfully carried out the study designated to her during summer training and her approach to the study has been sincere, scientific & analytical.

The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.



Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
The IIHMR University, Jaipur



Mr. JP Singh
Assistant Professor
The IIHMR University, Jaipur



GRIPMER



The Ganga Ram Institute for Post-graduate Medical Education & Research
GRIPMER Academic Complex, 6th Floor

Sir Ganga Ram Hospital, Rajinder Nagar, New Delhi-110060

Tel: 011-42251667, 42251668, website: www.sgrh.com

e-mail: academics@sgrh.com

This is to certify that

Ref: ACAD/FN. 815

Ms. TSHARJOT KAUR

has successfully completed his/her internship / Fellowship / Observership / Training

in the Department of Hospital Administration

Sir Ganga Ram Hospital, New Delhi

w.e.f. 1st April 2016 to 31st May 2016

During the above period his/her work & conduct has been found satisfactory.

Date 31st May 2016

Place New Delhi

Sunita
Head of the Deptt.

Dr. Sunita Sunda
Medical Superintendent (Offg.)
Sir Ganga Ram Hospital
New Delhi-110060



f
Dr. S. Nundy

Dean, GRIPMER
Prof. S. Nundy
Dean, GRIPMER
(The Ganga Ram Institute for PG
Medical Education & Research)
Sir Ganga Ram Hospital
New Delhi-110060

ACKNOWLEDGEMENT

At the very outset, I would like to express my gratitude to Dr. Sunita Sunda for the encouragement and guidelines for this summer internship and giving me this opportunity to work under her guidance. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of my internship at Sir Ganga Ram hospital, New Delhi.

I would like to show my gratitude appreciation to the Head of all departments I have worked and gave me the opportunity to work on such important topics. Without their encouragement and guidelines this project would not have materialized.

I am even thankful to Dr. J.P. Singh for his inspiring guidance, and advice during my entire project work. I am sincerely grateful to him for sharing his truthful and illuminating views on a number of issues related to the project.

Last but not the least I am also thankful to all those who have directly and indirectly rendered help in completion of my work.

By-
Isharjot Kaur
MBA HM 20
Roll no. 0291

TABLE OF CONTENTS

PAGE NO.

• ACKNOWLEDGEMENT.....	2
• LIST OF ABBREVIATIONS.....	6
• ORGANIZATIONAL PROFILE.....	7
i. Vision.....	8
ii. Mission.....	8
iii. Quality policies.....	8
• PROJECTS	
1. DRUG DISTRIBUTION SYSTEM OF THE HOSPITAL	
i. Role of hospital pharmacy.....	10
ii. Methods of drug distribution used in hospitals.....	11-12
iii. Objectives.....	13
iv. Methodology.....	14
v. Observations.....	15-19
vi. Suggestions.....	20
2. BLOOD DONATION AND TRANSFUSION PROCESS	
i. Functions of blood bank.....	21
ii. Blood donation.....	21
iii. Screening of donated blood.....	21
iv. Apheresis donation.....	22
v. Blood transfusion.....	22
vi. Objectives.....	23
vii. Methodology.....	24
viii. Observations.....	25-27
ix. Selection criteria of donors used in SGRH.....	28
x. Deferral criteria of donors used in SGRH.....	29
3. REFERENCES.....	30

LIST OF ABBREVIATIONS

1. IP	Inpatient
2. OT	Operation theatre
3. ICU	Intensive care unit
4. CCU	Critical care unit
5. HDU	Highly differentiated unit
6. DD	Drug distribution
7. SGRH	Sir Ganga Ram Hospital
8. IPD	Inpatient department
9. OPD	Outpatient department
10. POICU	Post-operative intensive care unit



INTRODUCTION

Sir Ganga Ram Hospital is a 675-Beded multi-specialty state-of-the-art Hospital in India. It provides comprehensive Healthcare India services, and has acquired the status of a premier medical institution. It is the only hospital in the private sector that has maintained nearly 100% bed occupancy due to its reputation of providing the highest level of medical services to patients from Delhi and neighboring states.

The hospital was founded initially in 1921 at Lahore by Sir Ganga Ram (1851-1927), a civil engineer and leading philanthropist of his times. After the partition in 1947, the present hospital was established in New Delhi on a plot of land approximately 11 acres. The foundation was laid in April 1951 by the then Prime Minister of India Shri Jawaharlal Nehru and inaugurated by him on 13 April 1954.

Sir Ganga Ram Hospital in India continues to maintain its charitable character in accordance with the wishes of its founder. Funds generated from the hospital services are partially utilized for providing free health care to the poor and needy patients. All development activities of the hospital are financed from internal resources, with no financial assistance provided by the government or other external agencies.

The Sir Ganga Ram Hospital is committed to make available 20% beds of total strength for admission of indigenous and financially weaker section of the society. On these beds all facilities (boarding, lodging, investigations, medicine and operative procedures) are free.

In addition to that we are running regular OPDs for all disciplines where patients are seen free of charge. 40% of all the investigations is the OPD patients are free of charge. These facilities are provided strictly on a first come, first serve.

MISSION

Sir Ganga Ram Hospital is committed to provide world class healthcare, teaching, training and research by a team of highly qualified doctors, dedicated nurses, para-medical and non-medical staff with the help of state-of-the-art diagnostic, therapeutic services in a comfortable, caring and safe environment at an affordable cost to all sections of society including free treatment to the economically weaker section as per vision of the founder.

QUALITY POLICY OF THE HOSPITAL

Sir Ganga Ram Hospital is a tertiary-care charitable general hospital that has all broad and super-specialties, with firm commitment towards excellence in providing quality, ethical and affordable healthcare to all sections of the society with equal stress on integral components of medical education and research.

These are achieved by:

- Attracting medical professionals of eminence who develop each specialty as a Centre of Excellence in its field.
- Treating patients with respect, compassion and dignity.
- Providing free in- and out- patient medical facilities to the economically weaker sections of the society and organizing community outreach programs and camps.
- Conducting research, promoting academics and providing structured training to medical and paramedical professionals and postgraduate students.
- Complying with all legal requirements.
- Ensuring occupational health and safety standards and protecting our environment.
- Complying with requirements of NABH, NABL (ISO 15189:2007), ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007.
- Working towards continuous quality improvement, patient safety and patient satisfaction.

AWARDS –

- 2013 – NABH Accreditation for blood bank transfusion services.
- 2012 – Adjusted among top 10 hospitals of India: ‘The week’
- 2011 – C II-Exim bank award for Business Excellence; Adjusted among the best hospitals in the NCT of Delhi by The week
- 2010 – Adjusted among the top 10 hospitals of the country by the week magazine; Amity leadership award for business excellence for leveraging IT in healthcare sector by Amity University, Noida for its IT services
- 2009 – Best information and communication Technology (ICT) hospital award
- 2008 – Overall best hospital – Non corporate by Express Healthcare Excellence Awards
- 2006 – Asia hospital management award by Singapore Government

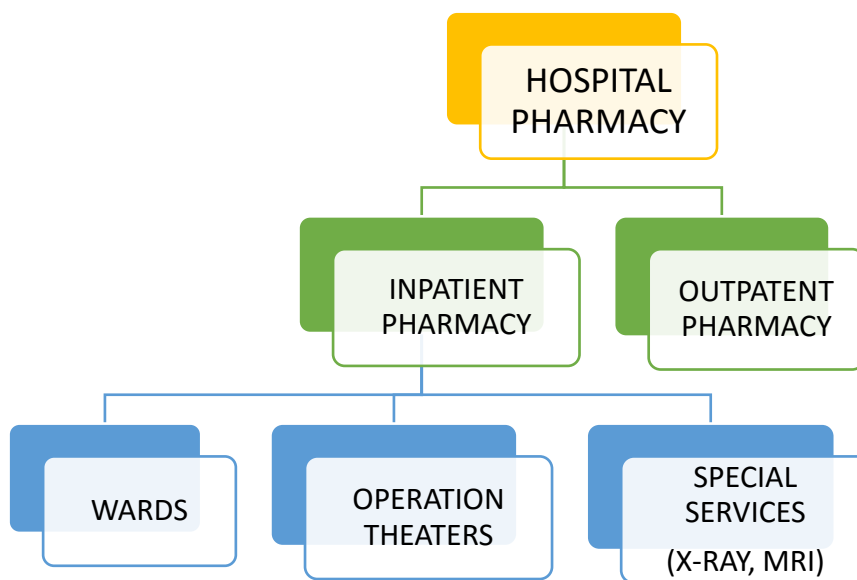
THEORY

❖ HOSPITAL PHARMACY AND ITS FUNCTIONS

The hospital pharmacy is the department in which the drugs are stored, compounded, checked for quality, dispensed, manufactured, packed and distributed to all the patients by the pharmacists. This department provide services according to the needs of physicians, nurses, technicians and other staff members of the hospitals. It may also provide drug information and drug monitoring services.

FUNCTIONS –

1. Dispensing of drugs, chemicals and pharmaceutical preparations.
2. Providing specifications for the purchase of drugs.
3. The filling and labelling of all the drug containers issued to other departments from which medication is to be administered.
4. Dispensing of all narcotic drugs and the maintenance of perpetual inventory of them.
5. Establishment and maintenance of satisfactory system of records for charging patients for drugs and pharmaceutical supplies and maintaining adequate control over dispensing of all drugs and pharmaceutical supplies.
6. Planning, organizing and directing pharmacy policies and procedures in accordance with established policies of the hospital.
7. Maintenance of specifications of quality and source for purchase of all drugs, chemicals, antibiotics, biologicals and pharmaceutical preparations used in hospital.
8. To develop the scientific and professional aspects of the practice of hospital pharmacy including his consulting role, teaching role and its participation in the field of research.



❖ DRUG DISTRIBUTION SYSTEM IN THE HOSPITAL

It is a system to supply medication in response to the order required by the patient or as prescribed by the physician. Drug distribution works on 5R's principle-

1. RIGHT drug
2. RIGHT dosage form
3. RIGHT strength
4. RIGHT patient
5. RIGHT time/frequency

There are two types of drug distribution system in the hospitals.

- a. The drugs that are distributed to patients in wards (indoor patients), operation theatre and other specified departments.
- b. The drugs are distributed to outdoor patients which do not occupy bed and are not admitted.

DRUG DISTRIBUTION SYSTEM FOR INPATIENTS –

There are different ways of drug distribution methods for the patients that are admitted to the hospital.

1. **Individual prescription order system** – This system is generally used in small sized hospitals because of less manpower services. This system closely resembles dispensing to outpatients. In this system doctor writes the prescription for the individual patient and who are said to obtain the prescribed drug from the medical store or hospital dispensary by paying own charges.

ADVANTAGES – i) Less requirement of hospital staff.

ii) All prescribed orders are directly reviewed by the pharmacist at the medical store.

iii) It provides the interaction between the doctors, pharmacist and nurses.

DISADVANTAGES – i) This system is not only costly because one has to pay the retail price but there is lot of time lost.

2. **Bulk ward stock system** – In this system, the pharmacy functions as a ware house and dispenses bulk containers as per requirement with reviewing individual patient prescription for appropriateness. The hospital may use this system for high volume, low cost medicines that do not require a high level of control for preventing medication errors. The main advantage is shorter turnaround time between prescribing and administering the medication.

3. **The complete floor stock system** – This system is more often used in private hospitals. According to this system the drugs are stored in the pharmacy stores, supplied to the wards on order and kept under the supervision of the registered nurse at the nursing station. Drugs on nursing station are divided into –
- a.) **Charge floor stock drugs** – These are costly drugs and are obtained from the pharmacy store upon the receipt of prescription or medication order for individual patient. The cost of these drugs is charged to the patients account after they have been administered to them. Once the floor stock list is prepared, it is the responsibility of the hospital pharmacist to make it available for the patient.
 - b.) **Non-charge floor stock drugs** – These are generally cheaper and commonly used drugs. These drugs are not charged directly from the patients account but are included into the per day cost of the hospital ward/room.
4. **Unit dose dispensing system** – It is a preferred system from a patient's perspective because it has a lower possibility for error. Medications are dispensed in unit dose packages (each dose is separately packaged) in separate bins or drawers for each patient. Commonly a 24-hour supply is provided. This system is efficient but requires a large initial capital outlay for purchase of repacking machines and medication cabinets with individual patient drawers. The cost per delivered dose is higher than with bulk packaging.
5. **Automated medication dispensing** – Technology based interventions have been investigated as a mechanism to improve medication distribution and reduce medication errors that can cause adverse drug reactions. The use of automated dispensing machines has become common place in many hospitals, but cost remains a big deterrent for implementation in resource limited settings.

OBJECTIVES

1. To observe the supply chain management of the central pharmacy.
2. To understand the drug distribution system of the hospital pharmacy for both inpatients and outpatient.
3. To observe the inventory management in the central pharmacy store.

METHODOLOGY

- 1. STUDY TYPE** – Descriptive and observational
- 2. STUDY DURATION** – One month (April 2016)
- 3. STUDY AREA** –
 - a. Main pharmacy store
 - b. Inpatient pharmacy
 - c. Outpatient pharmacy
 - d. Staff dispensary
- 4. STUDY PARTICIPANTS** – Staff of the respective departments, nurses at nursing station and head of the pharmacy department.
- 5. STUDY TOOL** – Interview with staff members and keen observation

OBSERVATION

The drug distribution process of Sir Ganga Ram hospital –



The indent is prepared by the main store of pharmacy of all those items or drugs required by the other departments of pharmacy in the hospital twice a week which is further send to the suppliers by the purchase department. When the supplier gets the required drugs or items, they are received by the receiving department of the hospital. One of the member from the main store of pharmacy goes to the receiving department as the order is received and before signing the receiving slip, the quantity and the expiry date of the drugs is checked. After all the paper formalities the drugs are stored in the main store.

➤ **MAIN STORE**

STORAGE OF DRUGS – As the drugs are received in the main store, the drugs are stored according to A, B, C class which describes –

A-Class items are expensive drugs that cost more than Rs.150 per strip.

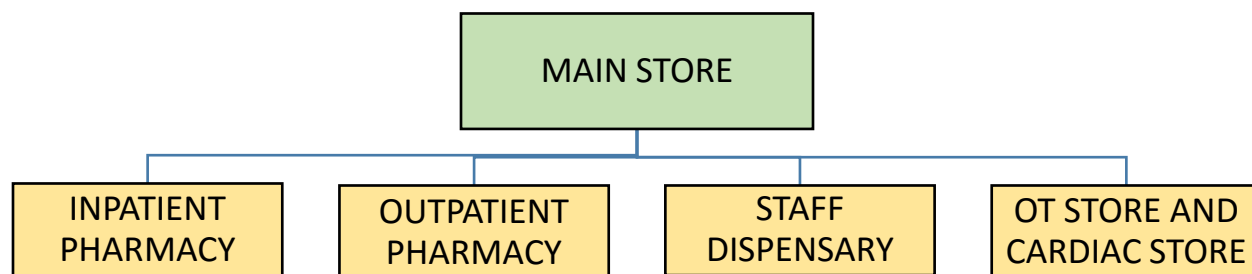
B-Class items are those drugs which are less expensive that cost less than Rs.!50 per strip.

C-Class items includes all the surgical items and syrups.

The drugs in all the classes are further managed and stored alphabetically according to the brand name of the drugs.

All the vaccines are stored in the refrigerators at 35°F to 40°F.

DISTRIBUTION OF DRUGS – The drugs from the main store of the pharmacy are further distributed to 3 different departments of the hospital pharmacy.



According to the requirements of different departments, the main store supplies the drugs to all these departments. Each of these departments prepare an indent for the items that are required including the quantity of each item, which is then send to the main store and according to this indent the items are issued by the main store. This indent form is known as **Stock transfer report**.

The indent should include the following details-

1. Indent ward
2. Indent number
3. Indent date
4. Indenter
5. Issue department
6. Transfer number
7. Transfer date
8. Issuing person

S.NO.	ITEM DESCRIPTION	BATCH No./ EXPIRY DATE	QUANTITY (REQUIRED)	QUANTITY (TRANSFER)	MRP	VAT Amt.	TOTAL MRP

1. INPATIENT PHARMACY – Inpatient pharmacy stores and distributes the drugs to those patients that are admitted in the hospital.

STORAGE OF DRUGS – The drugs in the inpatient pharmacy are stored in the racks alphabetically, according to the brand name of the drugs which makes it easier for the pharmacist to locate the required drug and saves the time.

- The expensive drugs that are above Rs.200 per strip are stored separately.
- Narcotic drugs are stored in lockers.
- Cytotoxic drugs are also stored separately in lockers.

DISTRIBUTION OF DRUGS – The drugs from inpatient pharmacy are distributed to whole hospital wherever the patients are admitted which includes –

1. ICU's
2. HDU's
3. WARDS (General ward and private ward)
4. POICU
5. EMERGENCY

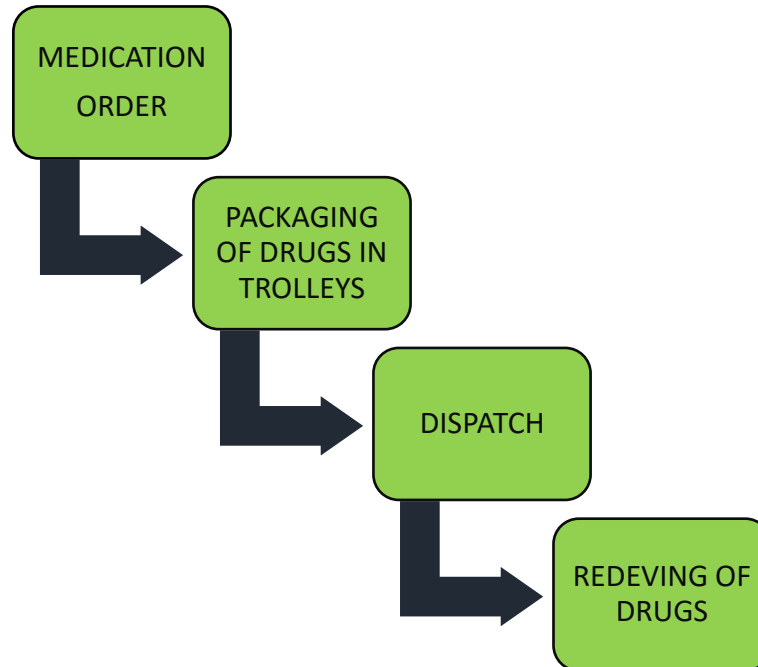
The drugs are send to all these departments from inpatient pharmacy. The trolleys are prepared for each ward or floor which includes the required items for all the patients in that ward or floor. The drugs for patients are identified by their room numbers or bed numbers which are marked on each drawer or bin made in the trolleys.



These trolleys are dispensed three times a day.

1. At 12 noon – All the required drugs for 24 hours for all the patients.
2. At 3pm – Drugs for any new patient admitted or any new drug prescribed by the doctor after his first visit.
3. At 7pm – Drugs for any new patient admitted or any drug changed or newly prescribed by the doctor after his second visit.

The trolley preparation takes about half an hour or more, so any drug required in emergency by any ward or any patient can be dispensed at the emergency counter made separately in inpatient pharmacy. The nurses of the ward prepare a pink slip for the drug that are required in emergency by the patients, this slip includes name and quantity of the drugs required and with the use of this slip the drugs can be given to the specific departments.



2. OUTPATIENT PHARMACY – Outpatient pharmacy stores and distributes the drug to the patients that do not stay in the hospital.

STORAGE OF DRUGS – The drugs in the outpatient pharmacy are stored in the racks. They are stored alphabetically according to the generic name of the drugs.

DISTRIBUTION OF DRUGS – The drugs from the outpatient pharmacy are only distributed to the patients that are not admitted in the hospital. These patients come from general OPD and private OPD to buy the drugs that are prescribed by the doctors.

3. STAFF DISPENSARY – Staff dispensary stores and distributes drugs to the staff members and the patients of the economically weaker section.

Both these categories do not have to pay for the drugs, they get the free treatment and medicines from the hospital. This is also a type of outpatient pharmacy.

STORAGE OF DRUGS – The drugs are stored in racks. They are arranged alphabetically according to the generic name of the drugs.

DISTRIBUTION OF DRUGS – It distributes drugs to the staff members of the hospital or their family members that take any kind of treatment from the hospital and according to the hospital policies the expenses for treatment and medicines of the staff members of the hospital and their family members are paid by the hospital. They get free treatment and required medicines from the hospital.

It also distributes the drugs to the patients that belong to economically weaker section. These patients do not have to pay for the treatment or the medicines they get from the hospital. All the services related to their diagnosis and treatment are provided free of cost by the hospital.

SUGGESTIONS –

1. **Automated Machine dispensing** – Technology based interventions have investigated as a mechanism to improve medication distribution and reduce medication errors that lead to adverse drug reaction. The use of automated dispensing machines has become common in many hospitals but cost becomes a big deterrent for implementation in the hospitals. The mechanism is founded on a computer interface between the hospital pharmacy computer terminals and the dispensing machines at the clinical ward. This system electronically controls and tracks the dispensing of unit doses for each patient based on individual medication profile. The dispensing machines allow medicines to be stored on the ward and to be more conveniently assessed by the clinical staff.
2. There should be separate counters for the dispensing of the medicines of the patients that are getting discharged from the hospital.

THEORY

❖ BLOOD DONATION

Blood is essential component for transporting oxygen, nutrients and other substances to tissues throughout the body. Donated blood can save the life of the individuals who have lost blood due to any accident or surgery, as well as people who have become severely anemic or have very low platelet counts because of certain medical conditions or treatments.

Donated blood should be safe for the transfusion, is should not cause any kind of adverse reaction. There are screening measures that help to maximize the safety blood donation and transfusion for both donor and recipient.

❖ SCREENING OF THE DONATED BLOOD

A number of laboratory tests must be completed before blood or blood products can be transfused:

- Determination of the blood type with a crossmatch.
- Screening for antibodies that may produce adverse effects if transfused.
- Screening for possible infectious agents that could be transmitted with transfusion.

The following tests are mandatory on all units of blood collected for transfusion:

- ABO group and Rh type
- Screening for blood-group antibodies
- Serologic tests for human retroviruses including:
 - HIV-1
 - HIV-2
 - HTLV I
 - HTLV II
- Serologic tests for viral hepatitis including:
 - Hepatitis B
 - Hepatitis C
- Serologic tests for additional infectious agents including:
 - Syphilis (*Treponema pallidum*)
 - West Nile virus
 - Chagas disease (*Trypanosoma cruzi*)

❖ APHERESIS DONATION

Apheresis donation is a process to collect the specific components of the blood. It is used to selectively collect red blood cells, platelets, plasma and granulocytes. This procedure is performed in the blood center and involves inserting a needle in a vein in each arm. Blood is withdrawn through one needle, passed through an apparatus that separates plasma from specific types of blood cells (platelets or red blood cells) and retains the desired component and the remainder of the blood is re-transfused into the donor through the other needle. Time required for this procedure is 1-2 hours.

- Red blood cells – Donors can give red blood cells by apheresis once every 16 weeks. This is less frequent than whole blood donation because a greater amount of red blood cells are collected during the apheresis procedure.
- Platelets – Donors can give platelets up to 24 times per year. Approximately 1 percent of people have a mild reaction to one of the substances (citrate) that is mixed with the blood during platelet donation; the reaction can include feelings of numbness and tingling, muscle cramping, and nausea. The reaction can be treated or prevented by taking a calcium supplement before or during the donation.
- Granulocytes – Donors of granulocytes may be given granulocyte colony-stimulating factor (G-CSF) and/or a glucocorticoid medication called dexamethasone on the day before donation to increase the number of granulocytes in their blood. Glucocorticoids are usually not given to individuals who have diabetes, gastrointestinal ulcers, or glaucoma. The side effects of G-CSF and dexamethasone may include headache, joint pain, fatigue, insomnia, allergic reactions, and fever.

❖ BLOOD TRANSFUSION

Blood transfusion is defined as a process of receiving blood products into one's circulation intravenously. It is a lifesaving procedure and it requires adequate amount of safe blood.

Blood transfusion involves the use of whole blood, Red blood cells, white blood cells, Plasma, clotting factors and platelets.

Transfusion usually involve the use of two sources of blood.

1. Autologous transfusion (one's own)
2. Allogenic transfusion (someone else)

OBJECTIVE

1. To study the blood donation and blood transfusion process in the hospital.
2. To study the rejection criteria of the donors in the blood bank.

METHODOLOGY

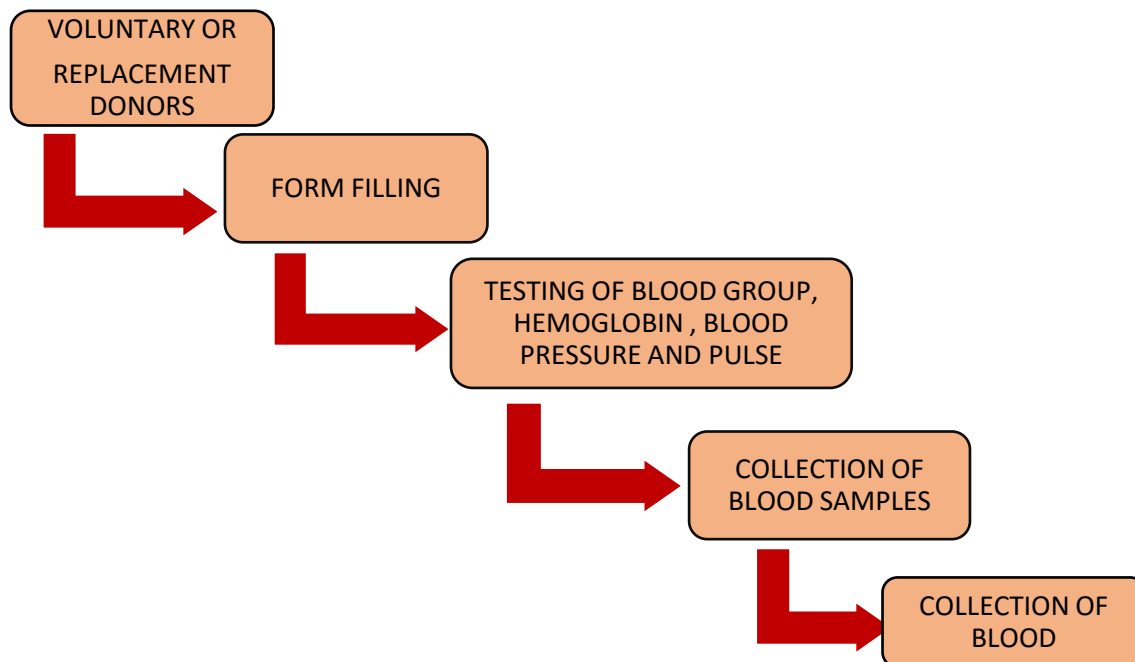
1. **STUDY TYPE** – Descriptive and observational
2. **STUDY DURATION** – One month (May 2016)
3. **STUDY AREA** – Blood bank
4. **STUDY PARTICIPANTS** – Staff of the bank, Nurses performing all the procedures and medical counselor
5. **STUDY TOOL** – Interview with staff members and keen observation

➤ BLOOD BANK AT SIR GANGA RAM HOSPITAL

BLOOD DONATION – Donors at Sir ganga ram hospital are either voluntary donors or replacement donors. Blood donation process takes place from Monday to Saturday.

Before donating the blood, donors have to undergo the following process-

1. Donors have to fill the form called donor selection and registration form. This form includes the demographic details of the donor and a questionnaire relate to the medical history of the donor.
2. After filling the form, the donor has to go medical counselling in which he/she can clear all the doubts related to blood donation.
3. Then donor goes for testing of blood group and hemoglobin level.
4. Moving towards blood donation room, the nurses test the blood pressure, pulse and temperature of the donor. If everything is normal the donor goes for donation.
5. Before collection of the blood for donation, samples of blood are collected in three different test tubes for further testing.
6. Donors blood is collected in the mother bag.



- ❖ **SCREENING TEST BEFORE THE COLLECTION OF BLOOD** – Before the collection of blood, the donors blood group and hemoglobin levels are checked and they are recorded on the form which also includes the demographic details of the donor.

After this the blood pressure, pulse and body temperature of the donor is also recorded.

- ❖ **COLLECTION OF BLOOD** – Donors blood is collected in the mother bag which is of 450 ml quantity. This bag also contains anti-coagulant and has small bags of 100 ml quantity attached to it for the collection of the components of the blood.

After the donation of the blood, the donor is provided with refreshment.

During blood donation process, the samples of the blood are also collected which are further send for the testing of **HIV, HbSAg, VDRL, HCV and malaria** in NAC laboratory and micro labs.

The reports are delivered in the blood bank within 24 hours.

- ❖ **SEPARATION OF COMPONENTS OF THE BLOOD** – The collected blood is then send for the separation of its components.

- 1) The whole blood is hanged for half n hour so that it can come to the room temperature to prevent hemolysis.
- 2) The whole blood is then kept in the cryofuge for spinning. This process is called centrifugation. The spinning is done at a speed of 3850 rpm for 8 min. After centrifugation process the RBC's and plasma gets separated.
- 3) They are collected separately in different bags.
- 4) The RBC are further hanged for 2 hours.
- 5) After hanging the WBC gets separated by leukocyte separator.
- 6) The RBC is then again spinned at 1150 rpm for 6 minutes for the separation of platelets and pure RBC.
- 7) All the three components ie., RBC, plasma and platelets are collected separately in three different bags and stored.

- ❖ **STORAGE OF BLOOD COMPONENTS** – All the three components of blood are stored separately at different temperatures.

<u>BLOOD COMPONENTS</u>	<u>STORAGE</u>	<u>SHELF LIFE</u>
1. RED BLOOD CELLS	4 ⁰ C	35 – 42 DAYS
2. PLATELETS	20 - 22 ⁰ C	5 DAYS
3. PLASMA (FRESH FROZEN PLASMA)	-40 ⁰ C	1 YEAR

- ❖ **BLOOD TRANSFUSION** - The patients that require blood, the attendant and the consultant has to fill the form for the requirement of the blood and sends it to the blood bank.

This form includes the details of the patient and the units of the blood required for the patient. After the submission of the form the patient's blood is cross matched with the donors blood. After all the testing of the blood, it is transfused to the patient.

- **SELECTION CRITERIA OF DONORS**

a) **PHYSICAL EXAMINATION**

1. General appearance - Donor should be in good health, mentally alert and physically fit.
2. Age – Any healthy adult donor between 18 & 65 years of age can donate blood.
3. Weight – 45 – 50 kg (can safely donate 350 ml of blood)
55 kg and above (can safely donate 450 ml of blood)
4. Frequency of donation – Male and female both after 3 months
5. Temperature – It must not exceed 37.5°C or 99.5°F
(Donor with temperature more than upper limit shall be brought to the notice of medical officer, who shall decide upon final fitness of the donor).
6. Pulse – 50 to 120/min and regular
7. Blood pressure – Blood pressure should not be higher than 180mm of Hg systolic and 100 mm of Hg diastolic.
Lower limit – Systolic pressure should not be below 100 mm of Hg and diastolic should not be below 60 mm of Hg.
8. Hemoglobin – Hemoglobin should be between 12.5gm% & 18gm% for males and 12.5gm% & 16gm% for females.
9. Food – If donor has not eaten anything for last 3-4 hours, he/she should be asked to eat something before donating blood.
10. Skin – The skin at vein puncture site, should be free from any lesion or scar of needle puncture, and should not have any contagious skin diseases like – scabies, eczema etc.
11. Sporting activities – If any donor has to go for any sporting activity, in short period, he should be advised against donating blood.

b) **MEDICAL HISTORY**

Medical history should be accepted by a qualified an authorized nursing or technical person and if he/she finds any abnormalities, should refer the donor to the doctor.

Blood should not be taken in following conditions-

- | | |
|---------------------------------|-------------------------------|
| 1. Cancer (Malignancy) | 11. Active tuberculosis |
| 2. Heart diseases | 12. Polycythemia Vera |
| 3. Abnormal bleeding tendencies | 13. HIV infection/AIDS |
| 4. Chronic nephritis | 14. Unexplained weight loss |
| 5. Epilepsy | 15. Diabetes (on insulin) |
| 6. Pregnancy | 16. Hepatitis B & C infection |
| 7. Acute asthma | 17. Severe liver diseases |
| 8. Active leprosy | |
| 9. Severe endocrine disorders | |
| 10. Schizophrenia | |

• **CRITERIA FOR DEFERMENT OF DONORS**

The donors can be deferred from donating blood either temporarily or permanently on the following conditions –

S.NO.	CONDITIONS	PERIOD OF DEFERMENT
1.	Abortions	6 months
2.	H/o Blood transfusion	12 months
3.	Alcoholism	Till intoxicated, donor should not be “under the influence”
4.	Minor surgery	6 months
5.	Major surgery	12 months
6.	Typhoid	12 months after recovery
7.	H/o malaria, duly treated	3 months (endemic), 3 years (non endemic)
8.	Tattoo/Ear piercing	6 months
9.	Acute nephritis	6 months after recovery
10.	Breast feeding	12 months after delivery
11.	Dental extraction	3 days if under Local anesthesia & 1 month after GA
12.	Immunization	(Vaccination) killed/Toxoid No deferral otherwise
13.	Rabies vaccination	1 year after bite of rabid animal
14.	H/o Hepatitis in family or close contact	12 months
15.	Immunoglobulin	12 months
16.	Jaundice	
	Hepatitis A & E	1 week after recovery
	Hepatitis B & C	Deferred permanently
	If type not known	After 1 year
17.	Hypertension under control	Accept if mild hypertension and should be taking only one medicine (diet / mild medication-diuretics, beta blockers)
18.	Antibiotics	48 hours after completion of the course
19.	Aspirin	After 72 hours
20.	Cold / Cough	Accept if no fever, and expectoration (if present) is not purulent
21.	Open wound (Skin breached)	Accept when healed
22.	Acute infection	Accept when cured
23.	Dengue	Without blood transfusion – 3 months With blood transfusion – 1 year
24.	Chikungunya	Permanently Deferred
25.	Tuberculosis	5 years after completion of the complete treatment
26.	Mensual bleeding	+2 days of active bleeding
27.	Sex outside marriage	Permanently deferred

REFERENCES –

1. Micheal D. Murray and Kaveh G. Shojania, Agency of Healthcare research and quality: Unit dose drug distribution systems
2. ASHP: Technical Assistance Bulletin on Hospital drug distribution and control
3. World Health Organization: Hospital pharmacy management
4. Janet Hardin: Drug distribution system
5. Timothy Amos Ekwere et al: Pattern of blood donor deferral in a tertiary hospital, South-south, Nigeria: A three-year study review, *EDORIUM Journals*, 2014
6. Steven Kleinnman et al: Patient information – Blood donation and transfusion (Beyond and basis)
7. Hinal Gajjar et al: Whole blood donor analysis at general hospital blood bank- A retrospective study
8. Naveen Agnihotri: Whole blood donor deferral analysis at a centre in Western India. *Asian J Transfus Sci.* 2010; 4(2) : 116 - 122