

**Summer Training at
Aditya Birla Memorial Hospital,
Pune
(April - June, 2013)**

- 1. Quality Assessment in OT, ICU, Cath Lab**
- 2. A Study on Safety Culture for Vulnerable Patients in the Hospital**

**By
Priyanka Shrivastav**

**Under the guidance of
Dr. Santosh Kumar**

**Post Graduate Diploma in Hospital and Health Management
2012-2014**



**Institute of Health Management Research,
Jaipur
2013**

**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

1, Prabhu Dayal Marg

Sanganer Airport, JAIPUR - 302 011, INDIA

Tel. : 3924700, 2791431-32

Fax : 91-141-3924738

E-mail : iihmr@iihmr.org

URL : <http://www.iihmr.org>

Gram : HEALTHINST

CERTIFICATE

This is to certify that Dr Priyanka Shrivastav student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management and Research, Jaipur Batch 17th has undergone summer internship in Aditya Birla Memorial Hospital, Pune from April 8th to June 8th 2013.

The candidate has successfully carried out the projects assigned to her on:

“Quality assessment in OT, ICU, Cath Lab and

“A study on safety culture for vulnerable patients in the hospital”

During summer training her approach has been sincere, scientific and analytical.

I wish her success in all her future endeavors.


Dr Santosh Kumar
Faculty and Mentor
IIHMR Jaipur


Dr. Ashok Kaushik
Dean, Academic and Student affairs
IIHMR Jaipur

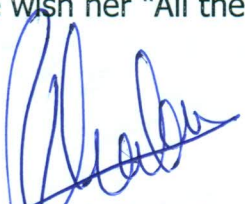
8th July 2013

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Priyanka Shrivastav**, student of **PGDHM** from **Institute of Health Management Research, Jaipur** has successfully completed her Internship project on **"Quality Assessment in O.T., I.C.U., Cath Lab"** and **"A study on Safety Culture for Vulnerable Patients in the Hospital"** at Aditya Birla Memorial Hospital, Pune from **8th April 2013 to 8th June 2013**.

During this tenure, her behaviour and conduct was good.

We wish her "All the Best" in her future endeavor.


Dr. Rajesh Badani
Consultant - Cardiology


B S Angadi
GM – HR & Admin



Acknowledgement

The successful completion of any given task requires a lot of hard work and sincere efforts. Hard work and efforts are only the building blocks of an assignment, but the plinth has to be inspiration, suggestion, support and guidance. Experience in a hospital environment was an important part of our course and this I have achieved from one of the esteemed health care organization, **ADITYA BIRLA MEMORIAL HOSPITAL, PUNE**. These two months of training has added valuable and knowledgeable dimension in the development of my career and achievement of objectives, for which I am highly grateful to the organization.

I am grateful to (**Mrs Rekha Dubey, COO ABMH**) who has given me opportunity to do my Summer Internship in this organization and for her kind support and motivation throughout. I am highly indebted to (**Dr Rajesh Badani, Cardiologist ABMH**) for his guidance and constant supervision as well as for providing necessary information regarding the project. I would like to thank **Dr Garcha (H.O.D Operation theatre)** for his help in completing my project. I would like to express my deepest appreciation to members of (**ABMH**) for their kind co-operation.

My heartfelt gratitude to my mentor **Dr Santosh kumar (Assistant Professor IIHMR)** , for inspiring towards a meaningful learning and directing thoughts, goals and objectives towards the attitude, that drives to achieve, exploring profundity about hospital functioning and other aspects that one as a novice needs to be acquainted with.

I am glad to acknowledge **Dr. S. D. Gupta, Director, IIHMR, Dr. (Brig) S. K. Puri, Dr A.K Kaushik Academic and Students' Affairs , IIHMR**, for incorporating right attitude towards learning and for helping and supporting whenever required.

I genuinely thank my parents, family and friends for their blessings and support. Last but not the least I am thankful to God, for getting an opportunity to learn from this organization.

Contents

Acknowledgement	2
Abbreviations:	7
SECTION A:PROFILE OF ADITYA BIRLA MEMORIAL HOSPITAL ,PUNE	8
1. Introduction:.....	9
Vision	9
Mission.....	9
2.Quality Policy:	9
3.Super specialty services.....	10
4.Building:	10
5.Administration:.....	11
Non Clinical	11
Clinical	12
6.OPD <Out-Patient Department>	13
7.Diagnostic Departments.....	34
8.Endoscopy Department.....	35
9.Dialysis Department	37
10.Blood Bank Department.....	38
11.Pathology Laboratory	44
Sample Collection Room	44
Haematology:	44
Immunopathology.....	45
Histopathology	45
Biochemistry:.....	46
12.Radiology	47
X-ray Department:.....	47
CT Scan.....	48
MRI Scan:.....	49
Mammography	50
Color Doppler and Ultrasonography :	52
13.In-Patient Department.....	52
14. Operation Theatre	55
15.Intensive Care Unit	57

16.Accident and Emergency Department:	58
17.Medical Record Department:	58
18.Housekeeping	59
19.Dietary Department:	60
20.Biomedical Engineering Department.....	60
Gas Manifold Room:	61
21.Material Management	61
23.Central Sterile Supply Department (CSSD).....	63
24.Bio Medical Waste Management	64
25.Laundry	65
Floor Wise Planning Of the Hospital	67
Section B.....	81
Project On Quality Assessment In Operation Theatre, I.C.U and Catheterisation Lab.	81
1.INTRODUCTION	84
2. AIM:	85
3. OBJECTIVE OF STUDY:	85
4. RESEARCH METHODOLOGY:	85
1. Study design:	85
2. Duration	85
3. Study area	85
4. Sampling technique	85
5. Sample size	85
6. Tool: Checklist	85
7. Technique :	85
8	85
5.OPERATION THEATRE	87
➤ Policy of entering operation theatre	87
➤ Policy of receiving patient in preoperative room:.....	87
➤ Policy on disposal of sharp wastes	87
➤ Policy on hand washing	87
➤ Policy for patient care in theatre	87
➤ Policy for patient care in recovery :.....	87

➤ Policy for sterilisation of instruments:	87
➤ Policies for management of equipments:	88
➤ Policy on waste management.	88
➤ Policy on cleaning of operation theatre.....	88
GAPS:	94
RECOMMENDATIONS:	94
6.INTENSIVE CARE UNIT.....	95
Standard operating policies in I.C.U	95
➤ Policy on documents:.....	95
➤ Policy on infection control:	95
➤ Policy on ward rounds:	95
➤ Policy on ward calls:	95
➤ Policy on daily management in I.C.U:	95
➤ Policy on intrahospital transportation of patients:	95
➤ Policies on management of infection:	95
Gaps:	100
RECOMMENDATIONS:	100
7. CATHETERIZATION LAB	101
Major policies followed in CATH lab	101
RESULTS:	107
RECOMMENDATIONS:	107
8. LIMITATIONS OF STUDY	107
9. CONCLUSION	108
SECTION C :A STUDY ON SAFETY CULTURE IN THE HOSPITAL	109
1. INTRODUCTION	110
2. NEED FOR STUDY	111
3.INTERNATIONAL PATIENT SAFETY GOALS	112
3. VULNERABLE PATIENTS.....	113
WHO ARE VULNERABLE PATIENTS	113
SAFETY PRECAUTIONS OF VULNERABLE PATIENTS	113
4. OBJECTIVE	114
5. RESEARCH METHODOLOGY	114
6. RECOMMENDATIONS.....	117

7. LIMITATIONS OF STUDY.....	117
8. CONCLUSION	118

Abbreviations:

➤ ABMH	Aditya Birla Memorial Hospital.
➤ CSSD	Central sterile supply department
➤ ENT	Ear Nose Throat.
➤ HR	Human Resources
➤ HIS	Hospital information system.
➤ IPD	In patient department.
➤ I.T	Information technology.
➤ ICU	Intensive care unit.
➤ JCI.	Joint Commission International
➤ MRD	Medical record department.
➤ NICU	Neonatal intensive care unit
➤ MICU	Medical intensive care unit
➤ MRI	Magnetic resonance imaging.
➤ MRN	Medical registration number
➤ NABH.	National accreditation board for hospitals.
➤ NABL.	National accreditation board for laboratories
➤ OPD	Out Patient department.
➤ OT	Operation theatre.
➤ PICU	Pediatric intensive care unit.
➤ SICU	Surgical intensive care unit
➤ TAT	Turn Around time.
➤ USG	Ultra sonography.

SECTION A:PROFILE OF ADITYA BIRLA MEMORIAL HOSPITAL ,PUNE

1. Introduction:

Aditya Birla Memorial Hospital (ABMH) is a multi-specialty medical centre located at Pimpri-Chinchwad. The quaternary healthcare centre provides high quality and cost-effective medical services. A tribute to the visionary founder of the Aditya Birla Group, the hospital fulfils the late Mr. Aditya Vikram Birla's dream of building a world-class healthcare facility in India. It is the first and only hospital in pune to have coveted JCI (Joint Commission International) accreditation in addition to NABH, ISSO and NABL accreditation. It is a 500 bedded hospital with which was incorporated in the year 2006, with around 350 functional beds. Wards are broadly divided into Gold, Gold plus, Platinum, Emerald, Ruby Deluxe, Sapphire and Diamond suits with different bed charges, consultant, nursing charges etc. Few departments are outsourced like laundry, housekeeping, security, engineering, canteen etc in which only man power is outsourced but the infrastructure is provided by the hospital.

It is a private limited organization and Mrs. Rajashree Birla, chairperson of the Aditya Birla Foundation, is personally steering this project. Oncology centre is one of its major milestone of expansion.

Vision

Excellence first and always

Mission

Compassionate Quality Healthcare

2. Quality Policy:

Aditya Birla Memorial Hospital is a quaternary health care centre with 18 specialties. Its quality policy is based on standards of JCI (Joint Commission International), NABH (National Accreditation Board for Hospitals), ISSO, NABL (National Accreditation Board for Laboratories).

The hospital is committed:

- To maintain the highest standard of care and respond to the needs of the community in a compassionate manner.
- To provide state-of-the-art, high quality and cost-effective healthcare services and latest information to improve and maintain health for the well-being of the community.
- To unrelentingly pursue the creation of value for our customers, shareholders, employees and society at large
- To foster a therapeutic relationship based on compassion that is felt, quality that is measurable and cost that is affordable.
- To become partners in health promotion with every section of society.

3. Super specialty services

- Cardiology and Cardiovascular thoracic surgery
- Neurology and Neurosurgery
- Orthopaedics & Joint Replacement
- Gastroenterology
- Minimal Invasive Surgery
- General surgery
- Paediatrics & Neonatology
- Obstetrics and Gynecology Infertility Clinic
- Intensive Care
- Dietetics
- Nephrology
- Urology
- Ophthalmology
- Telemedicine
- ENT
- Blood Bank
- Pain Management
- Oncology
- Haematology
- Internal medicine
- Endocrinology
- Accident and Emergency
- Physiotherapy
- Radiology
- Bone Marrow Transplant Unit
- Transfusion Medicine
- Plastic surgery
- Dentistry
- Pulmonology
- Preventive Medicine
- Pathology
- Rheumatology

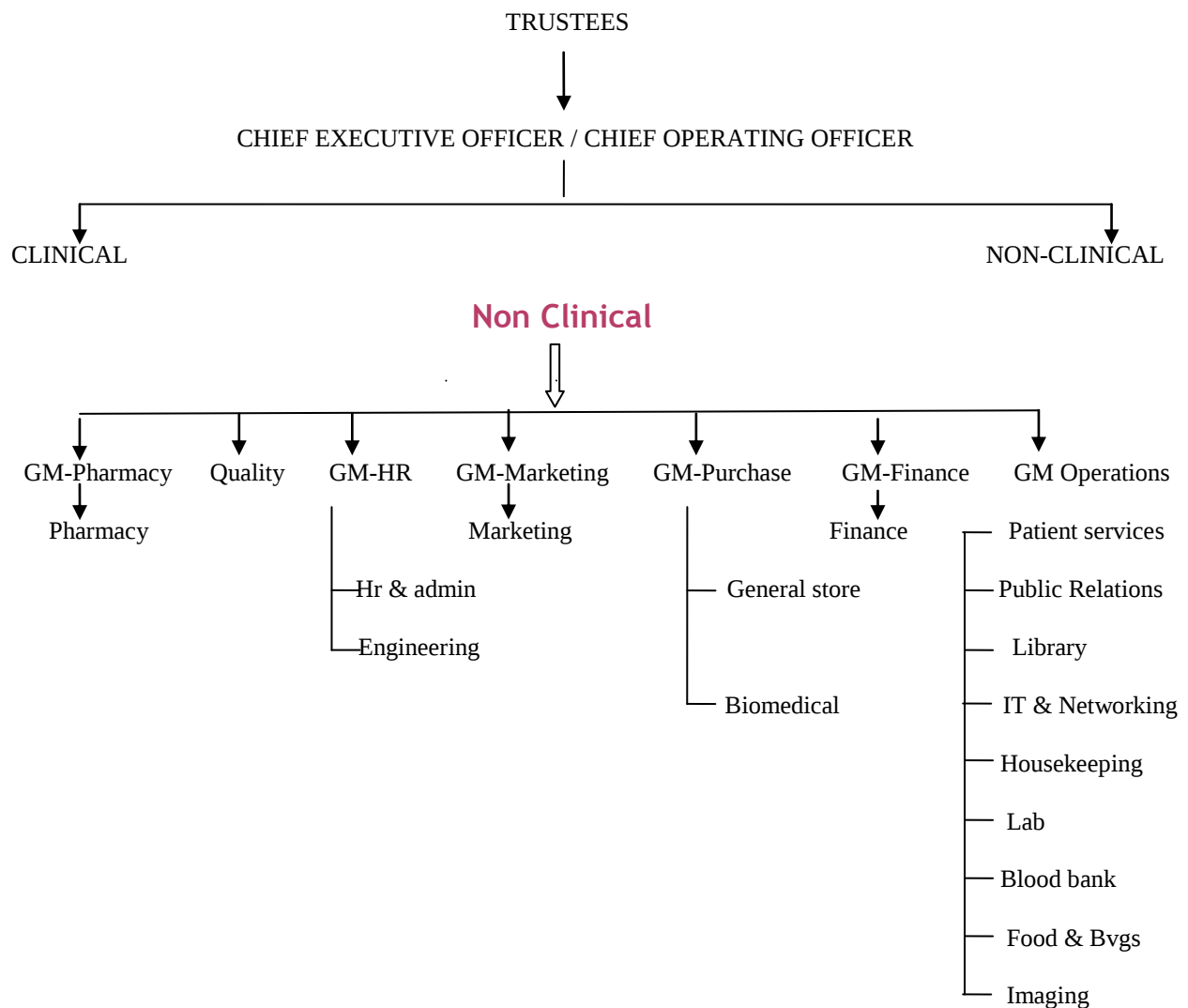
4. Building:

The hospital is constructed in a plot size of 53,000 square meters and the covered area of the building is 35,820 square meters. There are two buildings in the hospital one for OPD and one for IPD which are joined by atrium in the centre. In the OPD building there is ground plus 2 floors where as in IPD building there is basement plus ground plus 4 floors. There is a single basement which is having non-clinical departments like laundry, finance, HR, CSSD, Mortuary, Store and purchase etc in the IPD building. Parking space is well organized with staff parking at the basement with a space of 4,000 square meters and a separate paid parking, with a space of 6,000 square meters is provided for patients with in the hospital premises. There are 14 lifts in

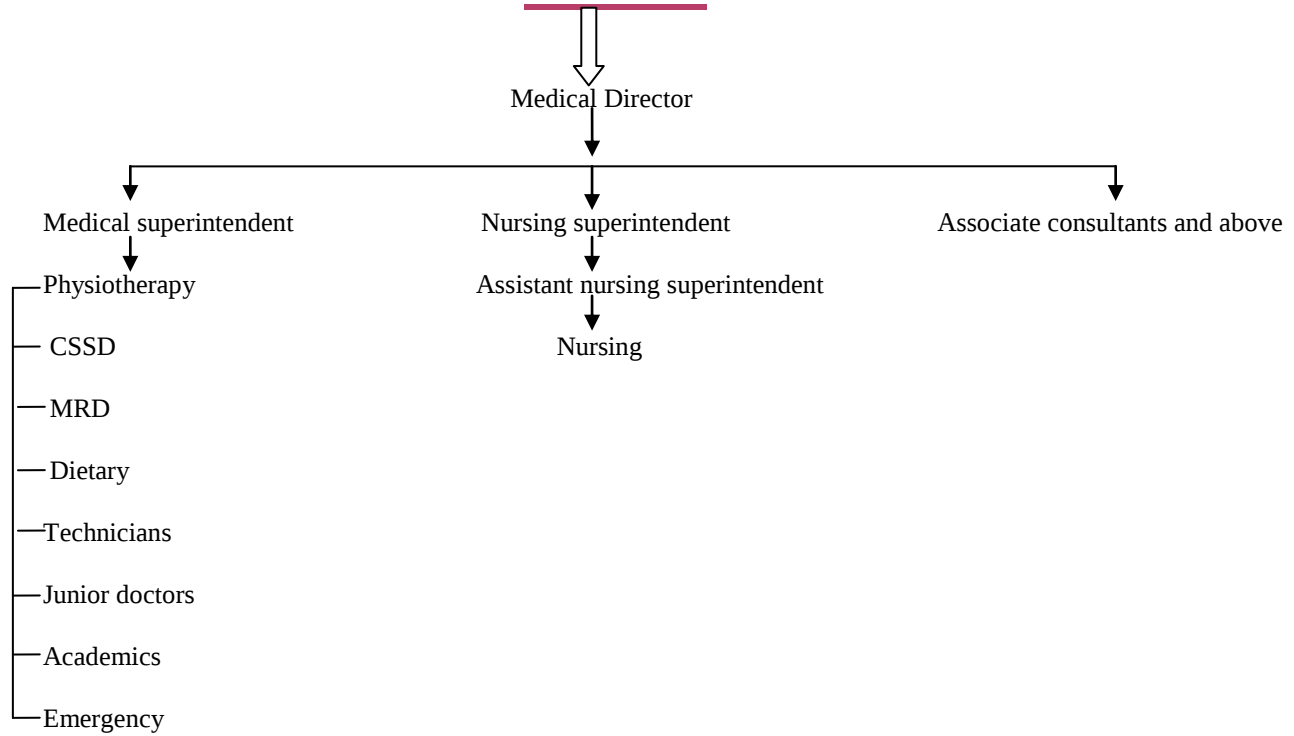
the hospital with a capacity of 26 people in each lift. Number of stair cases are 4 and there is one ramp for material access. Other amenities like cafeteria, coffee vending shop, shop for orthopedic equipments, stationary shop, photocopy shop, ATM and Idol of Lord Ganesha are present in the atrium.

5.Administration:

HIERARCHY



Clinical



6.OPD <Out-Patient Department>

There are 4 parts of OPD's building: Ground floor – South wing, Ground floor – North wing, First floor – South wing and First floor – North wing. These various parts of OPD building are described in table format as follows:

1. Ground floor - South wing

Sr. No.	Area Visited	Topic	Observation
1	OPD - Orthopedic and spinal	Location	Ground floor - South wing
2		No. of consultation chambers	5
3		OPD timing	9am - 5pm
4		No. of procedure room	1 + 3 (PT room - 1, Hydrotherapy - 1, Cardiac Rehabilitation Unit - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	

7		Waiting area & sub waiting area	Yes
8		Sitting capacity	29
9		Facilities	Yes
10		No. of front desks	1 (Common for ortho, spinal, PT, Obesity clinic, Dietician clinic)
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	12 Consultants + 12 PT + 1 Receptionist + 1 Nurse + 1 Housekeeper + 2 Medical Assistants
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit - 400

15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	50
19		Equipments	8 Physiotherapy Equipments - Interpharancial therapy, Ultrasound, Traction, Electric Muscle Stimulator, Ginjar machine, Suspension machine, Short wave diathermy, Parallel bars
20		Supportive Department.	Physiotherapy, Obesity Clinic, Dietician Clinic, Medical Social Worker Service

2. Ground floor - North wing

Sr. No.	Area Visited	Topic	Observation
1	OPD - Internal Medicine, Oncology and Endocrinology	Location	Ground floor - North wing
2		No. of consultation chambers	Internal Medicine - 4, Oncology - 2 and Endocrinology - 1
3		OPD timing	9am - 5pm
4		No. of procedure room	
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	69
9		Facilities	Yes
10		No. of front desks	1
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	13 Consultants + 2 Receptionist + 2 Nurse + 1 Housekeeper
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software

17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	95 (Internal Medicine), 5 (Oncology)
19		Equipments	
20		Supportive Department.	Oncology, Endocrinology, Sample collection dept.

Sr. No.	Area Visited	Topic	Observation
1	OPD – Pediatrics	Location	Ground floor - North wing
2		No. of consultation chambers	4
3		OPD timing	9am - 5pm
4		No. of procedure room	2
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	24
9		Facilities	Yes
10		No. of front desks	1
11		Appointment system	Yes - Computerized - Rcare Magna

			software
12		Manpower with hierarchy	Consultants 10 + 2 Receptionist + 2 Nurse + 1 Housekeeper
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	95
19		Equipments	
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - Gynecology and Obstetrics	Location	Ground floor - North wing
2		No. of consultation chambers	4
3		OPD timing	9am - 5pm
4		No. of procedure room	2
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes

8		Sitting capacity	42
9		Facilities	Yes
10		No. of front desks	1
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	7 Consultants + 2 Receptionist + 4 Nurses + 1 Housekeeper
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	60
19		Equipments	
20		Supportive Depts.	USG

3. First floor - South wing

Sr. No.	Area Visited	Topic	Observation
1	OPD - Cardiovascular & Pulmonary medicine	Location	First floor - South wing
2		No. of consultation chambers	8
3		OPD timing	9am - 5pm
4		No. of procedure room	2 (Cardio diagnostic lab - 1, Pulmonary function lab - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes

8		Sitting capacity	38
9		Facilities	Yes
10		No. of front desks	1 (common for Cardiology & Chest depts.)
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 9 + 1 Receptionist + 1 Nurse + 1* Housekeeper (*- only housekeeper work for all dept on 1st floor south wing) + 2 Medical Assistants
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400

15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	65
19		Equipments	2D Echo, ECG, Holter & ambulatory, 2 Treadmill machines
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - General Surgery	Location	First floor - South wing
2		No. of consultation chambers	5
3		OPD timing	9am - 5pm
4		No. of procedure room	1+ 1(Telemedicine room)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	24

9		Facilities	Yes
10		No. of front desks	1 (common for GS & Neurology depts.)
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 7 + 2 Receptionists + 1 Nurse + 1 Housekeeper* (- common for GS & Neurology depts., *- only housekeeper work for all dept on 1st floor south wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	40
19		Equipments	
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - Neurology Dept.	Location	First floor - South wing
2		No. of consultation chambers	4
3		OPD timing	9am - 5pm
4		No. of procedure room	3 (EEG room - 1, EMG room - 1, Procedure room - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	24
9		Facilities	Yes
10		No. of front desks	1 (common for GS & Neurology depts.)
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 7 + 2 Receptionist + 1 Nurse + 1 Housekeeper* (- common for GS & Neurology depts, *- only housekeeper work for all dept on 1st floor south wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400

15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	30
19		Equipments	EEG, EMG machine
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - Dermatology & cosmetology - Reconstructive cosmetic & plastic surgery dept	Location	First floor - South wing
2		No. of consultations chambers	3
3		OPD timing	9am - 5pm
4		No. of procedure room	2
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	22
9		Facilities	Yes
10		No. of front desks	1
11		Appointment system	Yes - Computerized - Rcare Magna software

12		Manpower with hierarchy	Consultants 9 + 1 Receptionist + 1 Nurse + 1 Housekeeper* (* - only housekeeper work for all dept on 1st floor south wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	20
19		Equipments	co2 Laser & Diode laser
20		Supportive Depts.	

4. First floor - North wing

Sr. No.	Area Visited	Topic	Observation
1	OPD - Dental Dept.	Location	First floor - North wing
2		No. of consultation chambers	2
3		OPD timing	9am - 5pm
4		No. of procedure room	1
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	8
9		Facilities	Yes
10		No. of front desks	1
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 7 + 1 Receptionist + 1 Nurse + 2 Housekeepers* (*- 2 housekeeper work for all dept on 1st floor north wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software

16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	15
19		Equipments	
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - Nephrology Dept.	Location	First floor - North wing
2		No. of consultation chambers	4
3		OPD timing	9am - 5pm
4		No. of procedure room	2 (Lithotripsy - 1, Urodynamic - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	24
9		Facilities	Yes
10		No. of front desks	1 (common for Nephrology & ENT depts.)
11		Appointment system	Yes - Computerized - Rcare Magna software

12		Manpower with hierarchy	Consultants 4 + 1 Receptionist© + 1 Nurse© + 2 Housekeepers* (© - common for Nephrology & ENT depts., *- 2 housekeeper work for all depts. on 1st floor north wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	35
19		Equipments	Lithotripsy Machine
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - ENT Dept.	Location	First floor - North wing
2		No. of consultation chambers	2

3		OPD timing	9am - 5pm
4		No. of procedure room	2 (Speech therapy - 1, Audiometry - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	16
9		Facilities	Yes
10		No. of front desks	1 (common for Nephrology & ENT depts.)
11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 4 + 1 Receptionist© + 1 Nurse© + 2 Housekeepers* (© - common for Nephrology & ENT depts., *- 2 housekeeper work for all depts. on 1st floor north wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request

			System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	25
19		Equipments	
20		Supportive Depts.	

Sr. No.	Area Visited	Topic	Observation
1	OPD - Ophthalmology Dept.	Location	First floor - North wing
2		No. of consultation chambers	3
3		OPD timing	9am - 5pm
4		No. of procedure room	6 (Angiography - 1, Photo coyag laser - 1, A & B scan - 1, Yag laser - 1, Refraction room - 1, Perimetry room - 1)
5		Approximately OPD covered area including circulation & ancillary area	
6		Area of each room	
7		Waiting area & sub waiting area	Yes
8		Sitting capacity	40
9		Facilities	Yes
10		No. of front desks	1

11		Appointment system	Yes - Computerized - Rcare Magna software
12		Manpower with hierarchy	Consultants 5 + 1 Receptionist + 1 Nurse+ 2 Housekeepers* (* - 2 housekeepers work for all depts. on 1st floor north wing)
13		Duty rosters	8.5 hourly
14		Tariff	First visit - 550, Follow-up visit – 400
15		OPD record keeping	Computerized - Rcare Magna software
16		Retrieval of records	Computerized - FRS (File Request System) software
17		Recording of follow up records	Computerized - FRS (File Request System) software
18		Daily Volumes-No. of OPD per day	30
19		Equipments	A & B scan, Yag laser, Photo Coyag laser, Angiography, Auto refraction machines
20		Supportive Depts.	Eye bank, Optician Shop

- There are 2 softwares used in OPD building as flows:
- I. R care magna software: It is used for following services

R care magna software:
Lab
Patient A/C billing
Patient services
Admin
Dietary
ADT
Appointment scheduling
CSSD
HLL
Inventory
Registration
Procurement
CPR

- II. FRS (File Request System): It is used for following services

FRS (File Request System)
OPD file request
OPD file receive
OPD file return

7.Diagnostic Departments

There are total 5 units in diagnostic department as follows:

Sr. no.	Procedure	Topic	Observation
1	ECG	TAT	5 min
		No. of Procedure per day	12
		Consent Form	No
		Tariff	Rs.275
2	USG	TAT	15 min
		No. of Procedure per day	40
		Consent Form	Yes (for Obstetrics pts)
		Tariff	Rs.1040
3	Tread Mill Test	TAT	25-40 min
		No. of Procedure per day	15
		Consent Form	Yes
		Tariff	Rs.1275
4	2D Echo	TAT	10 min
		No. of Procedure per day	25
		Consent Form	Yes
		Tariff	Rs. 1500

8.Endoscopy Department

Details of endoscopy departments as follows:

Sr. no.	Procedure	Topic	Observation
1	Gastroscopy & Duodenoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	3
		Equipments	Gastroscope - 1, Duodenoscope - 1, Cautery machine - 1, Anaesthesia machine - 1, Cardiac Monitor - 1, Endoscopy trolley - 1 (Fixed), Biopsy forcep - 1, Pulsoximeter - 1, Monitor - 1, Light source - 1, Processor - 1, Suction machine - 1, Ultrasonic disinfectant machine - 1, Difibrillator - 1, Accessories,
		Time per procedure	5 mins
		Tariff per procedure	Rs. 4200
2	Colonoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1
		Equipments	Colonoscope – 1
		Time per procedure	10 mins
		Tariff per procedure	Rs. 4600
3	Bronchoscopy	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1

		Equipments	Bronchoscope - 1, Monitor - 1, Endoscopy trolley - 1 (Portable), Light source - 1, Processor - 1, Accessories
		Time per procedure	15 mins
		Tariff per procedure	Rs. 17000
4	ERCP	Room Size	1000 sq ft (whole endoscopy room)
		No. of Procedures per day	1
		Equipments	ERCP machine
		Time per procedure	1.5 hour
		Tariff per procedure	Rs. 17000

9.Dialysis Department

Details of department as follows:

1	Haemodialysis	Topic	Observation
		Dialysis per day	45 (15 per batch * 3 batches)
		Manpower	Consultants - 2, Technician - 8, Nurses - 6, Guest relation officer - 1, Housekeeping - 4
		Medicines	from dialysis dept
		Consumables	from in house pharmacy
		Tariff per procedure	Rs. 1320
		Facilities	Yes

10. Blood Bank Department

Structure and equipments

1. Screening and physical examination room:

It is used for screening and physical medical examination of blood donor before donation of blood

2. Blood donation room: consists of beds-3 (for blood collection),

Equipment: Blood collection monitor-3 (It collects fix quantity of blood automatically in blood bag, and it prevents blood from coagulation by keeping the blood bag continuously in motion.

3. Apheresis room:

It is used for apheresis which is a medical technology in which the blood of a donor or patient is passed through an apparatus that separates out one particular constituent and returns the remainder to the circulation. Whole blood enters the centrifuge and separates into plasma, leukocytes, and erythrocytes. Selected components are then drawn off.

Equipments: Bed- 1, Amycus machine- 1 (for apheresis)

4. Refreshment room:

It is rest room for blood donors after blood donation.

5. Clean area room:

This room is used to separate blood components.

Equipments:

- i. Laminar airflow machine: It is used for blood components separation under strict sterile conditions with the help of sterile airflow and ultra violet rays.
- ii. Sterile docking machine: It is used to transfer some quantity of blood from mother bag to other bag. This machine keeps mother bag and the bag in which blood has been transferred unexposed to air and sterile.

6. Component separation room:

Equipments:

- i. Centrifuge machine – 2: A centrifuge machine is used to separate the components of blood. The centrifuge works using the sedimentation principle, where

the centripetal acceleration causes denser substances to separate out along the radial direction (the bottom of the tube).

- ii. Untested blood storage cabinet – 1: It is used to store untested whole blood or RBC's. Temperature maintained 2-6 degree C
- iii. Plasma storage cabinet – 2: It is used to store separated NHP (Normal Human Plasma) and cryoprecipitate. Temperature maintained below –25 degree C up to -40 degree C.
- iv. Plasma freezer – 1: It is used to freeze plasma at faster rate. Temperature maintained below –40 degree C up to -80 degree C.

7. Blood Grouping and serological lab:

Equipments:

- i. Plasma freezer – 1: In this freezer, plasma is arranged blood group wise for issuing. Temperature maintained below –25 degree C up to -40 degree C. There is arrangement of continuous measurement of temperature of freezer called thermograph which can record change in temperature in graphical presentation for 7 days. After 7 days, this thermograph is changed.
- ii. Thawing bath – 1: It is used to bring frozen plasma to normal room temperature. Temperature maintained 37 degree C.
- iii. Reagent storage cabinet – 1: It is used to store testing kit and anti sera stock. Temperature maintained 2-6 degree C.
- iv. Micros 60 machine – 1: It is used to get haemogram of blood donor before apheresis as pre donation testing
- v. Incubator – 1: It is for ELISA plate incubation.
- vi. Quality control is done by discarding blood crossed expiry date and examining blood for microorganism culture.

8. Washing and sterilization room:

Equipments:

- i. Outdoor camp equipments
- ii. Hot air oven – 1: It is used for drying test tubes and slides.
- iii. Autoclave – 1: It is used for sterilization of hiv positive or hbv positive blood before discarding.

9. TTI (Transfusion Transmitted Infectious diseases) room:

TTI test is done for HIV, HbsAg, HCV, VDRL and Malaria Parasite

Vacutainers are used for blood collection and storage. Red colored called plain vacutainer is used for testing blood for test other than blood grouping. Purple colored vacutainer called EDTA consists of anticoagulant used for blood grouping.

Pre donation testing is done only before apheresis which consists of haemogram, blood group and TTI test. It is not done for whole blood donation for which only 3 parameters are examined hemoglobin, BP and medical test – physical examination, history taking.

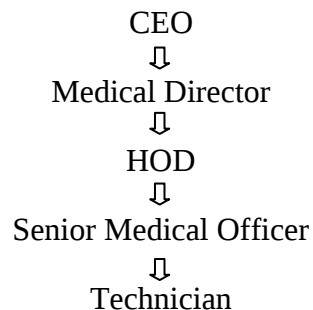
Equipments:

- i. Rapid Machine – 1: It is used for ELISA testing for HIV and HbsAg
 - ii. Untested sample storage cabinet – 1: Temperature maintained 2-6 degree C.
10. **Record room:** Record of blood donation and issuing of blood is maintained for 5 years.
11. **Issue counter and cross matching room:**

Equipments:

- i. Issue blood cabinet – 1: It is used to store blood bags blood group wise and reservation wise for issuing to patients. Temperature maintained 2-6 degree C.
- ii. Platelets agitator – 1: It is used to keep platelets in continuous motion to avoid coagulation. . Temperature maintained 22-24 degree C.
- iii. Cross matching equipments.

Organogram of Blood bank:



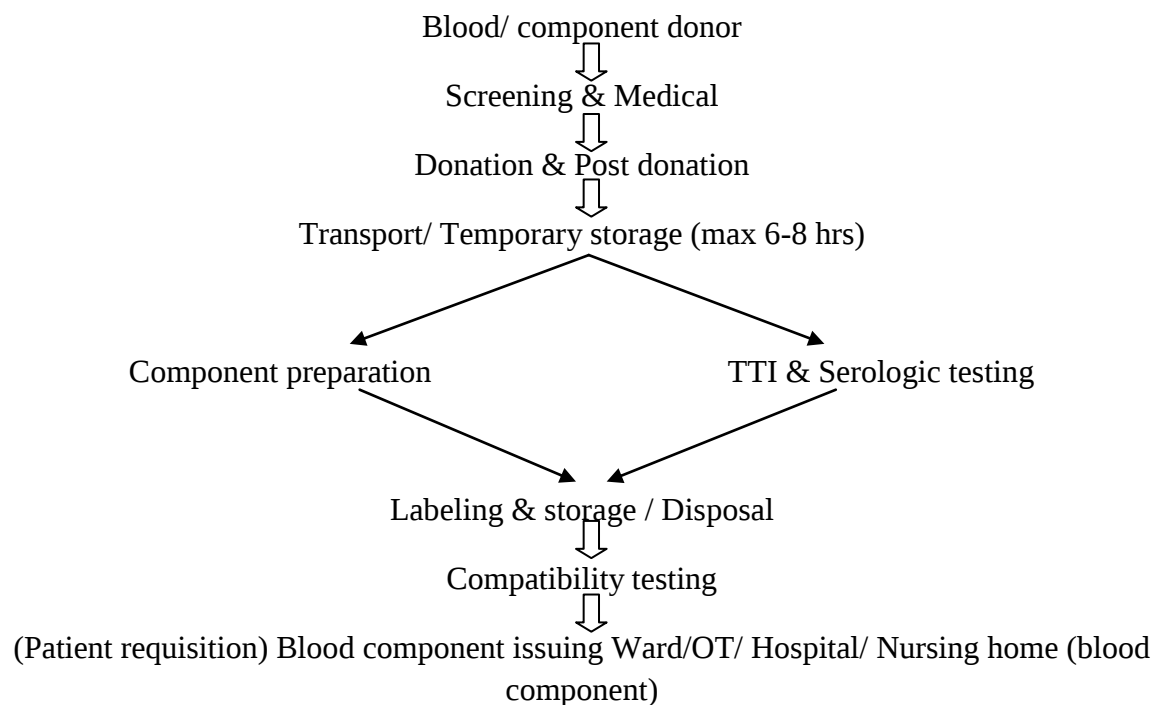
Labs in blood bank:

- i. Donor lab
- ii. Apheresis lab
- iii. Grouping lab
- iv. Medical record
- v. Quality Control lab
- vi. TTI lab
- vii. BMW lab
- viii. Component lab
- ix. Compatibility testing lab
- x. HIS/ software/ Computer

Criteria for whole blood donor selection procedure:

- i. Donor registration
- ii. Donor screening (medical interview and physical examination)
- iii. Obtain informed consent of donor
- iv. Generation of donor registration no.(blood unit no.)
- v. Interpretation
- vi. Documentation

Work flow in blood bank:



Issue of red cells containing components process:

Issue slip from concerned doctor is essential, then to verify the information on issue slips, such as patient name, registration no., and type of blood component required, ward & sign of doctor



Request from OT, incase of telephone, issue all the above details except doctor sign, ask name, documented and location



Using name & MRN no. of the patient from issue slip, identify blood bank id from issue register



Using PB no, take out requisition form of patient from pending issue file, tally name & MRN no. of patient on slip, and attach issue slip with requisition form



Take out required no. of units from storage, identify blood/component unit by crosschecking BD no., BG, date of expiry



While processing issue scan the donation no. from bag. Do not write after preparation of issue report & compatibility sticker



Check the unit for expiry date, abnormal appearance, leakage, discoloration, gas formation and haemolysis



Paste compatibility sticker on appropriate unit



Recheck details on compatibility sticker on respective unit



Confirm the information on issue report with that on blood unit



Unit is ready for issue. Blood unit should always be issued with issue report



Make all the remaining entries in the issue register against the respective patient. Mention date and time of issue in the column provided.



Issuing technician should put his / her sign in issue register and take sign of receiving person and mention name below.

Issue of non red cell containing components:

No prior processing / reservation are done for these components



All the frozen plasma components are issued only after thawing in 37 degree Celsius (for 30 min)



Prior to putting the frozen plasma for thawing, one attached segment is used for reverse grouping of the component by the tube method



Confirm the group with that on the label of the component bag



No information of the blood group for platelet concentration and cryoprecipitate is required

List of records in blood bank:

1. License file
2. TTI lab testing register
3. Discard record register
4. TTI reactive units records
5. Blood donor consent record
6. Emergency drugs record
7. SDP procedure record
8. Blood component stock register
9. Patient investigation register
10. Blood donor grouping register
11. Blood and component issue register
12. Consumable inventory register
13. Daily QC record for AntiSera.
14. Master donor record
15. Issue lab equipment cleaning record
16. OC record for RBC and whole blood
17. QC record for platelets
18. QC record for cryoprecipitate and FFP
19. Component preparation record
20. Sterile docking procedure record
21. Indent receiving register
22. Technician over register
23. QC record for antisera

Blood bank licenses:

Central Drugs Standard Control Organization and the state licensing authorities issue licenses

Form of application for license for operation of Blood Bank/processing of whole human blood for components/manufacture or Blood Products for sale or distribution

Provided further that a licensee holding a license in Form 28-C or Form 28-E as the case may be for operation of blood bank/processing of whole human blood for components/manufacture of blood products shall apply for grant of license under sub-rule (1) before the expiry of the said license on Form 27-C or Form 27-E as the case may be and he shall continue to operate the same till the orders on his application are communicated to him.

11.Pathology Laboratory

There are 5 units of pathology laboratory as follows:

Sample Collection Room

- Equipments:
 - Research Centrifuge machine
 - Pneumatic System
 - Barcode machine
 - Trays for sample segregation department wise: for Hematology, Biochemistry, Immunology, Microbiology and Clinical pathology
- Sample is received from various departments like OT, wellness, A&E, NICU, OPD, and blood bank through pneumatic system. While sample is received from IPD through housekeeping staff.
- After sample receipt, lab assistant make entries of sample reception in system (HIS)
- Centrifugation of sample is done.
- Sample receiving from OPD is already bar-coded, while sample received from IPD need to be bar-coded. After bar-coding of sample, CR number is generated in system.
- Samples are segregated unit wise in respective assigned trays and sent to respective units.

Haematology:

- Equipments:
 - Single Analyzer
 - Batch Analyzer
 - Stago – PT, PTTK, Fibrinogen test can be performed
 - ACL Machine Analyzer: Fully Automatic
 - Microscope: 1
- Tests performed: CBC, ESR, Glycolated Hb, Reticulocyte count, D-Dimer test, coagulation test

- FQAS
- Quality Control: External
- Technician- 9
- CAP

Immunopathology :

- Equipments:
 - Cobas e 411: at a time 30 samples can be processed
 - Electro Immuno Chemoluminescence: hormonal assessment like T3, T4, TSH, Insulin, B12, etc tests can be processed. It processes serum sample. It takes half hour per sample for processing
 - Siemens VIDAS ROCHE
- QC: Everyday
- Sample processing per day: 70 to 80

Histopathology:

- Registration number is generated after receiving specimen. Sample contains 1 gm of specimen and 10 times of formaline.
- Three types of tests are performed in histopathology
 - Surgical pathology
 - Cytology
 - Immunohistochemistry
- Surgical pathology: Specimen grossing and storage is done for biopsy
- Trimming of specimen is done and it is stored in fully automatic tissue processor.
- After tissue trimming, trimmed tissue is kept in small cassette. Then cassettes are placed in bucket. This bucket is then kept in tissue processor. It has 14 hours schedule program.
- Embedding of specimen is done in embedding machine.
- Embedded specimen is cut very fine and staining done.
- Specimen is mounted on slide. Then it is sent to pathologist for reporting
- This slide is stored for 10 years.
- Cytology:
 - Gynaecology cytology: PAP smear – vaginal and cervix.
 - Non Gynaecology cytology: all body fluids.
- Immunohisto chemistry: Marker tests are performed.
- Staff: Technician – 2, Pathologist – 2
- Daily number of tests performing:
 - Biopsy – 10

- Cytology – 10
- Marker test – 2
- Time required for completion of tests:
 - Small Biopsy – 3 days
 - Big Biopsy – 5 days
 - Cytology – 1 day
- Equipments:
 - Stained H&E Slide Storage cabinets – 2
 - Microwave Oven – 1
 - Microscopes – 3
 - Linear Stainer – 1
 - Cytospin Centrifuge
 - Paraffin Blocks
 - Water bath

Biochemistry:

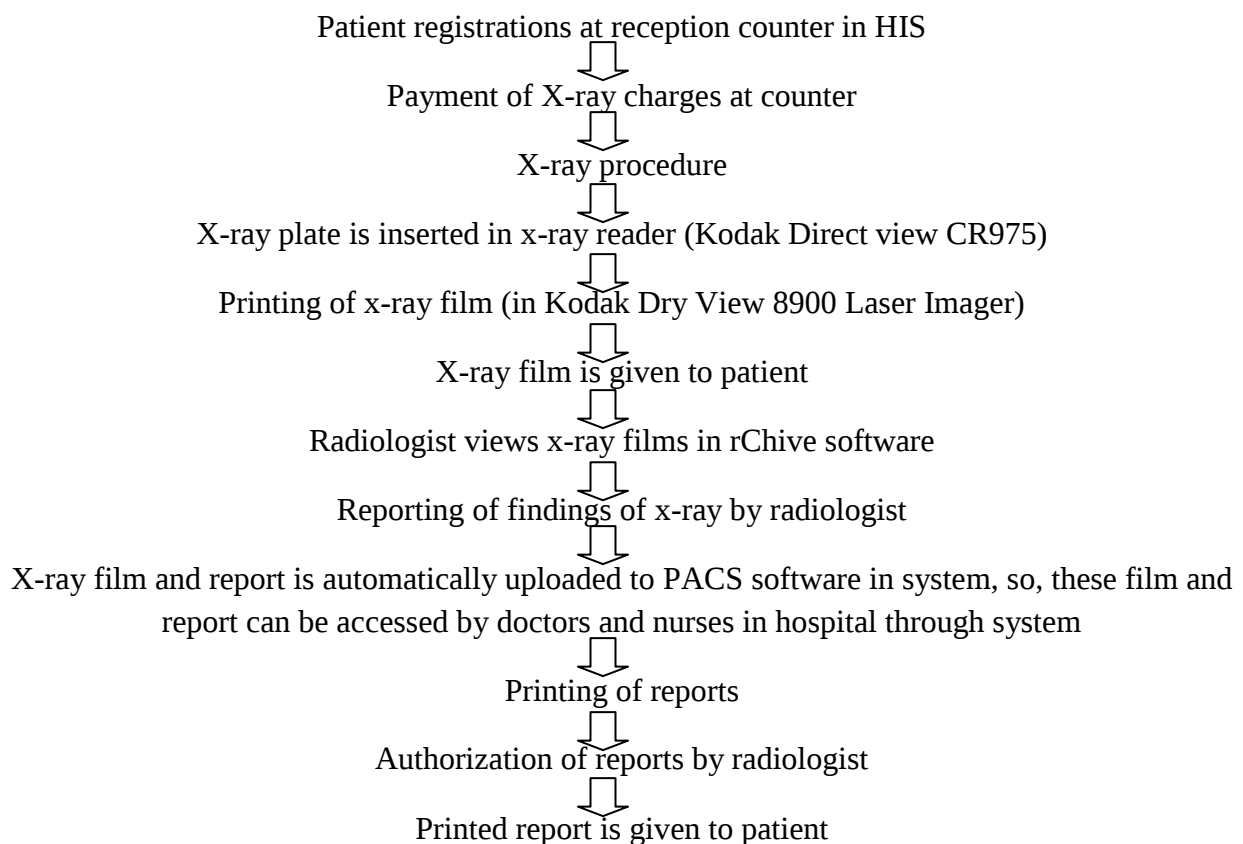
- Equipments:
 - AVL 9180 – Electrolyte Analyzer – Na, K, Cl for urine, serum. Auto calibration: 4 hourly
 - Hitachi 902 – Fully Auto analyzer – 72 types of tests like serum BSL, urea, Sr Creatinine, etc – 30 samples can be processed at a time
 - Cobas – b 121 – ABG Analyzer – fully automatic – models i) 5856, ii)6085, whole blood is processed in this equipment
 - Cobas 4232 – for Trop-T and D-dymer test
 - Vitros 4600 – Biochemistry Analyzer fusion of dry + Wet chemistry – Automatic report transmission to HIS
 - Vitros 250 – Dry biochemistry
 - Vitros DT 6011 Biochemistry Analyzer
 - DTSC II: Enzymatic test biochemistry semiautomatic

12.Radiology

Radiology department is located at ground floor of IPD building. It includes x-ray, CT scan, MRI, Mammography, Color Doppler and ultrasonography:

X-ray Department:

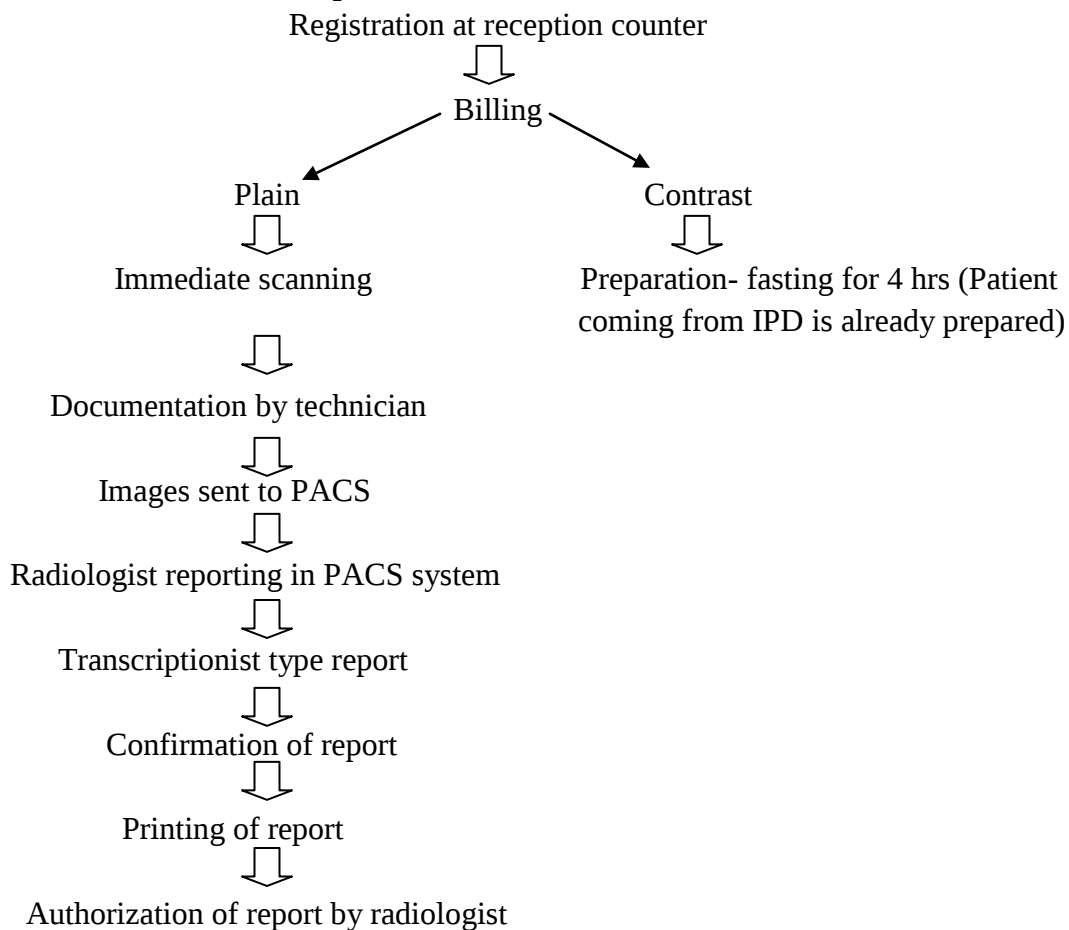
- There are total 5 x-ray machine. These are located as follows:
 - X-ray Dept: 2 (Fixed: 1 for X-ray and 1 for Fluoroscopy)
 - Wellness Dept: 1
 - ICU: 2 (Portable)
- Cassette Rack: 11 cassettes (x-ray plates) available
- Available software in system for radiology dept.
 - PACS (Picture Archiving Communication System)
 - rChive software: for reading, reporting of images; viewing history, HIS orders, work list and scheduling.
 - Masterview software: for image cropping and contrast adjustment.
- **Process flow of in X-ray Dept:**



- TAT for X-ray procedure (from registration to completion of x-ray procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of x-ray procedures per day:100
- Tariff: Rs. 350/film/view
- Staff:
 - Technician-6 (shifts: Morning-3, Afternoon-1, Night-1, Off-1)
 - Nurse-2 (for USG, Mammography, Color Doppler)
 - Housekeeping-3

CT Scan

- Machine: Siemens-Sensation 64 slice
- Contrast used: Non-ionic IV contrast- Inj Iomeron 350mg IV, Oral contrast-Gastrovideo for abdominal scan
- Console Room: 1 (common for CT scan and MRI Scan)
- **Process flow of in CT Scan Dept:**

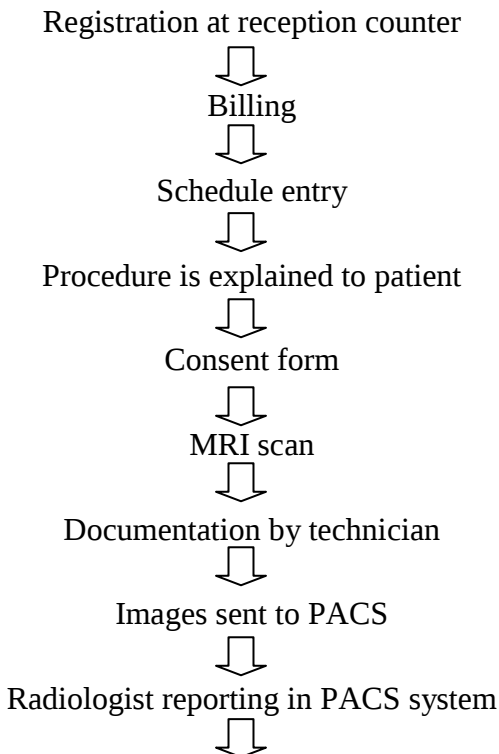


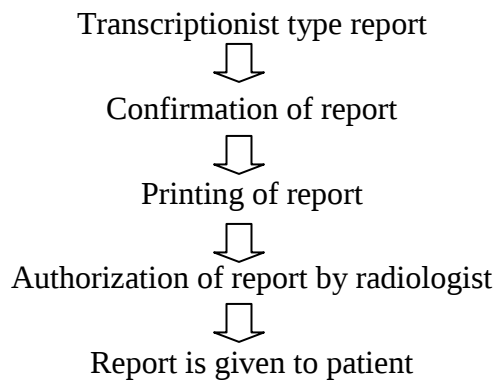
↓
Report is given to patient

- TAT for CT scan procedure (from registration to completion of CT scan procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of CT scan procedures per day: 15-20
- Tariff: Rs. 2500-12000
- Staff: (common for CT scan and MRI Scan)
 - Technician-5 (shifts: Morning-2, Afternoon-2, Night-1)
 - Nurse-1
 - Housekeeping-2
- Quality Control:
 - AERB (Atomic Energy Regulatory Board) visit per year
 - TLD (Thermo Lumination Dosimeter) Badge for staff which is checked after every 3 months
 - CT scan machine is checked by biomedical engineer daily.

MRI Scan:

- Machine: Siemens 1.5 Tesla
- **Process flow of in MRI Scan Dept:**

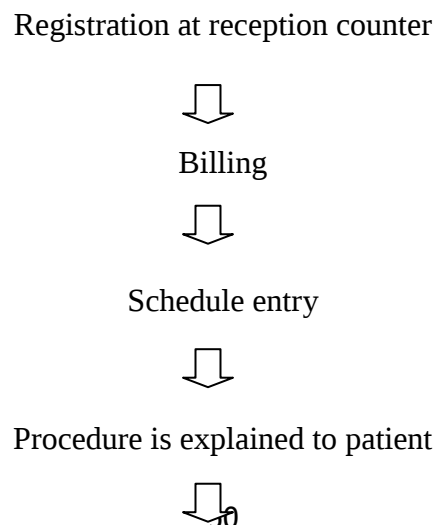


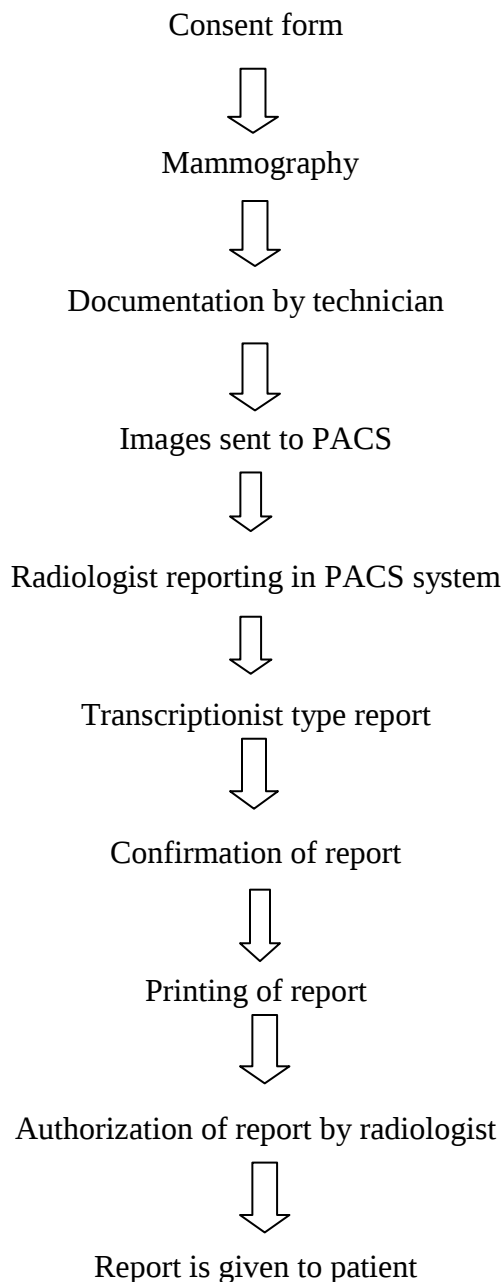


- TAT for MRI scan procedure (from registration to completion of CT scan procedure): 15 mins
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of MRI scan procedures per day: 8-10
- Tariff: Rs. 8500-12000
- Quality Control:
 - AERB (Atomic Energy Regulatory Board) visit per year
 - TLD (Thermo Lumination Dosimeter) Badge for staff which is checked after every 3 months
 - MRI scan machine is checked by biomedical engineer daily.

Mammography

- Machine for mammography:
 - Mammomat – Siemens 3000 Nova
 - Biopsy Unit – Stereotactic Biopsy Unit
 - Cassette
- **Process flow of in Mammography Dept:**





- After each mammography, breast USG is done
- Mammography is done in separate room. It consists of operating cabin, system and change room.
- There is coding lock system of door and entry is given inside room only for staff to protect privacy of patients.
- TAT for mammography (from registration to completion of procedure): 25 min.
- TAT for reporting (from registration to printing of reports): 2 hrs
- No. of mammography procedures per month: 70-80

- Tariff: Rs. 1780
- Staff: Technician:1 (for general shift)

Color Doppler and Ultrasonography :

- Machine: Siemens – Acuson Sequoia 512
- TVS probe for internal sonography
- 4C1 probe for abdomen and obstetrics
- 5L8W Linear probe for neck, breast and thyroid USG.

13.In-Patient Department

- Types of beds: There are different types of wards with different name. Amenities are provided category wise. Details are mentioned as follows:

Sr No.	Category	Floor	Bed Charges	Nursing Charges	Consultant Charges	Room Amenities
1	Gold Male	3rd floor	1000	200	275	General
2	Gold Female	3rd floor	1000	200	275	General
3	Gold Pediatrics	3rd floor	1000	200	275	General
4	Gold Plus	3rd floor	1500	250	325	4 beds in single room, sofa cum bed for relative
5	Platinum A	3rd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
6	Platinum B	3rd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
7	Platinum 2nd floor	2nd floor	2200	300	400	2 beds in single room, sofa cum bed for relative
8	Emerald A	3rd floor	3900	500	550	Single room, TV, Sofa cum bed, Lockers, Telephone
9	Emerald B	3rd floor	3900	500	550	Single room, TV, Sofa cum bed, Lockers, Telephone
10	Safire	2nd floor	4750	550	750	Single room, TV, Sofa cum bed, Lockers, Telephone

11	Diamond	2nd floor	6750	600	1000	2 rooms (for patient:1, for relative: 1), oven, freeze, phone, lockers, TV, Telephone, Sofa cum bed
12	MICU	2nd floor	3200	500	600	NA
13	SICU	2nd floor	3200	500	600	NA
14	SICU 1st floor	1st floor	3200	500	600	NA
15	PICU (Level 3)	2nd floor	3000	500	650	NA
16	PICU (Level 2)	2nd floor	2500	500	600	NA
17	NICU (Level 3)	G floor	3000	500	650	NA
18	NICU (Level 2)	G floor	2500	500	600	NA
19	Obs & Gynaec Ruby Twin	G floor	2200	300	400	2 beds in single room, sofa cum bed for relative
20	Obs & Gynaec Ruby Deluxe	G floor	3900	500	550	4 beds in single room, sofa cum bed for relative
21	Obs & Gynaec Gold	G floor	1000	200	275	General

- Nursing stations are well equipped with all necessary and emergency equipments like ECG machine, Glucometer, Crash cart, etc
- Record Keeping : Manually in patients IPD files and in system like in software's like Rcare magnum/ Magnum Hybrid, HIS, etc.
- IPD beds arrangement is open and also specialty wise.
- Manpower and hierarchy: Consultants, RMO's, Team leader – 1 and 12 nurses under TL, housekeeping
- Duty Rosters: Duties are done in morning (7:30 AM – 2:30 PM), Evening (1:30 PM – 8:30 PM) and Night (8:00 PM – 8:00 AM) shifts
- Daily patients volume: 16-17/day
- Quality Indicators: Medical auditing of files and other factors
- Process flow of admission:

Planned (OPD) and unplanned (A&E) admission



Admission note



Admission process is done at admission counter



Admission counter person calls in IPD, confirm bed availability and tells to keep bed ready



Transport of patient to respective ward

- Rounds of consultants: Morning and evening
- Medicines for patients are brought from IPD pharmacy.
- Dieticians takes round 3-4 times a day and decide and arrange food for patients
- Cleaning of wards is done thrice a day and washing is done after discharge
- Nurse call system: Medisystem
- Patient is prepared in IPD ward for operation before taking him to OT.
- Visiting hours of IPD is 4:00 PM to 8:00 PM
- BMW management is done according to standard protocols.
- Process flow of discharge:

Planned discharge



Return of medicines



Consultant signs on IPD papers



File goes to pharmacy



File goes to IP billing



File goes to admission counter or TPA counter



Payment



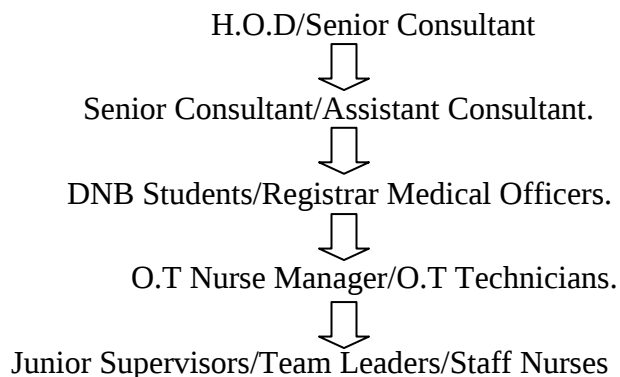
Discharge intimation is done



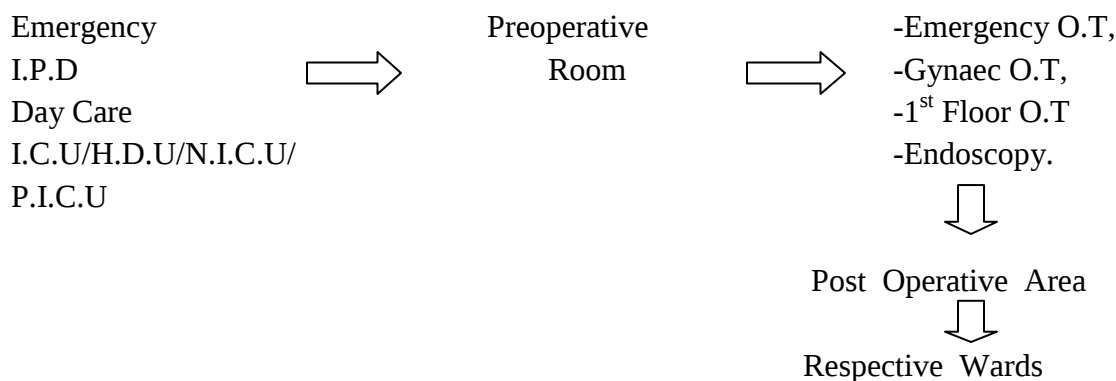
Discharge of patient and document handover

14. Operation Theatre

➤ Organogram:



➤ Work Flow Of O.T:



➤ Location: It is situated on 1st floor. Total 8 O.T

➤ No of O.T: Total 8 O.T.

- 6 O.T on 1 floor: (1 general, 1 urology, 1 ortho ,1 neurology O.T, 1 Ophthalmology O.T, 1 Cardiac O.T),
- 2 O.T on ground floor: 1 gynecology O.T , 1 In vitro fertilization O.T

➤ Design: 1 nursing station, 1 Scrub station and induction room attached to every O.T 1 per fusionist room, 1 fluid warming cabinet room, 1 theatre sterile supply room. Medical gas valve attached to every O.T. 1 engineer round daily for temperature, humidity and pressure control. 1 biomedical engineer round daily for medical equipments. Dirty

corridor attached to operation, 1 unsterile lift and 1 sterile lift in O.T, 1 doctors lounge,1 biomedical department,1nurses lounge.

- Equipments: crash cart, trolley, defibrillator, C arm, anaesthesia machine,1 cautery,1 harmonic machine,1 suction machine,1 body warmer, central supply for oxygen and nitrogen, laser machine, fracture table, tourniquet cuff, sand bags,headrings,1 video trolley, O.T light,1 alarmer control panel for temperature,humidity,pressure.
- After every case O.T sterilized by echo shield. Terminal cleaning of O.T done.
- Process inside O.T.:

Patient comes in preoperative area



Preoperative verification done



Patient in holding area monitored by anesthetist and nurses



Patient brought inside O.T, time out done



Surgery



After surgery patient kept in post operative area till he/she is stable



Surgeon notes ,and other documents noted down and signed by doctors and nurses.

- Standard operating protocols on quality assurance:

- 1 .Strict hand hygiene.
- 2 .Surveillance and monitoring of hospital acquired infections.
3. Anesthesia equipment checklist prior to each of session.
4. Preoperative check list.
5. Post operative check list.

- Staff: Anesthetist 11 ,HOD Senior consultant 1,registrar +DNB students (6)

Nursing staff (25), team leader (2), senior nursing staff(8),nursing staff(15).

Housekeeping (6), transport (1)

- Staff room 1 changing room for both male and female,2 anesthetist room,1 doctors lounge ,1nurses lounge
- Duty Roster :MORNING :7:30 TO 4:00,EVENING :1:30 TO 8:30 PM,NIGHT 8 PM - 8AM

- Recommendations: proper scheduling of cases, proper preoperative verification should be done. more attention on cleaning of O.T.

15.Intensive Care Unit

- MEDICAL I.C.U.(2 nd floor),16 beds.2 isolation,
- SURGICAL I.C.U(2).(2 and 1st floor),16 Beds 2 isolation (2nd floor S.I.CU),10 Beds (1st floor SICU).
- PAEDIATRIC I.C.U(2 nd floor) .7 beds ,and 1 isolation room.
- NEONATAL I.CU (ground floor) 32 beds. And 4 isolation beds.
- Type: Semiclosed I.C.U.
- Staff: 1 intensivist,1 senior consultant intensivist,2 R.M.O,1 Registrar,8 nurses in each shift. (24 staff)-8 in each shift,8 ventilators in sicu.im MICU and SICU.

- Quality indicators:

1. To achieve VAP (Ventillator associated Pneumonia) rate below 5 per 1000 ventilator days by year end.

2.To achieve CRBSI rate less than 5 per 1000 ventilator days by year end.

3. To decrease urinary tract infection by 5 per 1000 urinary catheter days by year end.

- Ward rounds are done by intensivist daily. Intrahospital transportation of patients is monitored by I.C.U Nurses. Infection control nurse rounds daily for monitoring of ventilator and central line catheter infection .
- Couselling of intensivist with the relatives is done daily.

- I.C.U EQUIPMENTS:

1.Monitor

2.NBP Cuff.

3. ECG

4. Syringe pump.

5. Oxygen flow meter.

6. Ventillator.

7. AMBU bag.

8. Pressure bag

9. Patient shifter

10. DVT Pump.

11. Vacutainer.

12. Blood box.

13. oxygen cylinder.

14. TPA Stamp.

- Documents: Transfer in, transfer out form, shift out form, discharge form, nurse assessment notes, plan of care ,I.C.U Flow chart ,consent form, counselling form etc.

16.Accident and Emergency Department:

- PROCESS FLOW:

Patient brought to Triage Station.



Treatment Room(Investigations done)



Transfer to O.T ,I.C.U or I.P.D or discharged according to patient condition.

- Red zone: There are 2 Cardiac beds , 1 paediatric bed ,1 poly trauma bed
- Equipments: Monitor, Defibrillator, Ventilator,1 crash cart,1 emergency drug cupboard,1 ECG machine,1 syringe pump.
- Green zone: It is mainly for Stable patients.
- Yellow zone: It is for less critical patients .6 beds.
- Black zone:1 bed (dead patient)
- Ambulance: There are 2 Cardiac,2 non cardiac ambulances in the hospital.
- 1 doctor, 1 housekeeping, 1 nurse, go in cardiac ambulance.
- 1 housekeeping staff goes in non cardiac ambulance.
- Staff: 1 H.O.D,1 Registrar Medical officer,3 doctor in each shift,1 casualty medical officer.,3 nursing staff,1 receptionist,2 staff in billing counter.
- 1 Trauma team for code blue in emergency. Within 3 min all faculty reaches the emergency department.
- 1 operation theatre for emergency.
- 1 disaster kit room.(20-25 patients can be managed at a time).
- 1 nursing manger room1 doctor room.
- 1 reception area, 1 billing area.
- 1 ambulance counter.

17.Medical Record Department:

MRD is the medical records department where records of the patients are maintained by the hospital. Medical records are maintained for legal purpose and also for treatment.

There are different types of medical records with different retention period for each department like

1. OPD records – Retained for a period of 3 years.
2. IPD records – Retained for 5 years.
3. Medico-legal records – Retained for 10 years.
4. Birth records – Retained for 21 years.

In MRD there are 2 units

1. Transcription unit – which takes care of report typing
8 Transcriptionist – 1 in cardiology, 2 in radiology (1 within the radiology department and 1 in MRD), 5 in IPD for preparing discharge summery.
2. Record keeping unit – which takes care of all the record keeping, retrieval, maintenance etc

In this unit there are 7 technicians

In addition to this there is 1 manager, 1 senior executive who take care of the department. There are 2 housekeeping staffs as well for support services.

Arrangement of the medical record is done by MRN number.

If the patient comes to OPD with prior appointment his/her records are already sent to the department if not after the file request is sent to the MRD it takes 20 minutes to send his record to the OPD. Electronic Medical record is also maintained through Magnum Hybrid for clinical purposes and through Magnum for general purposes.

For the retrieval of the record if the patient is self payee he/she can retrieve their record by submitting a request form. For a TPA patient request form along with a deficiency letter from insurance company has to be submitted for the retrieval of any particular record.

18.Housekeeping

Housekeeping is out sourced in this hospital. Manpower for housekeeping is supplied by two companies

1. Sumeet- which supplies 96 staff
2. Rare hospitality- which supplies 130 staff.

In this department there is a manger who is common for MRD and support services, below which there are 3 supervisors. These 4 staff are in house i.e. they are on ABMH pay scale. Under these 3 supervisors there are around 12 supervisors, 6 from Sumeet and 6 from Rare who takes care of all the remaining staffs.

Housekeeping staff are given a training of around 1 week by their respective companies and after joining 3 days on duty training is provided to them by the hospital.

19.Dietary Department:

- Total dieticians =9
- Medical superintendent



Chief dietician



Senior dietician



Junior dietician.

- Process:

Patient admitted in hospital



Information from Hospital information system/nursing staff, dieticians round—



food is decided according to the diagnosis-



Informed to room service



Diet sheet is given



Food is delivered according to the time.

- Staff: 85 staff. Below captain level all staff is outsourced.
- License: FORM C, Given by FSSAI: FOOD SAFETY AND STANDARD ACT [Pimpri Chinchwad Municipal Corporation).
- Dieticians round s 2 times daily in their respective allotted departments.
- Recommendations: food should be served on time, and patient choice should also take into account.

20.Biomedical Engineering Department

Purchase: According to need purchase is being made .Indent is raised by user, approved by management. Technical specifications are taken from different vendors for new equipments. Commercial specifications of equipments are done. After specifications it has to be recommended by doctors then again sent to management for further approval.

Maintenance: Biomedical engineers round daily in O.T, I.C.U, pathology, radiology, and accident and emergency. Rest areas are visited according to need. Preventive and maintenance schedule is there for equipments. Callibration is done once in year except blood bank and pathology.3rd party contract for colliberation. Internal auditing yearly, external auditing by I.S.O, NABH, J.C.I.

Staff: 1 H.O.D,1 Assistant manager,3 biomedical engineer,1 Clerical staff.

Gas Manifold Room:

Situated adjacent to hospital main building.

The main functions are providing:

- Medical Oxygen (O₂).
- Nitrous oxide (N₂O).
- Medical Compressed Air .
- Surgical Compressed Air .
- Vacuum (suction).

21.Material Management

This department takes care of all the stationary items like materials needed for plumbing, electrical, civil, chemicals for water treatment plant, furniture, computers, printers, computer related parts, linen, shoes, slippers etc. There are a total of 4 staffs in this department- 1 supervisor, 2 assistant, 1 housekeeping staff.

Analysis of the material is done by three ways:

1. ABC Analysis (Always Better Control Analysis) - This is based on the consumption value
 - A class goods – High consumption as well as high individual cost – one month stock is maintained for these goods.
 - B class goods – Medium consumption and cost is also at the mid level – 15 days stock is maintained.
 - C class goods – Individual cost is also low as well as consumption is also less – 2-3 months stock is maintained for these goods.
2. HML Analysis – High, Medium and Low value Analysis – This is based on unit value.
3. FIFO – First in and first out analysis – Goods which are purchased first are sent out first..

Process flow

For regular items purchase requisition is generated from store/ for non regular items purchase requisition is generated from the respective department.



Approval sign for the purchase is taken from CEO



Purchase and ordering process is carried out by the department (quotation)



Order is signed by the management and the order is placed.



Vendor sends the material with the bill and invoice.



Goods receiving note along with invoice is sent to finance department for the payment.

There are various forms which are maintained by the department like- purchase form, requisition form, stock form etc.

22. Pharmacy

- There are 4 pharmacies in the hospital & 1 central store pharmacy.
- 1 O.P.D Pharmacy, 1 Gynaecology pharmacy, 1 O.T pharmacy, 1 IPD pharmacy.
- Narcotics drugs are licensed by National drug and psychotropic substance act. O.P.D pharmacies and O.T pharmacies have licence of narcotics. Quota of narcotics is fixed. For transport distributor has to take permission from drug office. Major documents for narcotics is nursing narcotic request book, narcotic central drug book, narcotic consumption book for unused medicine record. Doctor's sign is must. Rubber stamp mandatory. Empty ampoules are returned back to pharmacy. Permission is taken from drug office to discard the drugs. These are crushed then discarded. Narcotics are stored in double lock and key cupboards. Daily 3 times inventory of narcotics are checked for how much drugs are sold and the remaining drugs. If misplaced then informed to the senior officials in pharma department. Prescription of narcotics is stored for 10 yrs.
- Inventory management:
 - A B C : (Priority wise): Always Better Control.
 - A- Costly Drugs constitutes 10% of pharmacy.
 - B- constitutes 30 TO 35%

- C-Value of items less, no. of items in the store more.
 - VED Analysis: Vital and essential drugs. These drugs amount are always kept in excess.
 - FIFO: First in and first out.
 - Look alike medicines are kept at different places.
 - Tallman labelling: To reduce error main part is highlighted.
 - Different place of storage of lookalike drugs.
- Process: Indent is sent from every pharmacy to central pharmacy through Hospital information system. Auto indenting system from every pharmacy to the central store at 12:00 am night. Stock is filled for 4 days from central store to each pharmacy in the hospital. Empress stock used in emergency in nursing station. It is also maintained and replaced from in patient pharmacy. Purchase return is made for the near expiry drugs before 3 months.
 - Purchase: Particular vendor is authorised by company and then demand is send to the vendor, they will send the supply.
 - Pharmacy training is being given for correct method of handling cytotoxic spillage.
 - Cytotoxic admixture unit on 3rd floor: For diluting antibiotics and cytotoxic drugs. 2 HEPA filters are there for safe handling of drugs.
 - 1 Clinical pharmacy : 2 pharmacist are there for rechecking of drug dosage of the patients in I.P.D
 - Audits: JCI, NABH and ISO.
 - License of whole sale in central pharmacy. Food and drug association gives license. FORM 21B and 20 B license, O.P.D pharmacy Form 20 G +NDPS 2, O.T:NDPS 2, I.P.D:FORM 20+21 +21 C. Licences are issued according to location, storage, pharmacist qualifications.
 - Staff: 13 Staff in inpatient pharmacy, 6 staff in o.p.d, 1 incharge, 1 senior placement, 1 data interpreter. Rest all are pharmacist.

23. Central Sterile Supply Department (CSSD)

CSSD department consists of 3 areas:

A) Decontamination area:

- This area receives used instruments, dressing, linen from OT, OPD, IPD, etc
- This area has unsterile lift to receive infected instruments from OT.
- These infected instruments are washed in hot water with the help of pressure air guns and water guns.
- Then these instruments are cleaned at 45 degree C temperature in Ultrasonic washer machine (Trans-o-sonic).
- After thorough cleaning, instruments are disinfected in washer disinfectant at 90 degrees C.
- Instruments are dried in dryer and sent to assembly area for set preparation

B) Assembly area:

- Sets of instruments are prepared according to requirement of operations.
- These sets are then packed in fabric linen which has expiry date of 7 days from packing date or Non oven which has expiry date of 3 months from packing date or paper package which has expiry date of 1 month from packing date or peel pouches which has expiry date of 1 year from packing date.
- These are packed with help of fix sealing machine.
- A chemical indicator strip is placed in instruments set before packing.
- There are two types of sterilizer:
 - Steam sterilizer: It is high temperature steam sterilizer used to sterile instruments. There are 2 steam sterilizers in CSSD dept; Steris Amesco century 250 liters and 760 liters. It generate steam of 134 degree C. It works on 3 parameters; time required for quality of steam exposure to instruments, 97% saturated steam and temperature of 134 degree C.
 - ETO (Ethylene Oxide) Sterilizer – Steris Amsio Eagle: It is low temperature (37-55 degree C) sterilizer used for sterilization of plastic tubing. It conducts actual sterilization cycle of 14-16 hours. But it takes 48 hours to complete one cycle of sterilization.

C) Sterile storage area:

- This area stores all sterilized instruments set and linen set.
- This area has sterile lift to provide sterilized instruments and linen to OT

D) Quality assurance and sterilization process monitoring:

- Bowie-Dick Test Packs are used daily to evaluate the performance of air-removal (vacuum) system of dynamic pre-vacuum type sterilizers. Available as test cards or preassembled test packs.
- Biological indicators are used for sterility testing
 - 1 lacs Bacillus Sterothermophilus are used for steam sterilization. Color of chemical indicator strip inside container changes from purple to yellow.
 - Bacillus Subtillis or Atrophaeus is used for ETO sterilization. Color of chemical indicator strip inside container changes from green to yellow.
- Chemical indicators are used in each and every pack for sterilization testing.
 - Color of chemical indicator strip inside pack changes from red to green in case of steam sterilization
 - Color of chemical indicator strip inside pack changes from red to dark brown or black in case of ETO sterilization

24.Bio Medical Waste Management

In every department there are various color coded bins for proper segregation of the waste generated in the hospital. Various color coded bags and the waste collected in them includes

- Black bag – For general, domestic and kitchen wastes etc.
- Red bag – for plastic tubing's, syringes and other plastic items.
- Yellow bag – only for infectious wastes such as soiled dressing, cotton, laboratory, cultures and specimens etc
- Red colored plastic container – Needles, blades, Insuline Syringe
- White container – all glass articles (broken and unbroken) in puncture proof white container.

There is a supervisor and 2 housekeeping staff who takes care of all the bio medical waste management. Waste from all the departments of the hospital is collected 3 times a day:

Morning: 7am to 8am

Afternoon: 1:30pm to 2:30pm

Evening: 7:30pm to 8:30pm

Process flow

Waste generated from the hospital is collected 3 times a day.



All the waste is transferred to BMW yard present in the hospital premises.



Waste from the yard is collected once every 24 hours by the vehicle of Pasco environment solutions limited which has been authorized by PCMC (Pimpri Chinchiwad Municipal Corporation) to transport and dispose off the waste.

25.Laundry

Manpower in laundry is outsourced to Sparkle associates, where as machines and the infrastructure is provided by the hospital. Laundry department is taken care by support service supervisor under whom there are a total of 16 staffs in laundry- 2 supervisors, 2 washerman, 5 pressman and 7 for collection.

In laundry there are 3 large washing machines- 85 kgs machine for while linen, 60 kgs machine is for green linen and 25 kgs machine is for infected linen. In addition there is a regular washing machine for guest laundry. In drying area there are 2 machines of 45 kgs each for drying clothes. There are 3 flat press for ironing the linen. In addition there is a calendar press for pressing and drying. Each machine is attached to big tubes for steam which in turn is attached to hot water tank present behind the hospital.

From the hospital linen is collected 2 times in a day once between 7am to 8am and again between 3:30 pm to 4:30 pm during which infected and soiled linen is collected from different departments and replaced by equal number of fresh linen. The infected linen is collected in a dirty utility room, then it is taken into the chemical room where it is soaked in the chemical and then washed separately in the 25 kgs washing machine.

For the staffs uniform is given and collected on a daily basis by the staff from the laundry. There is a separate uniform room in the laundry where uniform is stored or stacked according to the ID number. Requirement for the new clothes are sent to purchase department and is then stored in the store.

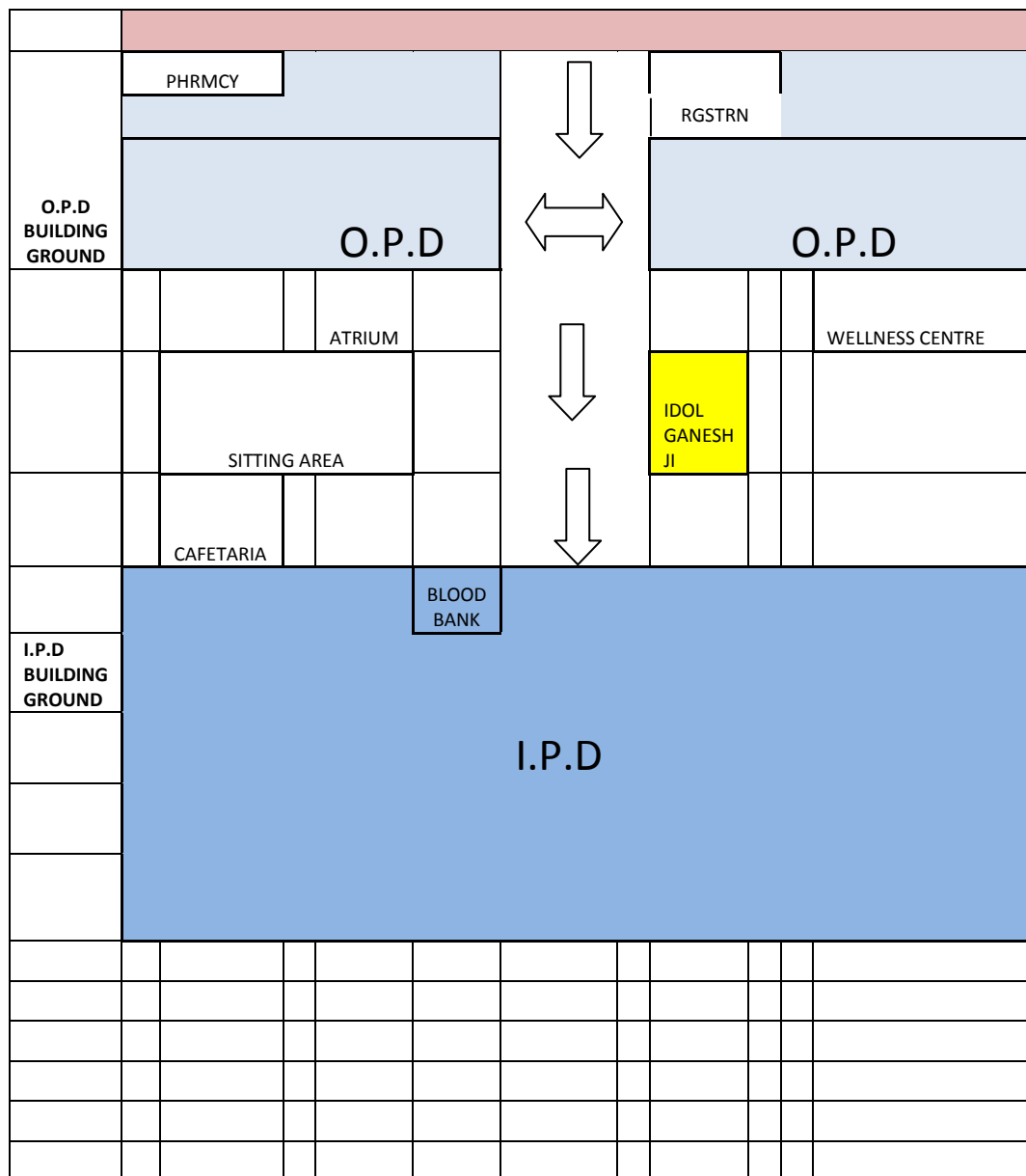
26.Public Addressing System For Communication During Emergencies:

- Code blue: Medical emergency/cardiac arrest/individual disaster.
- Code red :fire ,gas leakage.
- Code purple :security threat.
- Code pink: baby missing.
- Code yellow: hazardous material spillage.
- Code black: bomb threat.
- Code orange: external disaster like mass casualty due to accidents ,riots, fire,and natural disasters.

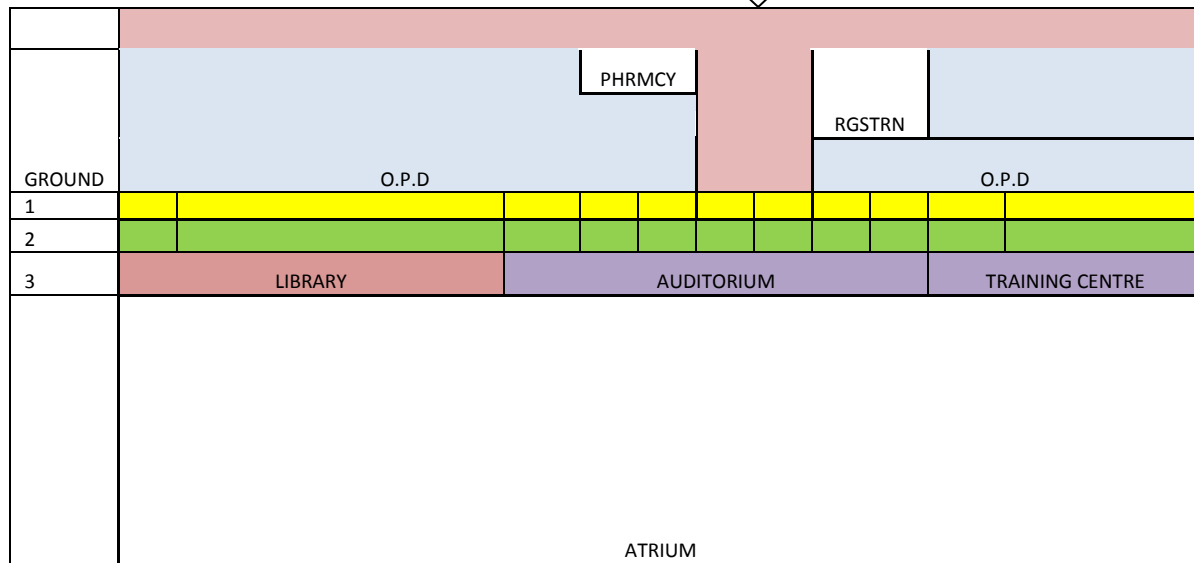
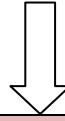
➤ 27.Orientation programs in hospital:

- General safety processes.
- Area specific safety.
- Specific job related hazards.
- New employee orientation.
- Life safety programs.
- Continuing education of all hospital employees.
- Reference library of documents.
- Medical equipment management.
- Emergency preparedness.
- Hazardous material handling
- Management of needle stick injury.
- Infection control. etc

Floor Wise Planning Of the Hospital

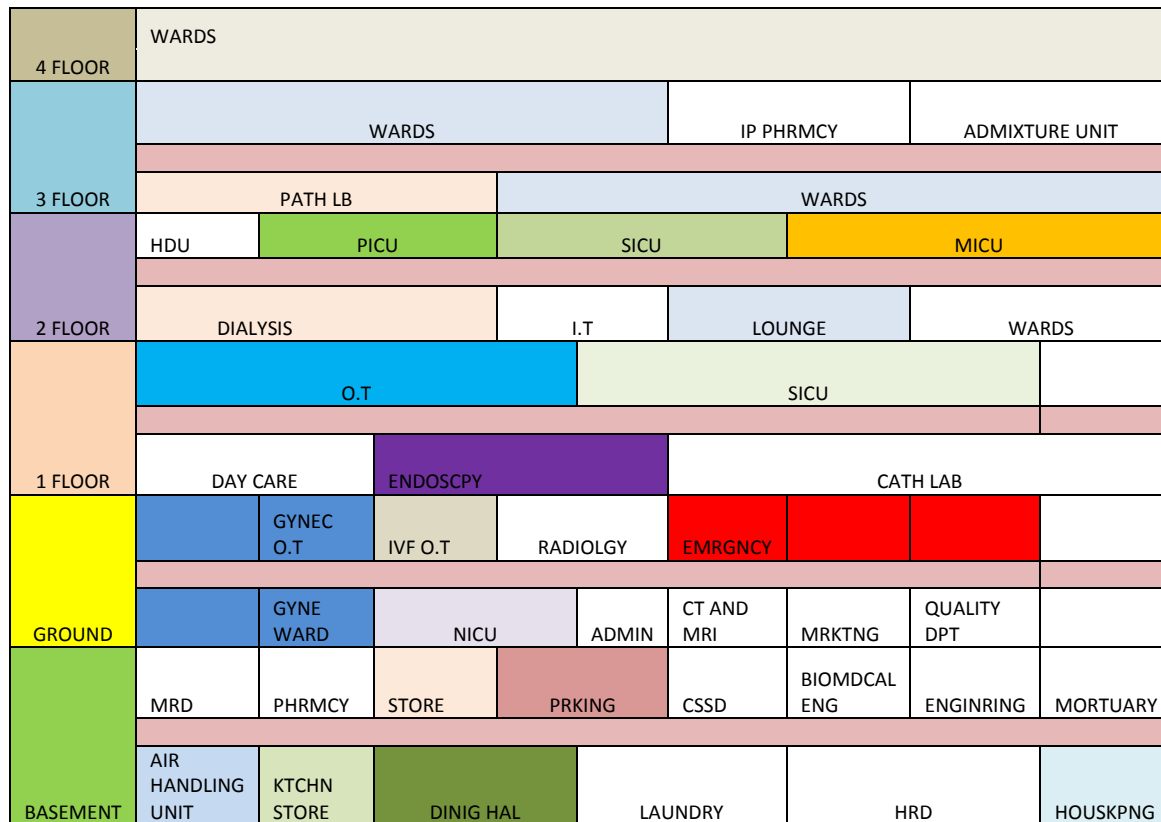


O.P.D BLOCK



CONNECTED

I.P.D BLOCK



				FLOOR WISE PLAN					
BASEMENT									
	HRD	Laundry	CSSD	Biomedical eng	Houseke eping	Waste Manageme nt	Engine ering		
		Central Pharmac y	STORE	Kitchen store	Dining hall	Parking	MRD	mortua ry	
GROUND	Registrati on counter	OPD	Sample Collectio n	Gynaec Ward	GYNE OPD	GYN OT	Genera l Pharm acy	OPD Pharm acy	Emergency
	AIR HANDLIN G UNIT	I.V.F OT	Billing	NICU	ADMIN	Kitchen	RADIOL OGY	CT AND MRI	Atrium(Shops ,Cafe)
FIRST	OPD	OT COMPLX	CATH Lab	Day Care	Endoscop y	Dialysis			
SECOND	MICU	SICU	I.T Dept	Pathology	Transpla nt Dept	HDU	PICU	Relativ e Lounge	
THIRD	General Ward	Single N Multi Bed Suite	IP Pharmac y	Cytotoxic Admixture Unit	Library	Auditorium	Trainin g Room		
FOURTH	Wards								
SEPERATE FROM HOSPITAL BUILDING	Gas Manifold Room	Biomedic al Waste Yard							

Area Of Hospital=53,000square
meters

Covered area=35,820 square meters

No. Of lifts=14

No. Of staircase=4

Basement parking=4000 square
meters

Parking near gate=6000 square
meters

No. Of Beds =500(Functional=350)

O.P.D (GROUND FLOOR)

Internal Medicine ,Oncology, Obs \$Gynec,

Pediatrics,Fitness Clinic,

Physiotherapy,Hydrotherapy,

Pediatric Therapy ,Gymnaeisum

Obesity Clinic,Sample Collection Room

Bone ,Joint And Spine Services

O.P.D (FIRST FLOOR)

Ophthalmology,Cvs Service Centre

Urology,Pulmonary Medicine

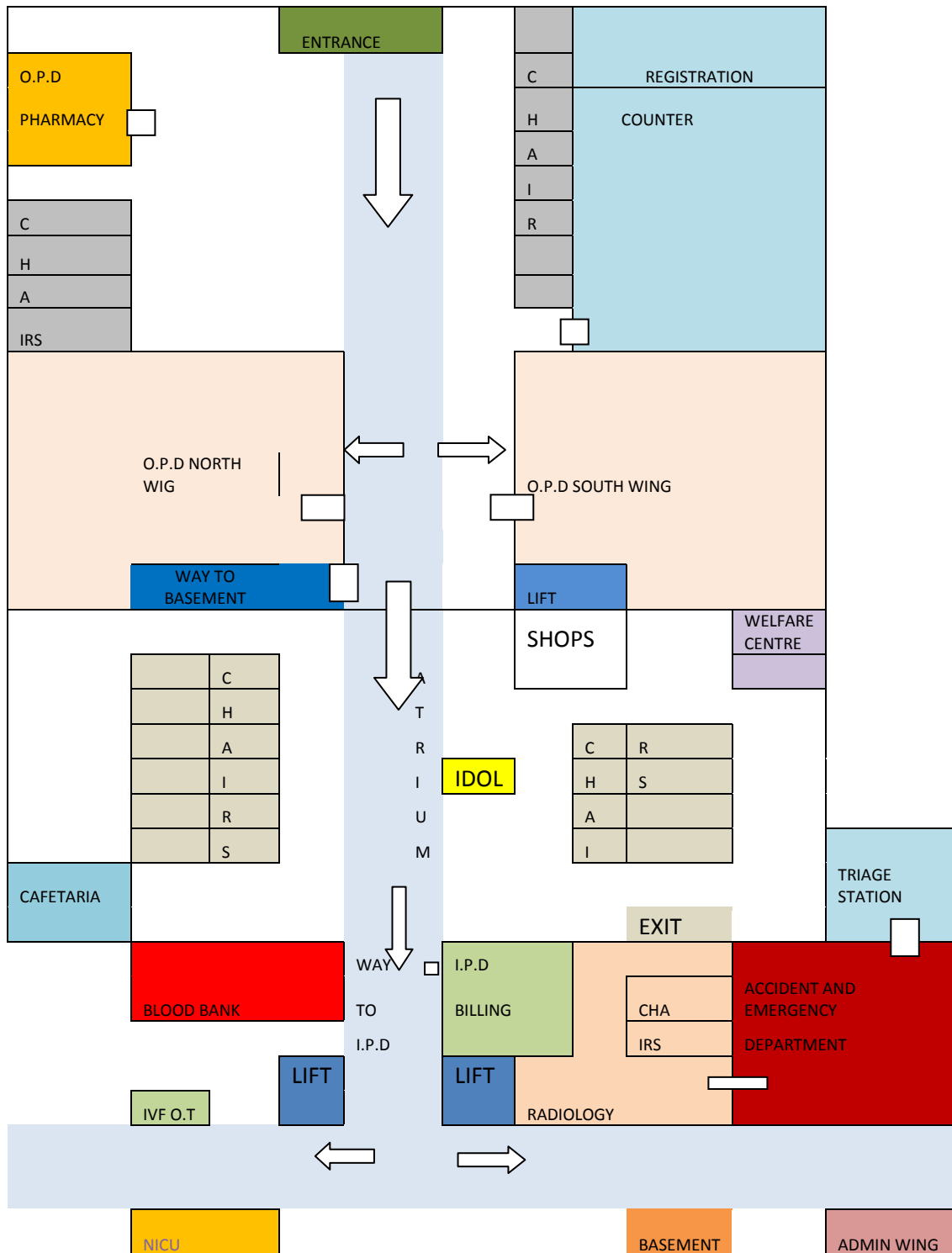
Ent,Neuroservice Centre

Nephrology,General Surgery

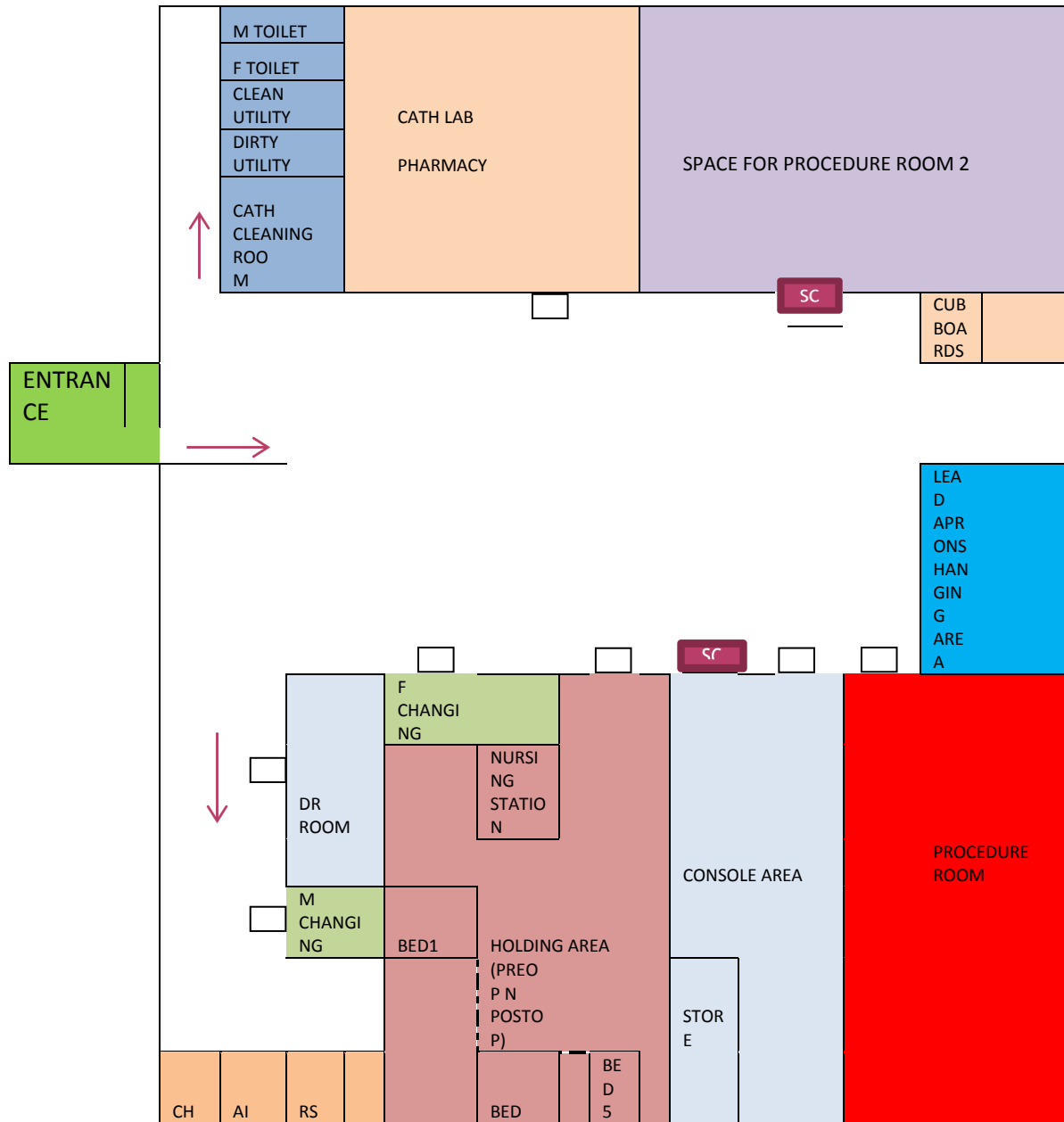
Dental,Dermatology And Cosmetology

Cosmetic And Plastic Surgery

GROUND FLOOR

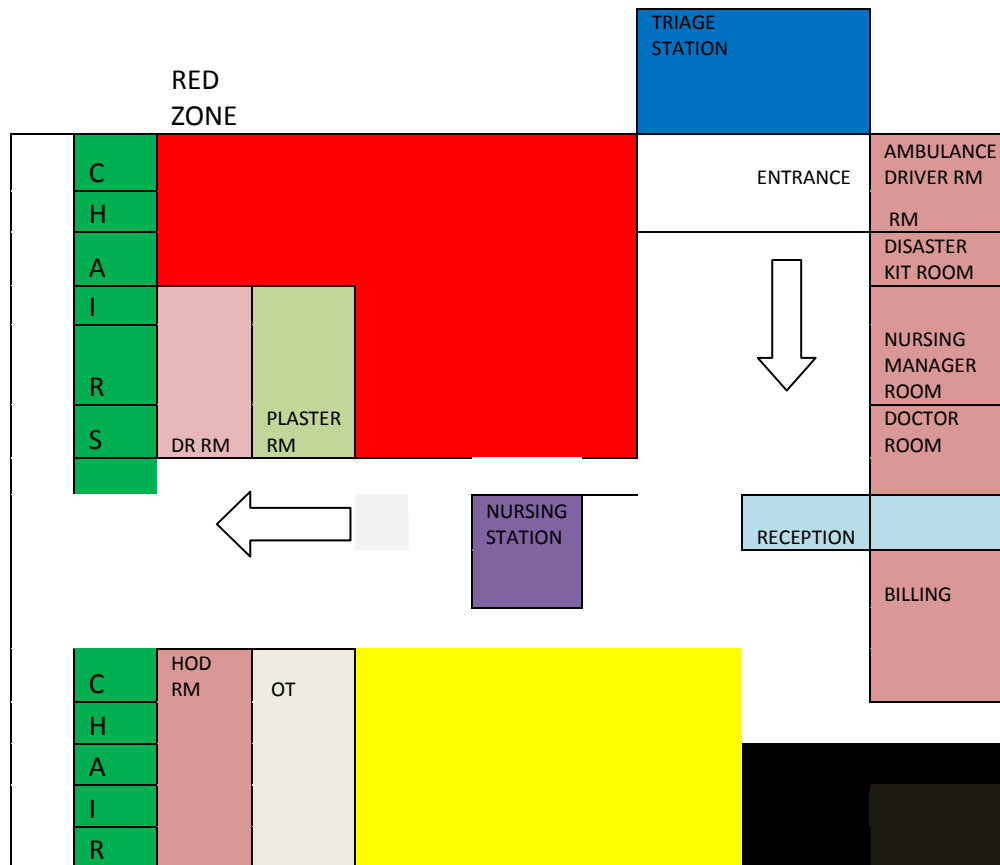


CATH LAB (1st floor)

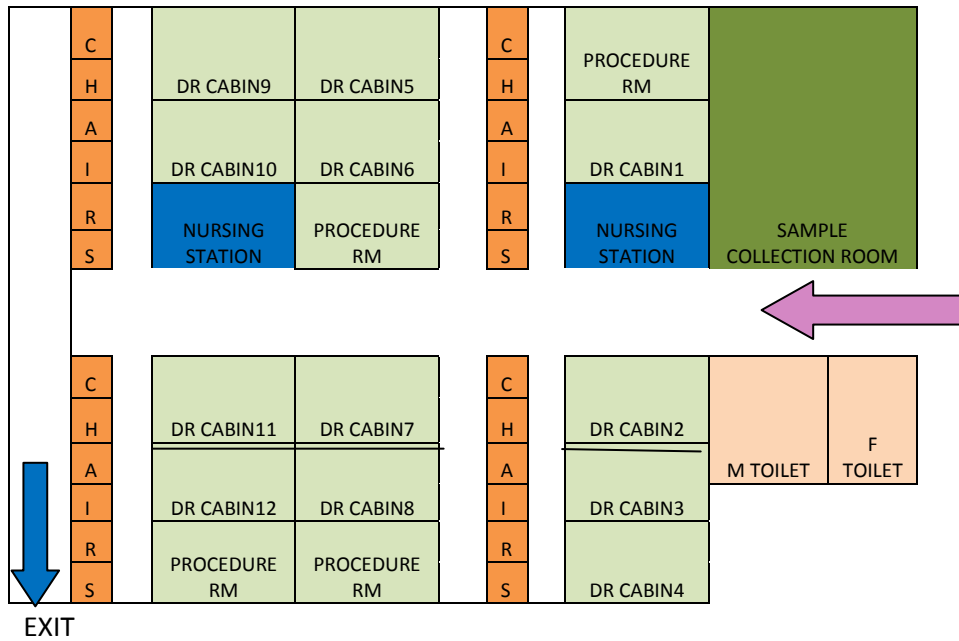


SCRUB STATION 

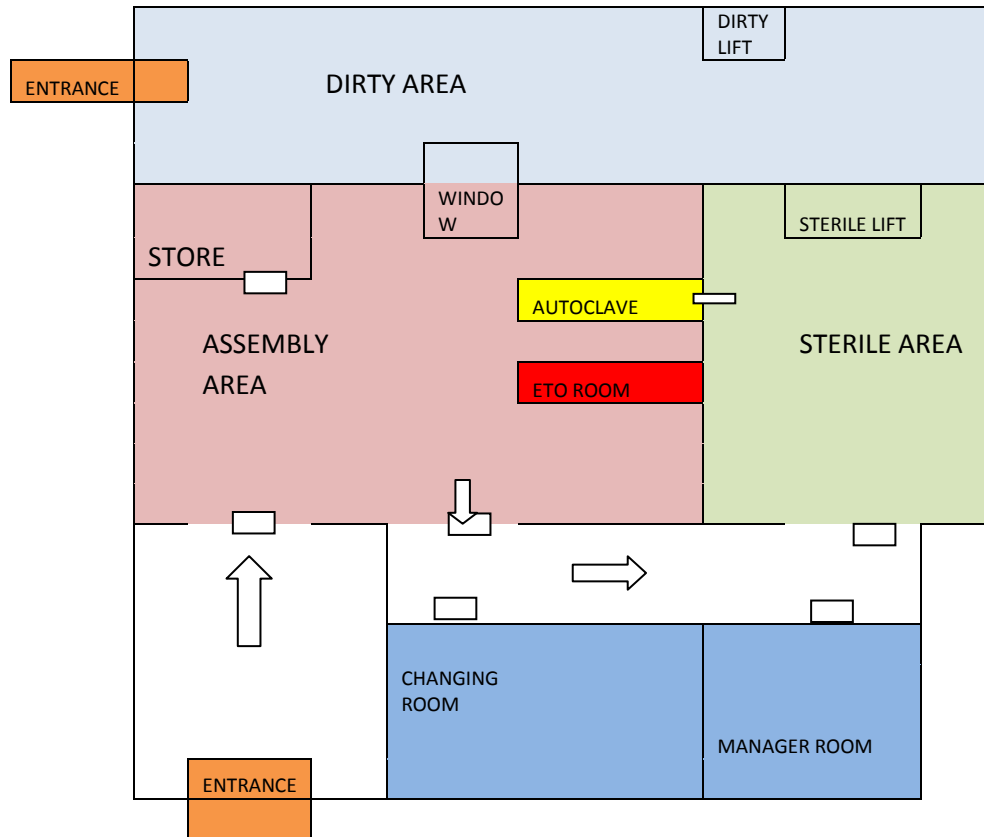
ACCIDENT AND EMERGENCY



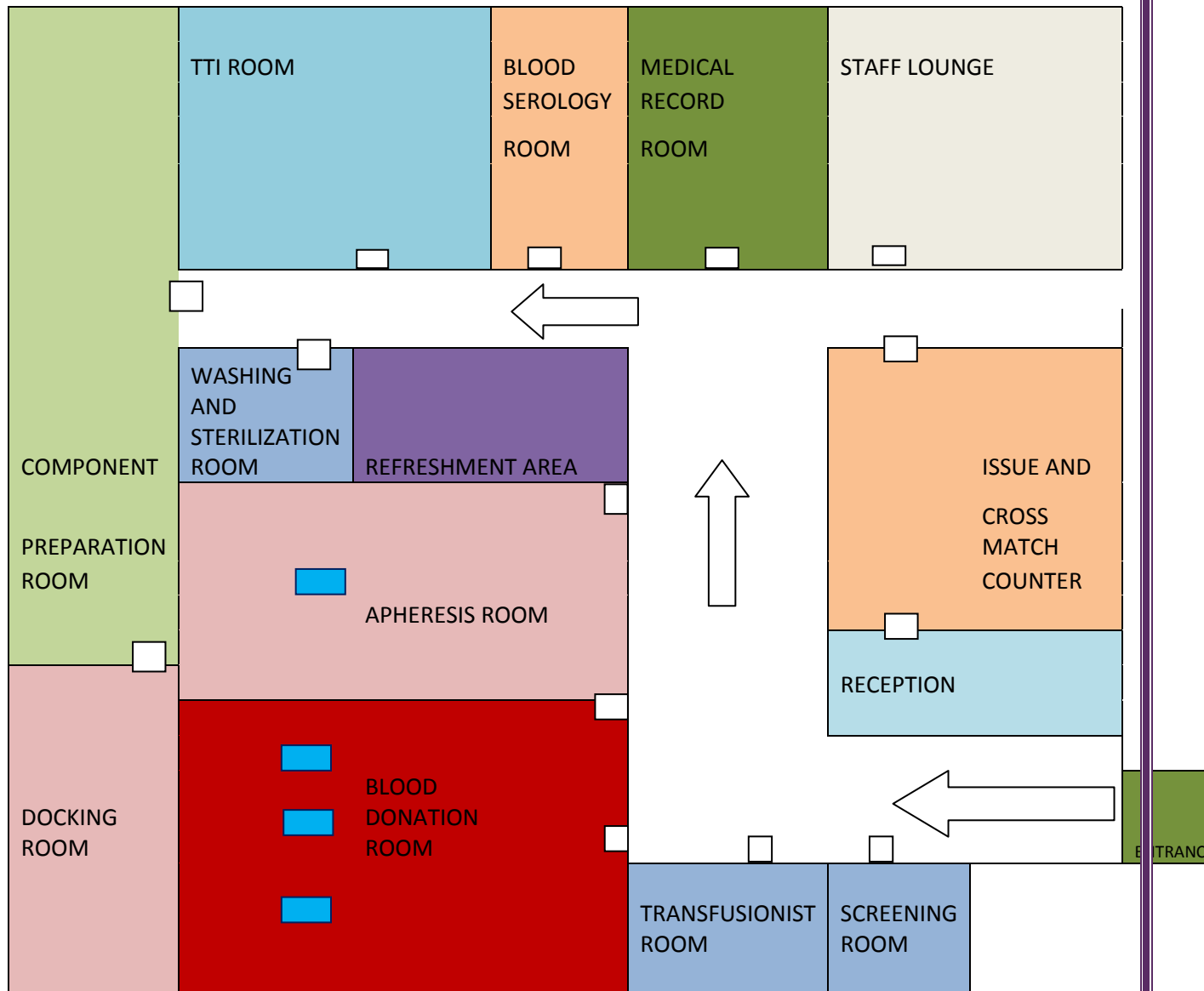
O.P.D



CENTRAL STERILE SUPPLY DEPARTMENT



BLOOD BANK



BEDS 

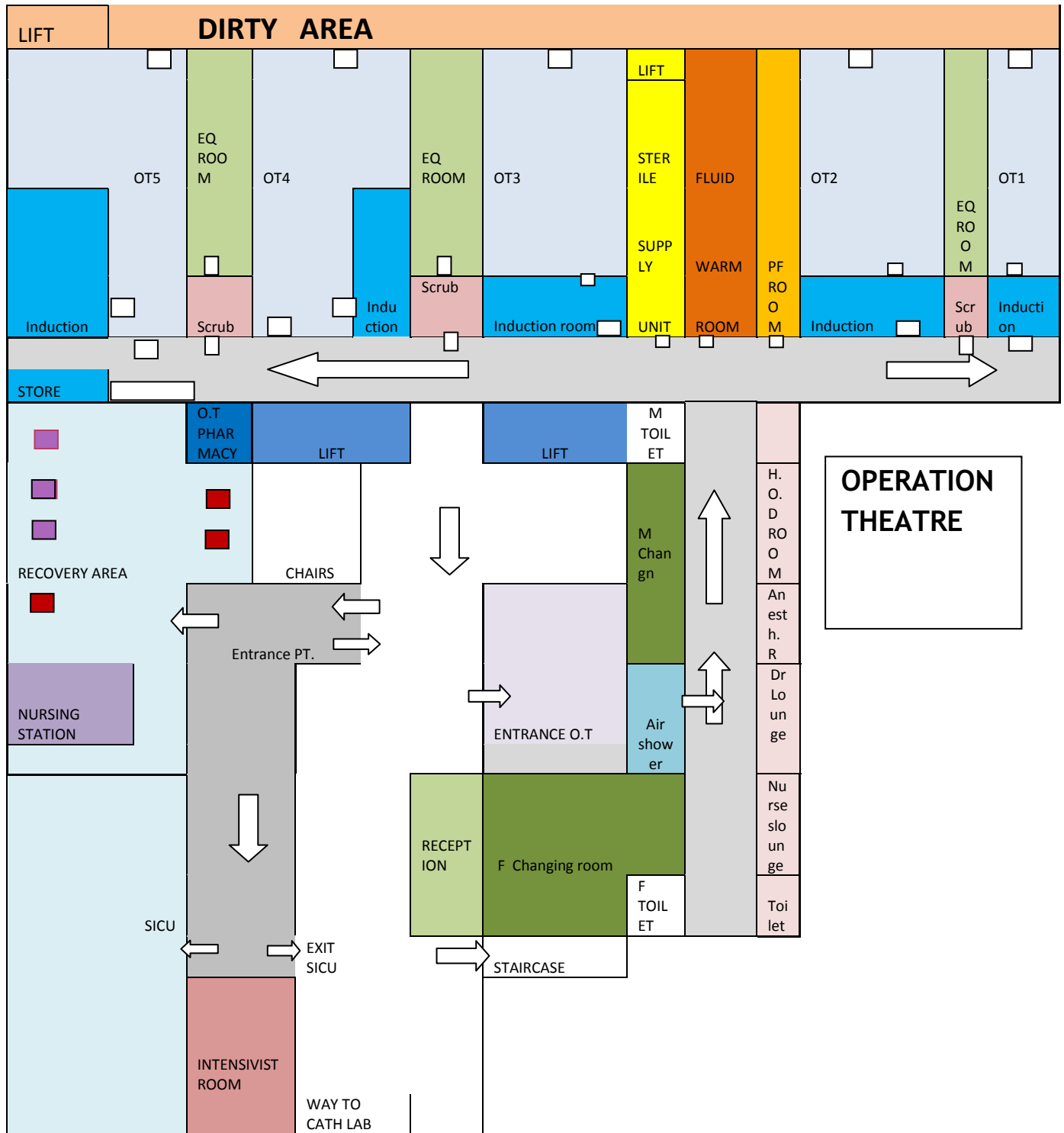
M-MALE

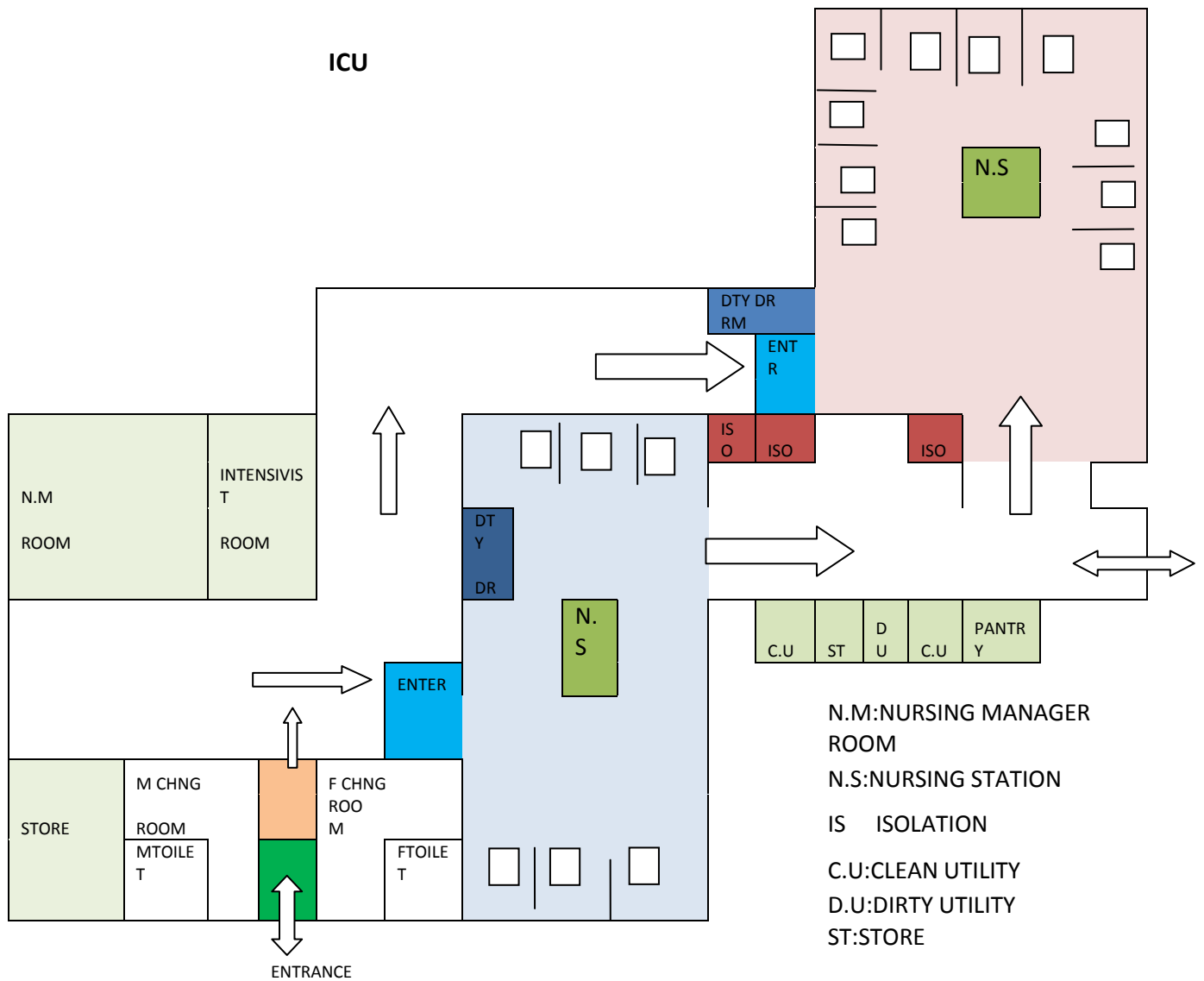
F-FEMALE

PF-PERFUSIONIST

O.T-OPERATION THEATRE

□ BEDS





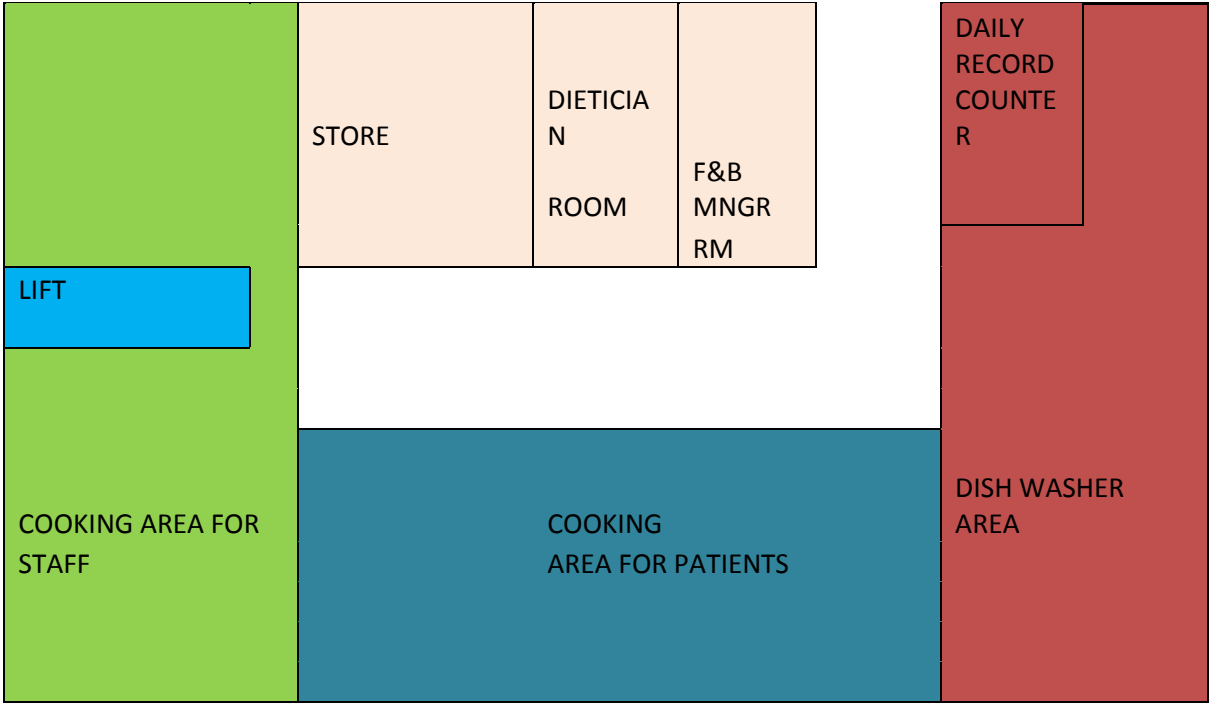
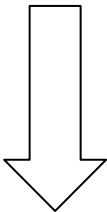
BEDS

ENTRANCE AND EXIT FOR PATIENT AND OTHER STAFF:

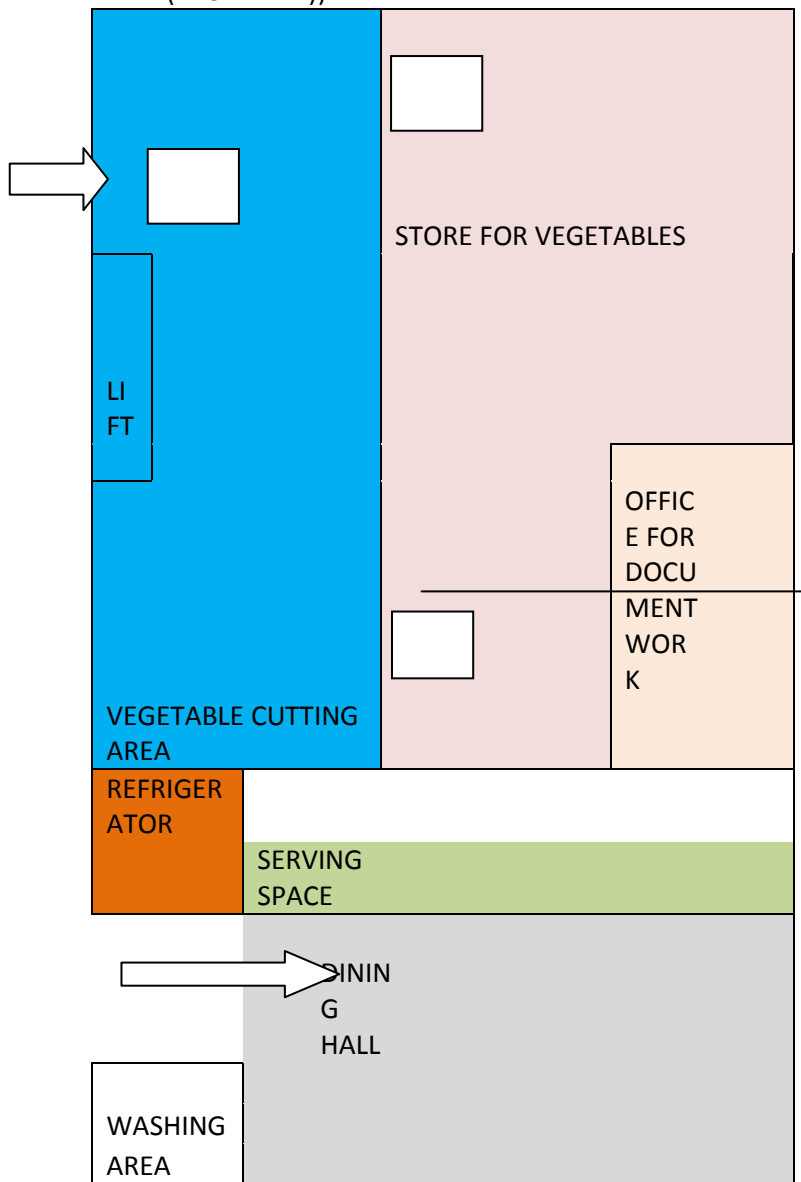


KITCHEN

(GROUND FLOOR)



DINING HALL AND KITCHEN STORE
(BASEMENT))



Section B

Project On Quality Assessment In Operation Theatre, I.C.U and Catheterisation Lab.

Contents

1.INTRODUCTION	84
2. AIM:	85
3. OBJECTIVE OF STUDY:	85
4. RESEARCH METHODOLOGY:	85
1. Study design:	85
2. Duration	85
3. Study area	85
4. Sampling technique.....	85
5. Sample size	85
6. Tool: Checklist	85
7. Technique :	85
8	85
5.OPERATION THEATRE	87
➤ Policy of entering operation theatre	87
➤ Policy of receiving patient in preoperative room:	87
➤ Policy on disposal of sharp wastes	87
➤ Policy on hand washing	87
➤ Policy for patient care in theatre	87
➤ Policy for patient care in recovery :	87
➤ Policy for sterilisation of instruments:	87
➤ Policies for management of equipments:	88
➤ Policy on waste management.	88
➤ Policy on cleaning of operation theatre.....	88
GAPS:	94
RECOMMENDATIONS:	94
6.INTENSIVE CARE UNIT.....	95
Standard operating policies in I.C.U	95
➤ Policy on documents:	95
➤ Policy on infection control:	95

➤ Policy on ward rounds:.....	95
➤ Policy on ward calls:	95
➤ Policy on daily management in I.C.U:	95
➤ Policy on intrahospital transportation of patients:	95
➤ Policies on management of infection:	95
Gaps:	100
RECOMMENDATIONS:	100
7. CATHETERIZATION LAB	101
Major policies followed in CATH lab	101
RESULTS:	107
RECOMMENDATIONS:	107
8. LIMITATIONS OF STUDY	107
9. CONCLUSION	108
STUDY ON SAFETY CULTURE	109
1. INTRODUCTION	110
2. NEED FOR STUDY	111
3. INTERNATIONAL PATIENT SAFETY GOALS	112
4. VULNERABLE PATIENTS	113
WHO ARE VULNERABLE PATIENTS	113
SAFETY PRECAUTIONS OF VULNERABLE PATIENTS	113
5. OBJECTIVE	114
6. RESEARCH METHODOLOGY	114
7. REASONS FOR NON COMPLIANCE	117
8. RECOMMENDATIONS.....	117
9. LIMITATIONS OF STUDY	117
10. CONCLUSION	118

1.INTRODUCTION

Improving the quality, safety, and efficiency of health care is a goal shared by health care organizations and countries around the world. Various standard policies are being set by J.C.I to achieve this goal. Aditya Birla hospital is J.C.I accredited hospital.

Implementation of Operating theatre, I.C.U and CATH lab policies are important to:

- ensure patient safety and optimal patient outcome,
- maximize the efficiency of operating room utilization ,staff, and
- decrease patient delays for surgeries
- enhance satisfaction among patients, staff, and physician

This project is mainly based on identification of gaps in implementation of the policies. A comparative study is done in operation theatre, I.C.U, CATH lab based on J.C.I policies. Data is collected by observations and asking information from doctors, nurses and other staff. Policies followed are compared with standard policies of J.C.I. Major Parameters are being taken from the policies for analysis of the gaps. Incidence of delay in surgeries and the reason behind them is also analysed in operation theatre and CATH lab.

2. AIM:

- To improve quality of patient care, safety and operational efficiency.

3. OBJECTIVE OF STUDY:

- To assess quality (using JCI parameters*) of OT, ICUs of 350 bedded multi super speciality hospital in Pune and find out the gaps.
- To develop the solutions to bridge the gaps.

4. RESEARCH METHODOLOGY:

1. Study design: Cross sectional comparative study. Comparison is being made between the J.C.I standard and the policies being followed in the hospital.

2. Duration : 1 month (20 April to 30 May).

3. Study area :

- Operation theatre.
- MICU, SICU.
- CATH lab.

4. Sampling technique: Simple Random sampling.

5. Sample size

- O.T = 100 PATIENTS
- I.C.U = 100 PATIENTS
- CATH LAB = 55 PATIENTS

6. Tool: Checklist

7. Technique : Primary data is collected by observations and information from key informants (Doctors, Registrar medical officer and nurses).

8 .Analysis : Data is analyzed in excel sheet

***PARAMETERS ANALYSED IN OT:**

- % Of Delay Cases for surgery.
- Reasons Of Delay.
- % Of Cancelled Cases.
- Reasons Of Cancelled Cases.
- Patient Safety Parameters.
 - Time Out.
 - Consent Form
 - Site Marking
 - Preoperative Checklist.

***PARAMETERS ANALYSED IN ICU:**

- Documents.
- Infection Control Parameters.
 - Hand Hygiene.
 - Sharp Disposal
- Daily Management Parameters.
 - Counselling Sessions with relatives by Intensivist.
 - Nursing Overs .
 - Ward Rounds by Intensivist.
 - Infection Control Nurse Round.

5. OPERATION THEATRE

Major policies in operation theatre

- **Policy of entering operation theatre:** Any person entering inside the operation theatre complex should wear O.T dress, footwear, cap, and mask. After that taking air shower is must.
- **Policy of receiving patient in preoperative room:**
When a patient comes inside operating room preoperative verification of patient should be done by staff nurse for the safety purpose. Identification of patient is done by Id band and asking name. If patient is unconscious then name can be confirmed by relatives. Patient name, medical registration number and date of birth is mentioned in ID band. Informed consent of patient should also be checked.
- **Policy on disposal of sharp wastes.** Needles should be disposed in sharp collector. Lid of sharp box should be snap locked once the box is $\frac{3}{4}$ full and should be handed over to housekeeping to be taken to biomedical waste yard.
- **Policy on hand washing:** The application of hand hygiene is effective in reducing infection rates. Hand washing and rubbing should be done before any bedside invasive procedures, before and after all patient contact, before donning and following removal of Personal Protective Equipment, before entering or leaving clinical area, before carrying out aseptic technique. After contact with blood/body fluids. After contact with patients environment or equipment which may be potentially contaminated.etc. Thorough scrubbing of hands should be done before entering and exiting operation theatre.
- **Policy for patient care in theatre:** To ensure patient safety time out procedure is done in front of surgeon and anaesthetist. Correct site, correct patient, correct procedure, presence of all required equipments, consent form is checked at the time of surgery.
- **Policy for patient care in recovery :**
Patient is monitored by anaesthetists and nurses at the recovery area. All vital parameters are monitored, operation notes should be signed by surgeon and scrub nurses, all the medical records checked and patients are shifted towards after getting stabilised.
- **Policy for sterilisation of instruments:**
All the instruments should be washed in dirty area and sent to CSSD for sterilization. Fluoroscopes are sterilized in Cidex.

- **Policies for management of equipments:**
Daily checking of instruments should be done by biomedical engineers.
- **Policy on waste management.**
Colour coded containers for disposal of biomedical waste.
- **Policy on cleaning of operation theatre.**
Terminal cleaning of operation theatre is done by 5% Ecoshield and all the equipments cleaned by bacillol solution.

SITE MARKING

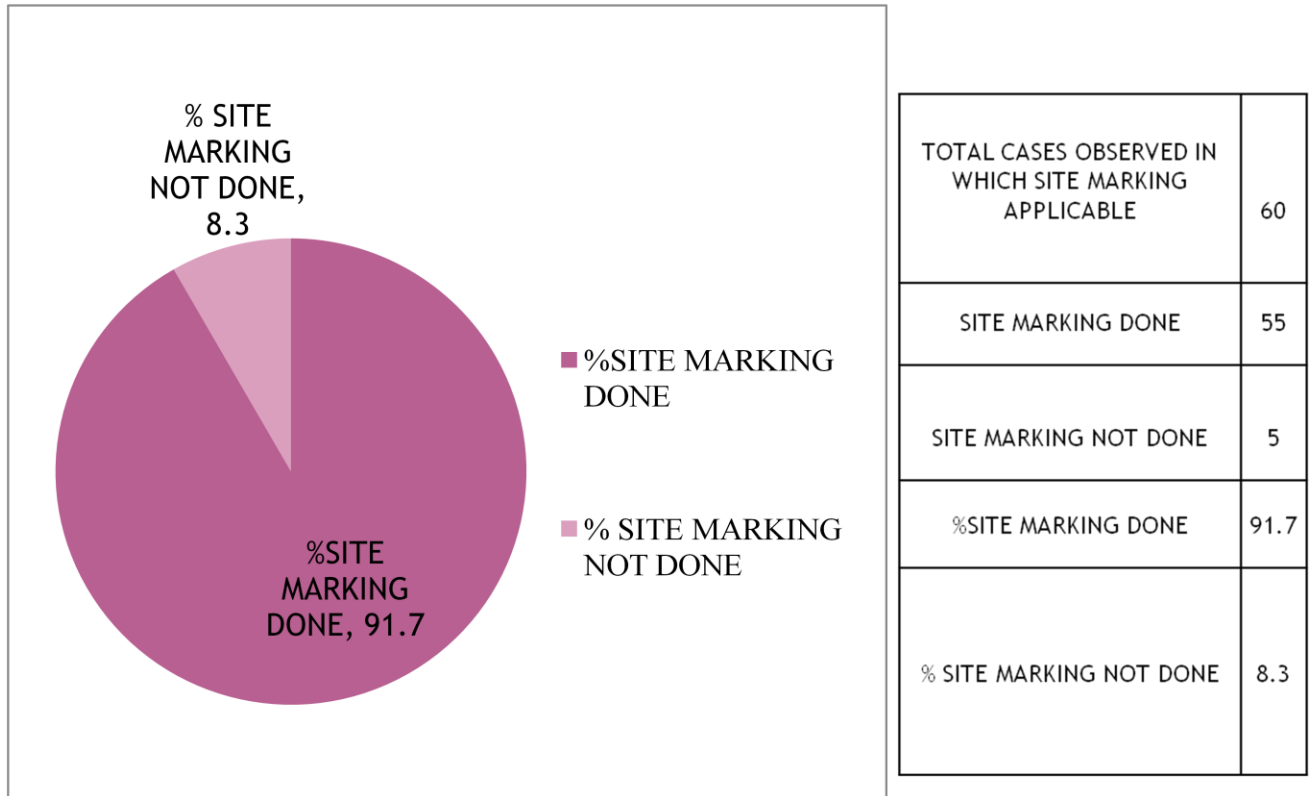
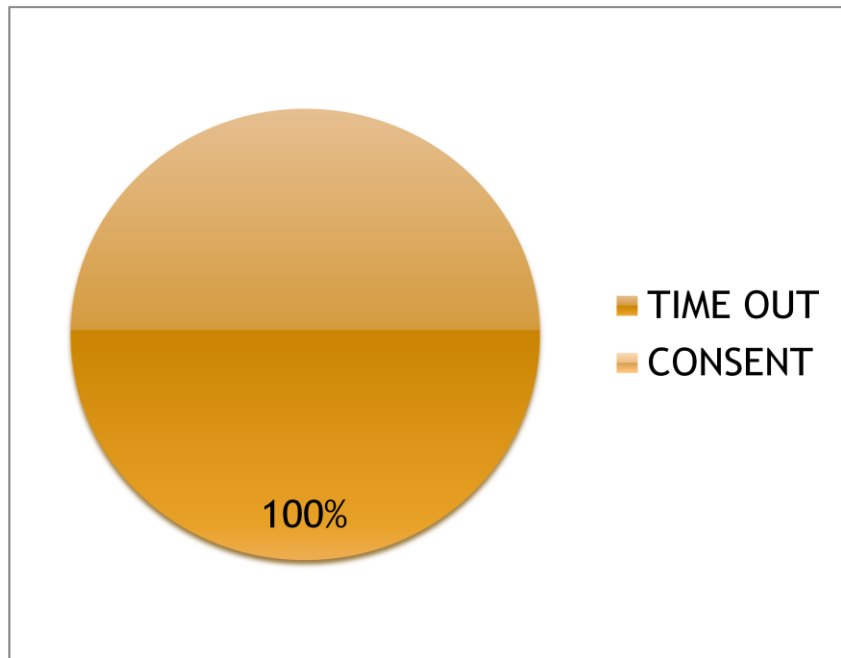


Figure 1

Figure 1

- Site is marked when there is more than one possible location for the procedure.
- The site does not need to be marked for bilateral structures. Examples: tonsils, ovaries
- Observed cases for site marking .Total cases in which site marking was done is 91.7%.
- To remove errors due to site marking Surgeons, R.M.O and nurses should be more careful.

TIME OUT AND CONSENT



NO. OF CASES OBSERVED	100
TIME OUT & CONSENT FORM	100%

Figure 2

- Time-out is conducted immediately before starting the invasive procedure or making the incision.
- The time-out is standardized.
- The time-out involves the immediate members of the procedure team: the individual performing the procedure, anaesthesia providers, circulating nurse, operating room technician, and other active participants who will be participating in the procedure from the beginning.
- During the time-out, the team members agree, at a minimum, on the following:
Correct patient identity, correct site, and procedure to be done.
- Consent form is checked for patient, surgeon and anaesthetist signature, Date, Procedure name.
- 100% time out and consent form is filled.

% Of Cancelled And Delay Cases

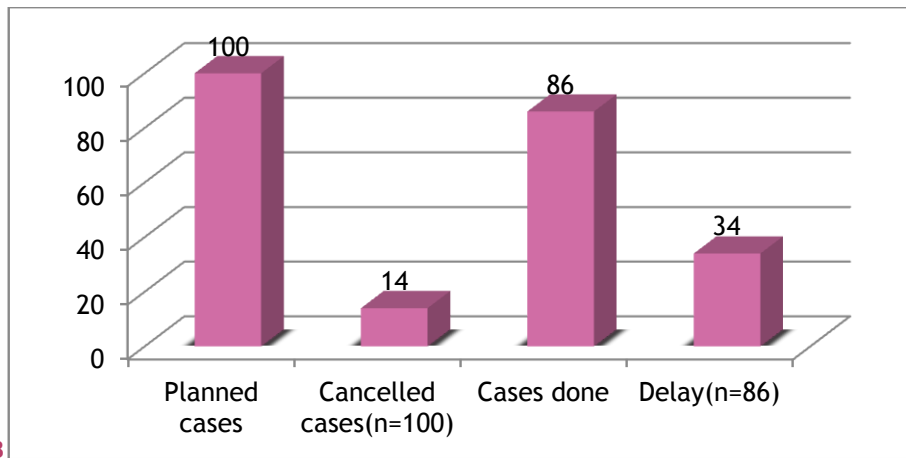


Figure 3

Planned cases=100

Cancelled=14

Planned Cases done=86

Delay=(34/86)

Reasons for Cancellations

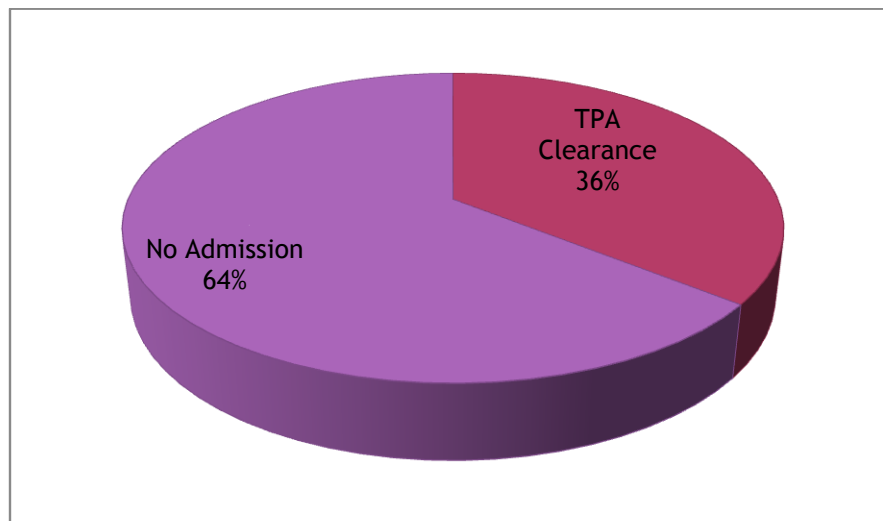
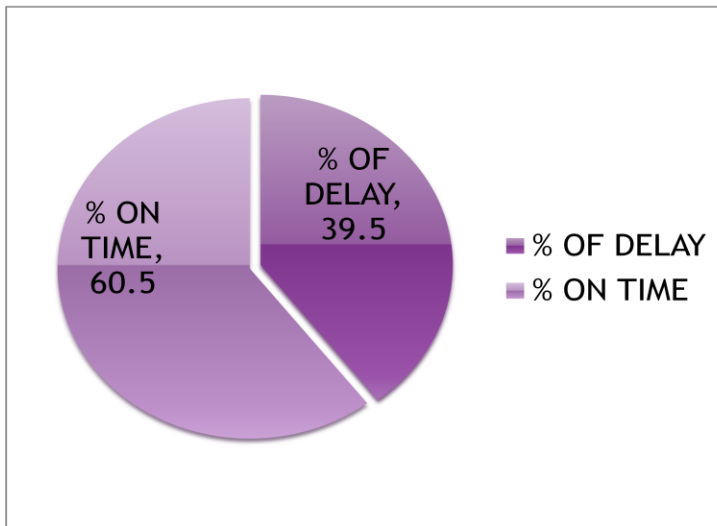


Figure 4

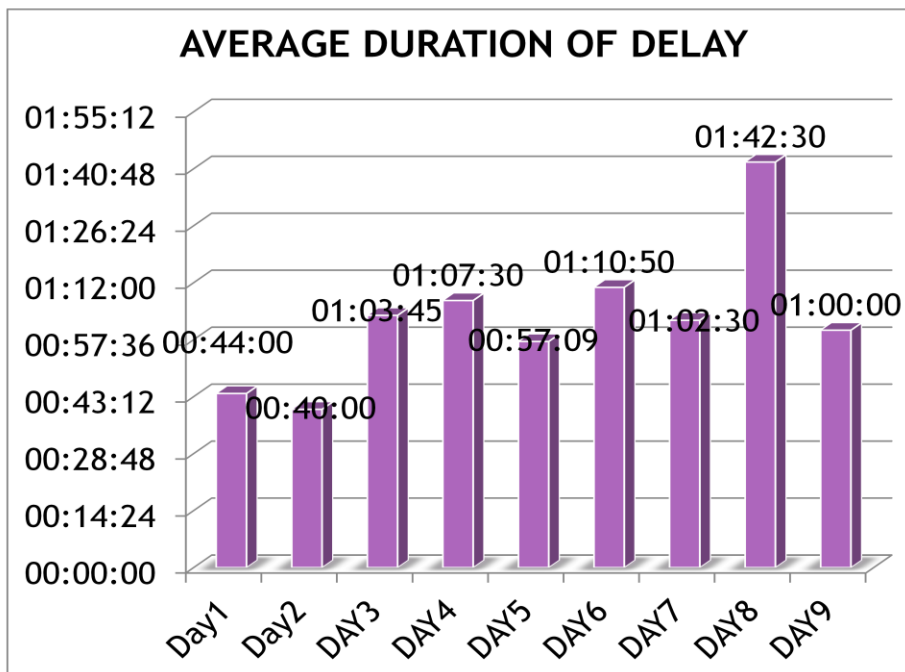
% DELAY



NO. OF CASES OBSERVED	100
PLANNED CASE	86
DELAY	39.5%

Figure 5

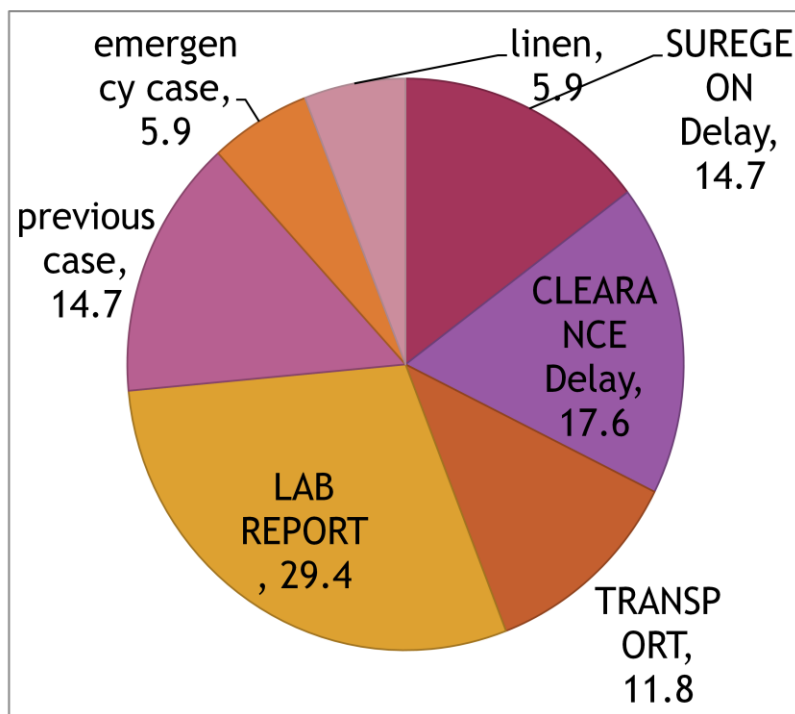
AVERAGE DURATION OF DELAY



Average delay
=1 hr.

Figure 6

% OF REASONS FOR DELAY IN O.T



Out of 34 delay cases

SURGEON DELAY	14.7
CLEARANCE DELAY	17.6
TRANSPORT	11.8
LAB REPORT	29.4
previous case	14.7
emergency case	5.9
linen	5.9

Figure 7

- 29.4% delay due to lab investigations is highest.
- 17.6% delay is also because of the In Patient Clearance problem due to delay in Third party assurance.
- 14.7% Surgeon delay is mainly because of the reason that O.P.D and O.T D days are not fixed.
- 14.7% cases are delayed due to O.T occupied in previous case.
- 11.8% cases are delayed due to transport problem.
- 5.9% delay is because of surgeon busy in emergency case
- Few % (5.9%) of cases are delayed if clean O.T linen is not available on time from CSSD

GAPS:

- Preoperative verification of patients was not done properly. No Separate Desk Monitor to check document work . Preoperative checklist was not verified since Nurses were busy doing both document work and patient care.
- Site Marking not done in few cases due to negligence of assistant doctors and nurses in wards .
- Delay in Cases due to Lab Investigations Report Late, Surgeon busy in O.P.D, Transport Etc.
- O.T and O.P.D days of Surgeon are not fixed.
- No Separate Transporting Staff for O.T. Number of Transporting Staff less.
% of cancelled cases more.

RECOMMENDATIONS:

- Proper Patient Preoperative Verification by verbally communicating with the Patient or Checking Patient's Checklist .
- Separate Desk Monitor should be there to look for documentation Work and Preoperative checklist verification.
- Nurses And Doctors in the Ward Should Preverify Patients For Site Marking Before Sending To Operation Theatre Complex
- Open communication among all staff .
- First Case Of each Operation Theatre should start at scheduled time.
- Lab Investigations should be done Prior to the Day Of Surgery.
- OT Days And OPD Days Should Be fixed for the Surgeons.
- Proper Identification Of Cases and appropriately placing them into predetermined time slots.
- Allocate the right amount of Operating Room Time to each service on each day of the week so that next case can be scheduled on time.

6.INTENSIVE CARE UNIT

Standard operating policies in I.C.U

➤ **Policy on documents:**

Major documents important for I.C.U are transfer in, transfer out, shift out forms, Apache forms, I.C.U flow chart, and plan of care, consent form, nursing progress notes, comprehensive patient safety tool, and death certificate. These documents should be properly filled and signed by doctors, nurses, and intensivists.

➤ **Policy on infection control:**

Prevention of nosocomial infections is done by: hand washing, gloving, environmental swabbing, gown, mask, sterile drapes.

➤ **Policy on ward rounds:**

Intensivists' rounds should be held daily accompanied by RMO and nurses.

➤ **Policy on ward calls:**

Patients should not be left unattended.

➤ **Policy on daily management in I.C.U:**

Daily consultant visits, counselling of patients relatives by intensivist, document case notes, document essential orders, daily investigations to be checked by duty consultants, registrars and nursing co-ordinator etc.

➤ **Policy on intrahospital transportation of patients:**

Patient monitored during transport by I.C.U staff, document transfer notes in patient record and safely transfers the patient to wards.

➤ **Policies on management of infection:**

Daily cubicle cleaning, removal of soiled linen after patient discharge. Infection control nurse rounds daily .Monitoring of 4 parameters on daily basis: Ventilator per 1000 days, central line catheter per 1000 days, urinary catheter per 1000 days, surgical site infection, to check for ventilator associated pneumonia, Follow up after 24 hrs for infection.

OPEN FILE AUDIT

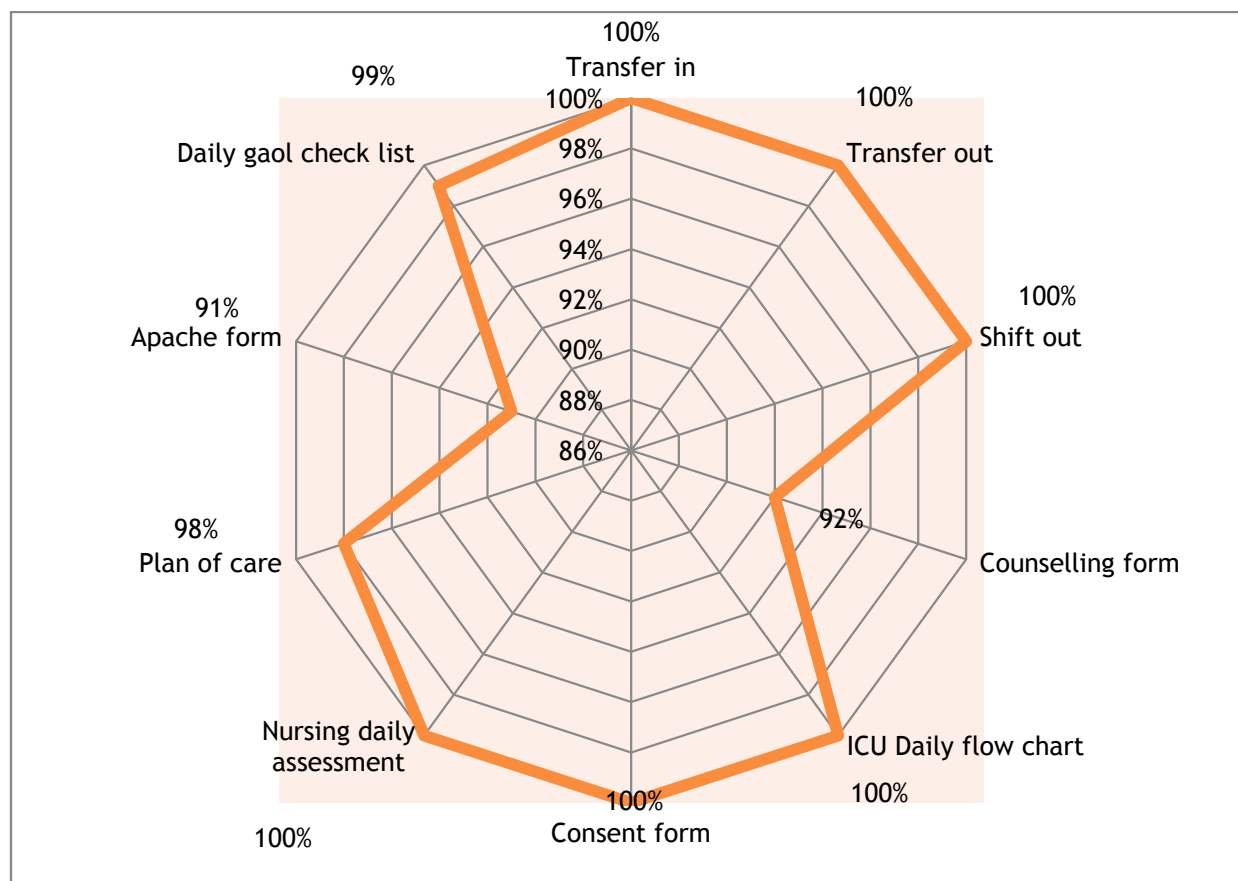
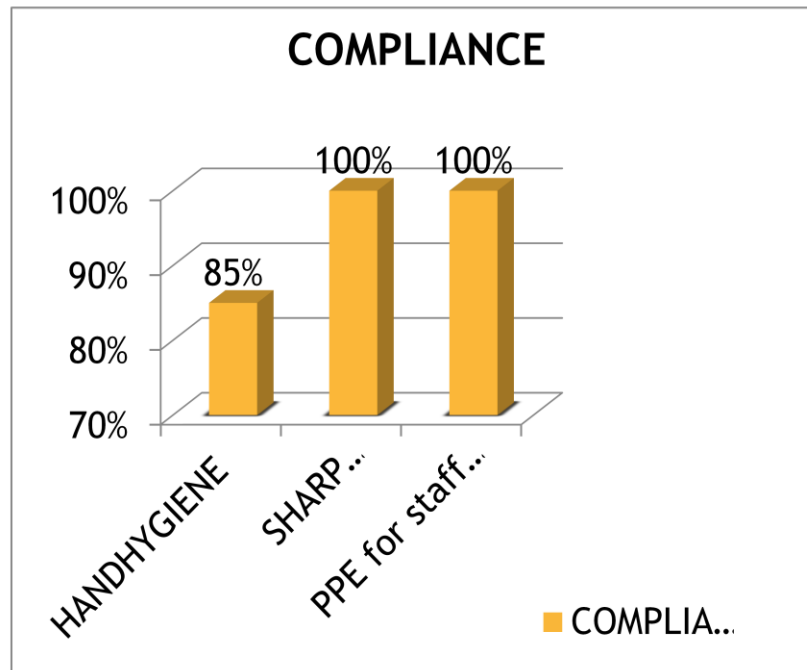


Figure 8

- 9% APACHE forms are not filled.(APACHE-Acute Physiological and Chronic Health Evaluation)
- 2% plan of care not signed by consultants.
- 1% daily goal check list not filled.
- 8% counselling forms not filled.
- Transfer out, shift out, consent form, ICU daily flow chart, nursing progress notes filled 100%.

POLICY ON INFECTION CONTROL



- Sharp disposal=100%
- Hand hygiene=85%
- Biomedical waste disposal in colour coded bins done
- Traffic control in I.C.U followed

Figure 9

- 20 nurses are observed for sharp disposal in MICU and SICU. Needles disposal in sharp containers was found 100% compliant.
- Hand Hygiene refers to use of alcohol foam hand rub or washing hands with soap and water for at least 15 seconds.
Observed 20 nurses and 20 doctors for hand hygiene (hand washing and hand rubbing both)
Hand hygiene is observed for following criteria: Before patient contact, after patient contact, after contact with blood, body fluids and secretions ,before and after any clean and aseptic procedure, after contact of patient surroundings.If any one of the following criterias are found unmet then it is taken as non compliant.
- Staff wearing personal protective equipments is 100% compliant.

- Traffic control is one of the major factor to control infection and it is being followed in MICU and SICU. There was fixed timings for relatives and not more than two persons are allowed at a time.

POLICY ON DAILY MANAGEMENT IN I.C.U

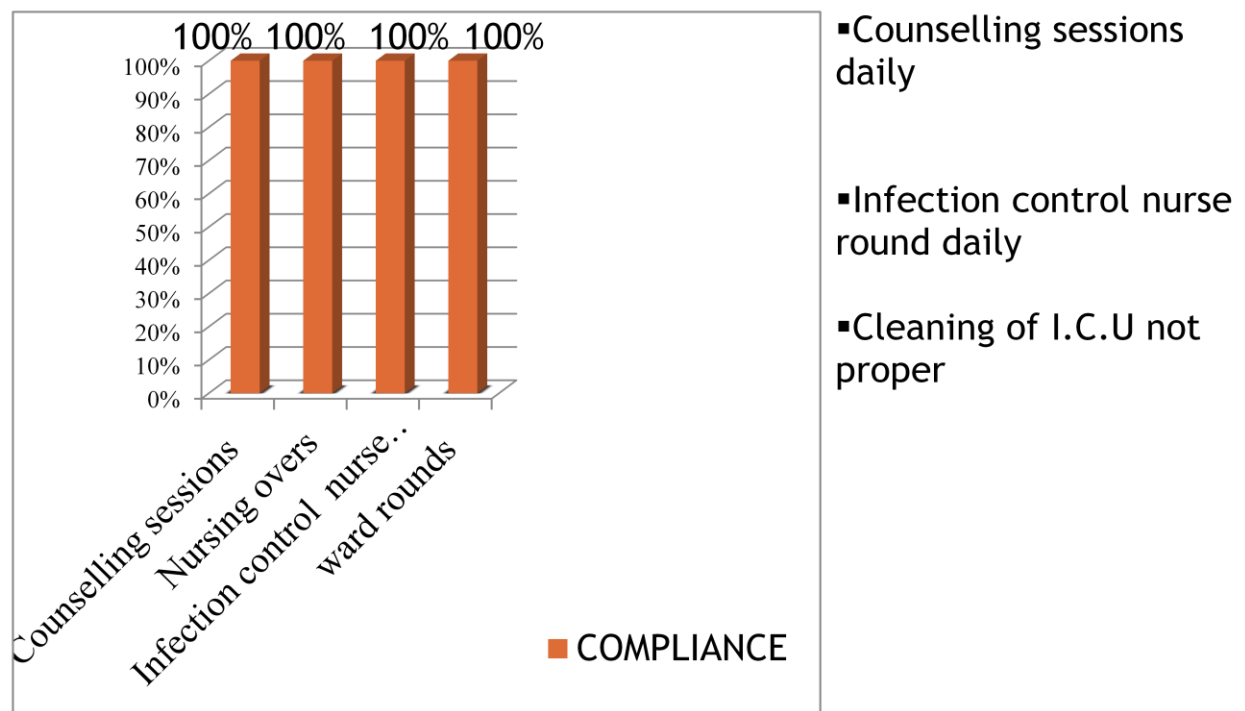


Figure 10

- Counselling sessions with the patients are held daily by the intensivists.
- Nursing over's: During shift change nurses have to hand over their charge to other nurse by explaining all the medicines and present condition of the patient. Observed 10 nurses for the over's and it is found 100% compliant.
- Ward rounds by intensivists done daily.
- Infection control nurse rounds daily.

NURSE PATIENT RATIO

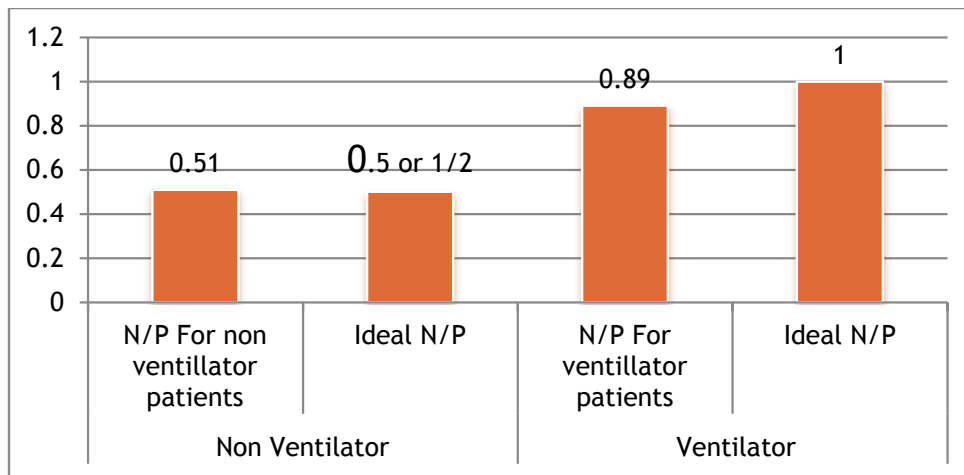


Figure 11

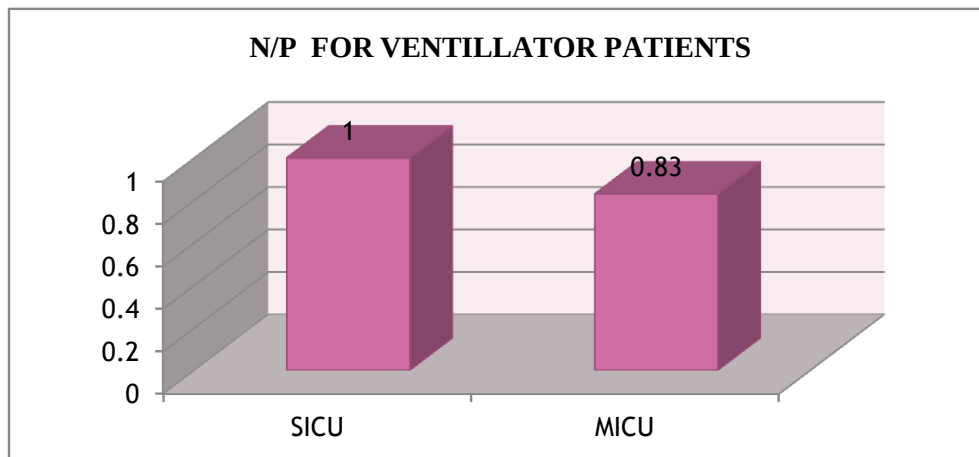


Figure 12

- For 7 morning shifts nurse patient ratio is calculated for MICU and SICU.
- Ideally nurse patient ratio for ventilator patients should be 1:1 and for non ventilator patients should be 1:2.
- Total no.of patients on ventilator and non ventilator is calculated .
- Total no. of nurses on duty in morning shift is calculated.
- Nurse patient ratio is compared with ideal ratio, and then shortage or excess of staff is calculated.

- In MICU nurse patient ratio was less than 1 .Shortage of nurses in MICU as compared to SICU.

Gaps:

- APACHE And DVT RISK assessment forms are found unfilled in 8% Cases in MICU And SICU
- Insufficient Doctors And Nursing Staff .
- Nurse Patient Ratio in MICU for ventilator patients is 1:2 which should be ideally 1:1.
- Hand Hygiene observed for Doctors and Nurses .It was 15% Non Compliant.
- Delay in Shift out f patients due to Transportation .Transporting staff less.
- Pharmacy Indent Not Received On Time.
- Cleanliness of Cubicles and Equipments in MICU not proper.
- Medication audit not done daily in each shift.

RECOMMENDATIONS:

- APACHE Form and DVT RISK ASSESMENT Forms should be filled properly.
- Number of Doctors And Nurses should be increased.
- For ventillator patients Nurse/Patient ratio should be 1:1
- Motivation of Staff for maintaining hand hygiene and use of personal protective equipments.(gloves, mouth mask, cap).
- Fresher Nurses should not be appointed in ICU.
- An Additional Precaution Sign should be placed outside cubicles of Infected patients.
- A Medication Audit should be performed on each patient once during each Shift.
- Transport facility should be Improved.
- Pharmacy Indent requirement should be on time.
- Attention should be taken on cleaning of MICU.

7. CATHETERIZATION LAB

Major policies followed in CATH lab

- Staff should wear O.T Dress, cap, mask, Lead aprons, and thyroid shield.
- Preprocedural patient assessment should be done: Patient preparation, Consent form signed by patient anesthetists and consultants, lab investigations done.
- Infection control: Hand washing, wearing gloves.
- Patient monitoring during and after procedure.
- Time out should be done prior to the procedure:
 - ❖ Correct Patient
 - ❖ Correct procedure
 - ❖ Correct site/side is marked
 - ❖ Presence of equipments
 - ❖ Equipments working

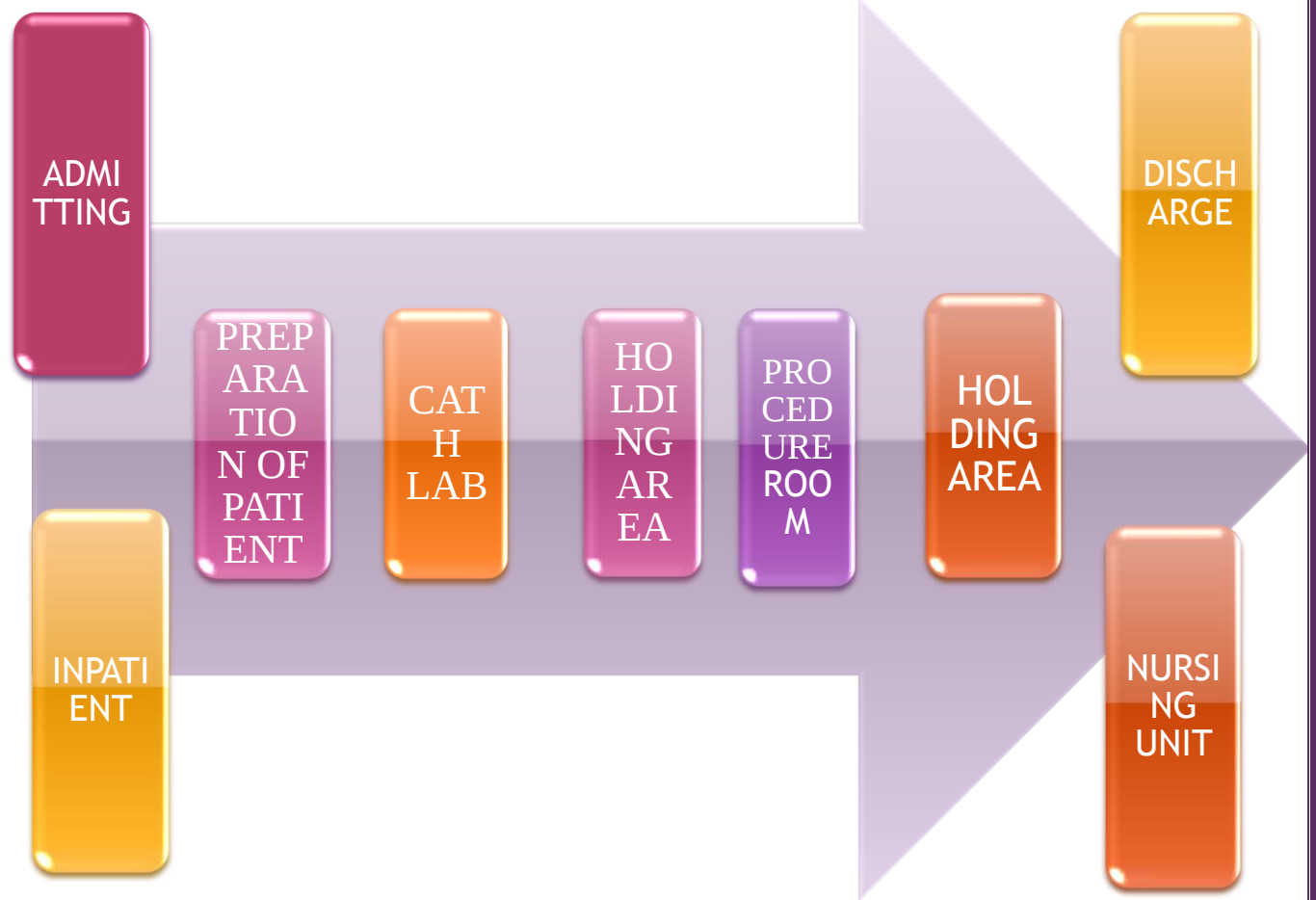
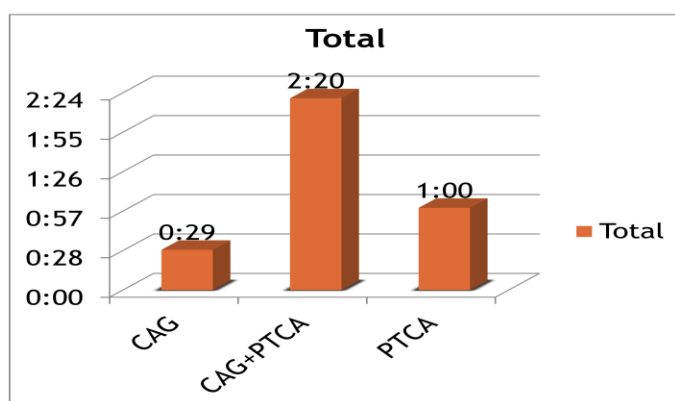


Figure 13

CATH LAB PROCESS FLOW.

AVERAGE TIME FOR THE PROCEDURE



Total 55 cases observed

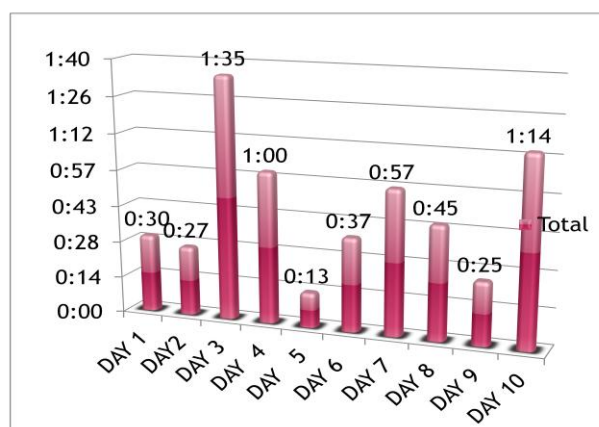
Average time angiography(CAG)=29 min

Average time angioplasty (PTCA)=1 hr

Average time CAG+PTCA=2 hr 20 min

Figure 14

AVERAGE WAITING TIME IN PREOPERATIVE AREA



Average=47Min

Delay reasons:

- Previous case.
- Delay in lab report

Figure 15

AVERAGE DURATION IN POSTOPERATIVE AREA.

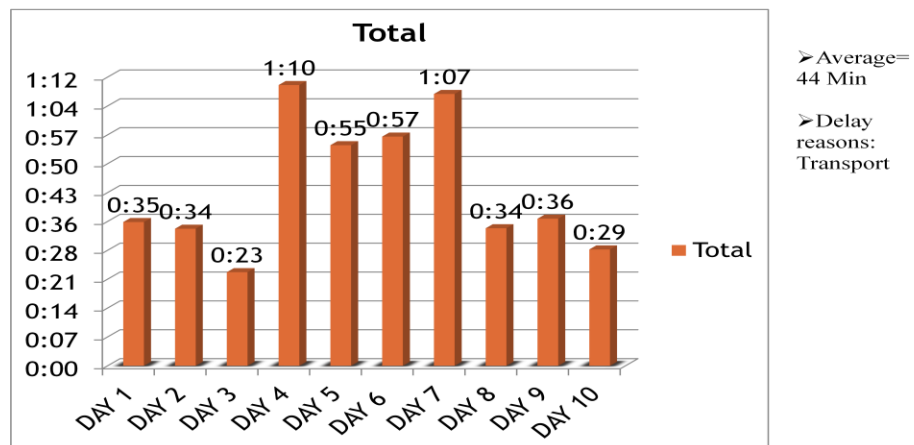


Figure 16

AVERAGE TIME PATIENT INSIDE CATH LAB FOR PROCEDURE

ANGIOGRAPHY

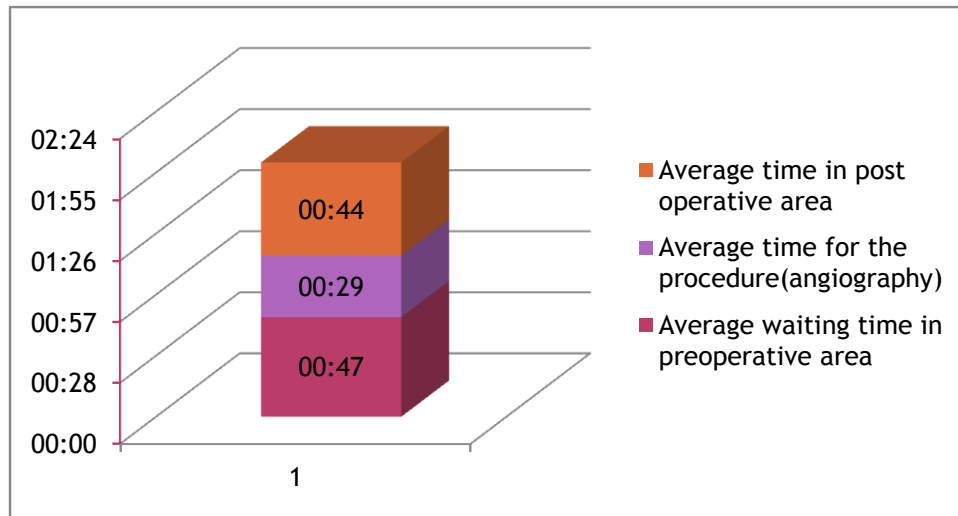


Figure 17

ANGIOPLASTY+ANGIOGRAPHY

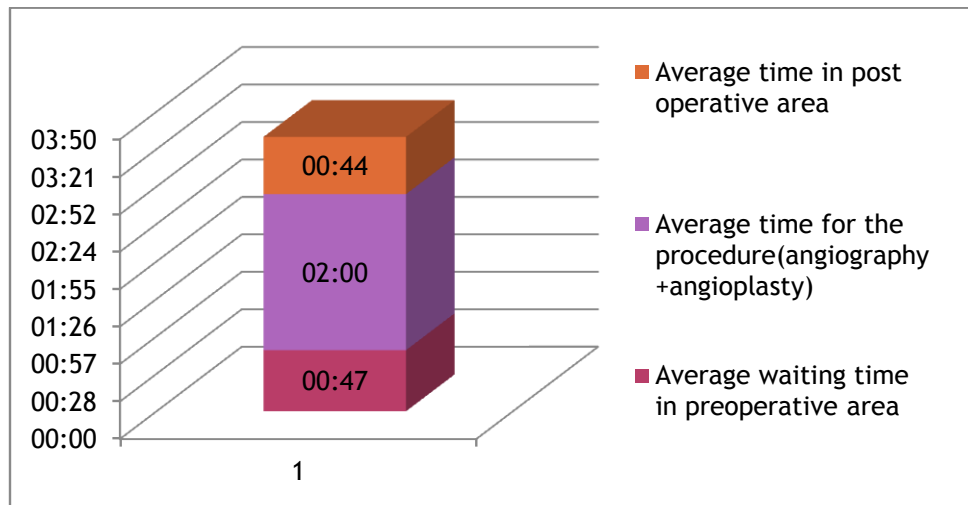


Figure 18

ANGIOPLASTY

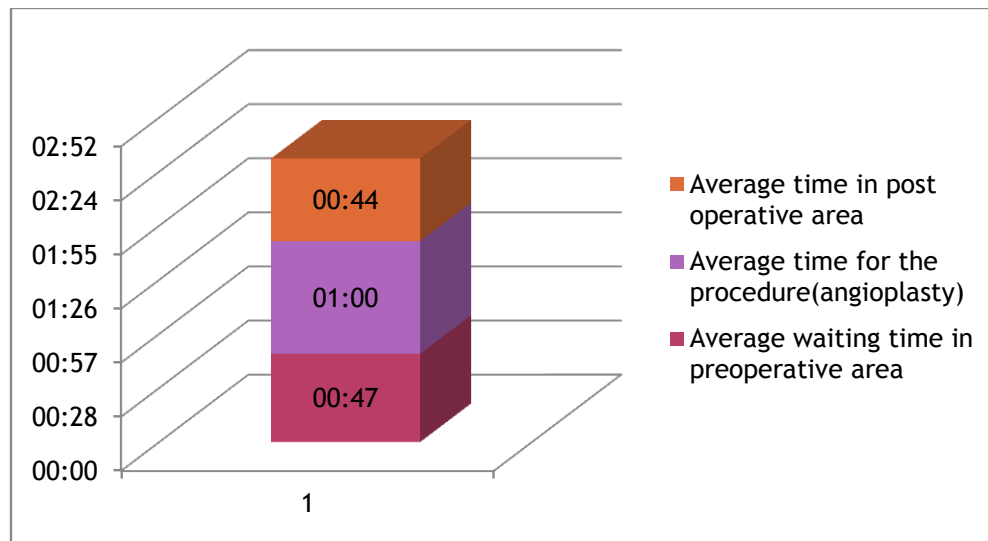


Figure 19

- **Preoperative duration:**
- Average waiting time in preoperative area was 47 min .
- 15 to 20 min waiting time was taken as benchmark ,above that is taken as delay.
- Delay is mainly due to delay in lab investigations,clearance delay due to TPA,and procedure room occupied in previous case.

- **Postoperative duration:**
- Average time after procedure in recovery area was 44 min.
- 20 to 30 min time was taken as benchmark for sheath removal and patient to become stable.More than this is taken as delay to shift the patients to wards.Main reason for delay was transporting staff less.Thera was only 3 transporting staff for I.P.D and Cath lab.

- **Procedure time:**For coronary angiography time taken was 30 min.For angioplasty it was 1 hr and for both angiography and angioplasty in continuation it was 2 hrs.If after angiography relatives take time to take decision for angioplasty then it was more than 2 hrs.In that case patient was shifted from procedure room after angiography to the recovery area and the next case was taken inside the procedure room.Time taken for the procedures depends on the skill of the cardiologist.The above mentioned time includes the time taken for the preparation of the patient.

RESULTS:

- Excess waiting time in holding area. Average waiting time of patient in the preoperative area is 47 min which increases patient's anxiety. Reasons for longer waiting time is predominantly due to procedure room occupied and delays in lab report.
- Delay in patient arrival in lab due to Transportation not available. Same issue while sending patient to wards after procedure. Average time for the patient in the postoperative area is 44 min.

RECOMMENDATIONS:

- Transportation should be improved.
- Housekeeping staff should work more effectively.
- Proper scheduling of cases.
- The delay in the physical cleaning of the room should be reduced by better co-ordination with the Housekeeping staff.
- Error free arrivals to the CATH Lab from the Preparation Area. This means a Patient arriving in the CATH lab prior to the scheduled procedure with Consent forms signed, current Lab tests at acceptable levels and other documents.
- Establishment of effective communication channels to assure coordinated patient care.
- Incorporation of current research, new interventions, and technological advances into practice.

8. LIMITATIONS OF STUDY

This study is mainly focussed on non clinical policies .Many clinical based policies are not taken into account. Data collection and thorough analysis of some parameters are difficult to be made .I.C.U, operation theatre, CATH lab is critical area, and it needs time for complete analysis of all the policies. Though this study has covered most of the major parameters of quality but some policies are not analyzed.

9. CONCLUSION

Most of the policies e.g. waste management ,maintenance of equipments, Scrubbing before surgery, sharp disposal, wearing of personal protective equipments, are being followed in operation theatre ,I.C.U and CATH lab .There are some areas which need improvement e.g. transport ,housekeeping work. Delay in transport is causing major problem like delay in O.T cases, CATH lab cases, shift out and discharge of patients in I.C.U .Number of Housekeeping staff should be increased in these areas because these are infection prone areas and need more cleanliness.

SECTION C :A STUDY ON SAFETY CULTURE IN THE HOSPITAL

(Safety of Vulnerable patients)

1. INTRODUCTION

Patient safety involves assessing patient risk, preventing or managing risks , reporting and analyzing incidents, learning from such incidents and implementing solutions to minimize the likelihood of them reoccurring. The purpose of each of the Patient Safety First interventions is to provide a focus on which to begin or progress improvements in patient safety in our organisation. Each proposed intervention has an underpinning evidence base that identifies the need for change and how its elements can help us on a journey that will make a real impact on rates of patient harm and death.

All over the world, health care workers are proving that patient safety can be greatly improved and many complications or harm events that were previously considered unavoidable actually are avoidable. They are in fact, redefining what is acceptable in terms of patient safety.

This study on Safety Culture for more vulnerable patients is designed to help the hospital assess the culture of safety in the institutions. An audit to different areas of hospitals was done (O.P.D, wards, day care etc) to assess care given to more risk prone patients and also safety precaution for staff.

2. NEED FOR STUDY

There is a growing recognition that organizational change to improve patient safety, including fall prevention, requires a general culture of safety among its staff. Achieving a culture of safety requires an understanding of the values, beliefs, and norms about what is important in an organization and what patient safety attitudes and behaviours are expected and appropriate. This requires a culture that views errors as opportunities to improve the system, not the result of individual failure. For example, it may be difficult for any hospital to overcome chronic underreporting of falls if you have a culture where acknowledgment of error is not acceptable.

Thorough Assessment Of Vulnerable Patients And A Range Of Measures To Reduce Risks Helped Reduce Falls On Hospital Wards By A Quarter, Concludes A Report On A New Falls Prevention Scheme.

3.INTERNATIONAL PATIENT SAFETY GOALS

GOAL 1: Identify patients correctly:

- ❖ Identification band: Name, MRN No., date of birth.
- ❖ Source: Patient ,Relative

GOAL 2: Improve effective communication:

- ❖ Effective communication which is timely, accurate, and well understood by the recipients---reduces errors and results in improved patient safety. Most error prone communications are patient care orders given verbally and those given over telephone. Orders must be repeated and verified before writing it on record.

GOAL 3: Improve safety of high alert medications:

- ❖ High alert medications, look alike and sound alike are those medications involved in high percentage of errors and carry a high risk for adverse outcomes. Concentrated electrolytes (un-dilute KCL solution, hypertonic saline solution should not be stored near patient care unit .it should be stored in pharmacy and dispensed at the time of use. Proper location. Labelling and storage of these drugs.

GOAL 4: Ensure correct side, correct procedure and correct patient safety.

- ❖ Correct site marking. Time out done, Preoperative checklist. Consent.

GOAL 5: Reduce the risk of health care associated infections.

- ❖ Reduces transmission of pathogenic microorganisms to patient and staff. Hand washing and alcohol base hand rub is used.

GOAL 6: Reduce the risk of patient risk from falls.

- ❖ Fall account for significant portion of injuries in hospitalized patients. Organisation should evaluate its patient risk for falls and take action to reduce the risk of falling using a fall reduction program

3. VULNERABLE PATIENTS

WHO ARE VULNERABLE PATIENTS

- Child<16 Yrs
- Aged>60 yrs
- Physically and mentally challenge.
- Patient in all critical areas.
- Women in labour

SAFETY PRECAUTIONS OF VULNERABLE PATIENTS

- Right Assessment of patient at the time of admission.
- Safety first badges to all the vulnerable patients at the registration counter.
- Safety first stickers pasted on the head end of patients.
- Keep side rails of the bed always up.
- Use Seat belts in the wheel chair
- Patient family education.
- Call bell near patient's bed side.
- Patient safety first form and Comprehensive patient safety tool every 3rd day.
- Assessment of environment for safety issues.

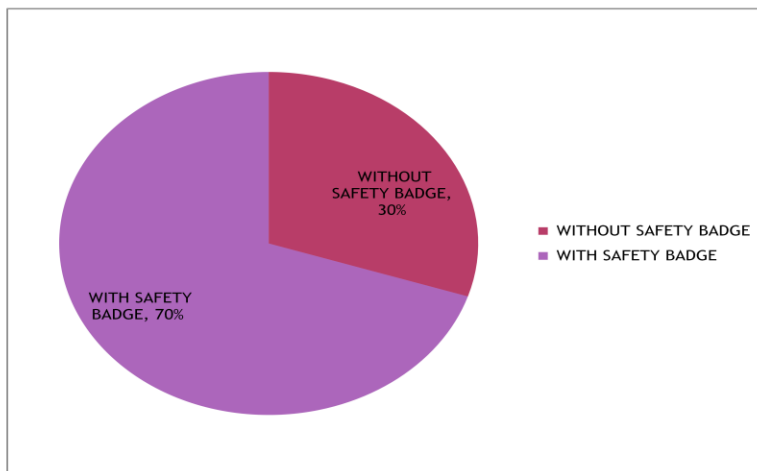
4. OBJECTIVE

- To promote specific improvements in patient safety.
- To highlight problematic areas and describe evidence based and expert based solutions to the problems.

5. RESEARCH METHODOLOGY

- Study design: A cross-sectional observational study done on patient safety culture.
- Study duration: 1 week (10 April to 18 April).
- Study area: Aditya Birla memorial hospital
- Sampling: Simple non probable random sampling.
- Type of data: Primary data collection is done by observation.

O.P.D VISIT FOR SAFETY FIRST BADGES



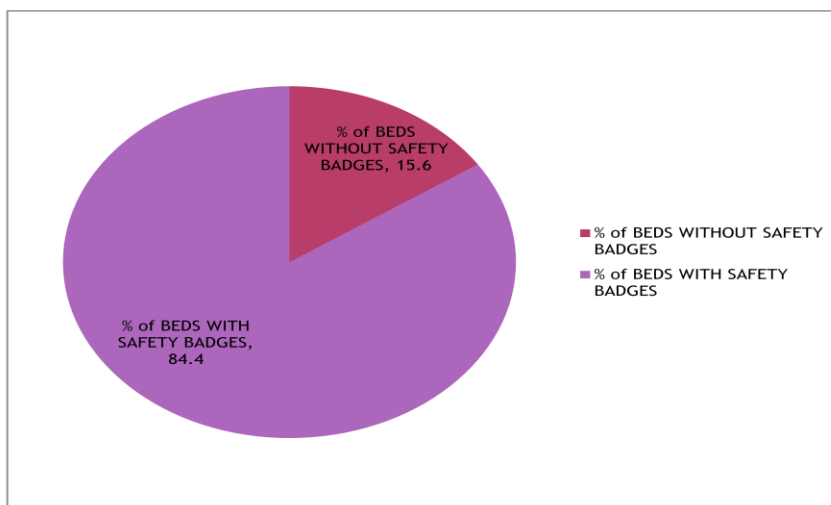
Total patients observed = 40

Patients without safety badges=30%

Patients with safety badges=70%

Figure 20

I.P.D VISIT FOR SAFETY FIRST BADGES.

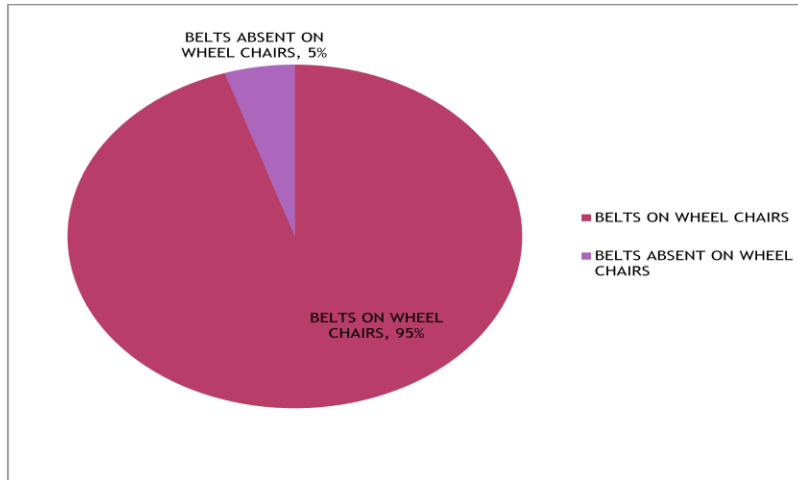


Visited gold wards,platinum,emerald,day care .

Total beds in which badges should be present=32

figure 21

BELTS ON WHEEL CHAIRS



Observed wheel chairs=50

Vulnerable patients with seat belts=95%

Without seat belts=5%

Figure 22

BEDS WITH BED RAILS

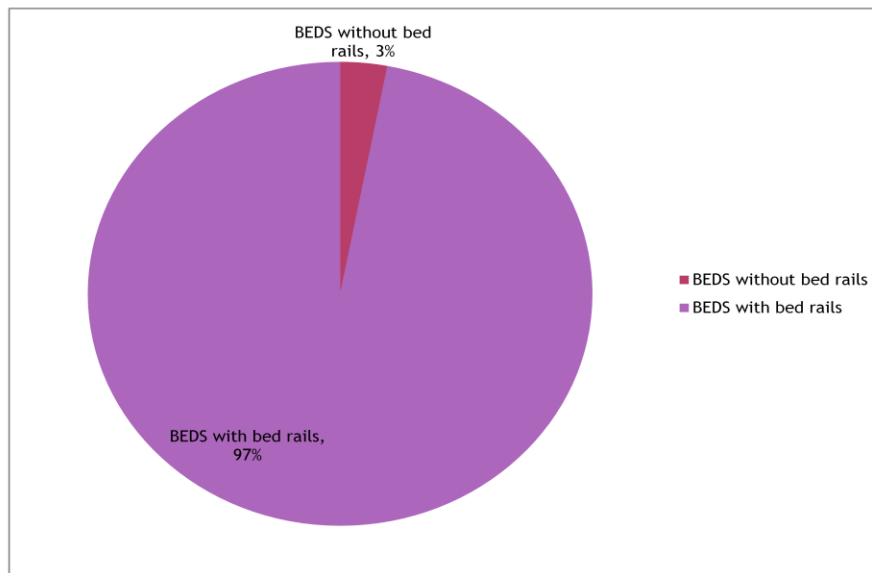


Figure 23

Observed 125 beds in Wards(general ,gold ,platinum),ICU ,OT ,Dialysis, Gynaecology IPD, Day care.

5.REASONS FOR NON COMPLIANCE

- Correct assessment of vulnerable patients is not done.
- Badges are given only to those who are less than 16 and more than 60 yrs, other criterias for being vulnerable are missed by staff.
- When rush is there at registration counter many vulnerable patients are missed for safety badges.
- Staff not giving importance to safety first precautions.

6. RECOMMENDATIONS

- Induction programs should be held monthly for patient and staff safety.
- Transporting, housekeeping and nursing staff should be instructed for the use of bed rails, wheel chair belts.
- Correct assessment of patients should be done by staff at front desk as well as nurses and ward boys in I.P.D. to enhance patient safety.
- Staff should be motivated for the use of safety badges.
- Training of staff in falls prevention.
- Post fall protocols care and secondary prevention should be followed.
- Ask about history of falls to the patients or their relatives on every admission.
- Ensure patients have appropriate footwear.
- Ensure call bell visible and within reach.
- In depth assessment and multifaceted care plan.

7. LIMITATIONS OF STUDY

This study is limited for safety of vulnerable patients in ABMH Pune .Patient safety is a broad area. This study is covering safety of vulnerable patients.

8. CONCLUSION

Most of the areas for patient safety are found compliant for the vulnerable patient safety. Few areas are found non compliant for safety badges, bed rails and wheel chair belts that can be resolved by proper training of staff. Patient and their relatives should also be motivated for their safety.