

**Summer Training at
Max Super Specialty Hospital, Saket, New Delhi
(April 3 to June 2, 2017)**

- **Study on Compliance of Informed Consent Forms of Anaesthesia and Surgical Procedures in Max Super Specialty Hospital, Saket**
- **Study on Pre and Post Parameters During Renal Transplantation in Max Super Speciality Hospital, Saket**
- **Study on Admission and Discharge Criteria of Intensive Care Unit, (West Block)**

**By
Tanvi Mittal**

**Under the guidance of
Dr. Alok Kumar Mathur**

**MBA Hospital & Health Management
2016-2018**


**Institute of Health Management Research
The IIHMR University, Jaipur
2017**

CERTIFICATE

This is to certify that Dr. Tanvi Mittal has undergone summer training in MAX Super speciality , Saket New Delhi from 3rd April to 2nd June 2017.

The candidate herself completed the project assign to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.



Col. (Dr.) Ashok Kaushik

Dean (Academic & Student Affair)

The IIHMR University, Jaipur



Dr . Alok Mathur

Associate Professor

The IIHMR University

CERTIFICATE OF COMPLETION

This is to certify that

Dr. Tanvi Mittal

has been associated as an

INTERN

with the department of

MEDICAL ADMINISTRATION

for a period of

3rd April 2017 to 2nd June 2017

at

Max Super Specialty Hospital,
Saket

"The Internship/Observership course is a Max certified course not
affiliated to any National/International society".


Head of the Department


Dr. Shubnum Singh

Dean - Nursing, Allied Health, & Wellness Programs
Max Healthcare, New Delhi


Ms. Brigitte Wuethrich
General Manager
Max Institute of Medical Excellence
Max Healthcare

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ACKNOWLEDGMENT

I take this opportunity to express my profound sense of gratitude to all those who helped me throughout the duration of the project.

I would like to acknowledge, First and foremost of Dr. Tanu Goyal (Assistant Medical Supritendent) for showing confidence in me and giving me such a wonderful topic to do my project. I would like to thank my mentor at Max Hospital, Saket Dr. Sandeep Mor (Deputy Medical Superintendent) for his guidance throughout my internship period. I would also like to thank to all the nursing staff of ICU of west block.

I would also like to thank Dr. Nalini Kaul (Medical Superintendent) without whose permission I would not get this golden opportunity to do my internship in this esteemed hospital.

I would also like to thank my faculty at IIHMR-Jaipur and specially my Mentor- Dr. Alok Mathur (Professor) and also feel privileged to acknowledge Dr Shelly Singh for being my support throughout my project.

I would also whole heartedly thank the entire staff at Max, Saket for being so supportive and helpful and taking out some time from their hectic schedules and giving all the required information, especially Outpatient Department.

At the end, I am thankful to God and my heartfelt gratitude to my parents and friends who supported me throughout the course.

THANK YOU ALL

Tanvi Mittal

IIHMR

(2016-2018)

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ABBREVIATIONS

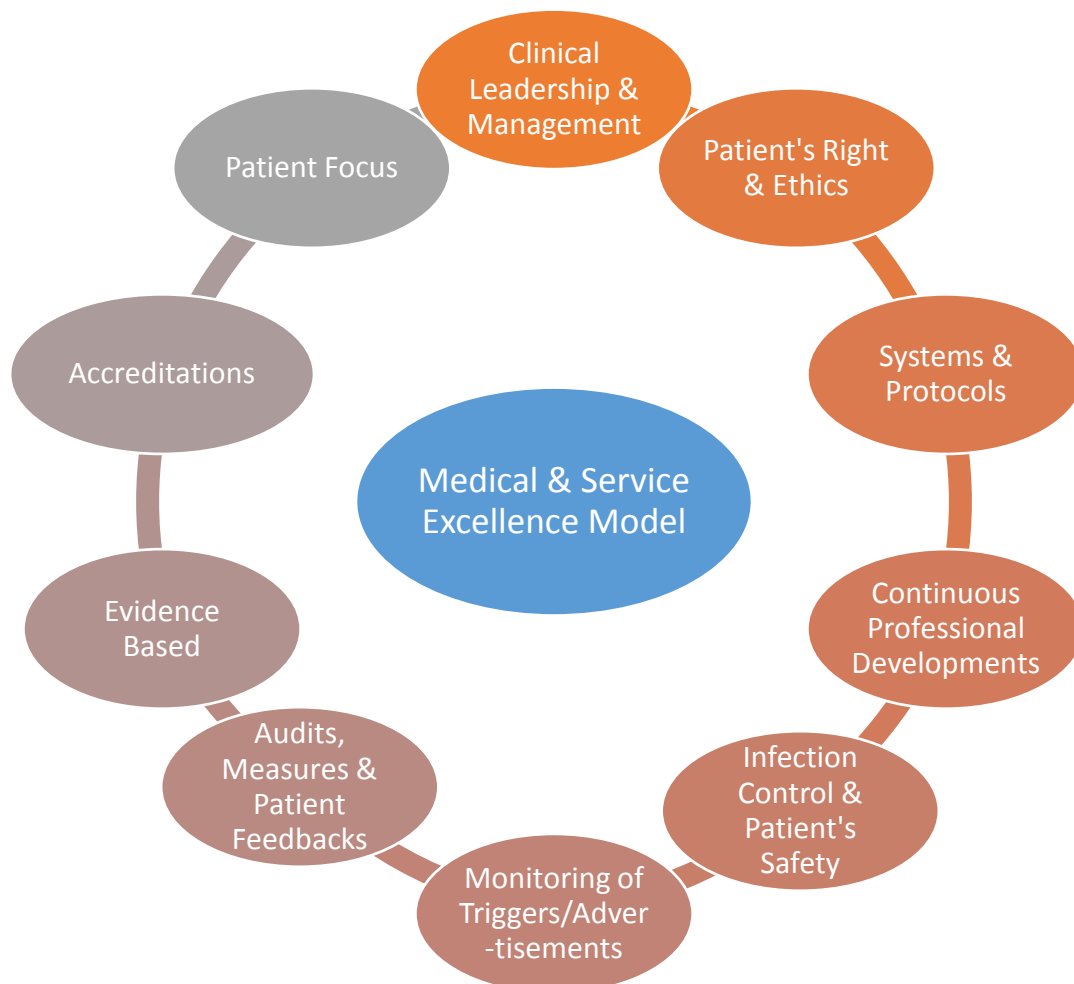
ABBREVIATIONS	Meaning
ALOS	Average Length of Stay
ASA	American Society of Anesthesiologists
ATP	adenosine triphosphate
BG BLEED	Basal ganglia bleed
COW	Computer on Wheels
CPRS	Computerized Patient Record System
CTVS	Cardiac Thoracic Vascular Surgery
DDKT	Deceased-donor kidney transplants
EMR	Electronic Medical Record
ERCC	Emergency Response Coordination & Communication
ERT	Emergency Response Team
FTP	Decompression craniotomy
ICS	Incident Command System
IRT	Initial Response Team
ERT	Emergency Response Team
MAMBS	Minimal Access, Metabolic & Bariatric Surgery
MD	Doctor Of Medicine
MDDF	Max Devki Devi Foundation
MLC	Medico-Legal Case
MPH	Master's In Public Health
MSSH	Max Super Specialty Hospital
NABH	National Accreditation Board of Hospitals
NABL	National Accreditation Board of Laboratories
NPO	Nil per OS
PAC	Pre Anesthetic Clearance
PAHO	Pan American Health Organization
PRHO	Pre-Registration House Officers
PCP's	Primary Care Physicians

PPE	Personal Protection Equipment
RRT	Rapid Response Team
RT FEED	Ryles Tube
SDH	Sub Dural Hematoma
SCR	Security Control Room
TAT	Turn Around Time
TN	Trigeminal Neuralgia
TSSU	Thermal Sterile Supply Unit
TTI	Transfusion Transmitted Infections
WHO	World Health Organization

OBSERVATIONAL LEARNING

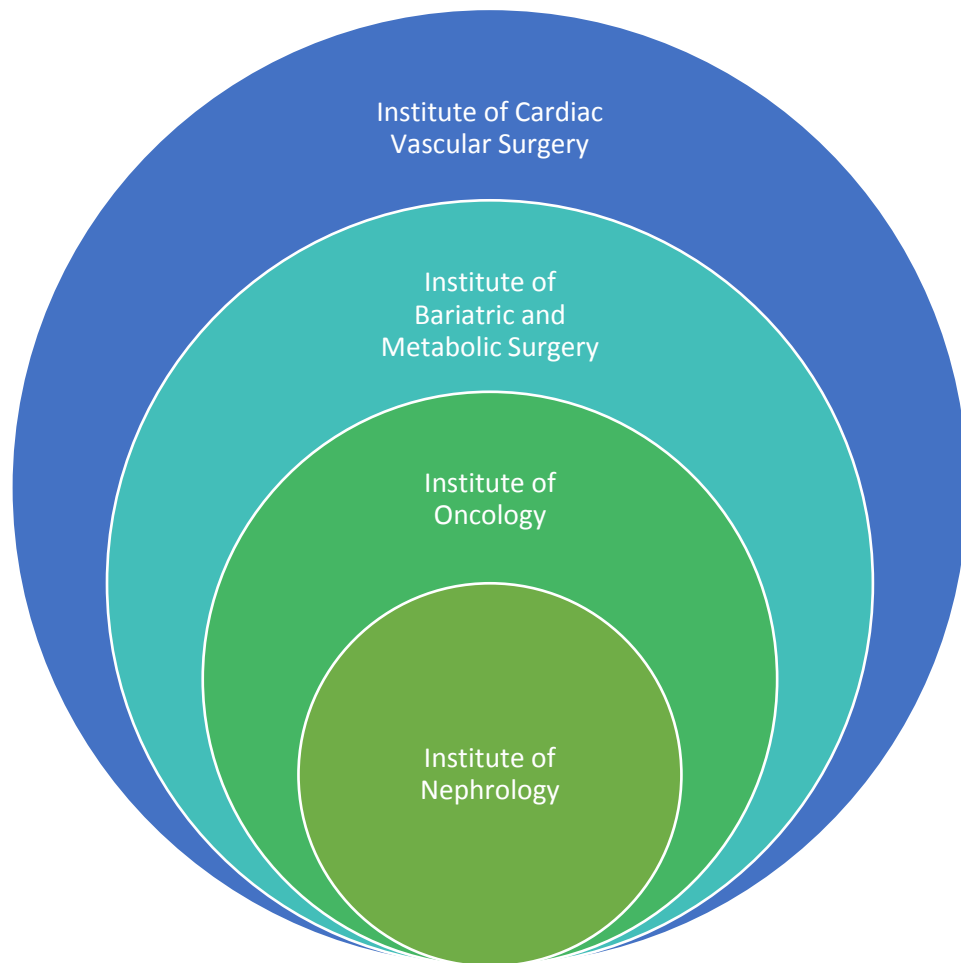
INTRODUCTION

Max Super Speciality is devoted to the highest standards of medical as well as service excellence, 'Patient Centered Care', scientific knowledge along with medical education. The country's leading inclusive provider of homogenous, seamless and global class of healthcare services. Max has successfully applied the "Medical Excellence Model" through its clinical team of expert physicians and nurses who work together in a united manner, evaluating patient needs, ordering tests, planning treatments, setting up surgeries, nursing progress and planning for discharge to their respective places.



Every department of the hospital was observed carefully regarding working, staff, hierarchy, physical set up and major challenges faced by them and suggestions were made to overcome those challenges.

The hospital has four key areas of specialties:



MODE OF DATA COLLECTION

Data collection involved discussions with the Administrative staff members, the HODs about the managerial issues, communicating with the other staff and going through the records.

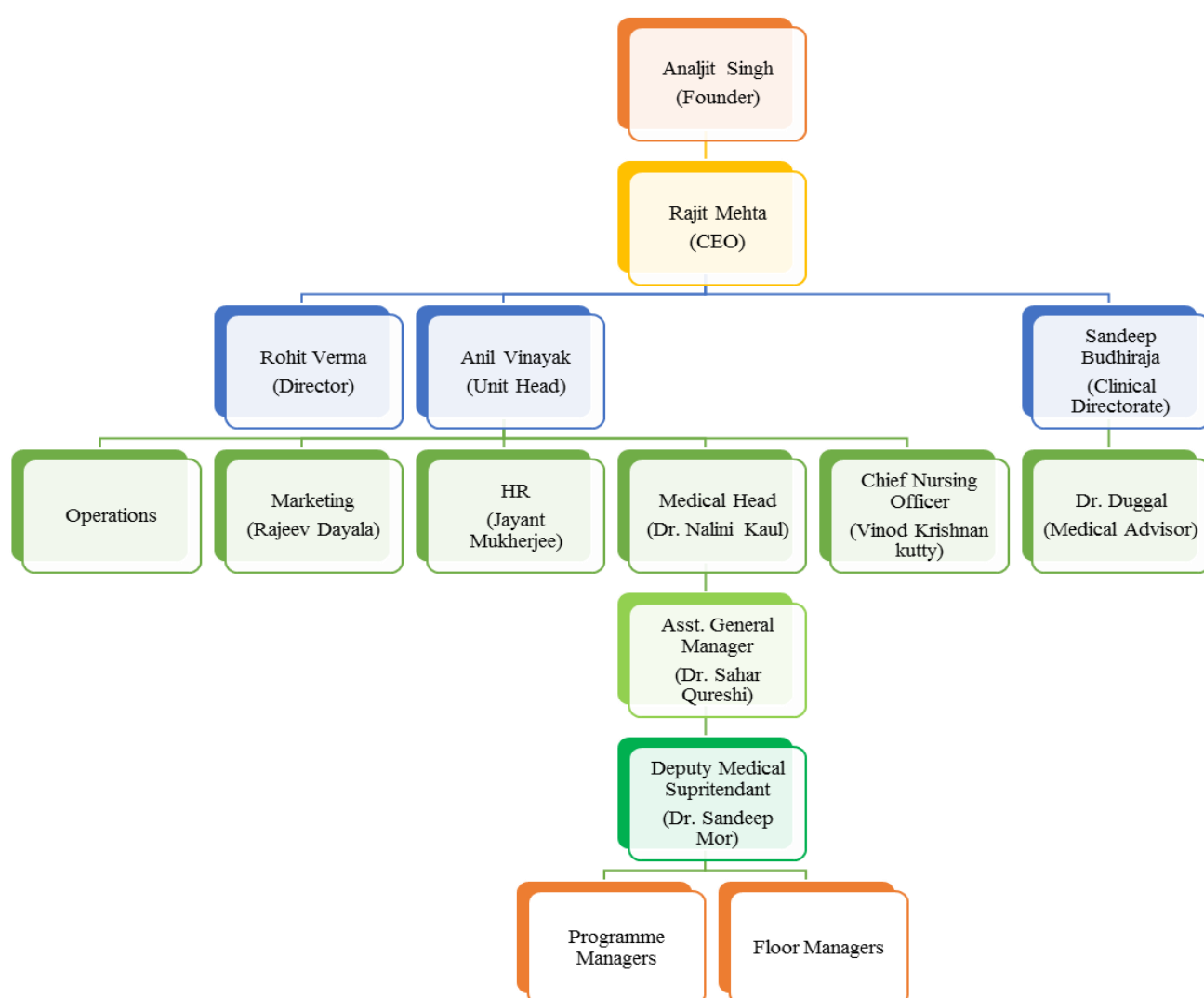
Sources of Data

- Primary
 - By interacting with the HODs, executives, Doctors, Nursing staff and other valuable employees of the hospital.
 - direct observations.

- Secondary
 - Through registered records
 - Through website of the hospital
 - Literature available about the hospital like magazines, pamphlets, brochures, CDs and written documents.

GENERAL FINDINGS

ORGANIZATIONAL CHART



FRONT OFFICE

- **First contact point** between the patients and their attendants coming to the facility.
- Gives directions to them about the locations of various departments.
- Performs in-patient and out-patient registration.
- Does appointment scheduling of the patients.
- Make doctors' available summary.
- Insurance management.
- Does registration and scheduling of preventive health check-ups.
- Helps in planning timely discharge a day before by inquiring about the same from the concerned consultants.

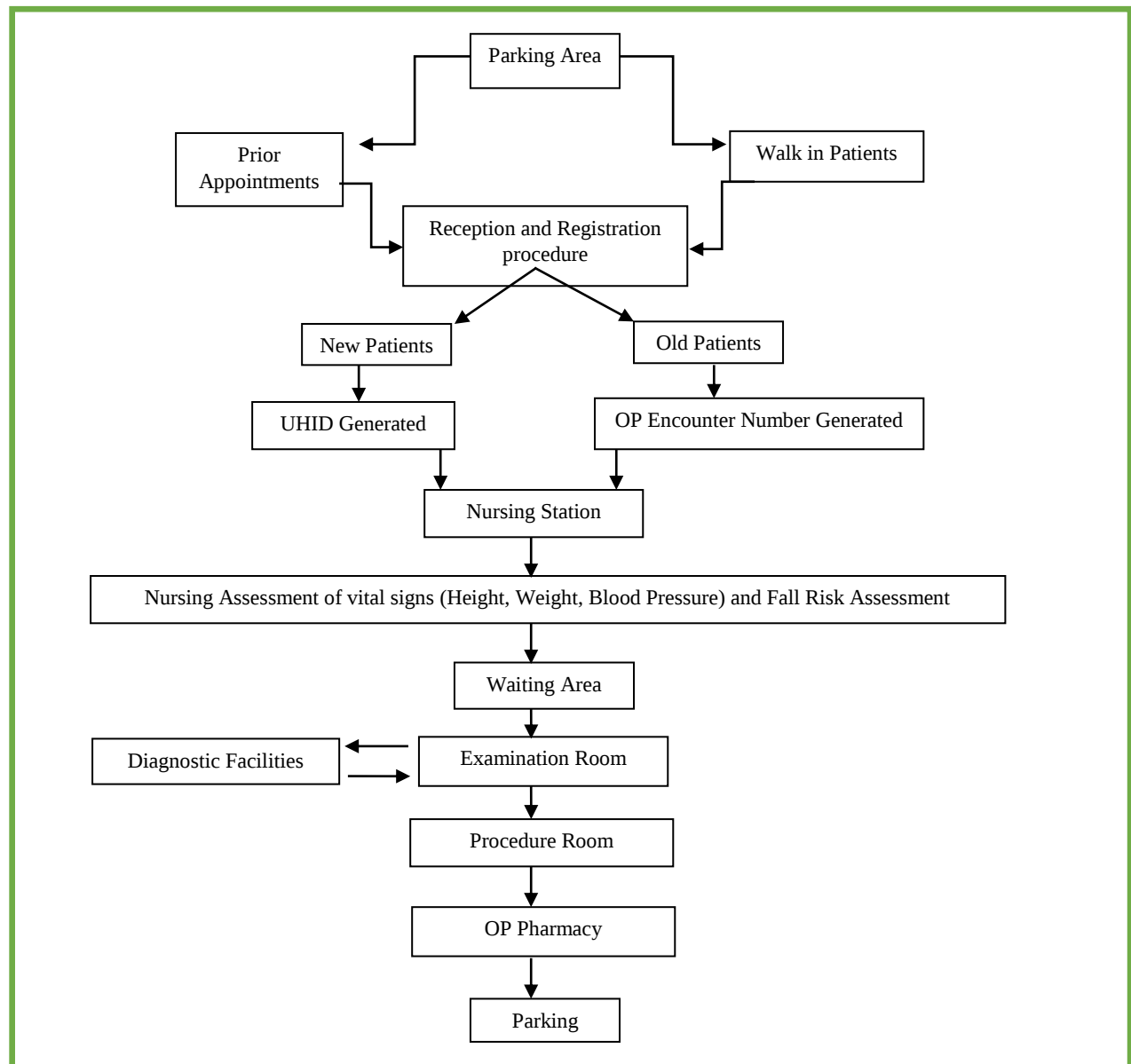
Challenges

- Shortage of staff
- Huge rush during peak hours, 9:00 am-12:00 pm.

OUT-PATIENT DEPARTMENT

- Each department of Max hospital, Saket has its own OPD area as well as IPD area / day-care area wherever applicable with doctor's chambers and procedure rooms.
- Every OPD has a procedure room and its own Front Desk.
- Appointments are centralized and are recorded on the Hospital Information Management System. As soon as appointments are fixed, a text message is sent to the patient confirming the appointment, and a reminder message is sent on the day before the appointment. No walk-in patient is turned away, and the staffs try to accommodate these patients between the appointments already scheduled for the day.
- Each OPD waiting area has the capacity to handle 70-100 patients waiting.
- In case of a new patient, registration is done which is valid pan-Max and for life time of the patient and a UHID is created which becomes a unique identification for all his health related information.
- For Chairpersons and senior doctors, a junior doctor does the initial assessment of the patient, which not only reduces the workload of the senior doctors (whose slots are always overbooked), but it also gives the junior doctors an opportunity to learn from the best brains in the industry.

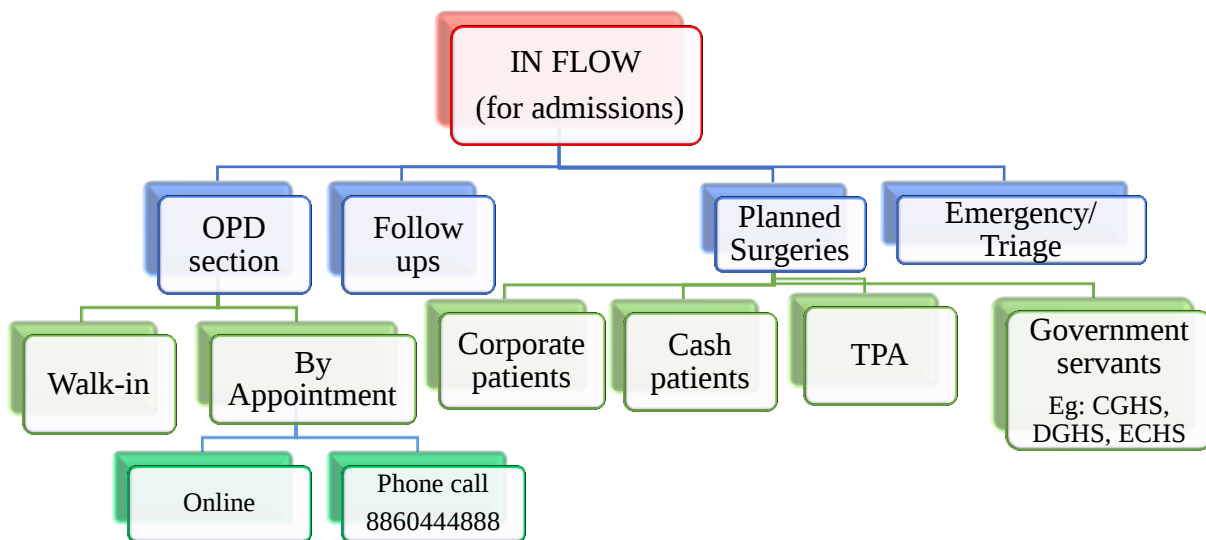
The general process flow that is followed in all the OPDs is as follows:



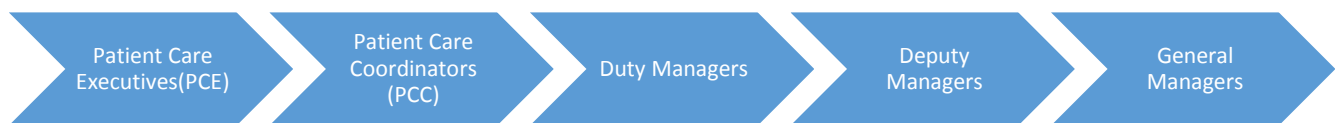
ADMISSIONS DESK

- If the patient has to be admitted to the hospital , he/she first reports to the admissions desk wherein all the paperwork is completed , do's and don'ts as well as patient's rights and duties are explained to him. An initial token amount is deposited here by the patient which is according to his preference of the room (be it economy , single , double, classic deluxe or suite)
- In case of TPA patients, the admission has to be reported to the insurance company within 24 hours.
- STAFF – 70-80; work in shifts with TPA staff working only from 5-5.

ISSUES- Huge departmentalisation which causes co-ordination problems



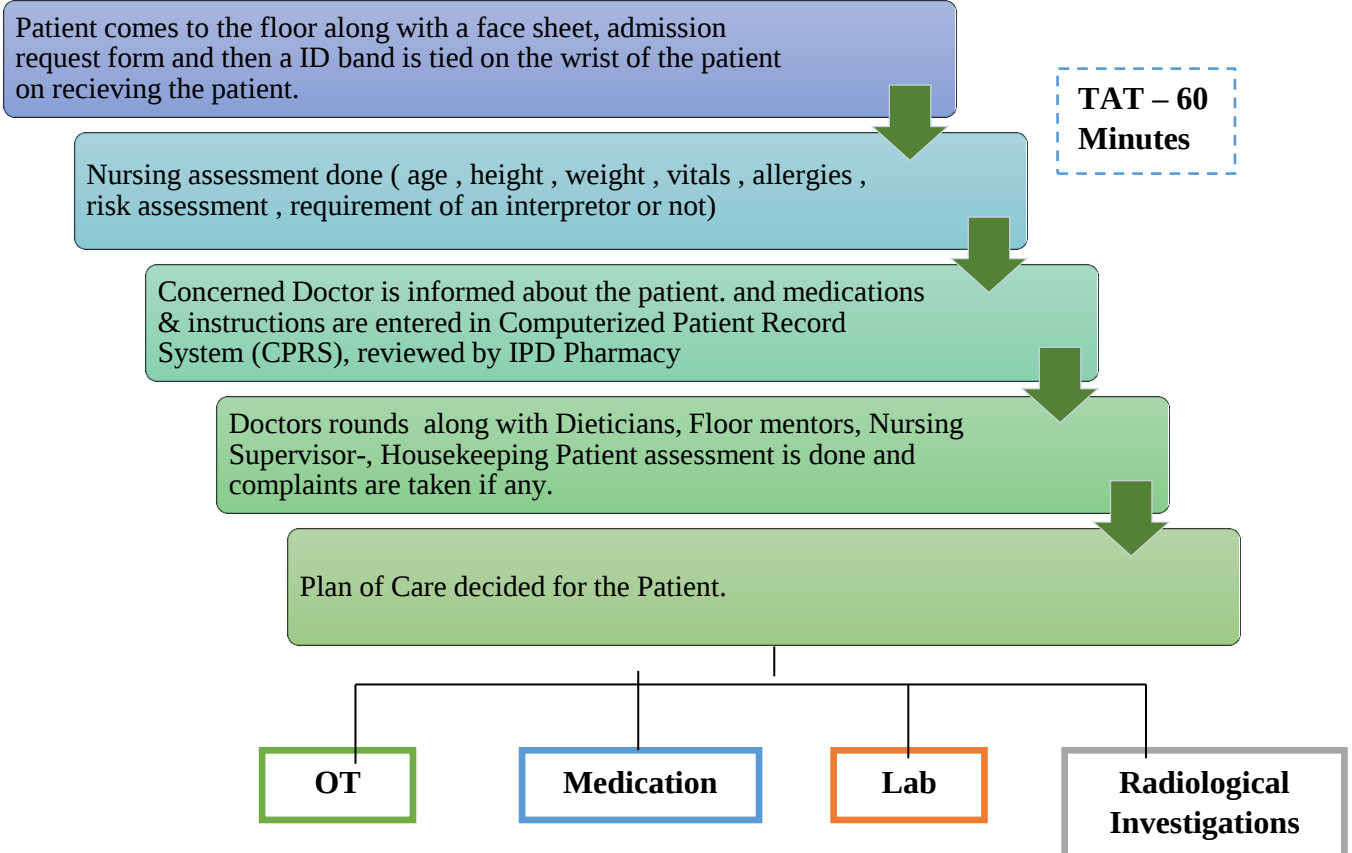
HIERARCHY



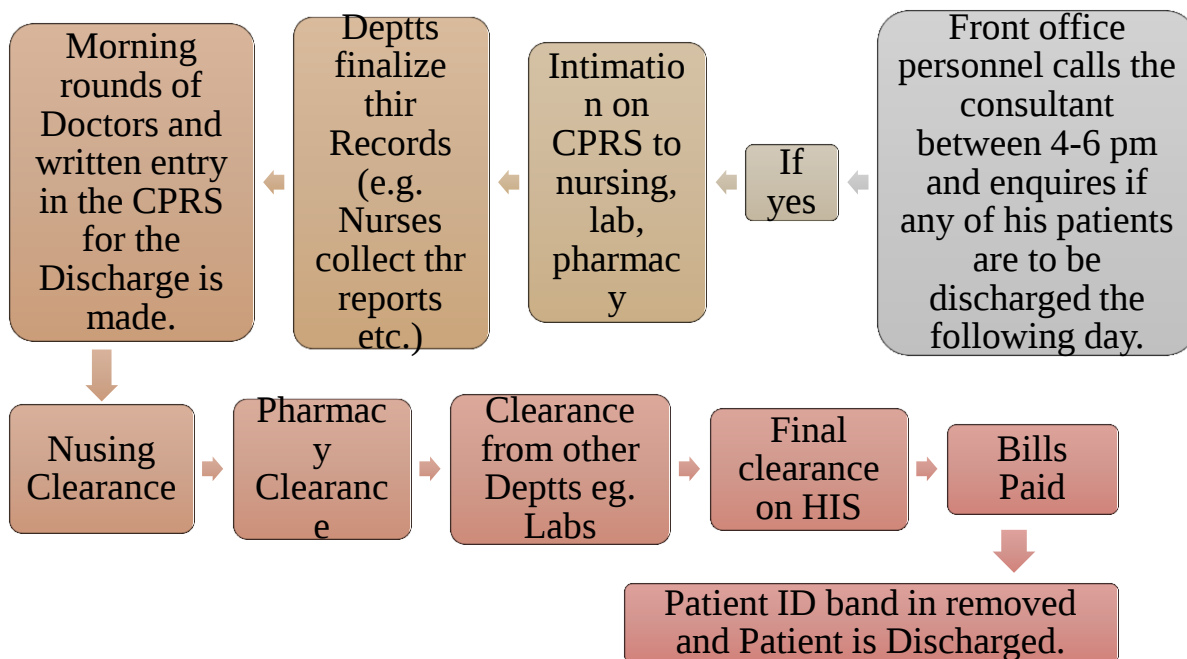
IN-PATIENT DEPARTMENTs (IPD)

- IPD is distributed over Six floors (G.F., 2nd-6th) in the east and Five Floors (2nd-6th) in the west wing of Max hospital including a total number of 314 beds in East & 211 beds in West.
- Every bedside has:
 - Details of Consultant, Nurse and Mentor written at the top of every bed
 - Room equipment checklist – Side rails, Oxygen, Suction, “**Safety First Bell**”
 - Important Instructions
- The rooms available in IPD have the following structure of beds per room:
 - Economy room – 4 beds per room.
 - Double – 2 beds per room
 - Single Deluxe
 - VIP suite
- Every floor has a central nursing station with
 - Information Board covering:

- Designation & Contact numbers of
 - Duty doctor
 - Administration Staff
 - Floor Mentor
 - Support Staff
 - Ward Secretary
 - Bed Manager
- Nurses' names with shift timing and designation (8-10 nurses per shift) and allotted Room Numbers.
 - Crash Cart parked next to the nursing station
 - Computer on wheels (COW) - 4
 - Cupboards with forms- down time form, investigation track sheet, blood request form, PAC sheet, informed consent, inventory files and registers
 - Medication rooms – 2 ;Pantry – 1
 - Records room
 - Biomedical Waste Disposal
- Nurse to bed ratio = 1:5 or 1:6
- General Duty Assistants (GDAs) = 2-3 in every shift
- Average Length of Stay (ALOS) for normal Laparoscopic surgeries = 2-3 days
- Quality Indicators are: Patient Fall, Hypoglycemia, Needle stick Injury
- Process of admission of new patient to IPD



-
- **BARRIER NURSING-**
Isolation of the patients in case the blood or urine culture of the patient has been tested positive for any infection so that the infection doesn't spread to others.
- **REVERSE BARRIER NURSING-**
Done in cases where patients are immuno-compromised so that infection doesn't travel to him from others.
- **Discharge** Process flow of patient from IPD



- Documents included in Discharge of a patient- Discharge Slip, In-patient Bill (Summary + Detailed), Discharge Summary, Pre-authentication approval letter (in case of TPA), Doctor's Clarification and reports of the patient.
- Delay in Discharge is seen due to Final Bill clearance, TPA approval, finalizing discharge summary.

EMERGENCY DEPARTMENT

Due to the inadvertent nature of patient turnout, emergency department provides preliminary treatment for a broad range of illness and injuries, some of which may be fatal and require instant care, except for major burns. It is located at the ground floor with its own dedicated entrance from outside and inside of the hospital and operates for 24 hours every day.

Ambulance - 2 ACLS (with CCTV camera for telemedicine, Suction Cardiac Monitor, Defibrillator, Oxygen Pump)

2 BCLS (Ferno Stretcher, Oxygen Pump)

Patients are either transferred to other departments or are discharged within 4 hours. Max Super Specialty Hospital, Saket has made world record for management of myocardial infarction patient in emergency department from entrance to the balloon time in Cath labs, in less than 35 minutes.

Response time:

- EMO response time <1 min
- Consultant response time <60 min
- Code blue response time <3min
- Ambulance response time <10 min

Infrastructure:

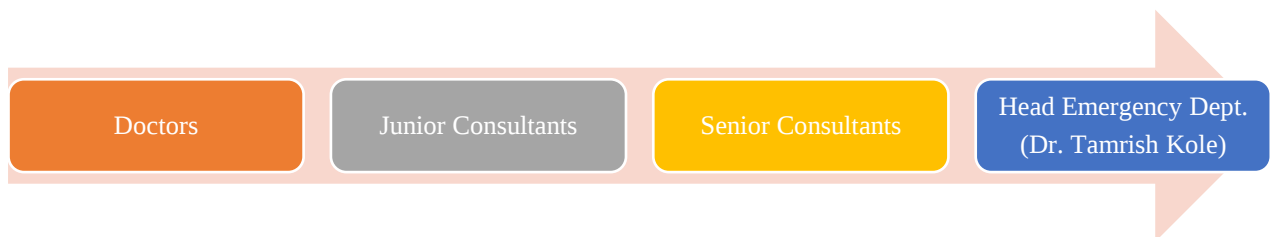
Total 25 bedded

- Resuscitation suite -2 bed
- Urgent care area – 9 beds
- Observation area – 12 beds
- Triage – 2 beds
- Doctors work station-is located in the centre of the urgent care area
- Store room- is located behind the reception. Medications are filled twice a day and stock of two days is kept in advance for Sunday. Narcotics are also available and kept in double lock and key system.
- Hospital information system and CPRS
- COWS(computer on wheels)
- Waiting area for patient's attendants is outside the department.

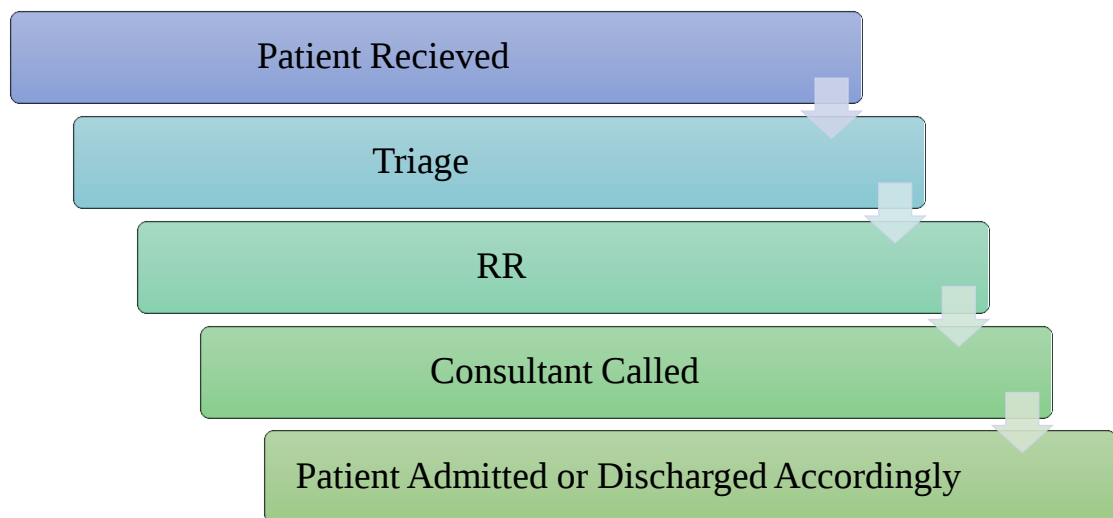
Staffing:

1. Senior consultant (Emergency medical officer)
2. 4 doctors
3. Team leader
4. Emergency physicians - 3
5. Nurses : 32 (8 nurses per shift)
6. 2 personnel at reception
7. Paramedical staff for ambulance
8. 4 GDA per shift
9. Outsourced staff: security personnel.

Hierarchy



Process Flow



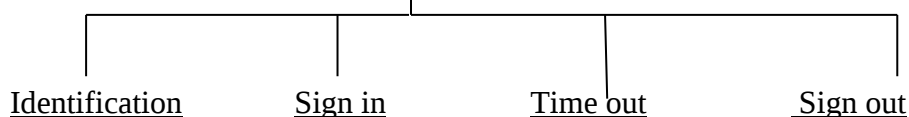
OPERATION THEATER COMPLEX

Operation theatre complex of East wing is located on first and second floor. Operation theatre complex has 11 operation theatre assigned to various departments. Cardiac, oncology, bariatric laparoscopic, ENT and plastic surgeries are performed in these operation theatres. Operation theatre complex of west wing is located on first floor. It has 7 operation theatres for various departments. Orthopaedic, neurology, gynaecology, Brain Suite intervention, general and robotic surgeries are performed here. 8th OT was under-construction.

Organization of staff: The staffs of Operation Theatre are organized into four groups: Anaesthetist- Surgeon, Nursing staff, Technician and Supportive staff.

- Nursing Station – 1
- Pre-Op Beds and Recovery Beds – 4 each
- Scrub Station - 2
- Average number of cases done per day – 20-25 in each wing, 15-16 Robotic Surgeries per month
- Temperature - 21 approx
- Humidity – 50-55
- Light – 2000 lux in the centre of OT table and decreases on moving farther

- OT booking is done through online. 2 types of surgeries are performed – *Elective*: surgeon gets PAC done and gives an appointment; *Add on*: manual booking of OT in case there is cancellation of the scheduled cases due to any reason.
- Each OT complex has a separate material store and a TSSU_(Theatrical Sterile Supply Unit, TAT-45mins).
- Staffing ratio- Nurses : patients – 4:1(pre-op) ; 2:1(post-op)
Technicians: patients- 1:1
- OT Utilization – average is 70%
- Max super specialty hospital recently got a GREEN OT certificate which signifies minimal amount of pollution caused by OT gases and acceptable standards of practices being followed here.
- Sterilization is done by ETO (12 hrs); autoclave. Fumigation is done twice a day in the morning and evening.
- Bio medical waste disposal is done every 2 hours.
- **Surgical safety check list includes**



- Quality indicators: wrong patient , wrong surgeon , wrong surgery , return to OT(within 7 days) , waiting time for OT

INTENSIVE CARE UNIT (ICU)

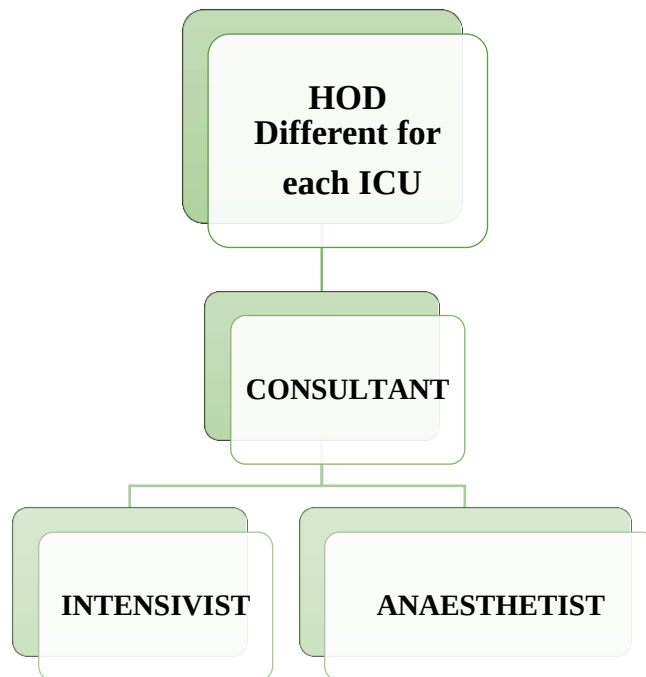
Max Saket has a total of 13 Intensive Care Units and 5 High Dependency Units in the Hospital:

Floor	East	No. of Beds	West	No. of Beds
G.F.	Apex Coronary Care	16		
1 st Floor	CTVS Cath Recovery Paediatric CTVS	17 14 11	Surgical Neuro-Surgical Neuro-HDU ISCU	11 9 9 4
2 nd Floor	Onco-Surgical Onco-Medical CTVS- HDU Cardiac HDU	9 12 4 4	Stroke and Neuro	8
3 rd Floor	Medical	8	Neonatal (a) Neonatal (b)	8 6
4 th Floor			PICU	8
5 th Floor			Ortho HDU	8
6 th Floor			Medical	8
		95		79

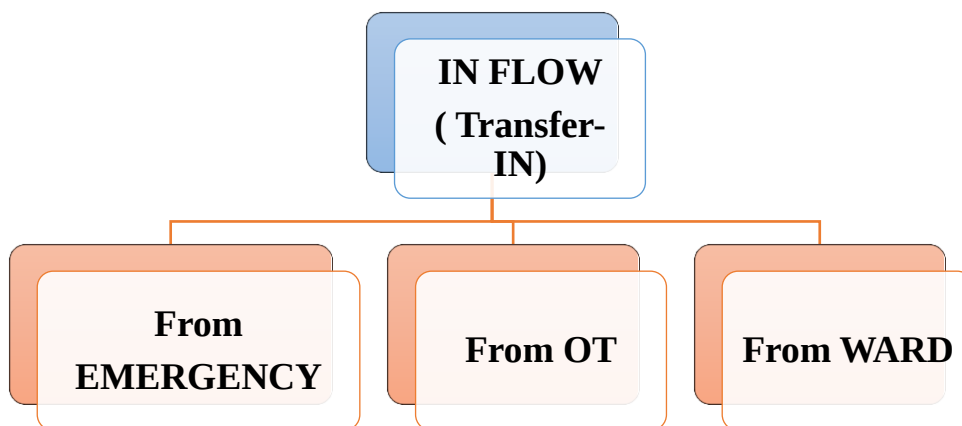
All Intensive Care Units have a 24 hour service of Intensivist and an Anesthetist.

- Each ICU has 1 medication room, 1 Nursing Station, 1 Dr. room

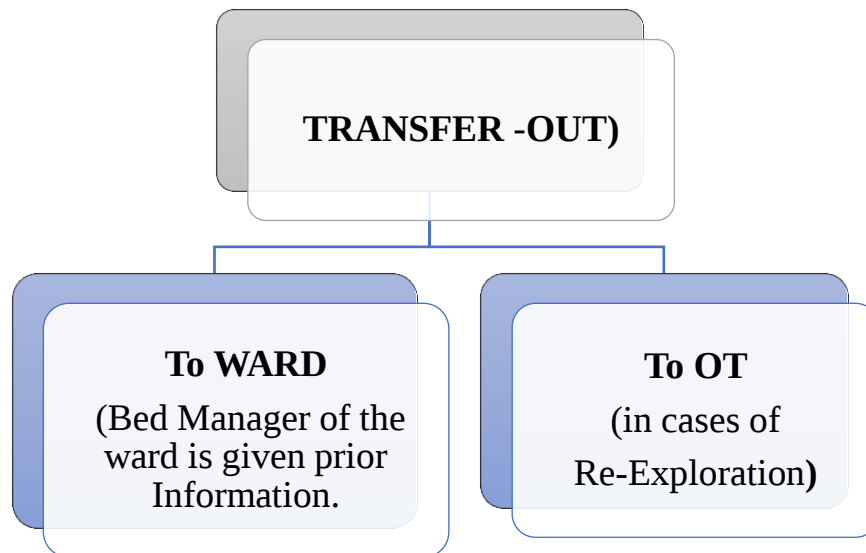
Hierarchy



Patient Flow



Before hand information is given on call to the ICU for *transfer-in* of the patient.



- Patient: nurse – 1:1(for all patients)
- Patient counselling – done throughout the day; Family Meeting – done twice a day by the Intensivist .
- Protocol for infected patient –
 - Isolation
 - Visitor’s policy- no visitor allowed inside the isolation rooms
 - Aseptic policies
 - Full PPA
 - Separate linen disposal in separate bag
 - Separate dressing trolleies
 - Separate housekeeping materials- dusters, mops etc
- Quality indicators-
 - Patient fall
 - Bed sore
 - Medication error
 - Nosocomial infections

All the Quality indicators are duly noted in “Quality Flash” and it is audited time to time and measures are taken to reduce the number of incidents.

CATH LAB

Catheterization laboratory or cath lab is room for examination along with imaging equipment used for visualization of the arteries of the heart and the chambers of the heart and treat any stenosis or abnormality found.

Diagnostic procedures performed here are:

- Angiographies
- Electrophysiology study
 - Cath study

Out of these 3 angiography, angioplasty and cath study is done in cath lab 1 and EPS is done in cath lab 2.

Other procedures includes:

- Percutaneous Transluminal Coronary Angioplasties
- Peripheral Transluminal Angioplasties
- Radio Frequency Ablations
- Permanent Pacemaker Implantations
- Intra Cardiac Defibrillations
- Cardiac Resynchronisation Therapy Defibrillator Device
- Cardiac Resynchronisation Therapy Pacemaker
- Left and right sided pressure studies
- Closure of some congenital heart defects

Slots are booked for everyday as per the doctors' and patients' convenience. About 70% of the slots booked are treated everyday

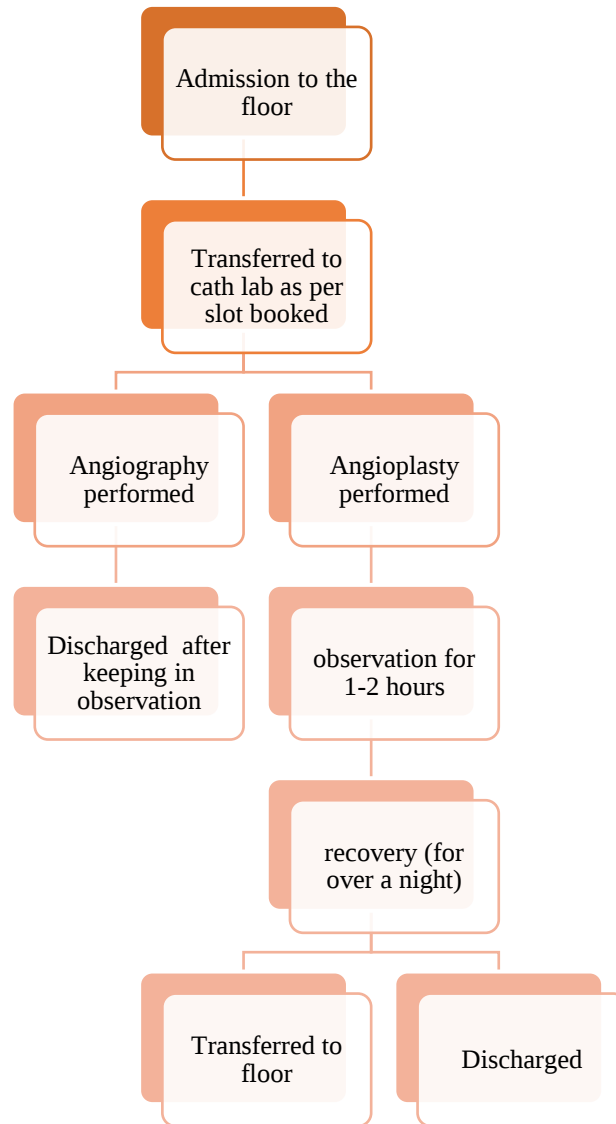
Units of cath lab:

1. Cath lab 1
2. Cath lab 2
3. Technical room
4. Observation area
5. Technician room
6. Store room and utility room
7. Observation area-3 Beds
8. Instrument washroom

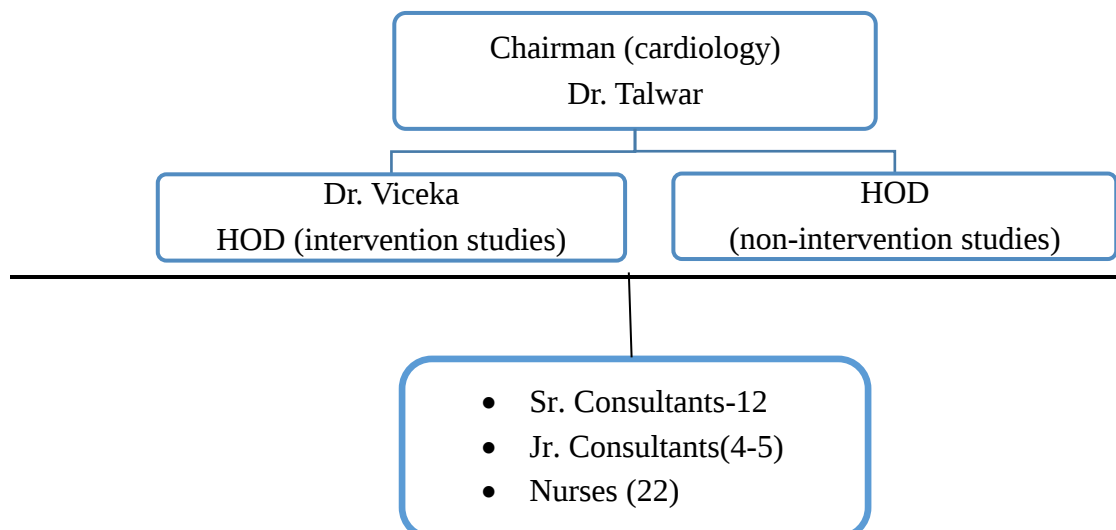
Location: Cath lab is located on the first floor with the vicinity areas as

- Emergency department
- Operation theatre
- Cath recovery-12 Beds
- Coronary care
- CTVS
- SICU
- PICU
- MICU

Process Flow of Patients



Staff



DEPARTMENT OF LAB SERVICES

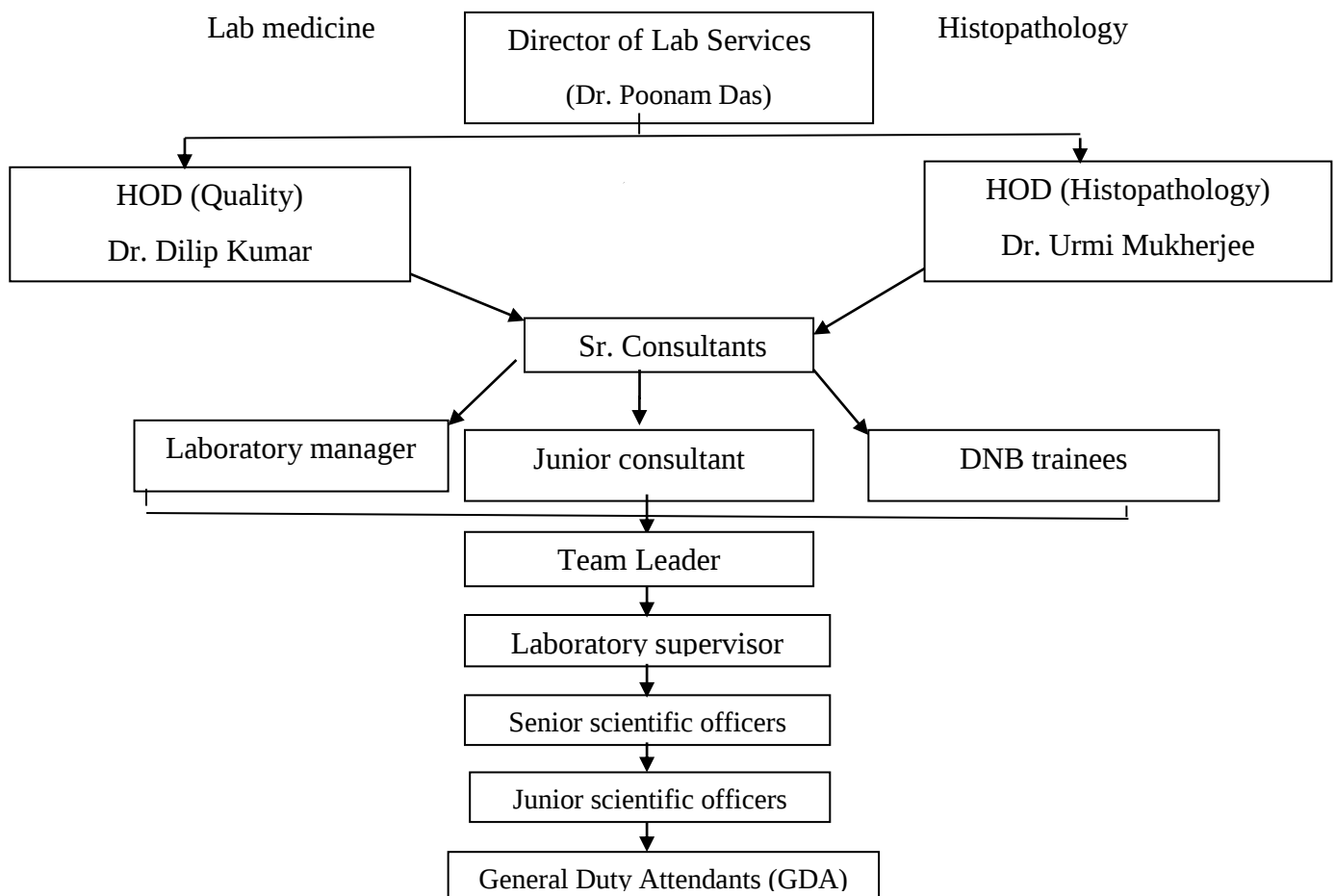
INTRODUCTION-

An ISO: 15189 certified and NABL recognised labs, it is open 24 hours a day. It's a technological lab with fully automatic instrument which are directly interfaced with **HIS** and **LIS**. Facility of stat tests (emergency) and sample collection from home is also available.

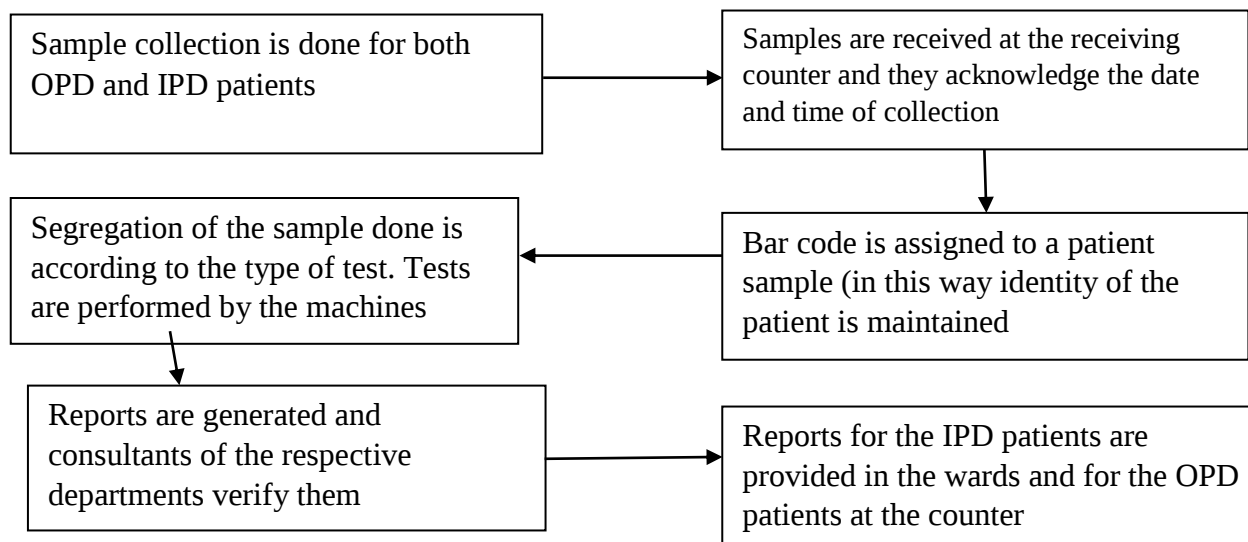
LABORATORY COSISTS OF THE FOLLOWING DEPARTMENTS-

- Biochemistry
- Haematology
- Immunoassay
- Histopathology
- Clinical pathology
- Serology
- Microbiology
- Cytology

HIERARCHY- The Department of Lab Is Broadly Divided In Two Departments



PROCESS FLOW-



LABORATORY INFORMATION SYSTEM- It is connected with hospital information system

- Sample received- red colour
- Samples acknowledged- yellow colour
- Test done- blue colour
- Result verified- green colour
- Billing done- pink colour
- **Indemnity Insurance-** Insurance policy to guard employees when they are found to be at fault for a particular event such as slipup.

RADIOLOGY DEPARTMENT:-

- Situated at the ground floor of the west wing of the hospital.
- The Department is headed by Dr. Sonia Dhal
- The total staffs working in the Radiology Department are 60.

Procedures done in the department:-

(1) Routine X-Ray studies

- (a) Plain - e.g. chest, spine, etc
- (b) Routine fluoroscopic procedures e.g. Barium studies

(2) Routine ultrasound studies

- (a) Ultrasonography - e.g. Abdomen, Pelvis
- (b) Doppler studies peripheral (B/W & color) e.g. 2 D echo, vascular studies, etc

3) Mammography

4) Dexa scan (Bone Densometry)

5) Special imaging techniques

- (a) CT Scan (Computerized Axial Tomography)
- (b) MRI (Magnetic Resonance Imaging) - 1.5 Tesla, 3 Tesla

Divided into two parts:-

- 1) For Ultrasonography, mammography, DEXA scan
- 2) For CT scan, MRI, X-ray, fluoroscopy

Consist of:-

- 1) Reception:-Counter for appointment and billing
- 2) Waiting room with general facilities like toilets, drinking water, air conditioning
- 3) Diagnostic room
- 4) Counseling room
- 5) Changing room
- 6) Film processing room
- 7) Radiologist office
- 8) Report collection room

There are two MRI and one CT scan machine in the department.

Timings for OPD patients: 8am to 8pm

In between this IPD and Emergency patients are also taken.

Main OPD hours: - 8am to 6pm and after 8pm only IPD and Emergency patients are taken

Report collection: - If the scan is done before 12pm, reports are ready by the evening and can be collected in the same evening. And if done after 12pm, report will be delivered next day.

Patient who comes in the radiology department either walks in or takes the appointment.

Appointment patients are given preference whereas walk in patients have to wait. Emergency, doctor's referred patients or ICU patients scan is done as soon as possible.

Process flow in radiology department (OPD)

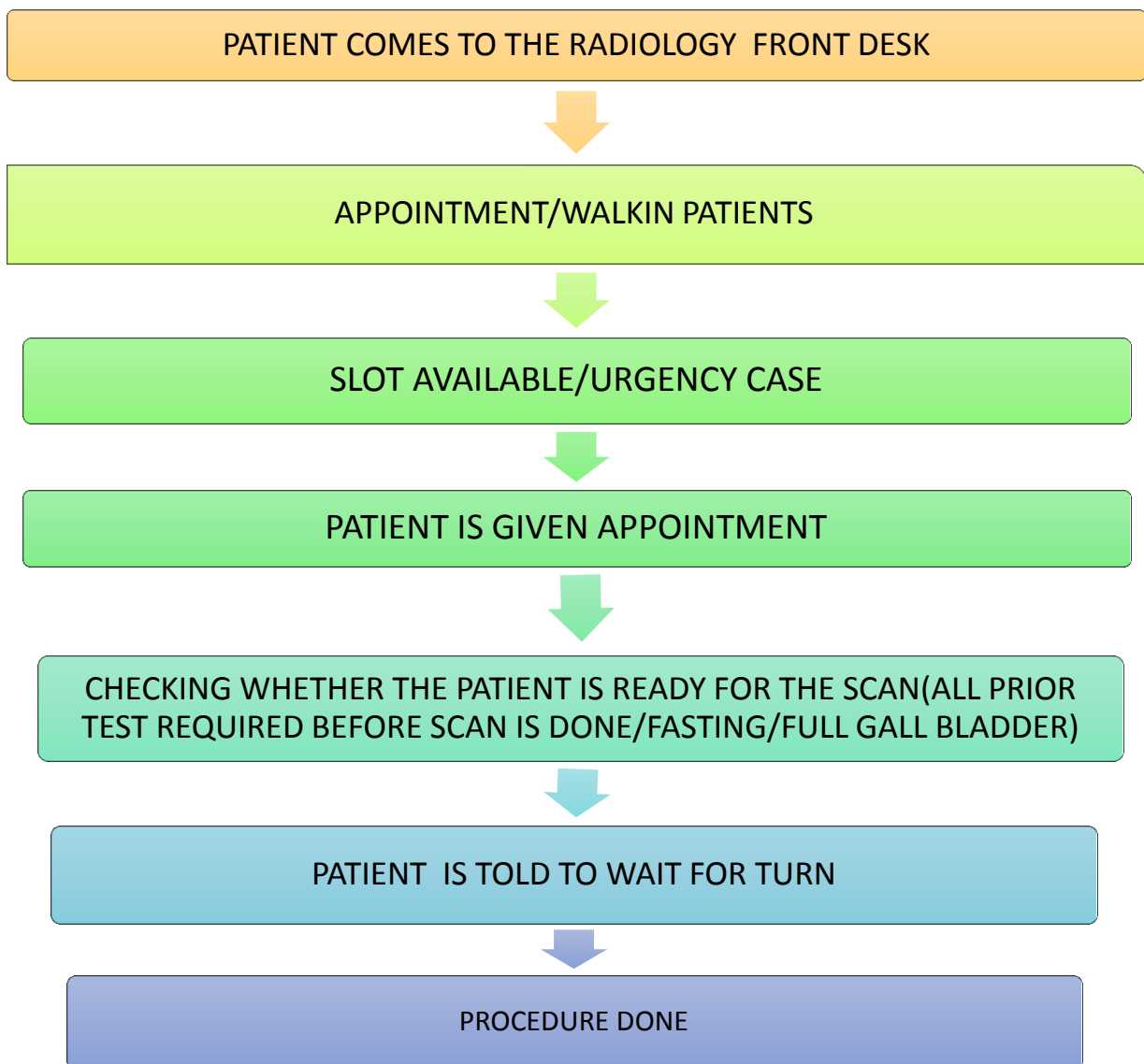


Figure:-Process flow in radiology department for outpatients.

Warning sign with Red light is on when the procedure is going on in the room.

- Emergency patients especially with a critical diagnosis – highlighted in the register and the consultant is immediately informed about the findings.
- Procedures wherein contrast is to be given, for example MRI, consent of the patient is taken prior to the procedure.

BLOOD BANK

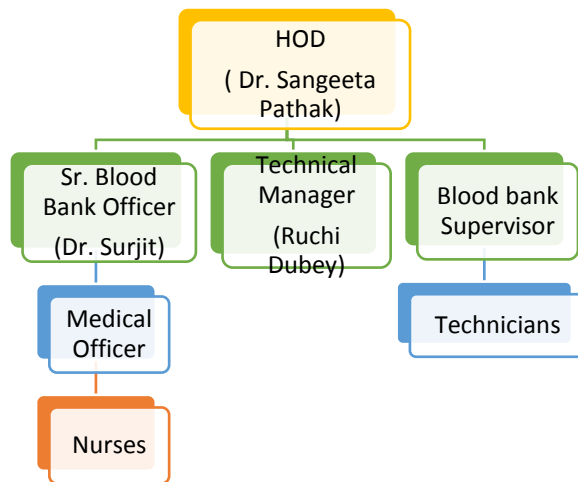
Max super specialty hospital has its own blood bank. All blood groups are available. It is mandatory for the in-patient attendants to donate blood or do replacement of the blood.

Blood bank consists of:

1. Sample collection area / reception area: In reception area a form is given to the attendant of the patient regarding their details before he/ she donates the blood.
2. Aphaeresis area: Blood has plentiful components including red blood cells, platelets as well as plasma. Donor aphaeresis is a distinct type of blood donation in which a precise component- platelet is reserved from donor.
3. Component room: In component room the whole blood is separated into packed cells (2-6° C), FFP (-80°C) and platelets (22°C). Packed RBC can be stored for 42 days, Platelets for 5 days and FFP for 1 year.
4. TTI room: It is to diagnose transfusion transmitted infections. If donor is detected positive for TTI status it means donor have the potential to transmit the infection to their partner and children.
5. Issue room: This room is to issue the screened blood bags.
6. Quarantine Area: The untested units are stored in this area for 1 day after component separation. This area is also for nucleic acid testing (NAT)
7. Serology Room- Patient and donor's blood processing is done in this area.
8. Refreshment Area- The donors are provided refreshment after donating blood in this area.

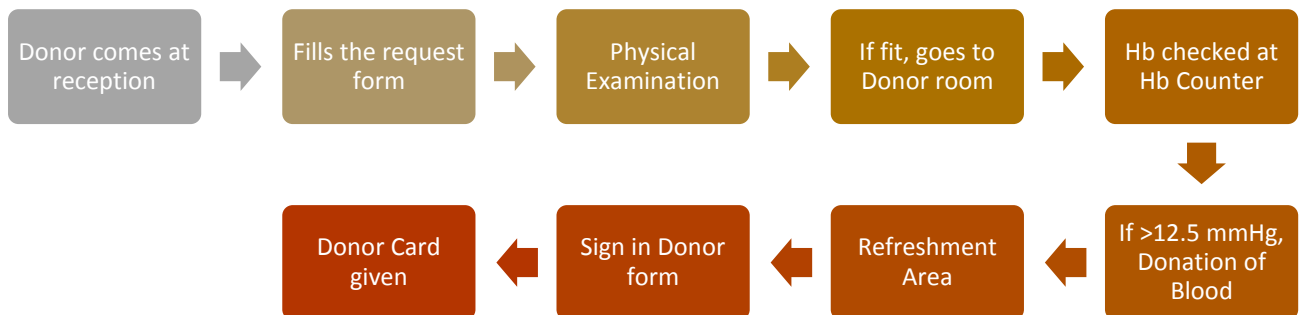
Staff of blood bank consists of 1 HOD, 2 blood bank officer, 1 technician supervisor, 16 technicians, 2 staff nurse, 2 computer executives, 4 GDA.

Hierarchy



- The blood donation timings are from 9am to 5pm. Blood can be donated after every 3 months.

Process Flow



- Voluntary Donor Card is valid for 1 year and Replacement Card is valid for 3 months.
- Record Maintenance – Both manually and digital (Acuren Software)
- Post-Donation Testing is done for and informed to all the donors.
- Report is given only to the patient, if patient cannot come, then the reports are emailed to them.

CENTRAL STERILIZATION SUPPLY DEPARTMENT

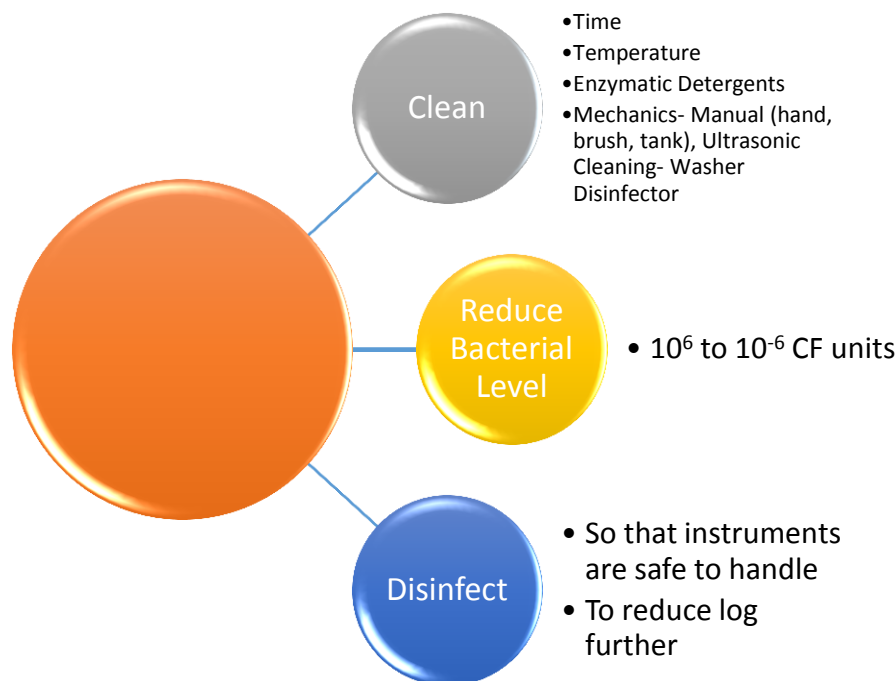
INTRODUCTION-

CSSD is the heart of the hospital infection control section and the most important unit of the clinical support services as well. CSSD plays role in receiving, cleaning, packing, disinfecting, sterilizing, storing and disinfecting instruments as per well-delineated protocols and standardized procedures.

CSSD department in Max Healthcare, Saket is a centralized department and the location of the department is in the basement.

The aim of the CSSD department is to reduce the level of micro-organisms from 10^6 to 10^{-6} CF Units as per the protocols.

Objective of CSSD:

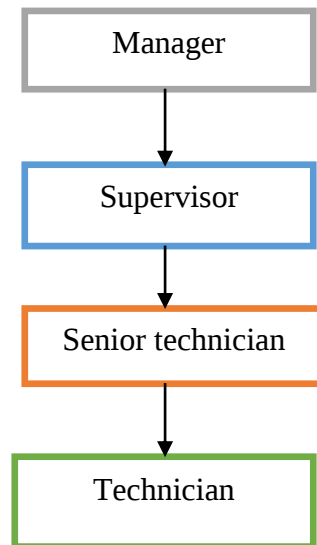


Types of Sterilization-

- Steam- uses saturated steam (heat + water) at 138°C for 4minutes
- Ethylene Oxide
- Plasma

Size of CSSD- should be 10 sq feet per bed, for a 500 bedded hospital.

HIERARCHY OF THE DEPARTMENT-

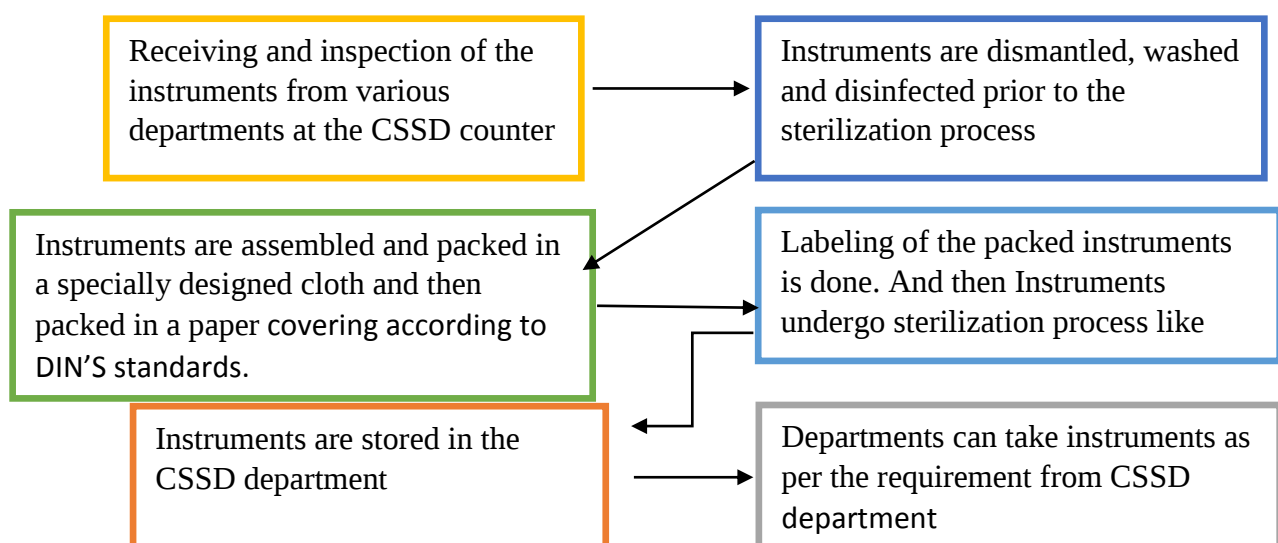


The Department is headed by Dr. Sanjeev Bhatia.

ZONES PRESENT (with color coding)-

- Decontamination Area
 - Clean Zone
 - Sterile Zone- Temperature- 18° to 20° C
- 18° to 22° C

PROCESS FLOW-



- At the time of receiving the instrument at the CSSD department, the instruments are counted, checked for any damage, segregated according to the method of sterilization required for the instrument.
- Instruments used for the washing of the instruments are fully automated and according to the European standards.
- For packing of the instruments SMS (Stem-Mid-Stem bond) paper and cloths are used which are specifically designed for the purpose (they have a zig -zag pattern).
- Once sterilized and packed instrument can be used within 6 months.

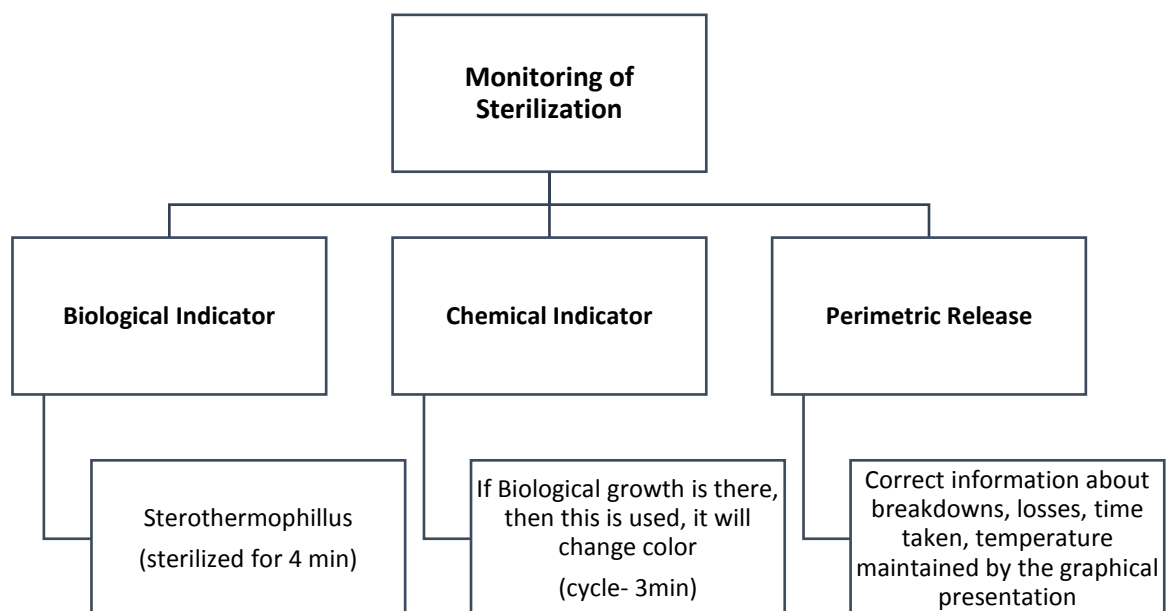
EQUIPMENT LIST-

- Washers
- Autoclaves
- Plasma sterilizers
- ETO sterilizers
- Dryers
- Air-guns
- Water-guns
- Ultrasonic cleaners

QUALITY INDICATORS-

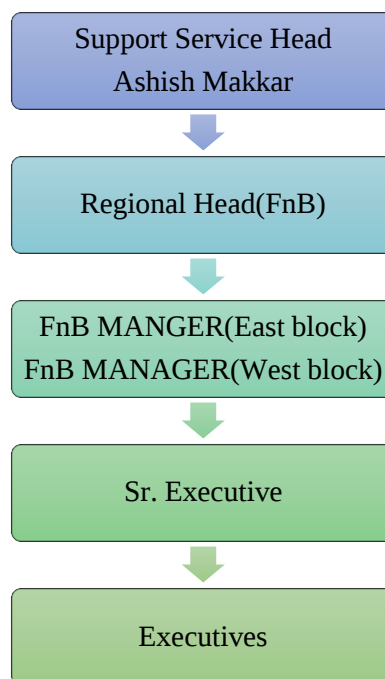
Various quality indicators used in CSSD are-

- **Batch monitoring strip-** a yellow coloured strip which is attached to every lot which on exposure to right temperature and pressure turns black



FOOD & BEVERAGES

- Food & Beverage department is hospital responsible for the supply of food to the in-patients and sometimes their attendants (if required) and also for arranging food during various meetings and conferences in the hospital premises.
- It is approved by NABH and works on ISO 9000: 2008.
- The department has been outsourced to Sodexo Pvt., ltd., however, the management and supervisory staff is in-house.
- Staff- 230 (outsourced) ; 11 (Max in house)
- Hierarchy

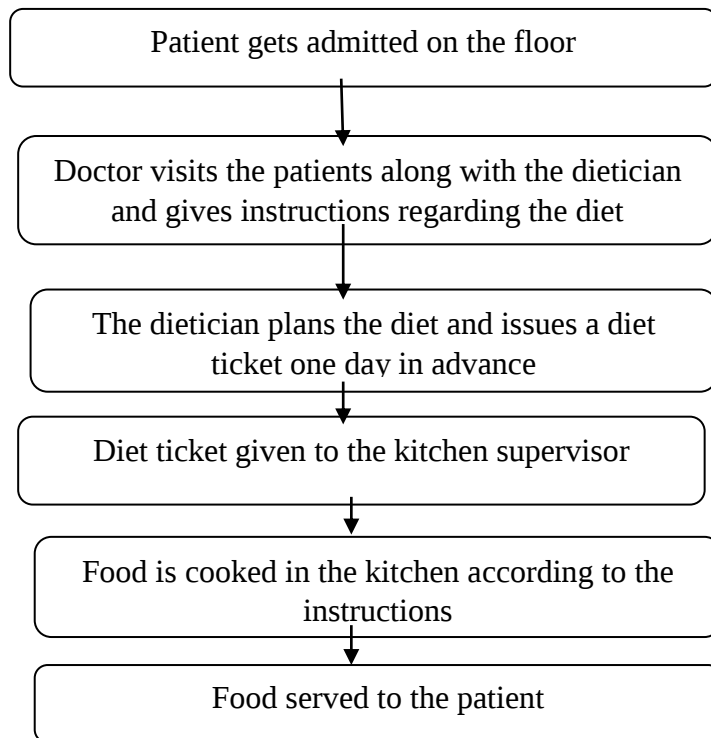


Time table for the diet of the patient: (7 meals/day)

7-8AM	Breakfast
10:30-11:30AM	Morning Tea Soup
1-2PM	Lunch
4-5PM	Evening tea
6-7PM	Soup
8-9PM	Dinner

- If the patient is on Liquid diet, it is provided every 2 hours, 10 liq. Diet/day.
- Dinner of the same day, breakfast and lunch of the next day are decided prior in the evening and diet tickets are issued by the dietician and given to the chef.

- Apart from these if patients wants to have something extra, those can be provided to the patient after consulting dietician and calling on 4030 from their room, no extra charges.
- Different menus offered are:
 - Continental
 - Afghani – for middle east patients
 - No onion and garlic – for middle east patients
 - Indian
- **Process flow** of the department



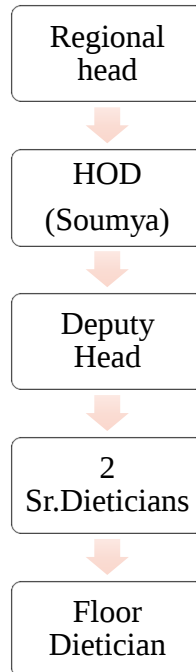
Quality Indicators for F n B department: Food Receiving, Food storage, Staffing

- The raw material is received everyday between 6:30-7am, washed and stored. The cutting is done on colour coded chopping boards separately for Veg., Non-Veg. and Sea food.
- The food sample is tested for any infection every 15 days.

DIETETICS

- The department plans diet for all IPD patients in accordance with the primary consultant's opinion on the same.
- Staff- 13 in total.

Hierarchy

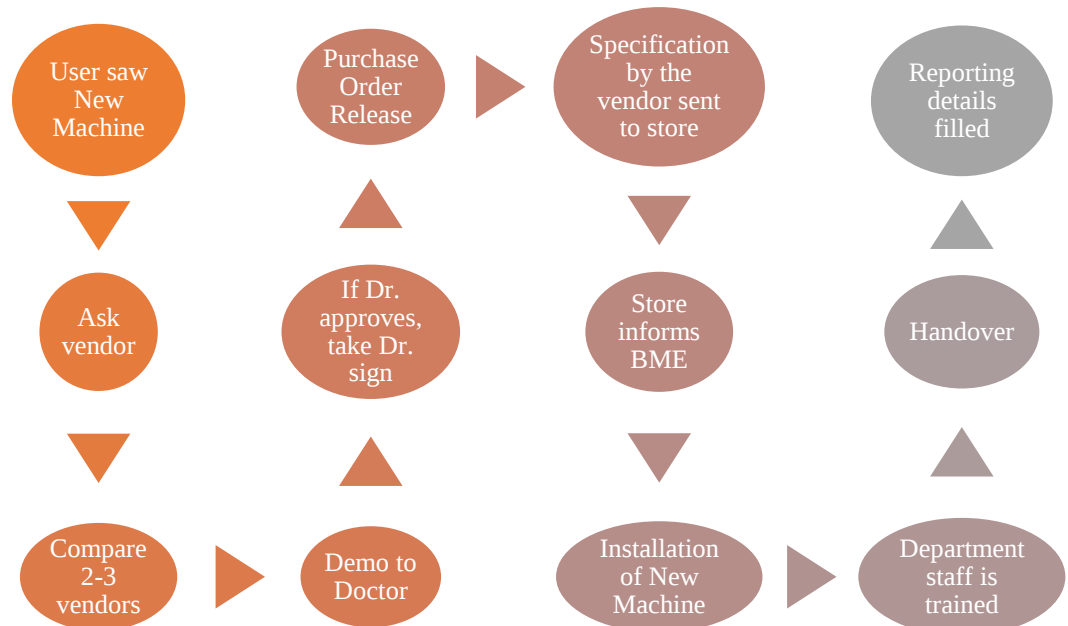


- Dietician: patient – 1:50
- Assessment of each patient to be done within 24 hours of admission and thereafter every 8th day after initial assessment.
- Scoring – Normal, Soft, Liquid Diet
- For enteral nutrition, all commercial supplements for each disease are available.
- Diet Note is put on CPRS on daily basis.

BIOMEDICAL ENGINEERING

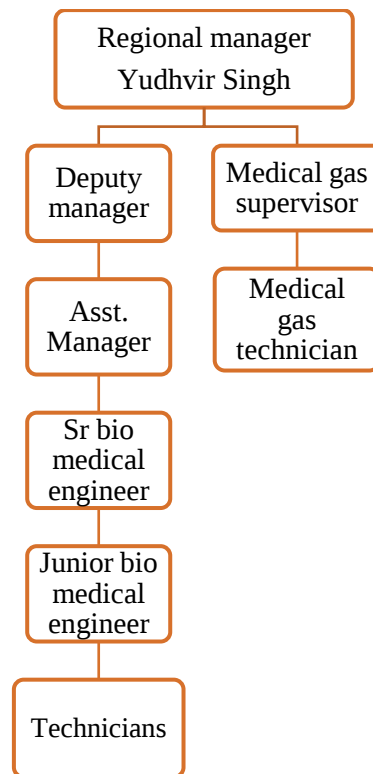
- This department deals with purchase, installation and commissioning, training on operating, handling and maintenance of medical equipment in all departments of the hospital.
- Looks after running equipment and new equipment.
- For Running equipment
 - Preventive maintenance (PM) is done – to prevent breakdown, maintenance is done.

- Calibration is done – i.e. to check how accurate an equipment is functioning
There are white stickers on every machine that tells when the last PM and Calibration was done.
- Breakdown call is checked for
- Depreciation is measured
- For new equipment-
 - Installation and commissioning is done.



- Criteria for Up gradation-
 - i. The company supplying the equipment has been obsolete and BME recommends new machine
 - ii. The staff suggests a new machine, BME checks the budget of the department, if budget allows, and then procedure for procurement is done.
- AMC and CMC records are maintained.
- CAPEX (Capital Expenditure) and OPEX (Operating Expenditure) registers are maintained.
- Equipment Incident report is made in case of any physical damage – it is filled mentioning how the damage did happened. Thereafter replacement or repair whatever is required is done.

Organizational chart



- Gas Manifold Department- Gas manifolds are also handled by this department and Max is awarded green OT certificate because of the efficient dispersion of OT gases. It maintains the supply of Oxygen, Air, Vacuum, Suction (-ve pressure).
- Compressors- in basement, for +ve and –ve pressure.

PHARMACY

Max pharmacy is self-owned with Central Pharmacy situated at corporate office, Okhla. There are 2 In-patient pharmacy stores, 2 Out-patient stores and 1 EWS pharmacy in the hospital.

PURCHASE

- Auto purchase requisition is given to central purchasing team which is forwarded to vendor (outsourced).
- For purchasing the items ABC method is followed.

A (mostly used drugs), B (Less used), C (Least Used)

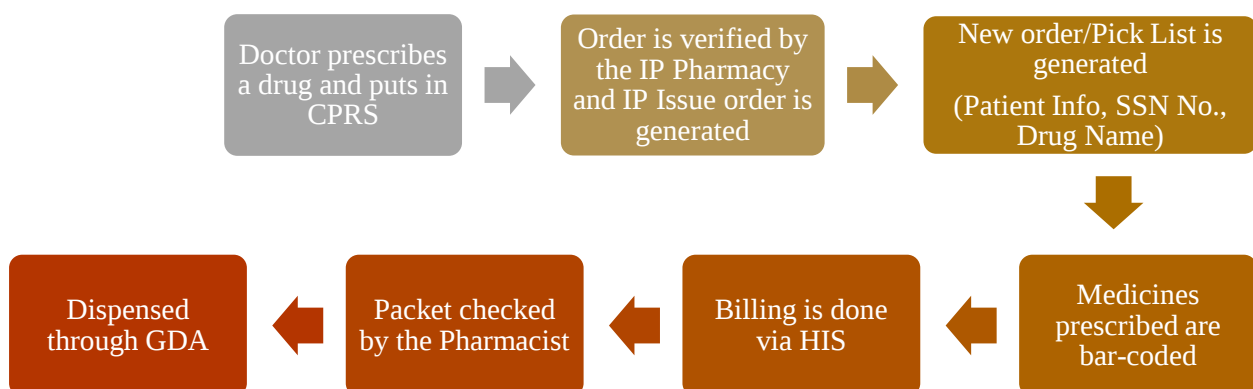
- Weekly requisition is done and vendors take minimum 3 days for delivery of drugs to hospital.

STORING OF DRUGS

Medicines are arranged according to VISTA (e-care) in Client patient record system via generic name in alphabetic order in racks, shelves, cupboards and drawers. Oral, parenteral and topical items are stored separately. Near expiry (expiry within 3 months) is stored in separate designated area to expedite the consumptions.

INDENT AND DISPENSE OF MEDICATIONS.

In patient pharmacy-



The **Stat orders** required immediately are dispensed within 30 minutes. The **Now order** is dispensed within 1 hour and routine order (White color) is delivered by 1 round per day.

NARCOTICS DRUGS

They are kept in double lock and key system with a label “High Alert Medicines”. Documentation of narcotic drugs is appropriately maintained.

Narcotics drugs under statutory regulation being used in max hospitals includes: injection and transdermal patch of Fentanyl and injection and tab. of Morphine.

LOOK ALIKE AND SOUND ALIKE DRUGS

Look alike and sound alike medications have high medication error due to similarities in nomenclature and packaging.

In the main pharmacy stores, (SALA Medications) are stored separately in 2 adjacent racks with blue colored **sound alike** and pink colored **look alike** medications warning stickers to avoid confusion while dispensing.

Medication Recall: If a drug is found to be defective, it is reported to the Okhla office where the records for that particular series of drugs dispensed is checked and verified for medication recall.

Licenses acquired by Max hospital pharmacy -

1) Pharmacist License

2) Narcotics License

INVENTORY MANAGEMENT PARAMETERS

I. ABC Class

A Items: 7 days

B Items: 10 days

C Items: 15 days

II. EOQ - (economic order quantity)

III. LEAD TIME – Time from ordering to delivery of drugs

IV. VED – Vital Essential Desirable (According To move of drugs)

Staff- In-patient pharmacy- 9 (Pharmacist) + 1 (Executive) + 8 GDA, 5 Data Entry Operator

Out-patient pharmacy-

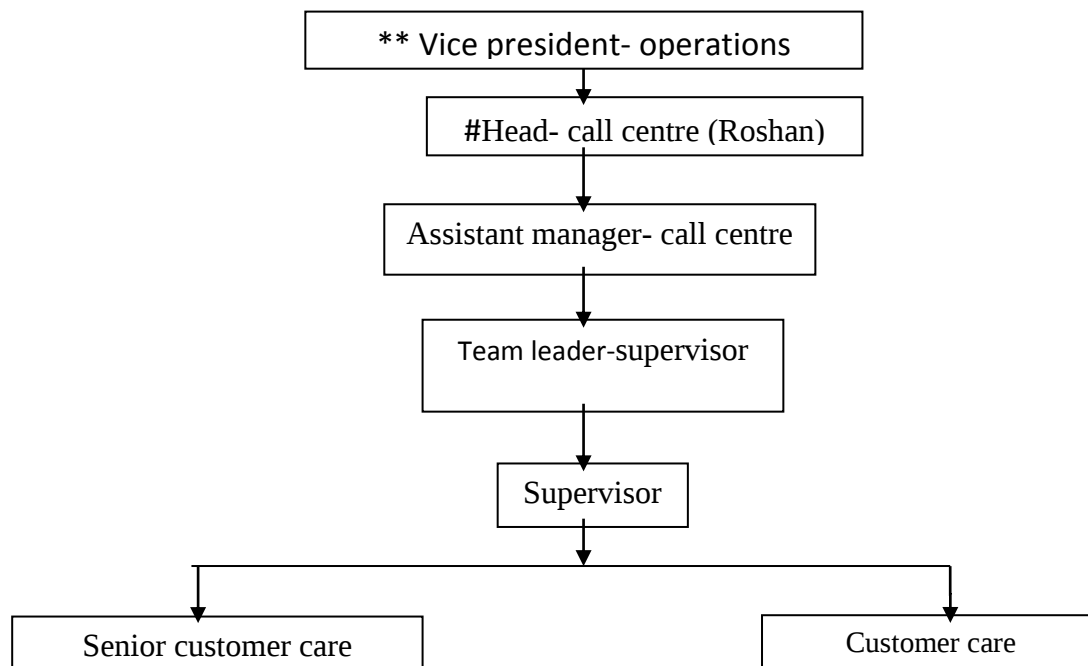
CALL CENTRE (in-house)

Call centre of Max hospital, Saket operates at 24*7. It is centralized patient contact centre for Saket. It can be used as an information centre for all customers.

Call centre deals with:

- Doctor's appointment
- Health check ups
- Radiology and diagnostic appointments
- Patient's information
- Doctor's information
- Employee's information
- Specialty information
- Other department information
- In-patient requests, ext. no. 4000
- It handles internal emergency e.g. at ext. no. "11" -Blue code, RRT, Code Yellow, Code Pink, at ext. no. "14", Code Red, Code Black
Main board line number is: 26525050
- Ambulance Services

Organization chart:

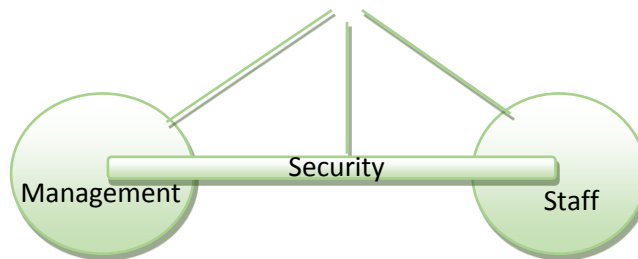


Ticket Process Flow



- If complaint is resolved, it closes automatically in 4 hours.
- Escalation Matrix- If any request is not fulfilled in appropriate time, this matrix enables a message on duty mobile of the department supervisor and so on, i.e. it escalates the unresolved issue to the higher authority concerned.
- All the HODs are messaged daily about the calls and the Turn Around Time (TAT) of the calls.

SECURITY DEPARTMENT



The security department is an eye and ear of every organization acting as a liaison between the management and staff. The control room of Security Department is located on B1 (basement) of East Wing, Max Saket.

Functions of Security Department:-

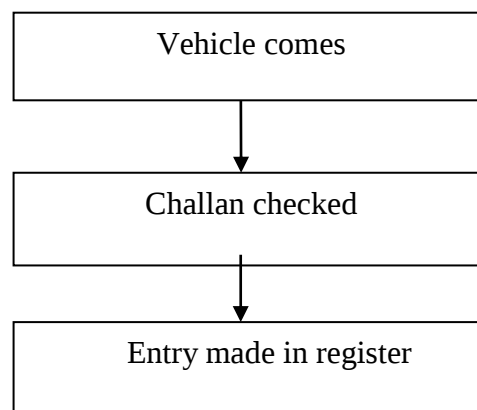
1. Security management:-

- Selection of people(guards and supervisors)
 - Deploying of security staff to different floors and departments
 - Checking of people entering hospital- Frisking
 - Turnout and grooming of security staff
 - Death handling
 - Training of security staff
 - MLC handling- filling MLC intimation and re-intimation (if any) form
Re-intimation is made when a MLC patient gets admitted again within 10 days of the discharge.
 - Dispute handling
-
- There are 192 CCTV Cameras recording every action in the hospital premises.
 - Two Teams- IRT (Initial Response Team) and ERT (Emergency Response Team)
 - ERCC system- Emergency Response Coordination and Communication system sends a voice message (1000 messages on 1 go) on the duty mobile number in an emergency.
 - Security divides the RRT in 4 teams to act in an emergency
 1. Action taking
 2. Rescue Team
 3. Salvage Team- to remove important documents from that area.
 4. Cordon off Team- to not to allow anybody inside the threat zone.

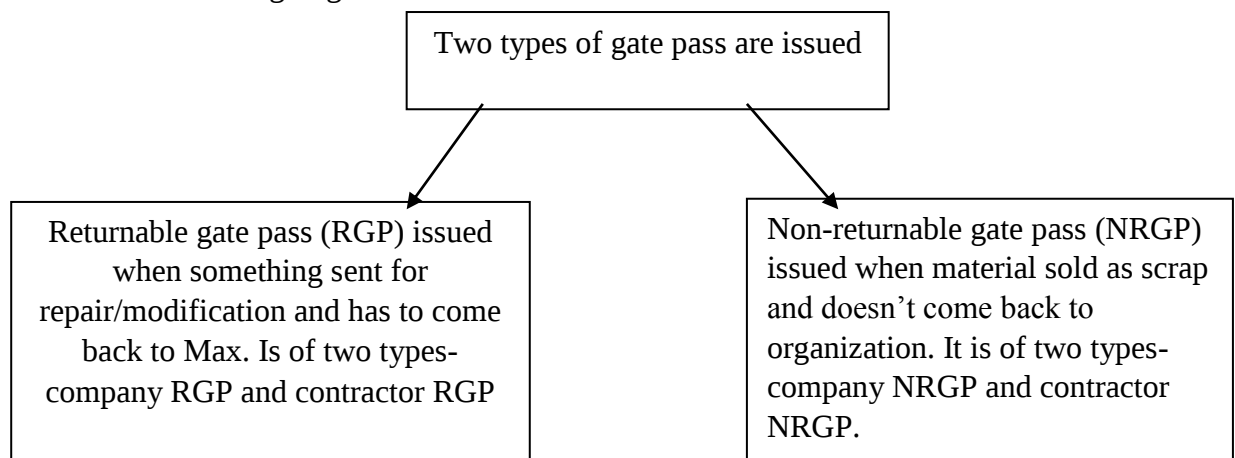
- If emergency occurs during an occupied OT, Security has put up a provision for OT to run for 45min on UPS, so basic stabilization of the patient can be done.
- There is a secret entry for the VIP security in the hospital.

2. Material management:-It includes management of both incoming and outgoing materials.

a. Flow for incoming materials:-The incoming materials are received either from a company or a contractor to Max. The process flow is as under:-



b. Flow for outgoing materials



3. Disaster management:-

There are six emergency codes:-

1. Red- **Fire**
2. Black- **Bomb threat**
3. Blue- **Cardiac arrest**
4. Yellow- **External disaster** like earthquake
5. Violet- **Violent patient**
6. Pink- **Missing patient**

The SOP's and disaster management plans are prepared by the Security Department. Fire management system includes smoke detectors, sprinklers fitted on ceiling and fire shafts in all corridors.

Walkie talkies are an important source of communication.

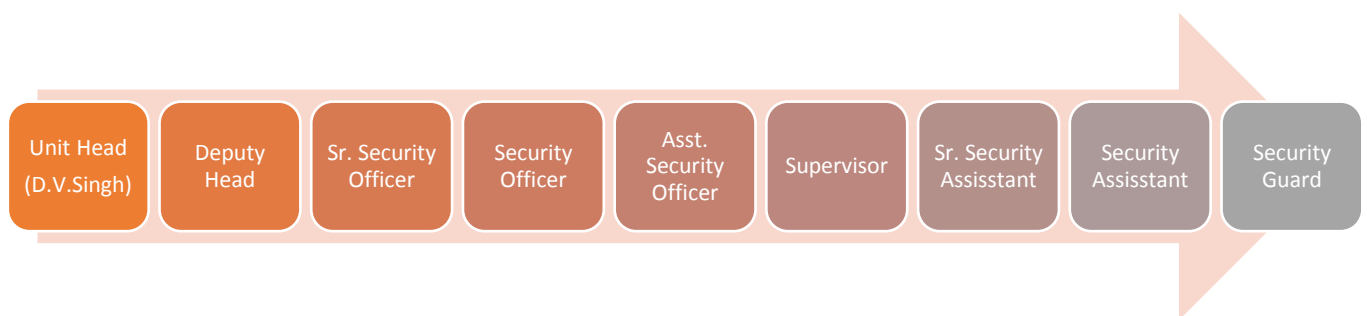
Other disasters include floods, water logging, terrorist attacks.

4. Valet management:-

- Helps internal and external customer to optimally utilize the parking space.
- Within a time frame of maximum 7 minutes, vehicle is handed over to customer when asked for in porch.

Staffing

The Security department in Max Healthcare, Saket consists of 26 on- roll staff and 144 outsourced staff.



HUMAN RESOURCE MANAGEMENT

Human resource management is designed to exploit employees' performance in provision of their employer's strategic aims. HR is chiefly concerned with how individuals are be able to work within the organization, concentrating on rules and schemes.

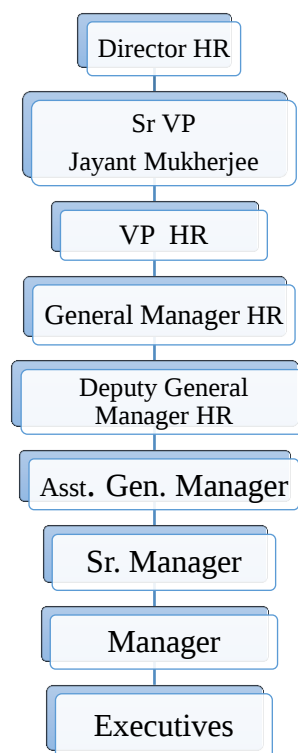
Core Values of HR: Excellence, Credibility and Seva bhav

Following are the policies undertaken by the Human Resource Management Department:-

- Human Resource Planning Policies.
- Job Profile Format.
- Recruitment policies.
- Training and development policies.

- Induction and Orientation policies.
- Performance appraisal Policies.
- Complaint & Grievances Redressal Policies.
- Disciplinary Policies.
- Medical Discount Policy.
- Annual Medical Check-up Policy.
- Clinical credentialing and privileging Policy.
- Nursing Credentialing and Privileging Policy.

HR Hierarchy



Staff- Manpower of 15 staff is handling the HR system of Max Healthcare, Saket



INTERNATIONAL PATIENT SERVICES (IPS) DEPARTMENT

It needs a lot of work to be first-class health care service benefactor and as per patient registrations data, over 11 Lakh overseas patients have been helped to get back to their lifestyle. This department, situated in East wing, is completely dedicated for the services of international patients.

Contact Procedure:

- Patient directs a enquiry and reports
- IPS Team refers the applicable consultant and offers diagnosis, planned treatment and estimation
- telephonic meeting may also be settled
- Patient settles if he needs to have treatment at Max Healthcare to offer Visa Facilitation Letter
- Patient authorises the coming date and time
- IPS Team, in the interim, books room for the patients
- Patient is acknowledged at the Airport and then, took to the Hospital/Guest House/Hotel

Also, another contact procedure is as follows:

- Max hospital conduct free outreach OPD in other countries,
- Max hospital also has tie ups with different hospitals in other countries.

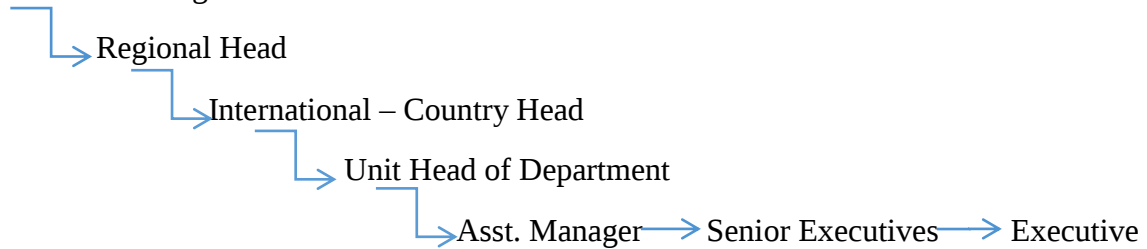
International patient avail treatment in India mainly because the facilities or treatments are not available in their respective countries, and are available at a much cheaper price in India than other countries such as US, UK or European countries. The countries from where patients come to seek treatment most commonly are Afghanistan, Iraq, African countries (Nigeria, Congo), Oman, Uzbekistan, Nepal, and Bangladesh.

The hospital provides:

- Numerous Regional Interpreters such as Parisian, Arabic, Bangladeshi, Iraqi and Russian (In house interpreter).
- Support in ground conveyance such as finding a transport, contracting a car or selecting other mode of carriage in the interior of the city.

Staffing:

Director Marketing



CONCLUSIVE LEARNING

1. There is an information board on every nursing station which includes all the details of on-duty staff, is updated on daily basis.
2. Some of the Nursing station information board has Positive Thoughts (e.g. MAMBS recovery area, 2nd floor, East wing) and some have Good morning and smiling face smiley (e.g. 4th Oncology department)
3. The Emergency area is not designed within easiest reach, as it is not easily visible from the main entrance of the hospital.
4. The board depicting Emergency department does not has a good contrast background. “Emergency” is written with very light colour on a bright background, difficult to read.
5. There are no directions in the hospital to reach Emergency department.
6. The Doctors feel very difficult to put notes in CPRS immediately, as they cannot find any system free. Some doctors also suggested of keeping Transcriptors for the same.



**“COMPLIANCE OF INFORMED CONSENT FORMS FOR ANAESTHESIA
AND SURGICAL PROCEDURES”**

AT

MAX SUPER SPECIALITY HOSPITAL, SAKET



Institute of Health Management Research, Jaipur

Declaration

Acknowledgment

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ACKNOWLEDGMENT

I take this opportunity to express my profound sense of gratitude to all those who helped me throughout the duration of the project.

I would like to acknowledge, First and foremost of Dr. Tanu Goyal (Assistant Medical Supritendent) for showing confidence in me and giving me such a wonderful topic to do my project. I would like to thank my mentor at Max Hospital, Saket Dr. Sandeep Mor (Deputy Medical Superintendent) for his guidance throughout my internship period. I would also like to thank to all the nursing staff of ICU of west block.

I would also like to thank Dr. Nalini Kaul (Medical Superintendent) without whose permission I would not get this golden opportunity to do my internship in this esteemed hospital.

I would also like to thank my faculty at IIHMR-Jaipur and specially my Mentor- Dr. Alok Mathur (Professor) and also feel privileged to acknowledge Dr Shelly Singh for being my support throughout my project.

I would also whole heartedly thank the entire staff at Max, Saket for being so supportive and helpful and taking out some time from their hectic schedules and giving all the required information, especially Outpatient Department.

At the end, I am thankful to God and my heartfelt gratitude to my parents and friends who supported me throughout the course.

THANK YOU ALL

Tanvi Mittal

IIHMR

(2016-2018)

DECLARATION

I do hereby declare that I am a student of 1st year, MBA in Hospital and Healthcare Management, IIHMR University, Jaipur, Rajasthan session 2016-2018.

I would like to state that I have done the project on “Compliance of informed consent forms for anaesthesia and surgical procedures” under the guidance of Dr. Tanu Goyal (Assistant medical superintendent) at Max Super Speciality Hospital, Saket, New Delhi.

This project work is my own and has not been yield to to any of the other Institute for the purpose of award of any degree or diploma.

Tanvi Mittal

IIHMR University

(2016-2018)

INTERNSHIP CERTIFICATE FROM MAX SAKET

This is to certify that Tanvi Mittal a student of IIHMR - Jaipur MBA HM-21 has carried out a project on the topic ““Compliance of informed consent forms for anaesthesia and surgical procedure” at Max Super Speciality Hospital Saket, New Delhi.

This project work has been prepared by the student herself with utmost sincerity and this work has not been presented earlier for any academic activities.

I wish her all the best & success in her future endeavours.

Dr Tanu Goyal
Assistant Medical Superintendent

Dr. Sandeep Mor
Deputy medical Superintendent

COMPLIANCE OF INFORMED CONSENT FORMS FOR ANAESTHESIA AND SURGICAL PROCEDURE IN MAX SUPER SPECIALTY HOSPITAL, SAKET

INTRODUCTION

In India, in last two and half decades, drastic rise in the sphere of patients 'autonomy have been witnessed. Doctors 'attitude towards patients in the past was predominated by the paternalism —The doctor knows best, what is good for patients. However with enactment of legislations like consumer protection act and the inclusion of medical services under this act, paternalism from that era in clinical practice is long gone. It is widely accepted that clinicians should negotiate rather than dictate what is in the best interest of their patients. The idea of —Partnership in care is more practiced. Consent in the situation of a doctor patient bond, means the allowance of authorisation by the patient for an action to be accepted out by the doctor for instance a diagnostic, surgical and therapeutic procedures. The fundamentals of agreement are highlighted with orientation to the patient and it is well-thought-out to be lawful when –

1. Patient delivers it willingly lacking compulsion;
2. Patient has the ability and proficiency to rehearsal agreement; and
3. Patient has the least to satisfactory level of statistics about the nature of the method about which he is agreeable to.

Definition of Informed Consent:

It is an agreement/authorisation escorted by full statistics on the nature, possibilities, and substitutes of a medical technique and treatment before the doctor or health care professional initiates the procedure and treatment. After getting this facts, the patient either accords to or rejects such a technique or action.

Informed Consent: Informed Consent is worth when a patient succeeding discussion with the physician or health care professional states his readiness to allow and endure a practice or action. It takes place when the patient is taught about the inherent risks, its benefits and alternative methods of the intervention or treatment, the consequences of not going under treatment, any expected outcomes of treatment and the designation of the health care professionals who will be performing the practice, action. Informed Consent evidence by written documentation from both the patient or the substitute Consent Giver and health care professional.

PROCEDURE OF OBTAINING CONSENT:

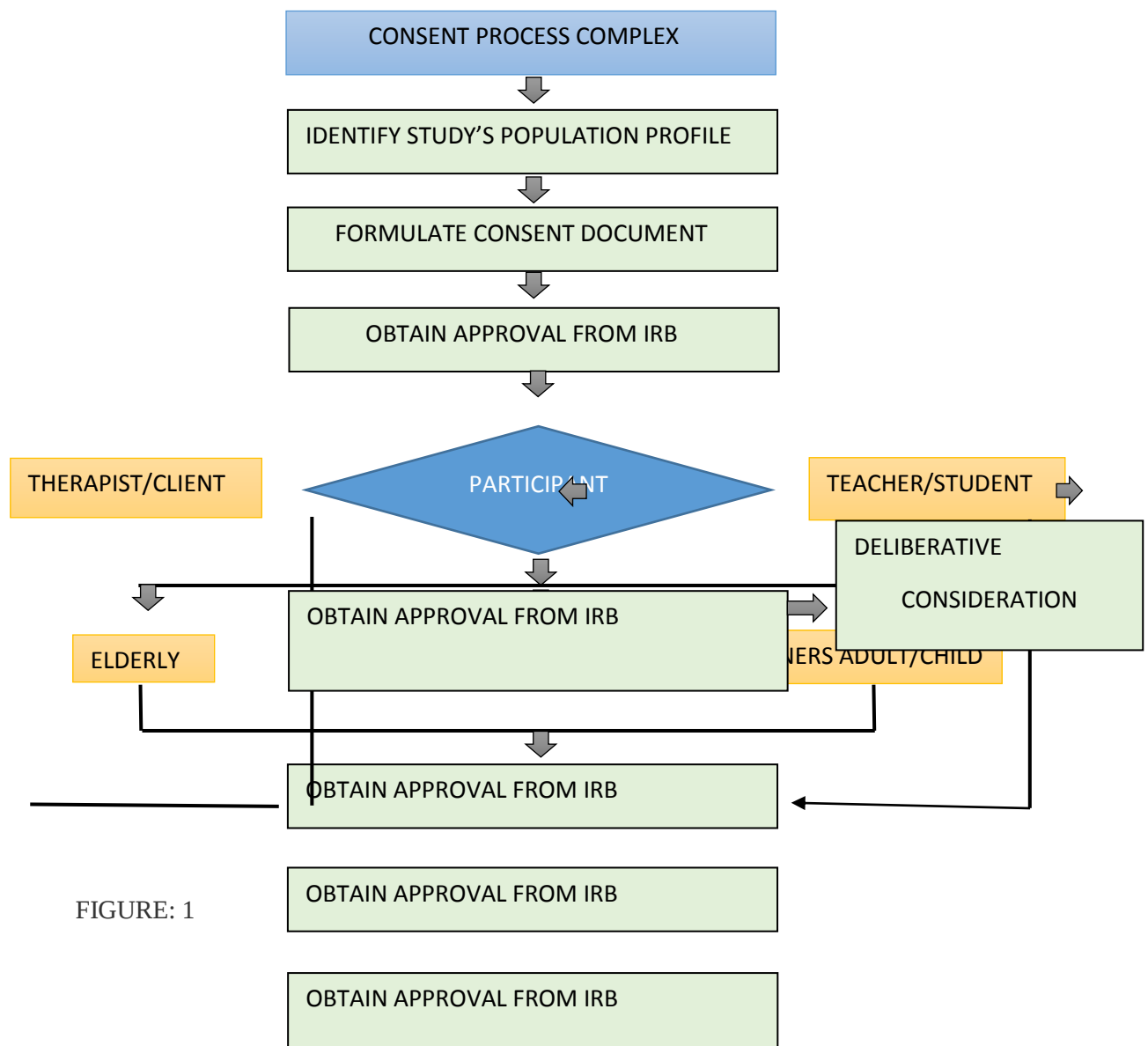


FIGURE: 1

LAWFUL CONSENT UNDERTAKING IN THE INDIAN LAW:

A doctor or health care professional must obtain the consent of the patient before commencing a treatment/procedure

Consent must be obtain from the patient himself

The patient must have the capacity and competence to give consent

Consent must be voluntary and free

Consent must be informed

Consent must be procedure specific

Consent taken at the time of surgery is unacceptable

Consent for examining a patient for educational purpose

Fresh consent must be obtained for a repeat procedures

Consent to cover anaesthesia care

Patient has the legal and moral right to refuse treatment

Consent obtained unilateral executes are void

Witnessed consent is legally more dependable

Consent must be properly documented

Patient is free to withdraw his obtained consent anytime

Consent obtained for illegal procedures is invalid

CONSENT FORM CAN BE OBTAINED BY WHOM?

Present direction shapes the individual agreement must acquire either by the one who is proficient of carrying out the procedure; or have acknowledged training in counselling patients about the technique.

Certain expert procedures, such as cataract surgery or elective angiography, have precise risks, which may not be effectively taught in scholar schooling. A detailed appreciative is compulsory to be able to properly counsel the patient. Teaching in attaining informed consent is therefore vibrant.

PURPOSES

- The informed consent procedure permits the health care provider to comply with the legal requirements to “disclose facts and information which are necessary to form the basis of consent by the patient”
- It advances patient agreement, thus aggregate the chance for improved outcome.
- Patient teaching about risk is possibly the influential risk anticipation instrument accessible to doctors.
- Going through the procedure of well-versed consent provides the physician the chance to certificate having done so.

LITERATURE REVIEW

Peter John Webster, Sarah Graham in their study “Completion of consent forms in colorectal surgery: are we getting it right?” analysed areas which comprise patient information, nature of process, conversation of benefits and jeopardies, specifics of the consenting surgeon, legibility and whether a copy was given to patient or not. The important outcomes are as follows: < 15% of consent forms had improper and/or partial patient specifics. < Junior doctors, including foundation year 2 doctors, complied 29% of all acute cases. < Benefits of the operation were logged in 83% of cases and risks in 97% of cases. Consent is often incorrectly equated with a patient’s sign on a consent form. Though the sign is indication that the patient has agreed consent, it is not evidence of legal learnt consent.(1)

Terry C. Davis ,Hans J. Berkel,Randall F. Holcombe ,Sumona Pramanik ,Stephen G. Divers in their published paper “Informed Consent for Clinical Trials: a Comparative Study of Standard Versus Simplified Forms” showed intellectual capacity of informed consent documents comprises of difficulties for many contestants. Williams et al. found that less than half of patients in public hospitals in Atlanta and Los Angeles could understand the typical consent document used for invasive procedures at the Atlanta hospital. Cassileth et al. found that 60% of patients sharing in a study directed in Philadelphia agreed the purpose and nature of medical procedures to which they had contracted and that only 40% of the participants reported they had recite the form cautiously. Cassileth et al. determined that the trouble of the material and its legalistic wording forced blocks to the patients' understanding of info intended to enable informed judgements.(2)

Sherlock RN, MCLinPrac (candidate); S. Brownie GradDipSci (Nutrition), PhD in their publication on 24 February 2014 “Patients' recollection and understanding of informed consent: a literature review” reflected on the consenting procedure, between 21% and 86% of patients were capable to recollect the potential risks and problems of

their medical procedure. The mark of understanding of the accepting process reduced with age. Nearly patients were of the belief that the prime drive of the consent procedure was to defend hospitals and doctors. The use of collaborating hypermedia and written material that are easy-to-read and understand, and prepared for distinct patients has been revealed to rise patient attentiveness, memorise and accepting of the consenting procedure.(3)

Sinclair A1, Kujawa M1, Thompson A2 1. Stepping Hill Hospital, Stockport, 2. RAEI, Wiagn in study “procedure specific consent forms improve the process of informed consent in patients” construed results for patients to have given informed consent they must have been communicated about their planned procedure and prospects of achievement, counselled of likely difficulties and had substitute management options emphasised to them. Consent is viewed as a process and does not rely just on the written consent form which is often left to more junior staff. Most surgeons take up they can yield informed consent for the procedures they perform, but our data suggests that in the lack of a procedure definite consent form only 28.3% were consented properly for their continence procedure in 2003. The preliminary review itself may have raised the consciousness and enhanced the practise of some surgeons between the first and second audit period. Else the introduction of procedure specific consent forms was the only alteration in practise recognised during the data collection or the succeeding dialogue about the data at the audit meeting to clarify the important development with 83.7% of the patients having correctly documented informed consent in 2007.(4)

Ashish Jain, 2Rajeev Kumar Bansal, 3Rajneesh Pandey, 4Jayanthi Yadav in their study “Written Informed Consent: Is It Practiced What Is Being Preached?” conferred about half the doctors, in spite of knowing very well that it is their lawful accountability to obtain the consent from patient, leave this important task to be performed by their subordinate staff, such as resident doctors and nursing staff. Such consent may not be accurately informed and lawfully legal. (5)

RATIONALE

This study is intended to determine the compliance of informed consent forms extensively used for surgical as well as anaesthetic procedures in Max Super speciality hospital, Saket, New Delhi as informed consent is an important document in the hospital work process. Yet, it is often observed that consent forms are incomplete with regards to certain critical columns which are to be filled by medical staff and patients. These incomplete forms may become a source of distress, if an unfortunate event occurs.

OBJECTIVES

GENERAL OBJECTIVE

- To observe the extent to which informed consent for procedure meet recognized informed consent ethics.

SPECIFIC OBJECTIVES

- To obtain the most unattended column of the informed consent forms for the anaesthesia as well as the surgical procedures.
- To determine the reasons for the incompleteness of surgical and anaesthesia consent forms.
- To give recommendations for further improvements in the processing of informed consent undertaking.
- To investigate the failure to obtain informed consent as an allegation in medical malpractice claims for patients undergoing a surgical and anaesthetic procedure.

RESEARCH METHODOLOGY

- **Type of study:** Descriptive study
- **Study population:** Hundred ethnically diverse patients enrolling for surgical procedure and procedure requiring anaesthesia at Max Super Speciality Hospital, Saket, Delhi
 - **Study area:** Operation theatres and surgical ICU in Max Super Speciality Hospital, Saket, Delhi
 - **Duration of Study:** 3 Weeks
 - **Type of Data:** Quantitative
 - **Technique:** Checklist prepared for compliance informed consent forms
 - **Sample size:** 100
 - **Sampling technique:** convenience sampling
 - **Data collection:** Primary and Quantitative (3 weeks)
 - **Data entry:** Manually
 - **Data Analysis:** Using bar charts, pie charts in Microsoft Excel

DATA INTERPRETATION

SURGICAL PROCEDURE CONSENT FORM

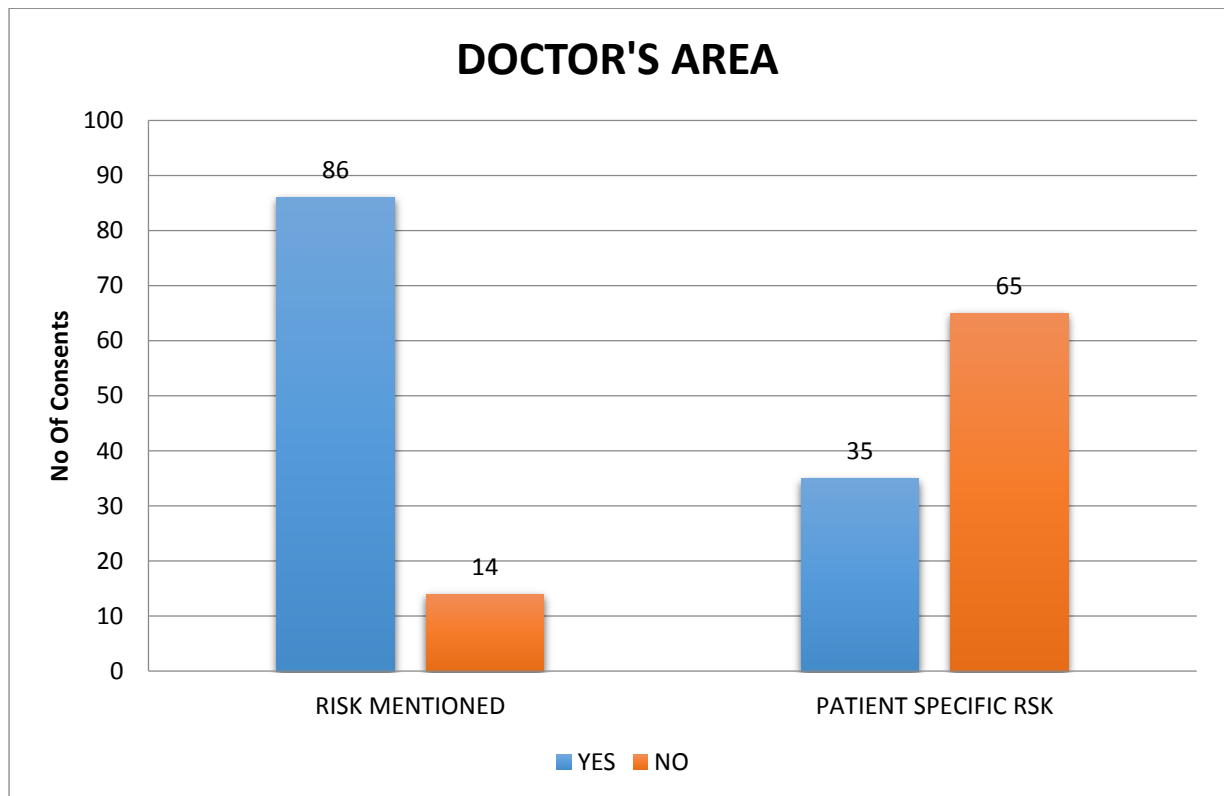


FIGURE: 2

RISK MENTIONED in the consent forms is of utmost importance as it clarifies what all health issues can show up during procedure.

PATIENT SPECIFIC RISK are the parameters mentioned by the doctor or consultant which might happen during the surgery due to the specific vitals or existing health issues of the patient.

INFERENCE: This figure depicts that out of 100, 86 informers mentioned the risk to the patient associated with procedure to be performed whereas 14 of them didn't. 35 informers mentioned the risk that specifically in accordance to the patient associated with procedure to be performed whereas 65 of them didn't.

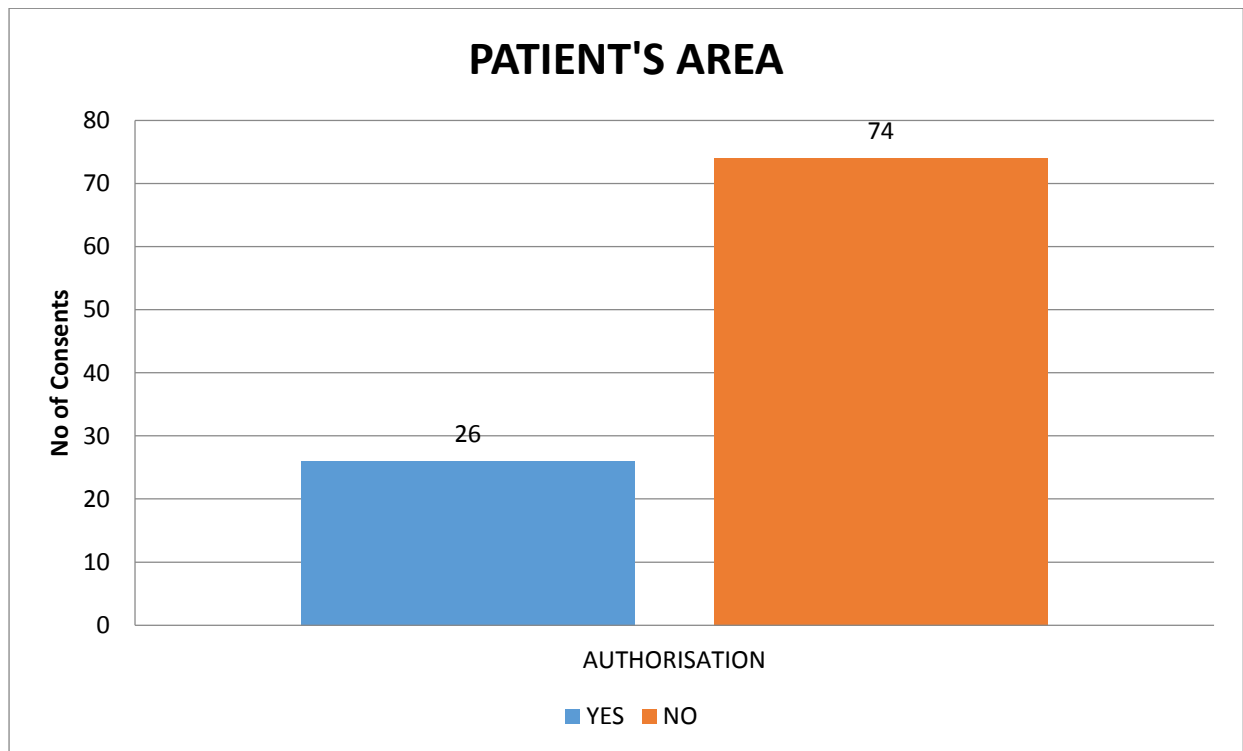


FIGURE: 3

Authorization done by patient, holds the major part in compliance of consent forms, incorporates the name of the informer/surgeon along with the surgical procedure to be held.

INFERENCE: This figure depicts that out of 100, 74 patient done the authorisation which shows that they are updated with the assigned surgery along with the surgeon whereas 26 of them shows the negative response.

**AUTHORIZATION BY PATIENT, WITNESS, INTERPRETER (IF ANY), DOCTOR
IN REGARDS TO THEIR NAMES, RELATION, DATE AND TIME ,SIGNATURE
AND DESIGNATION OF THE DOCTOR.**

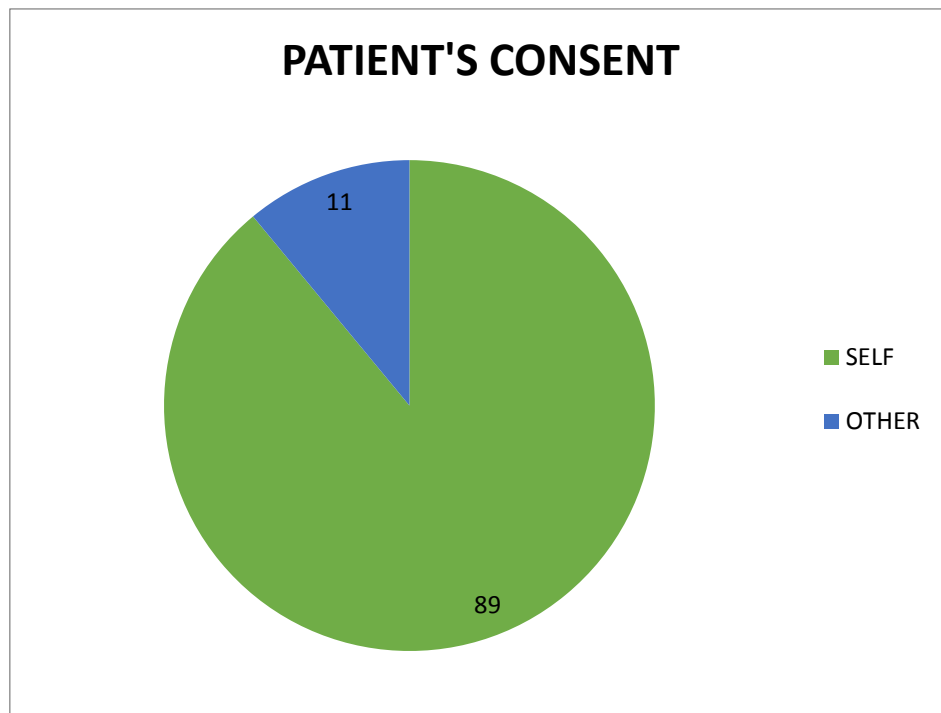


FIGURE: 4

PATIENT/ATTENDENT Legally patient is the one who is asked to sign for compliance of the information regarding the surgical procedure except in cases where patient is below 12 years.

INFERENCE: Figure here clarifies that 89 out of 100 patient were physically and mentally able to fill their consents whereas in rest of the cases it was signed by any of the family member of the patient.

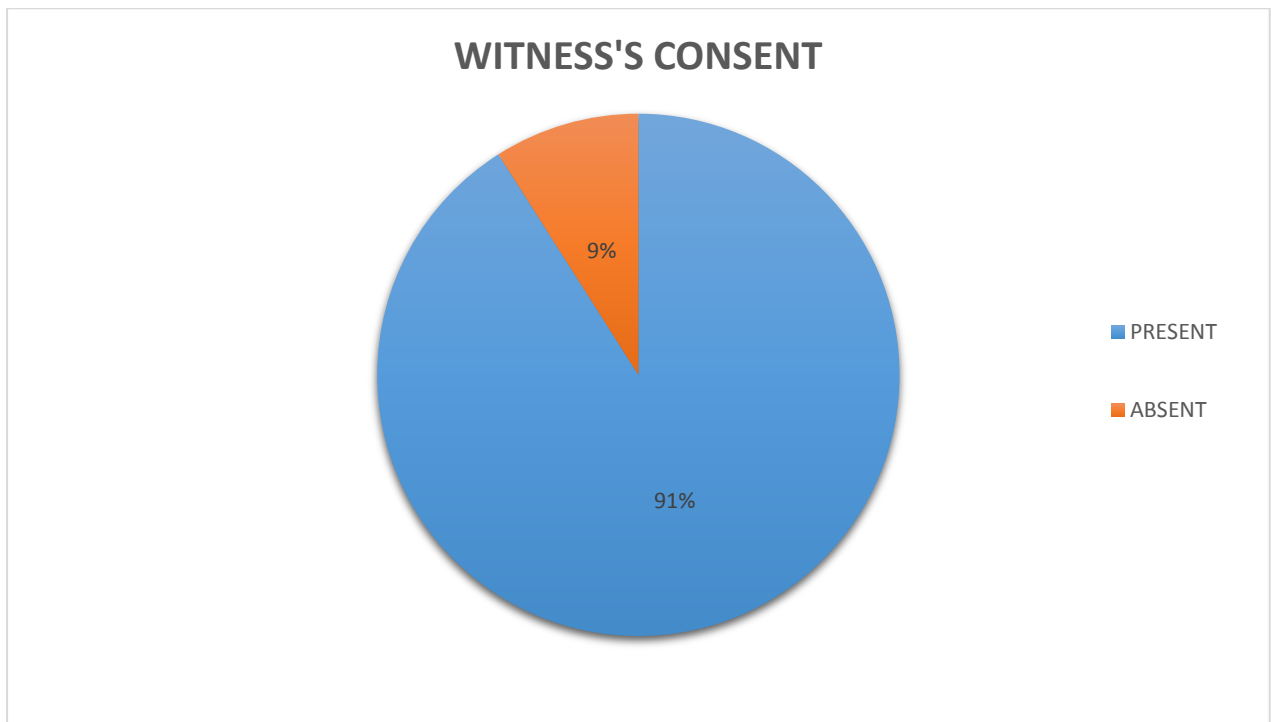


FIGURE: 5

WITNESS The primary function of the witness is to verify that the patient actually signed the consent form, and he or she may be called to testify to that fact.

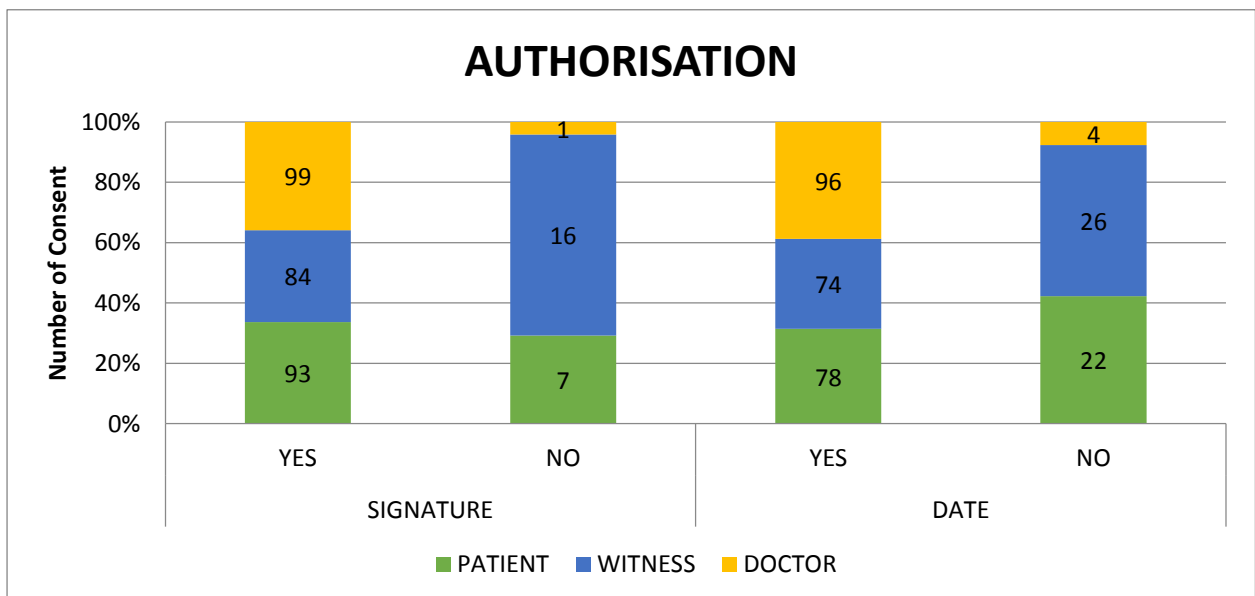


FIGURE: 6

PATIENT SIGNATURE is mandatory for the further work process in relation to surgeries and documentation.

DOCTOR'S AUTHORISATION is as important as their presence in surgery, as authorisation implies that he explained the patient pros and cons as well as procedure of the surgery.

DATE AND TIME BY THE PATIENT: Mentioning date and time is important as it is legalised that it should be mentioned within 24 hours before surgery.

INFERENCE: Figure states either patient or attendant only 93 of them signed the consent whereas reduced percentage i.e. only 74 of them mentioned the date(This signature include thumb impression, signatures in Hindi also). In case of witness 84 of them showed their presence at the time of consent filling, 74 dated the consent. (2 were international people). Numbers seems to be better in case of doctors, which depicts only 1% of the doctors didn't signed and 4% didn't dated on authorisation part.

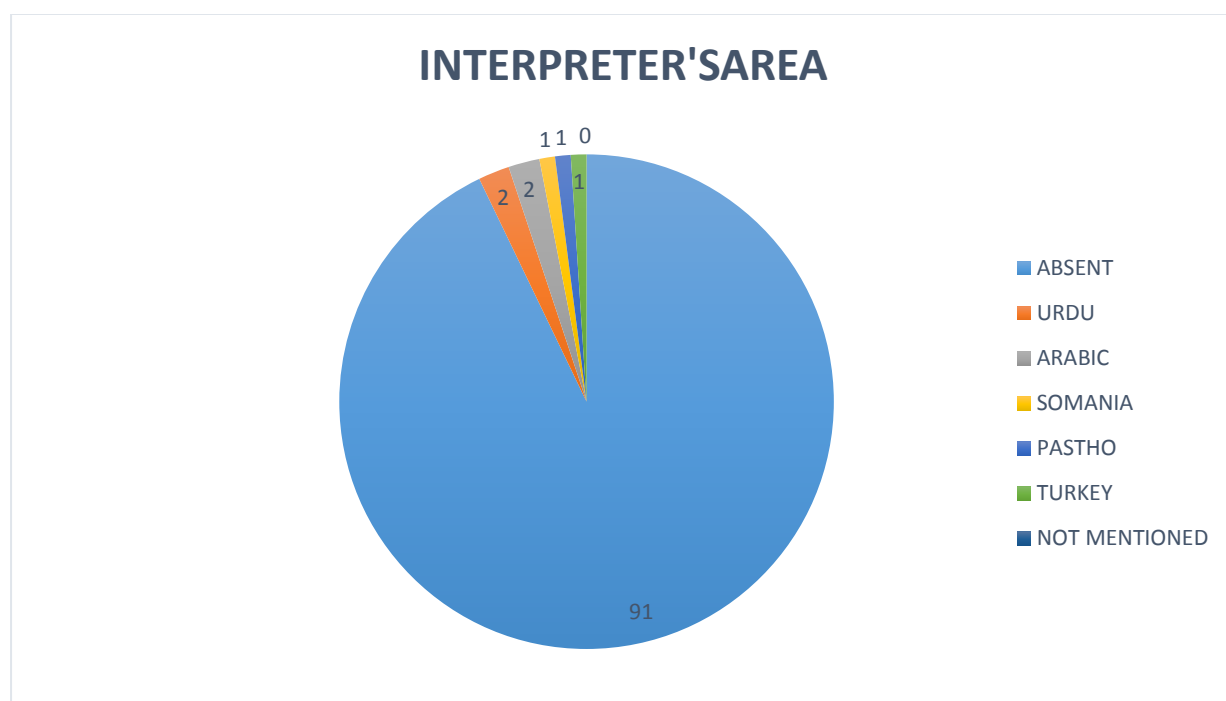


FIGURE: 7

INFERENCE: The figure implies that in 91 cases there were no language interpreter with the patients, only 9 patients guided by them and that translators Urdu, Somalia, Arabic, Pashto and turkey whereas one of them didn't mentioned the language.

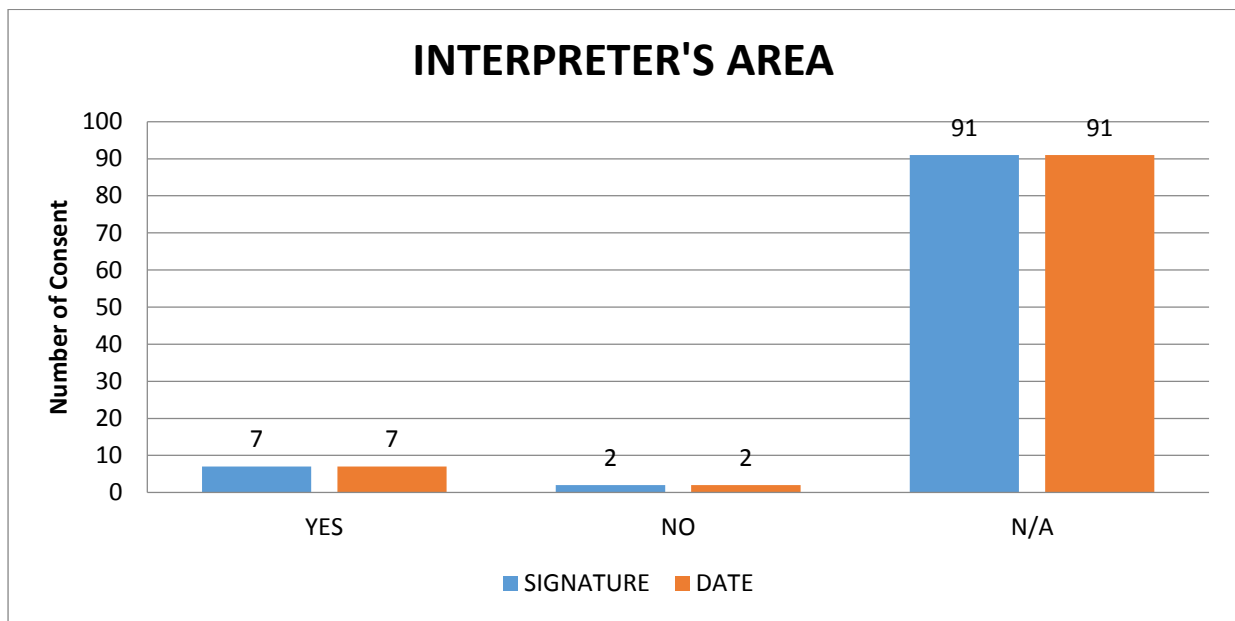


FIGURE: 8

INFERENCE: Out of those 9 interpreters 7 signed and mentioned the date whereas 2 didn't. Not applicable is criteria set for cases where no interpreter was present.

ANAESTHESIA CONSENT FORM:

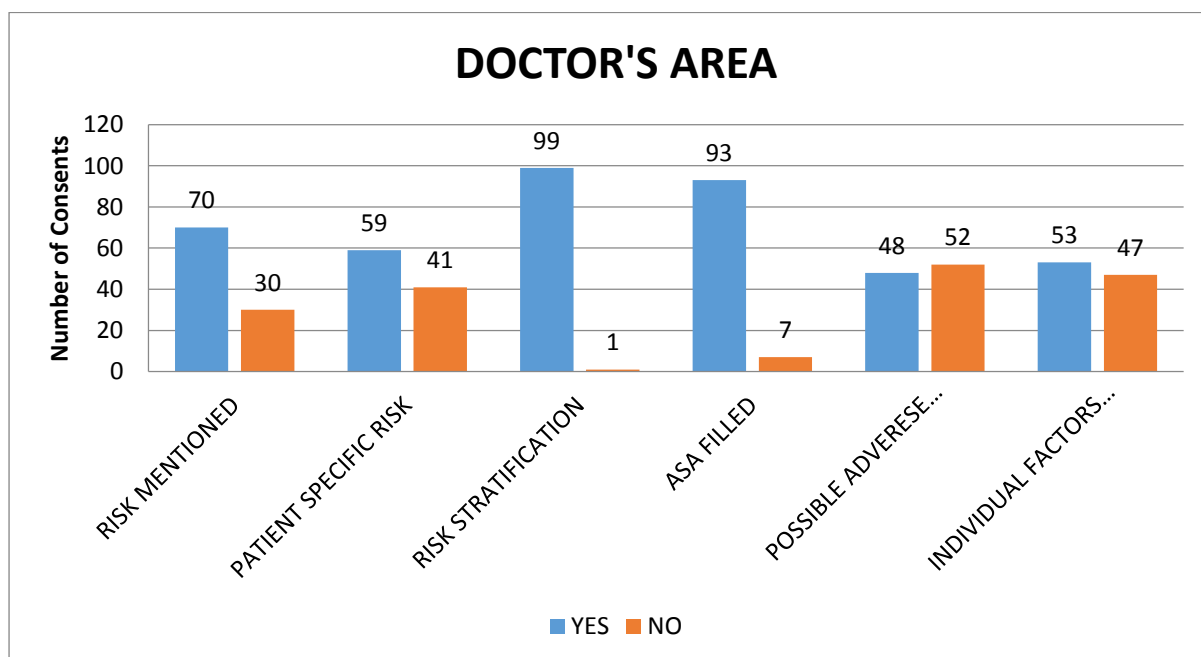


FIGURE: 9

INFERENCE: Doctor's area implies column which meant to be filled by the doctor in the anaesthesia consent form.

In case of **risk mentioned** by the doctor in accordance to the patient, only 70% respective columns were occupied. Reduced number is calculated in case of mentioning of **patient specific risk** i.e. 59%.

Risk stratification which numerated as Standard, Moderate, High are mostly ticked(99%) by the doctor in accordance to patient's condition.

American Society of Anaesthesiologists (**ASA**) has established the **ASA score**, depending on patients' co morbidity and physical **status**. 93% column were marked by patient as per the condition of physical status of the patient.

Possible adverse events is list of events that may happen to the patient during or post operatively. As the figure indicates in case of only 48% forms, practitioner explained the possible adverse events that can occur.

Individual factors increasing risk is list of condition which can be dictated according to the illness/existing diseases. According to calculation only 53% columns were occupied.

American Society of Anaesthesiologists (ASA) has established the ASA score, depending on patients' co morbidity and physical status.

**APPENDIX 1. AMERICAN SOCIETY OF ANAESTHESIOLOGY
PATIENT CLASSIFICATION STATUS**

ASA I	Normally Healthy Patient
ASA II	Patient with mild disease; no functional imitation
ASA III	Patient with severe systemic disease; definite functional impairment
ASA IV	Patient with severe systemic disease that is a constant threat to life
ASA V	Unstable moribund patient who is not expected to survive 24 hours with or without the operation
ASA VI	Brain-dead patient whose organs are removed for donation to another
E	Emergency operation of any type- added to any of the 6 above categories

FIGURE: 10

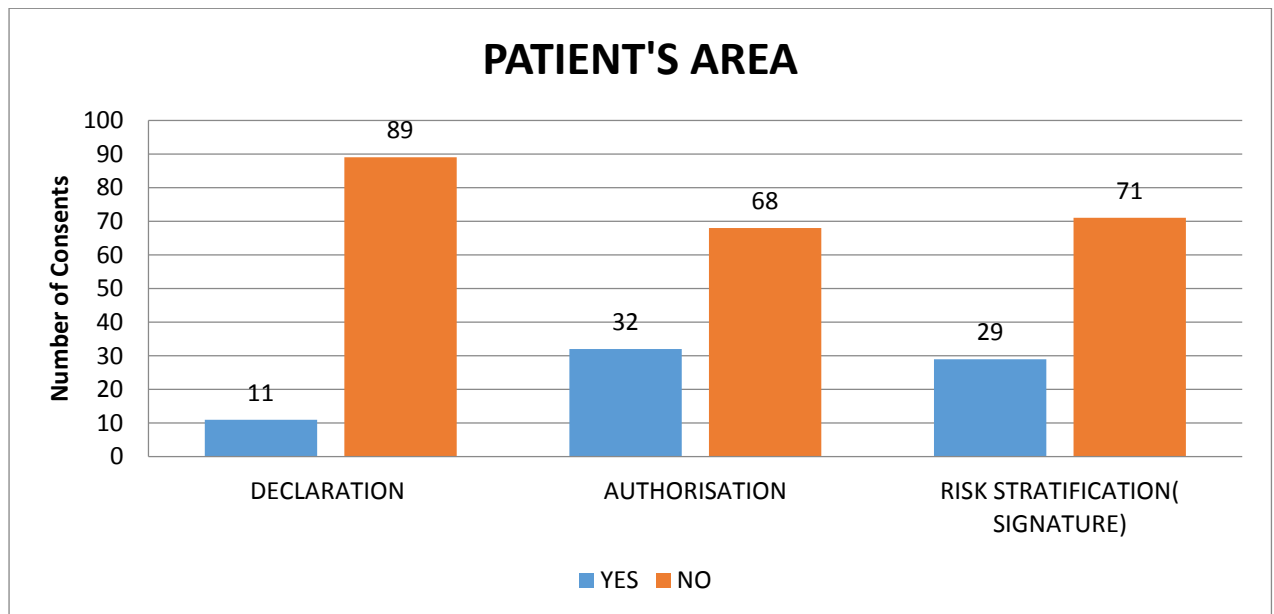


FIGURE: 11

INFERENCE: Patient's area demonstrates columns need to be signed by patient under the guidance of practitioner.

Declaration indicates the area where patient need to mention the disease or diagnosis and the procedure, he/she undergo, verifying that practitioner explained everything regarding the anaesthesia and surgery. But unfortunately, this column is predominantly blank. Only 11% columns found filled by practitioner in behalf of patient.

Authorisation was filled in 32% of forms whereas a large number was unoccupied.

Risk stratification as being filled by the practitioner need to be counter signed by patient, indicating that patient is before handed informed regarding the level of risk indulge in procedure. Figure 10 indicates awareness of only 29%patients.

**AUTHORIZATION BY PATIENT, WITNESS, INTERPRETER (IF ANY), DOCTOR
IN REGARDS TO THEIR NAMES, RELATION, DATE AND TIME ,SIGNATURE
AND DESIGNATION OF THE DOCTOR.**

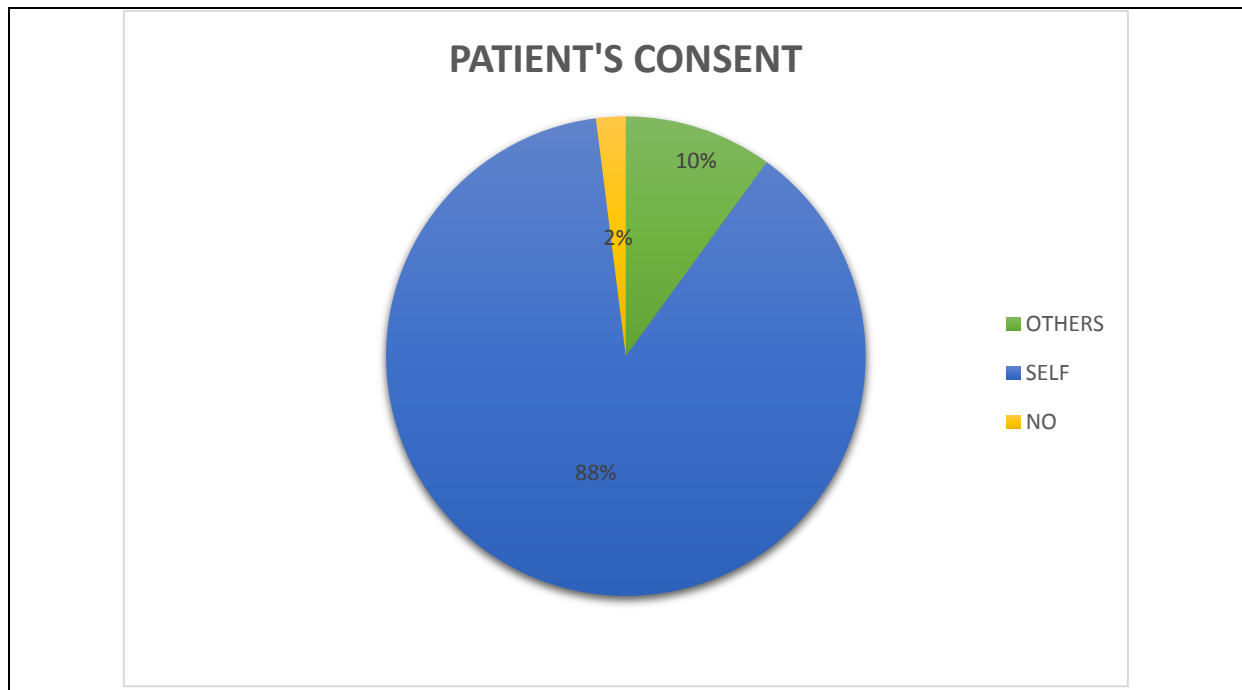


FIGURE: 12

INFERENCE: Figure depicts that in 88% cases patient himself/ herself was informed by practitioner or was capable of signing the document, whereas in 10% cases, procedure was informed to relative of the patient. And in 2% case no one signed the column.

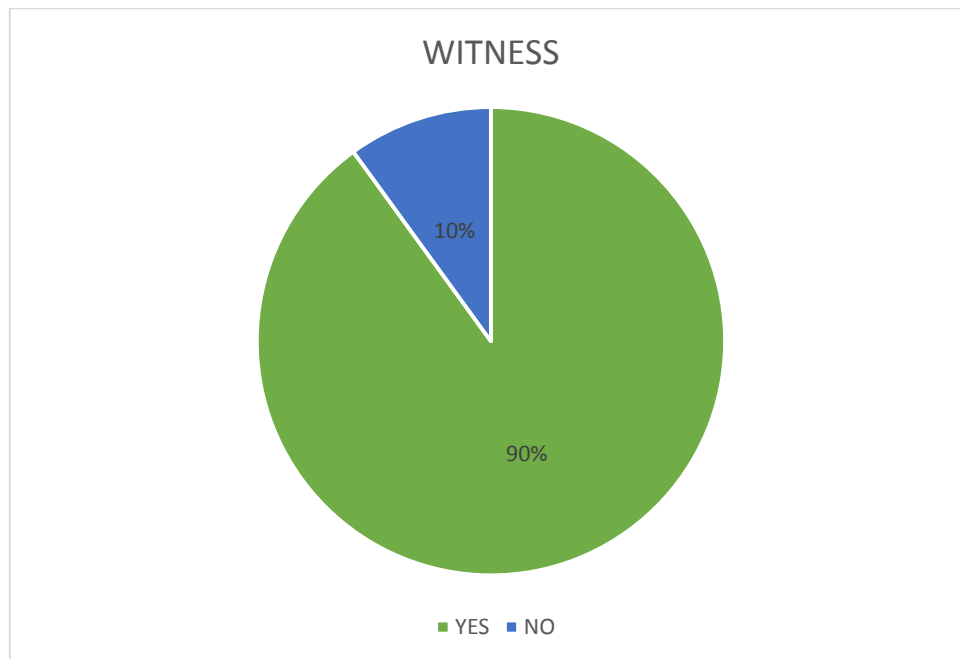


FIGURE: 13

INFERENCE: Observation shows that witness were present in 90% of cases.

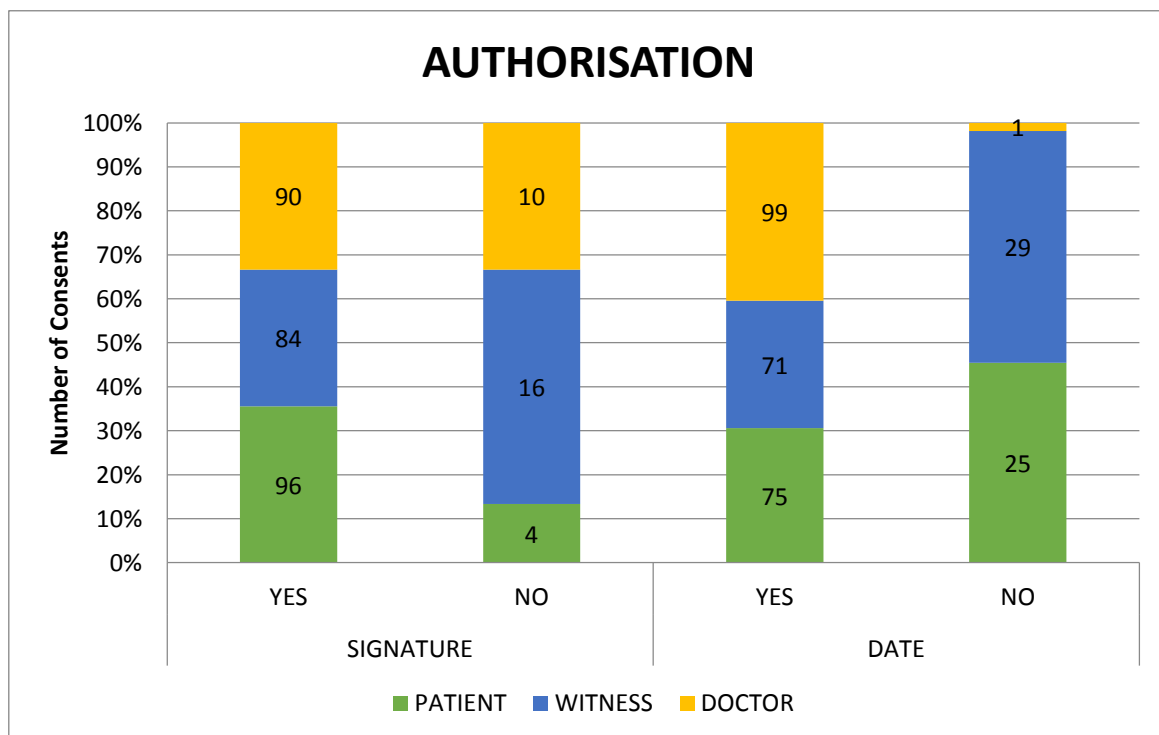


FIGURE: 14

INFERENCE: Figure shows either the patient or their attendant signed in 96% cases and mentioned the date in 75% cases. Out of those 90 cases where witness was present, only 84

signed and 71 dates the column prior to consent .Doctor signed the consent in 90 cases and mentioned the date in 99% cases out of 100 cases.

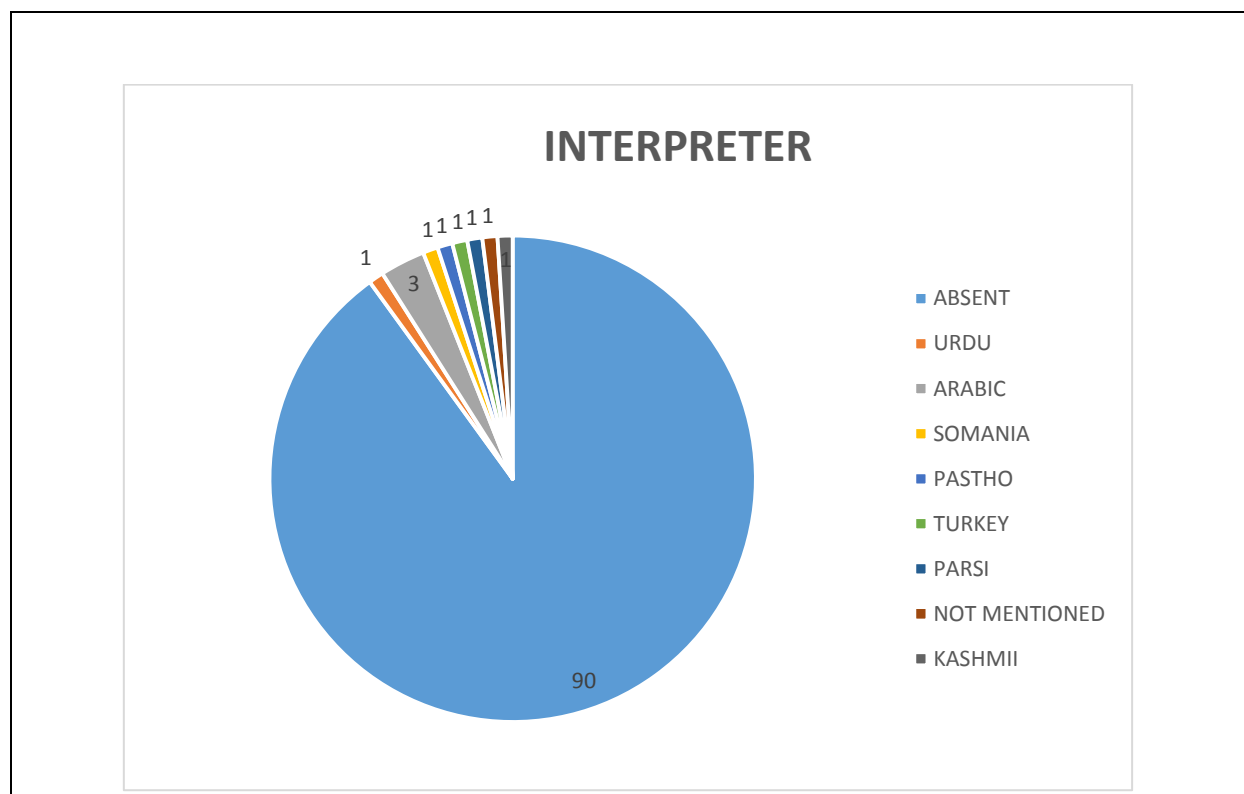


FIGURE: 15

INFERENCE: The figure implies that in 90 cases there were no language interpreter with the patients, only 10 patients guided by them and that translators Urdu, Somalia, Arabic, Pashto, Kashmiri and turkey whereas one of them didn't mentioned the language.

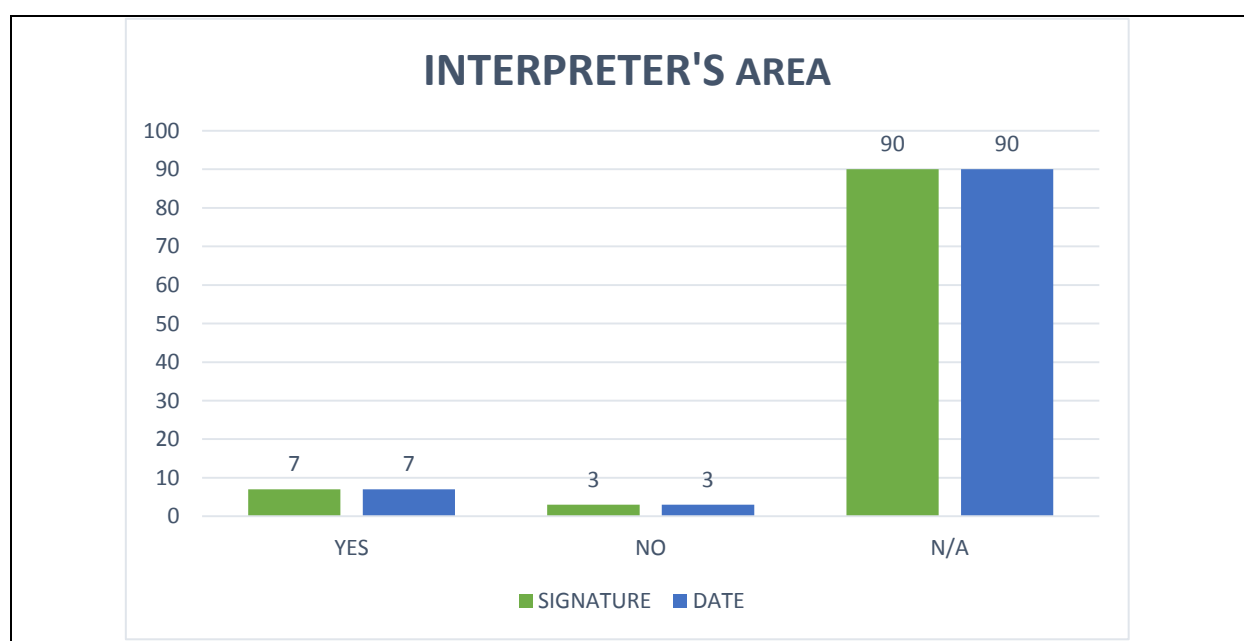
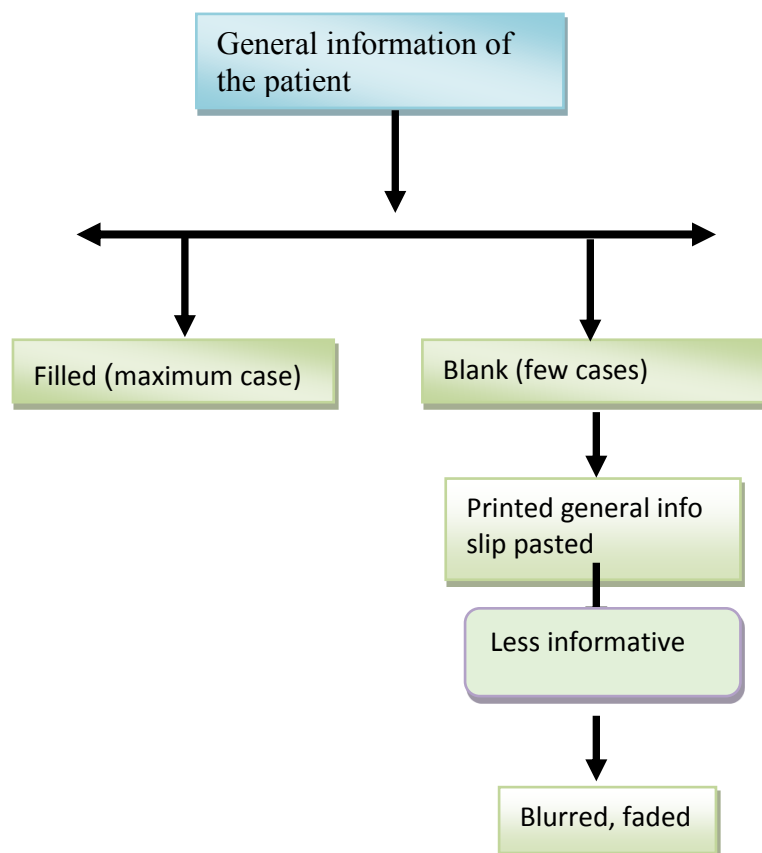


FIGURE: 16

INFERENCE: Out of those 10 interpreters, 7 signed and mentioned the date whereas 3 didn't. Not applicable is criteria set for cases where no interpreter was present.

OBSERVATIONS AND FINDINGS

- In very few cases, details of the patients which is blank in consent forms. Majorly the area is covered by the printed slip containing general information of patient but these slips are less informative as they are faded and in some cases not at all present on the form.



- In some cases, Subject signature and person obtaining consent are on different dates.
- Diagnosis and procedures in surgical consent forms are legible in major cases except where they are written in abbreviated forms. Future referral in these cases seems to be difficult.
- Before the surgery when patient kept in pre-operative area, procedure of countersigning the consent by the surgeon is adhered except in few cases.
- In very few instances, it was observed that there was delay in obtaining consent (especially taking consent just before the surgery, when the patient is in a state of physical and emotional stress). Sometimes due to time restrictions, obtaining an accurate signature may not be of priority.

- Medical jargons sometimes becomes the cause of non-compliance of the forms.
- In few cases, name of the doctor authorizing the consent is minimally readable, in case future reference is quite difficult.
- In case of anesthesia consent forms, ASA stratification are marked but patient are not informed about the criteria for this stratification.
- In 39% cases, risk stratification is counter signed by patient. As this area inform the patient that how critical the situation can be during and post procedure.
- Each informative sheet is supposed to be countersigned and dated, so was found in 100 out of 200 surgical as well as anesthesia consent forms.
- Shortage of time and excessive workload is often cited as a major obstacle in obtaining proper informed consent.
- In case of anesthesia consent forms, ASA stratification are marked but patient are not informed about the criteria for this stratification
- Obtaining consent is majorly performed by doctors except in few cases, where procedure is done by junior resident and consultants.

RECOMMENDATION:

- Informed consent should be obtained by a consultant or registrar capable to accomplish the procedure and considered competent in attaining informed consent. As junior team members often have partial surgical experience, their role in obtaining consent should be limited.
- All consent forms must be accomplished legibly in uppercase.
- The pros and cons of substitutes, pros and cons of not receiving treatments or undertaking procedures need to be talk about in consent forms.

Understanding the Options

Probable Methods I could use:

(Physician: list options in the table below)

Pros and cons of these substitutes comprised in the table below

OPTION	GOOD FEATURE	BAD FEATURE

- Patient decision should be included.

Patients Participation in this decision –tick one:

- I need to make the judgement with the physician.
- I need all-encompassing facts; the physician can give an outlook, but the choice is mine.
- I wish physician to select for me.
- Patient should be given suitable time and chance to recognize their own mind.

A list of items to consider:

 - *Has physician prearranged all the info that I want?*
 - *Has physician fortified me to rise the questions and assisted me to advance intellectual about this choice.*
 - *Have I had contact to statistics (brochures, videos, etc.) and time to think about it before I decide?*
 - *Have i had rational prospects to dialogue with support groups or other people who have been in parallel situations?*

- *Has nurse or other health care provider been existing to talk things completely with me?*
- *Have I stated to my physician my pertinent ethics and characteristics of my culture and community?*
- *Do I think that any linguistic or communication blockade prohibited a good decision?*
- *Do I feel that my decision fits with my values and culture?*
- *Have my family members/friends been involved in this decision as much as I wanted?*
- Improved communication of information to patients and family should be practiced.
- Everyday language must be used instead of medical jargon in statement with patients.
- Use of decision aids/ interactive media/ graphical tools and other aids to improve decision making and efficiently assess and present risks during shared decision making.
- Use of teach-back method to regulate whether patient comprehend the risks/benefits and substitutes to treatment.
- Instead of having dual language (English and Hindi) consent forms, which makes consent forms unnecessary lengthy, provision of multiple language forms should be provided as per patients need. Single language forms will make forms more descriptive as well as lesser in page.
- Need for regular workshop for the physician on this issue as no one want to get involved in any litigation due to lack of valid consent.
- Procedure of obtaining consent form should be one day prior to surgery, providing sufficient time to subject to think over information provided by practitioner as patient have authority to withdraw his consent anytime.

CONCLUSION:

Informed Consent is worth when a patient after discussion with the physician or health care professional states his inclination to approve and undergo a procedure or treatment. Informed Consent takes place when the patient is taught the inherent risks, its benefits and alternative methods of the intervention or treatment, the consequences of not going under treatment, any expected outcomes of treatment and the name of the health care professionals who will be performing the procedure, treatment. Informed Consent evidence by written documentation from both the patient or the Substitute Consent Giver and health care professional.

No weight has been imparted on signing of consent forms. Though this action frequently establishes achievement of the consent procedure, it in no way can be measured as part of the 'acquisition' of informed consent. This can only be gained through sensible conversation with the patient. A monogram, deprived of a discussion, does not establish informed consent.

We indorse that patients must preferably be asked for agreement at the time of citation for operation. This may be superlative achieved by a senior staff member. All patients should be informed almost the risk of difficulties poses a considerable risk of serious antagonistic effects. Further conversation must be tailor-made to the patient's desires, with clear certification concerning the risks clarified. A well written booklet must be provided, clarifying any medical terminology.

Consent is prospect to escort patient about right choice for them, also dispel any unrealistic hopes concerning the process. It is a chance to produce association of trust and honesty among physician and patient that can help if functioning difficulties come across.

ANNEXURE: [..\checklist.xlsx](#)

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**A STUDY ON PRE AND POST PARAMETERS DURING RENAL
TRANSPLANTATION**

AT

MAX SUPERSPECIALITY HOSPITAL, SAKET



Institute of Health Management Research, Jaipur

ACKNOWLEDGMENT

I take this opportunity to express my profound sense of gratitude to all those who helped me throughout the duration of the project.

I would like to acknowledge, First and foremost of Dr. Tanu Goyal (Assistant Medical Superintendent) for showing confidence in me and giving me such a wonderful topic to do my project. I would like to thank my mentor at Max Hospital, Saket Dr. Sandeep Mor (Deputy Medical Superintendent) for his guidance throughout my internship period.

I would also like to thank Dr. Nalini Kaul (Medical Superintendent) without whose permission I would not get this golden opportunity to do my internship in this esteemed hospital.

I would also like to thank my faculty at IIHMR-Jaipur and specially my Mentor- Dr. Alok Mathur (Professor) and also feel privileged to acknowledge Dr. Shelly Singh for being my support throughout my project.

I would also whole heartedly thank the entire staff at Max, Saket for being so supportive and helpful and taking out some time from their hectic schedules and giving all the required information, especially Outpatient Department.

At the end, I am thankful to God and my heartfelt gratitude to my parents and friends who supported me throughout the course.

THANK YOU ALL

Tanvi Mittal

IIHMR

(2016-2018)

DECLARATION

I do hereby declare that I am a student of 1st year, MBA in Hospital and Healthcare Management, Informed consent forms compliance for anaesthesia as well as surgical procedures IIHMR University, Jaipur, Rajasthan session 2016-2018.

I would like to state that I have done the project “A study on pre and post parameters during renal transplantation” on under the guidance of Dr. Tanu Goyal (Assistant medical superintendent) at Max Super Speciality Hospital, Saket, New Delhi for the partial fulfilment for the degree of MBA in Hospital and Healthcare Administration.

This project work is my own and has not been submitted to any of the other Institute or University for the purpose of award of any degree or diploma.

Tanvi Mittal

IIHMR University

(2016-2018)

INTERNSHIP CERTIFICATE FROM MAX SAKET

This is to certify that Tanvi Mittal a student of IHMR - Jaipur MBA HM-21 has carried out a project on the topic “A study on pre and post parameters during renal transplantation” at Max, Saket, New Delhi”.

This project work has been prepared by the student herself with utmost sincerity and this work has not been presented earlier for any academic activity.

I wish her all the very best & success in her further future endeavours.

Dr. Tanu Goyal
Assistant Medical Superintendent

Dr. Sandeep Mor
Deputy Medical Superintendent

Declaration

Acknowledgment

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A STUDY ON PRE AND POST PARAMETERS DURING RENAL TRANSPLANTATION IN MAX SUPER SPECIALITY HOSPITAL, SAKET

INTRODUCTION

Kidney transplantation or renal transplantation is the organ transplantation of a kidney into a patient with end-stage renal diseases. Kidney transplantation is categorised as deceased-donor or living-donor transplantation provisional on the source of the donor organ. Living-donor renal transplant is considered as genetically related or non-related transplants, dependent on whether a biological association is present between the donor and the recipient.

The Kidney Transplant Inpatient Unit is area with devoted and knowledgeable staff who major in the care of patients who are organising for a kidney transplant or who have had a kidney transplant. To lodge important growth in patient size the transplant unit was developed to advance the variety of care between pre- and post-transplant patients.

Kidney transplantation is measured as the finest treatment for end stage renal failure (ESRF) with longer life expectancy and higher quality of life as linked to dialysis. There are so many ascribing features persuading the consequence of the transplant graft. Age of donor and recipient, their creatinine clearance, hypertension history, poor human leukocyte antigen (HLA) matching, cause of loss, ethnicity, the cold ischaemic (CI) time and in the case of DCD donors the warm ischaemic insult have all been labelled as chief factors of graft function and its existence.

- **AVERAGE LENGTH OF HOSPITAL STAY**

For in-patients, it is calculated from the total number of dusks consumed in hospital by in-patient divided by the entire number of release. The average length of stay may be less prejudiced by coverage issues

There are two methods of calculating average length of stay.

The formula for each method follows:

METHOD 1: (TOTAL DISCHARGE DAYS / TOTAL DISCHARGES) = AVERAGE LENGTH OF STAY (IN DAYS)

METHOD 2: (TOTAL INPATIENT DAYS OF CARE / TOTAL ADMISSIONS) = AVERAGE LENGTH OF STAY (IN DAYS)

Hospital recovery for a kidney transplant is usually 5 to 10 days if there are no complications. The length of stay depends on your medical condition and needs.

- **COLD ISCHEMIA TIME FOR RENAL TRANSPLANT**

Afterward surgical removal, kidney is kept in cold solution to reservation the viability of its cells. Though, cold ischemia can lessen but complete anticipation of cellular damage is impossible.

Hypothermic preservation is based on the belief that cooling an organ hinders enzymatic progression. There is a 2-3 fold reduction in breakdown for every 10°C reduction in temperature. This slows down the reduction of ATP and also inhibits the humiliating process (phospholipid hydrolysis).

The influence of CI injury is directly apparent after transfer when oxygenated blood is re-introduced into the kidney. The downstream effects of ischemia reperfusion (I/R) injury results in tubular and vascular damage with the damage of blood flow to the kidney and abridged urine output after transplantation. The kidney can withstand CI times up to 48 hours. Attempts have been made to reduce CI injury and on average the CI time now falls below 24 hours in most transplant centres.

Deceased-donor kidney transplants (DDKT) is usually escorted with the instantaneous renal ischemic injury due to cold ischemia time (CIT) that frequently results in compact deceased-donor allograft function and survival. Lengthy CIT is also a significant predictor of long-term graft loss.

- **TRANSPLANT SURGERY TIME**

The transplant surgery is accomplished under general anaesthesia. The procedure usually takes 2-4 hours. This type of operation is a heterotopic transplant - kidney is placed at different site than the existing kidneys. The kidney transplant is placed in the anterior part of the lower abdomen, in the pelvis.

- **POST KIDNEY TRANSPLANT FEVER AND INFECTION**

There are four main complications, which can occur following a kidney transplant:

1. Infections
2. High blood pressure
3. Rejection
4. Diabetes mellitus

LITRATURE REVIEW

[Pérez Valdivia MA¹](#), [Gentil MA](#), [Toro M](#), [Cabello M](#), [Rodríguez-Benot A](#), [Mazuecos A](#), [Osuna A](#), Alonso M in their study Impact of cold ischemia time on primary graft function and survival rates in renal transplants from deceased donors performed in Andalusia showed that The mean and median cold ischemic time was 17 hours. A longer CIT was linked with an rise in IGF free of the age of both the donor and the recipient.

[Gerardo Machnicki,¹](#) [Krista L. Lentine,¹](#) [Paolo R. Salvalaggio,²](#) [Thomas E. Burroughs,¹](#) [Daniel C. Brennan,³](#) and [Mark A. Schnitzler¹](#)

Features most powerfully related with LOS were type I diabetes, cold ischemia time > 36 h, expanded criteria donor (ECD) and donation after cardiac death (DCD). Except for ECD, each was associated with increased payments. Upper respiratory disease, liver disease, peptic ulcer disease, diabetes, cancer and other diseases were also associated with increased LOS and payments. (2)

RATIONALE

To determine gap between the ideal time and proceed time for significant parameters for pre and post transplantation in recipient and donor during renal transplantation.

OBJECTIVES

GENERAL OBJECTIVE:

1. To determine the time related to certain parameters both pre to post transplantation for recipient as well as donor.

SPECIFIC OBJECTIVE:

1. To determine cold ischemic time for recipient patient.
2. To determine surgery time both in recipient as well as donor.
3. To determine post donation and post transplantation infections.
4. To determine average length of stay post donation and post transplantation.

RESEARCH METHODOLOGY

- **Type of study** : Descriptive study
- **Study population** :Patient enrolling for renal transplant(donor and recipient) at Max Super Speciality Hospital, Saket, Delhi
- **Study area**: Renal transplant unit in Max Super Speciality Hospital, Saket, Delhi
- **Duration of Study**: March and April
- **Type of Data**: Quantitative
- **Technique**: Checklist prepared
- **Sample size**: 30
- **Sampling technique**: Simple random sampling
- **Data collection**: Secondary as well as primary and Quantitative
- **Data entry**: Manually
- **Data Analysis**: Using bar charts, pie charts in Microsoft Excel

DATA INTERPRETATIONS

MARCH

FOR RECEPIENT

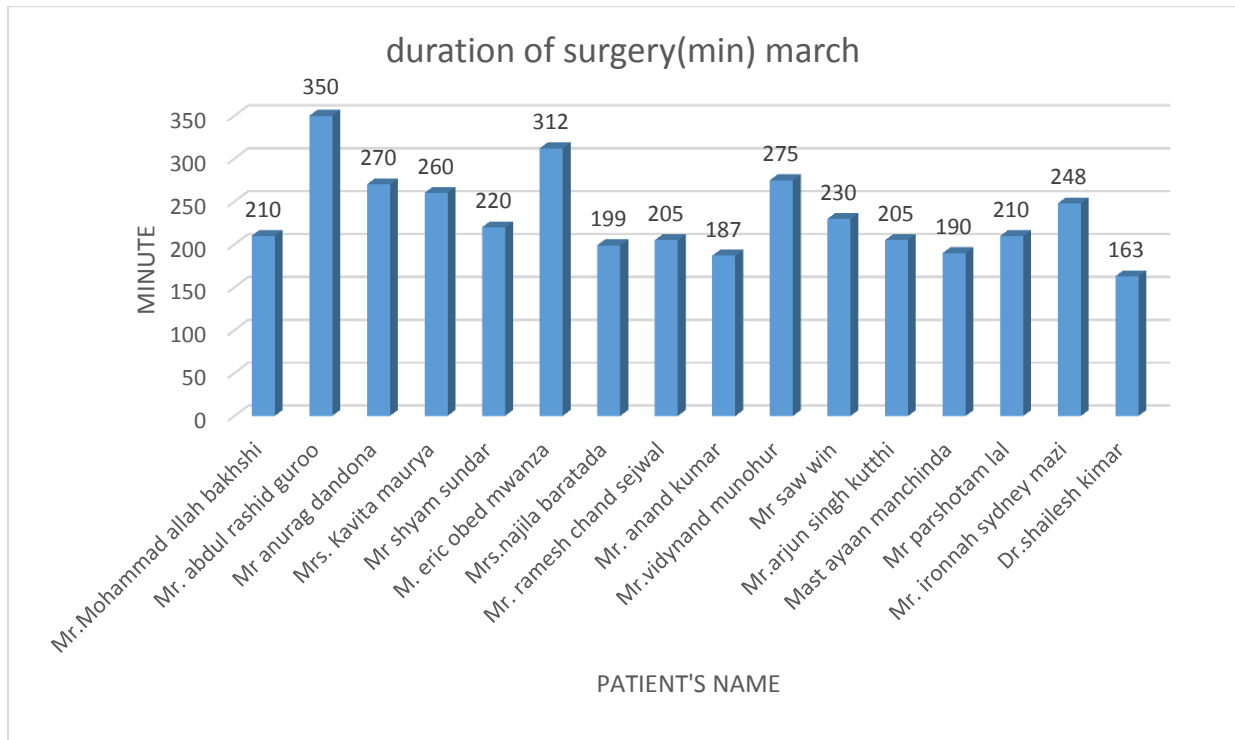


FIGURE: 2

INFERENCE: This graph reveals that **9 out of 16** patients had duration of surgery more than ideal time i.e. 180 minute and maximum observed in case of Mr. Abdul Rashid (350 min) and minimum was reported in Mr. Shailesh (163 min).

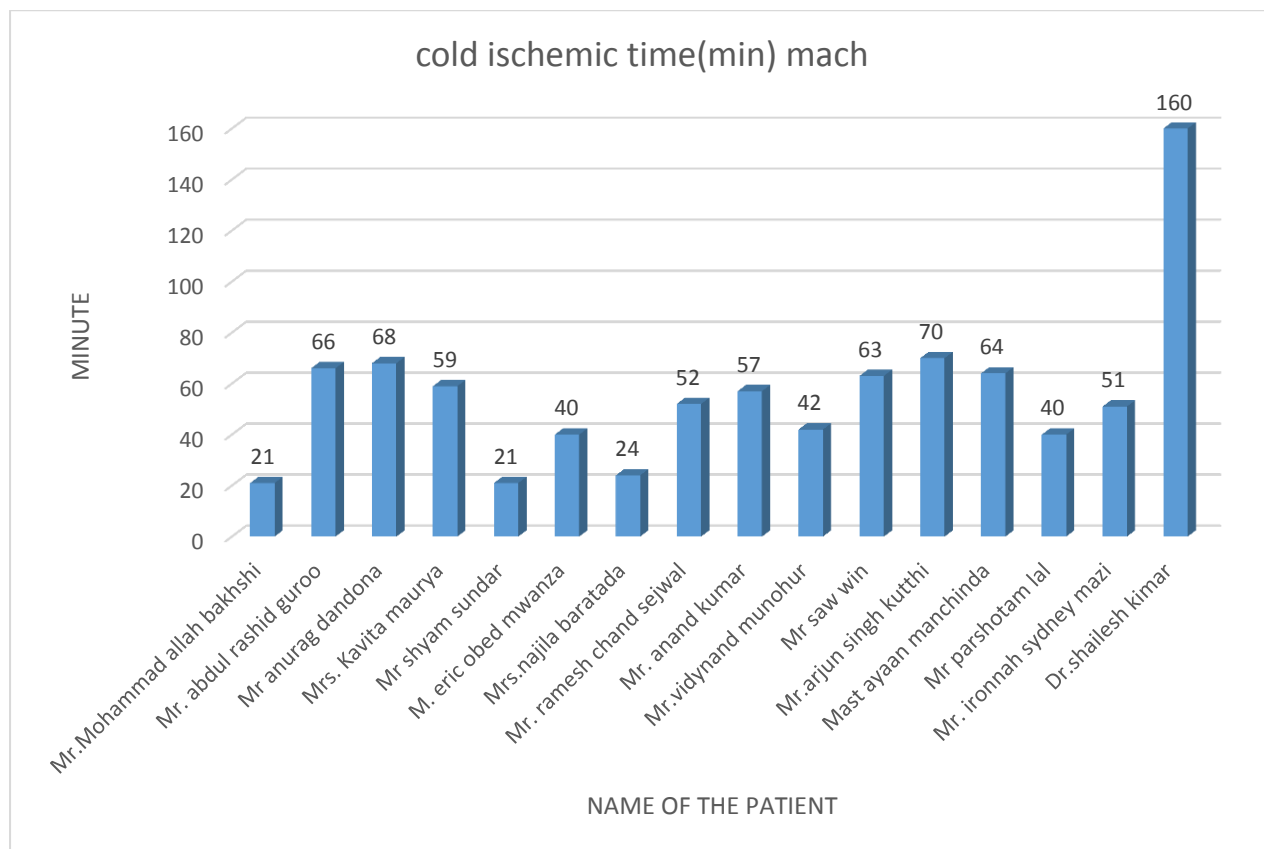


FIGURE: 3

INFERENCE: This graph reveals that cold ischemic time for **2 out of 16** patients was reported more than ideal time i.e. 60 minute and maximum observed in case of Mr. Shailesh kumar (160 min.) and less than ideal in Mr. Mhommad allah and Mr. Shyam sundar (21 min.).

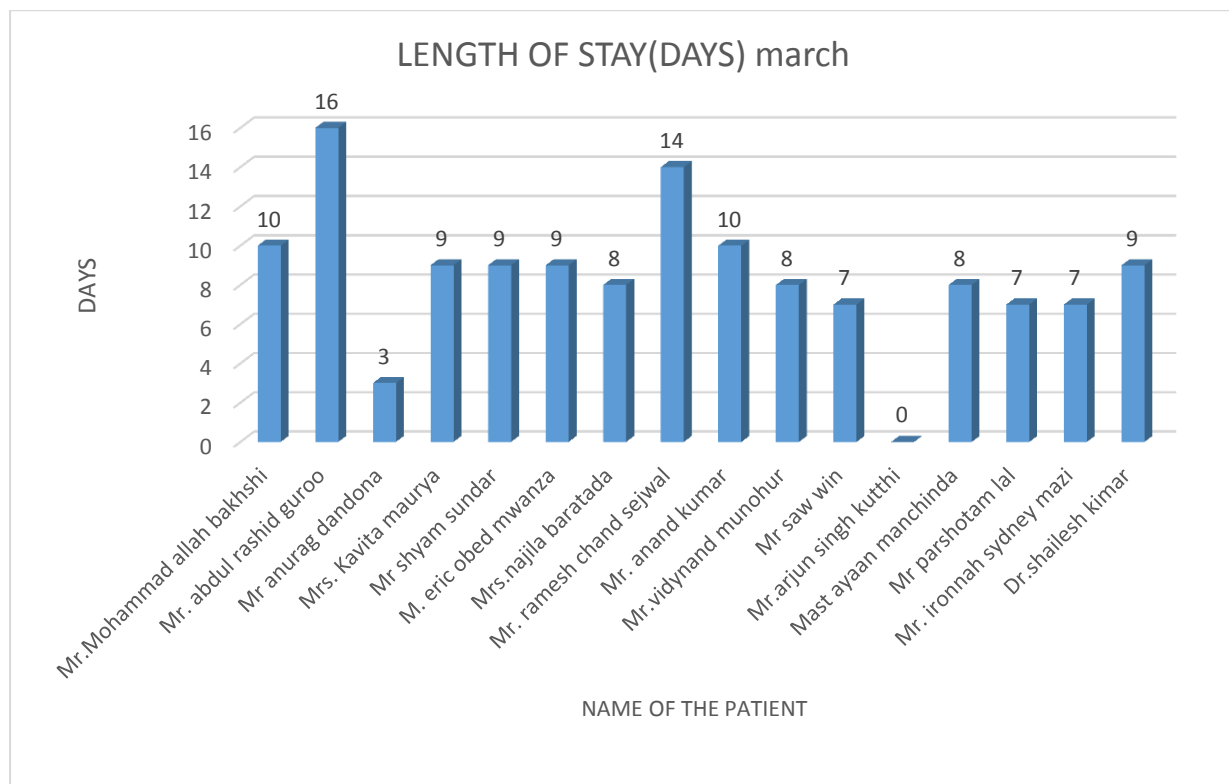


FIGURE: 4

INFERENCE: the following graph facilitate data for length of stay in Renal transplant unit which entirely depends on post-operative condition of patient. Here data shows maximum stay of 16 days by Mr. Abdul Rashid.

FOR DONOR

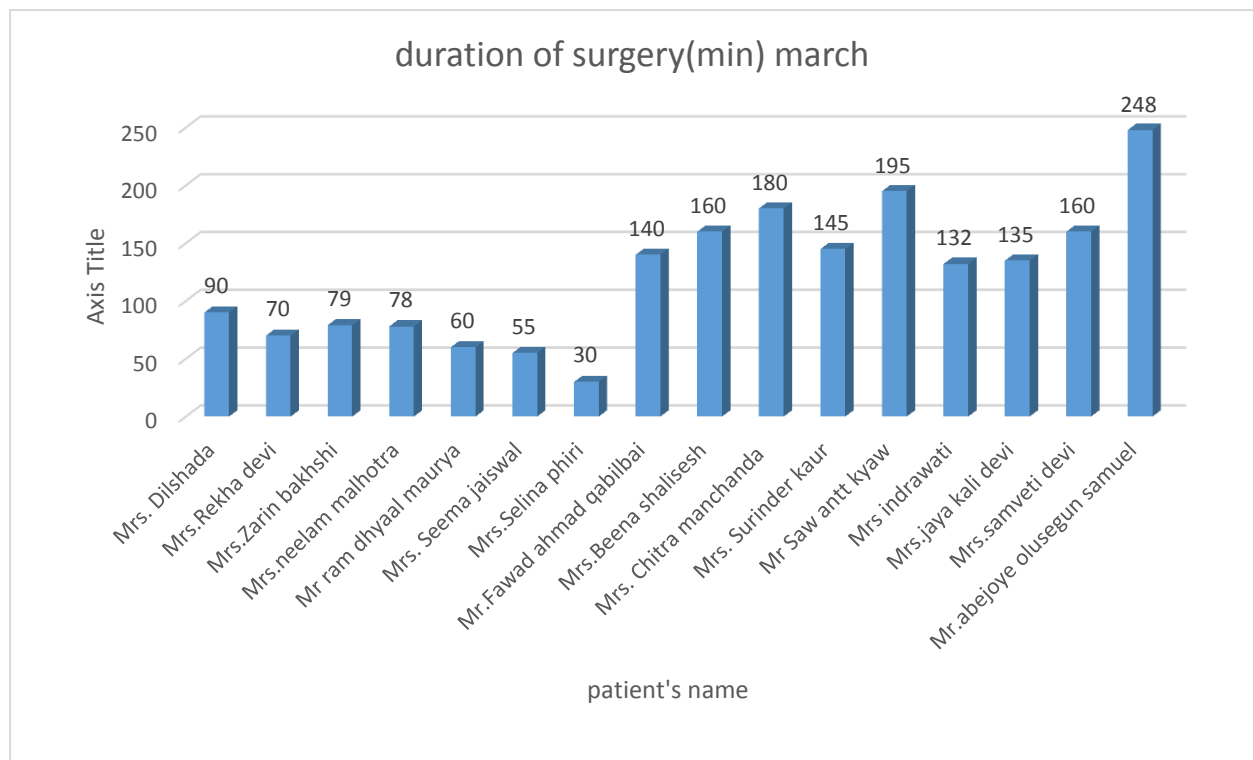


FIGURE: 5

INFERENCE: This graph reveals that **9 out of 16** patients had duration of surgery more than ideal time i.e.

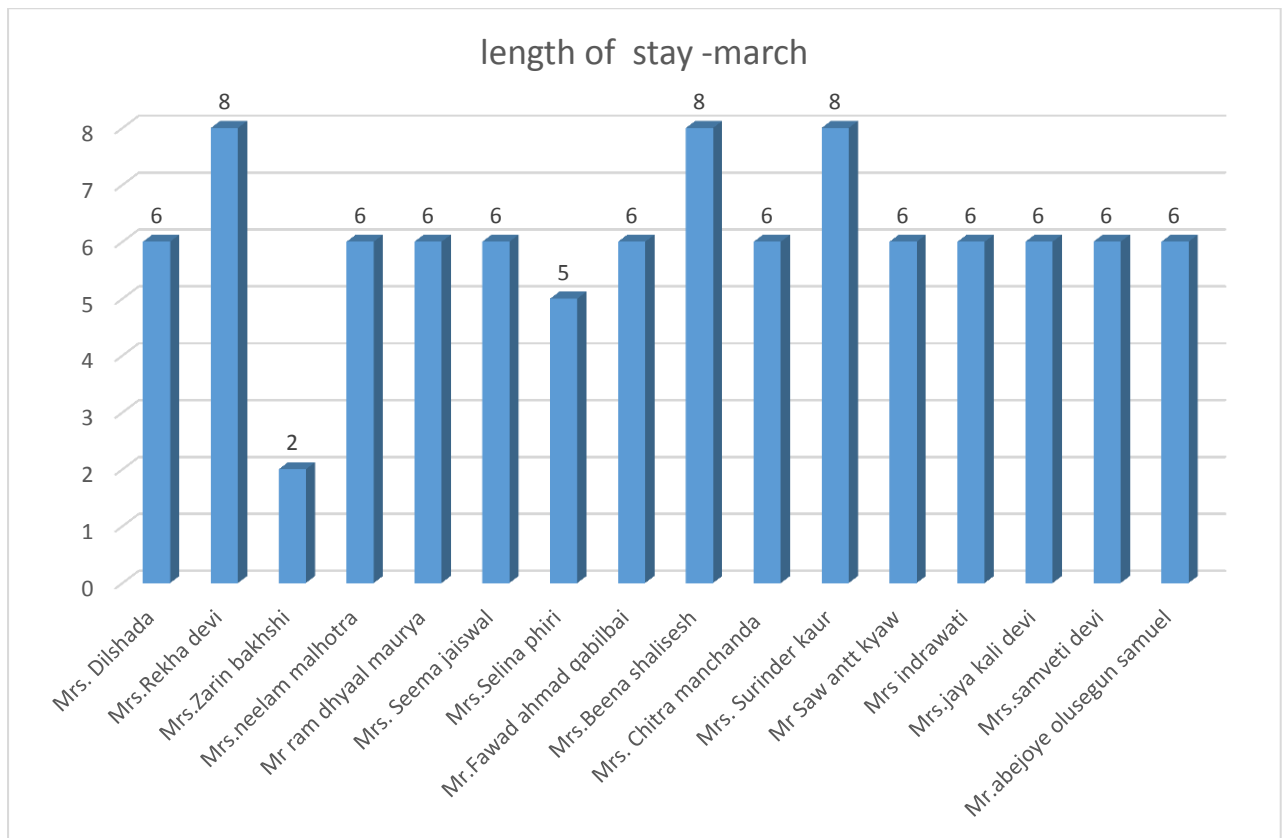


FIGURE: 6

INFERENCE: the following graph facilitate data for length of stay in Renal transplant unit which entirely depends on post-operative condition of patient. Here data shows maximum stay of 8 days.

APRIL

FOR RECEPIENT

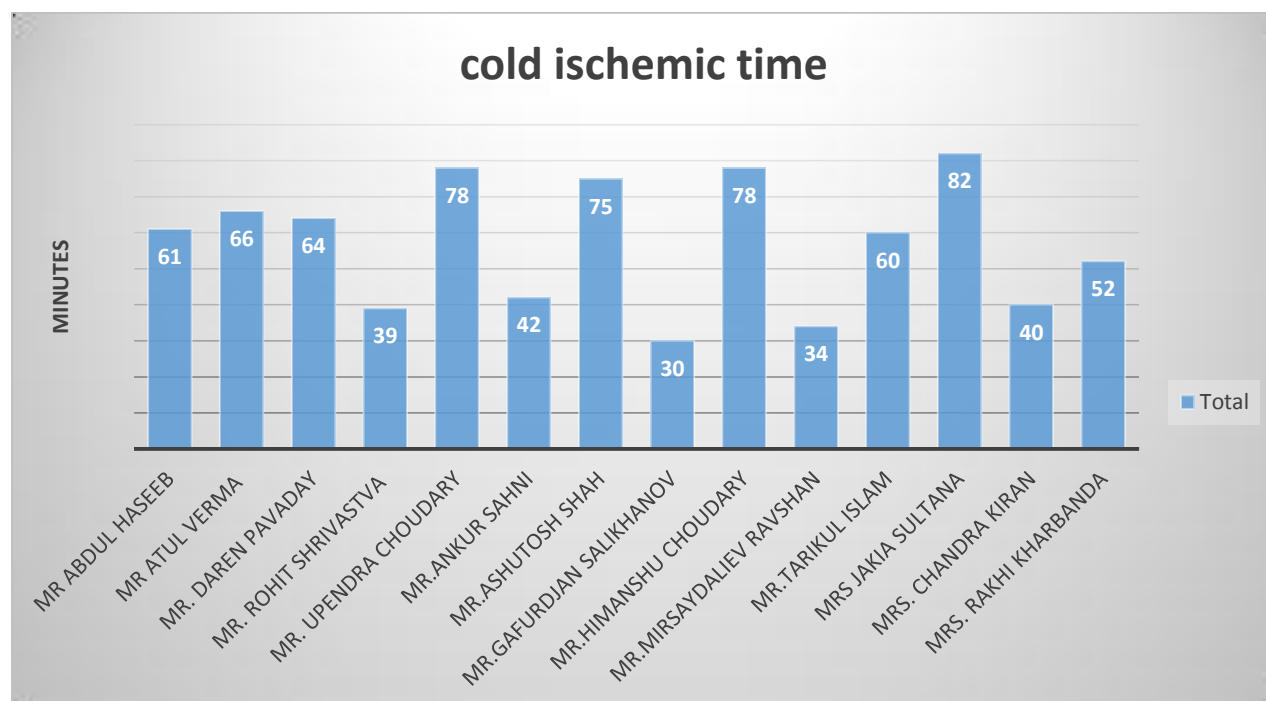


FIGURE: 7

INFERENCE: Figure here signifies maximum compliance as their cold ischemic time is nearly the ideal time for grafting (i.e. 60 min.). Only 3 cases reveals grafting in range of 75-85 min.

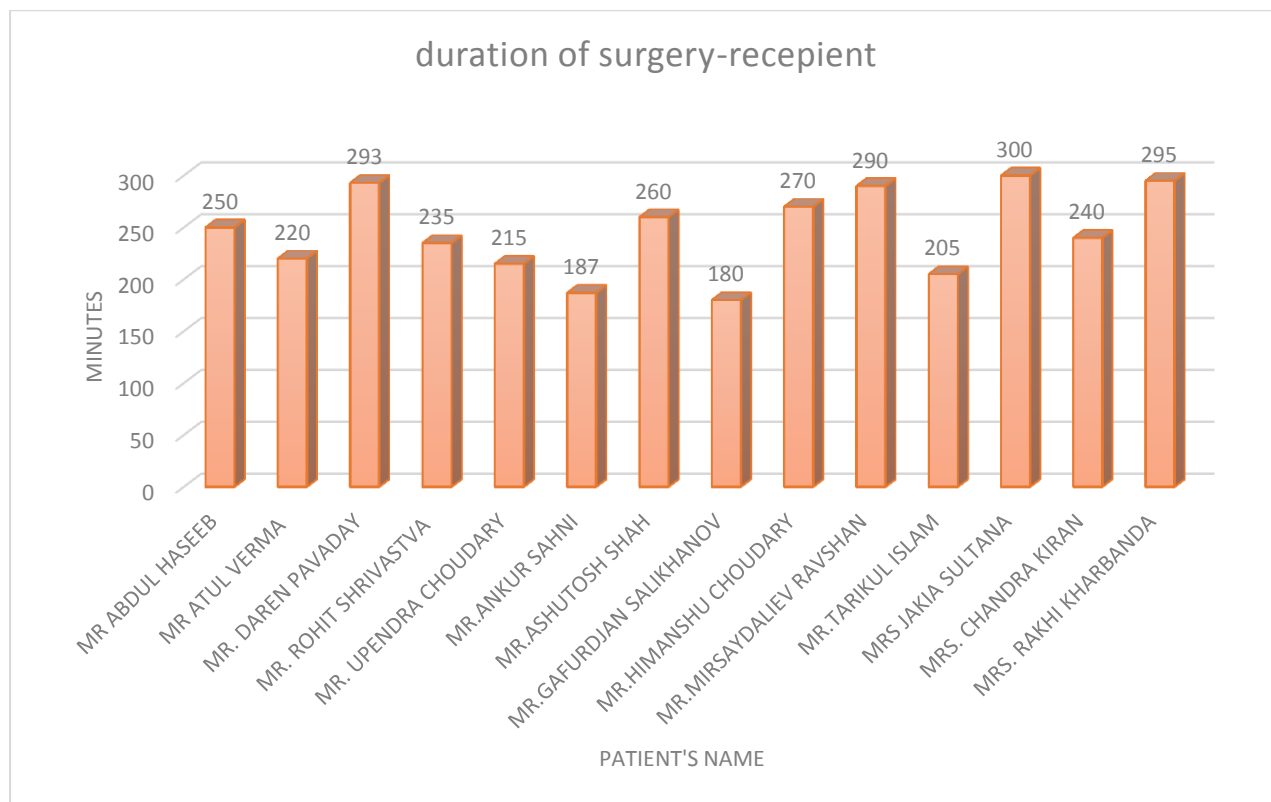


FIGURE: 8

INFERENCE: Figure contributes compliance in case of 3 cases where time duration shows the range within the ideal time for transplantation.

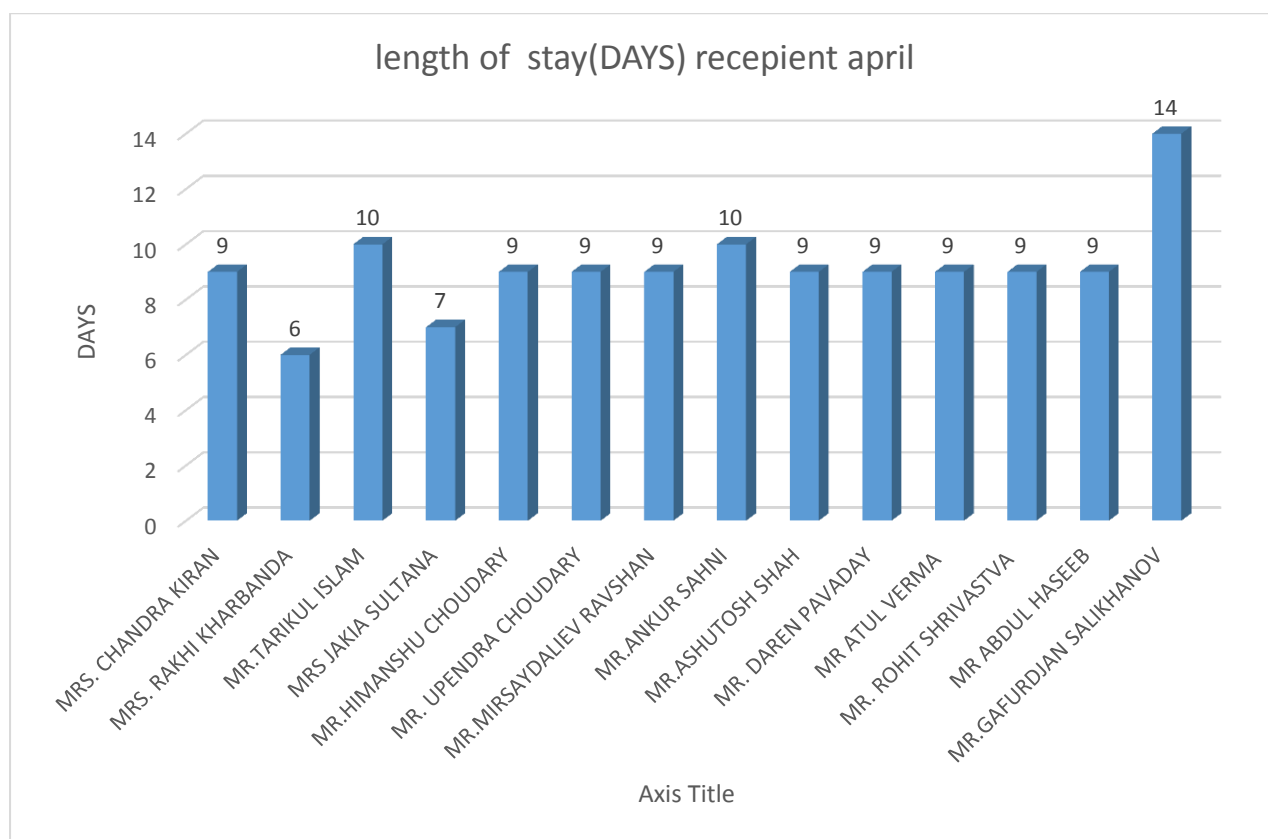


FIGURE: 9

INFERENCE: The following graph facilitate data for length of stay in month of April in Renal transplant unit showing maximum stay of 14 days by Mr. Gafurdjan salikhanov followed by Mr. Ankur sahni for 10 days.

Mr. Gafurdjan salikhanov had longer stay because he suffered from post-operative infections.

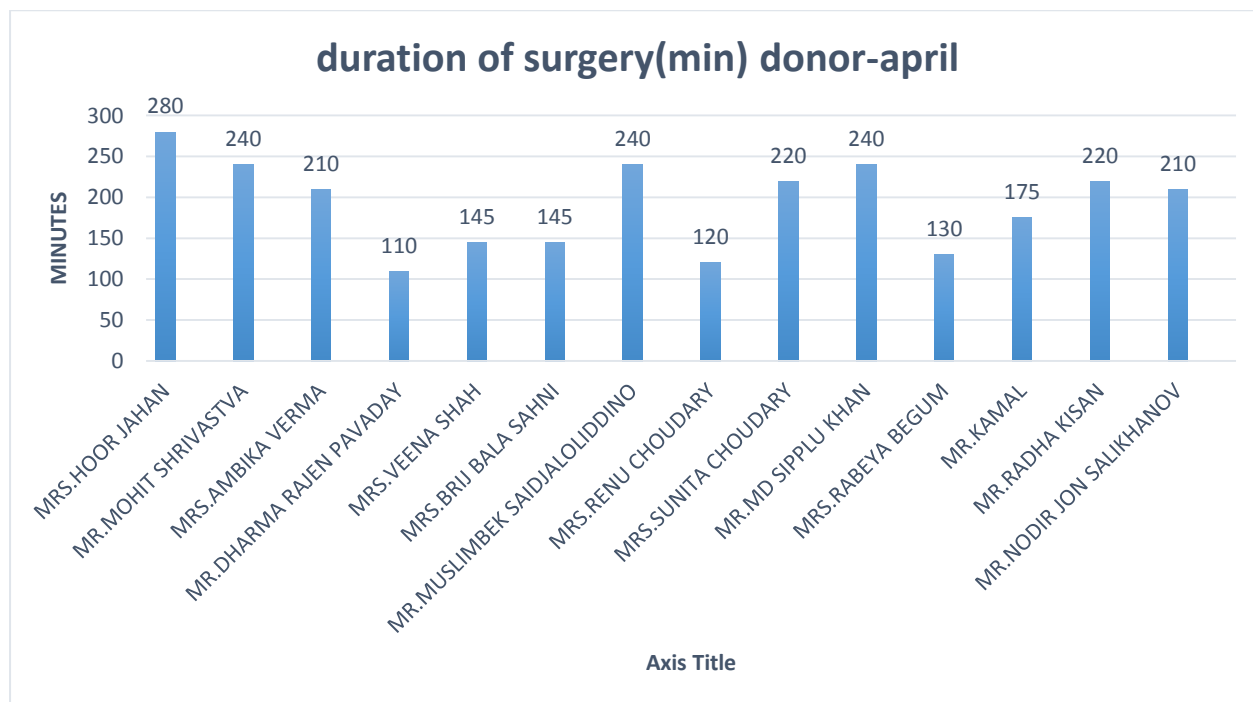


FIGURE: 10

INFERENCE: This graph reveals that **4 out of 14** patients had duration of surgery in time period fulfilling the criteria of compliance factor. Data shows highest surgical time period for Mrs. Hoor Jha.

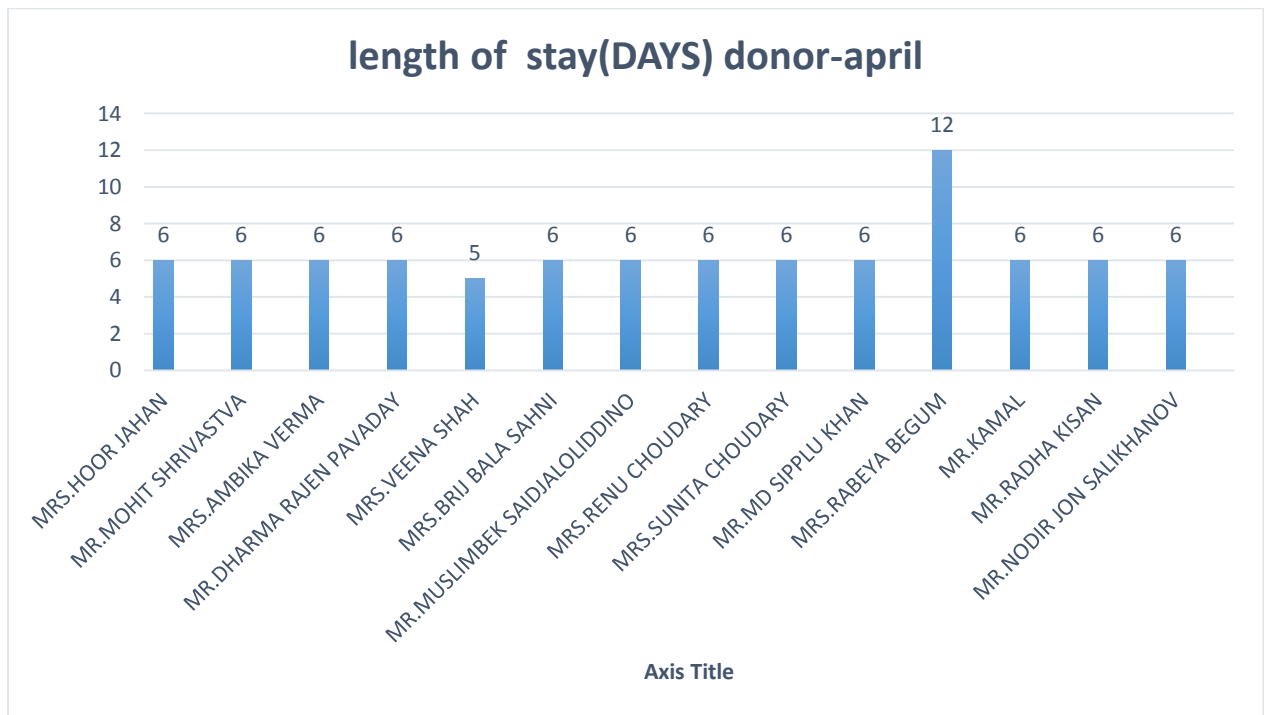


FIGURE: 11

INFERENCE: observation for length of stay in month of april by donor in Renal transplant unit is approximately 6 days whereas it was maximum for Mrs. Rabeya begum i.e. 12 days.

COMPARISION BETWEEN THE DATA FOR MARCH AND APRIL

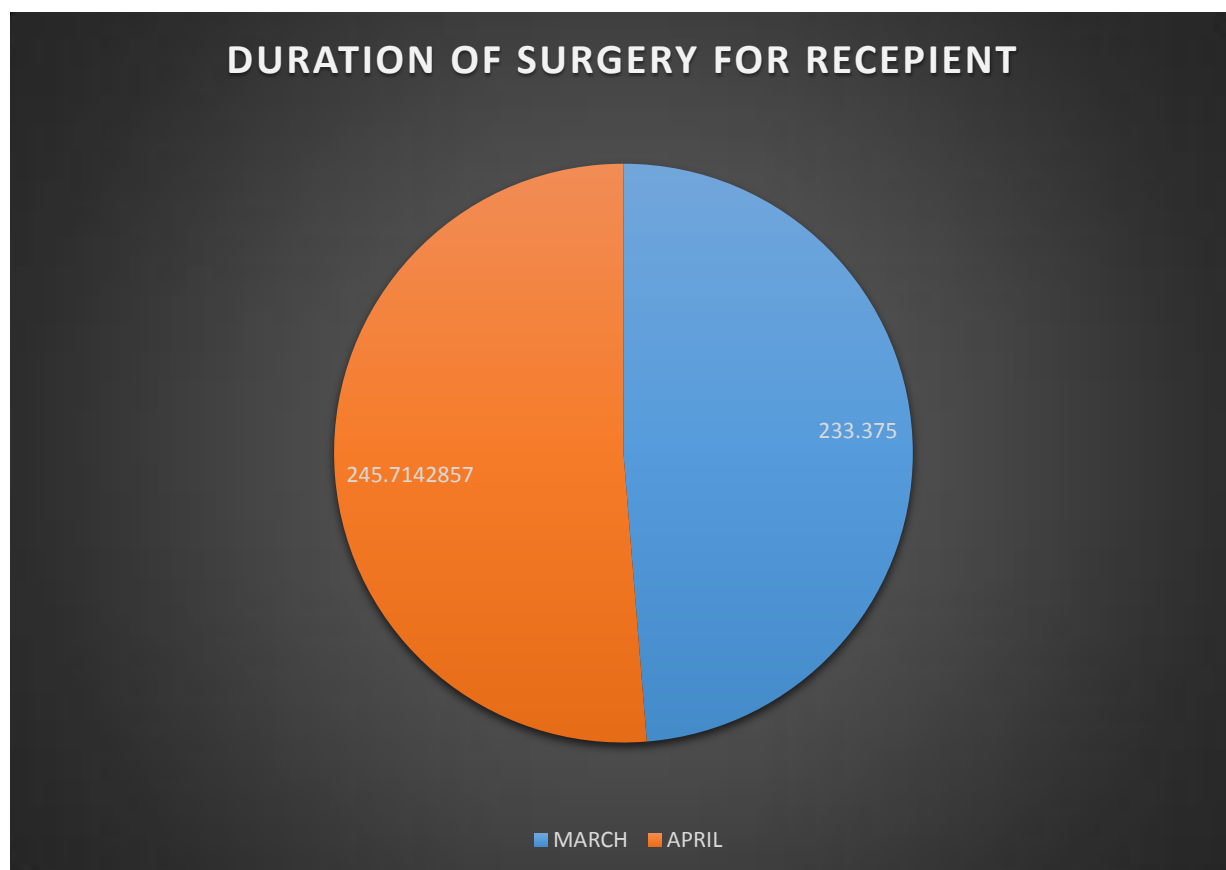


FIGURE: 12

Inference: figure shows the comparison between the average time duration transplant surgeries took in month of March (233.3 min) and April(245.71 min)

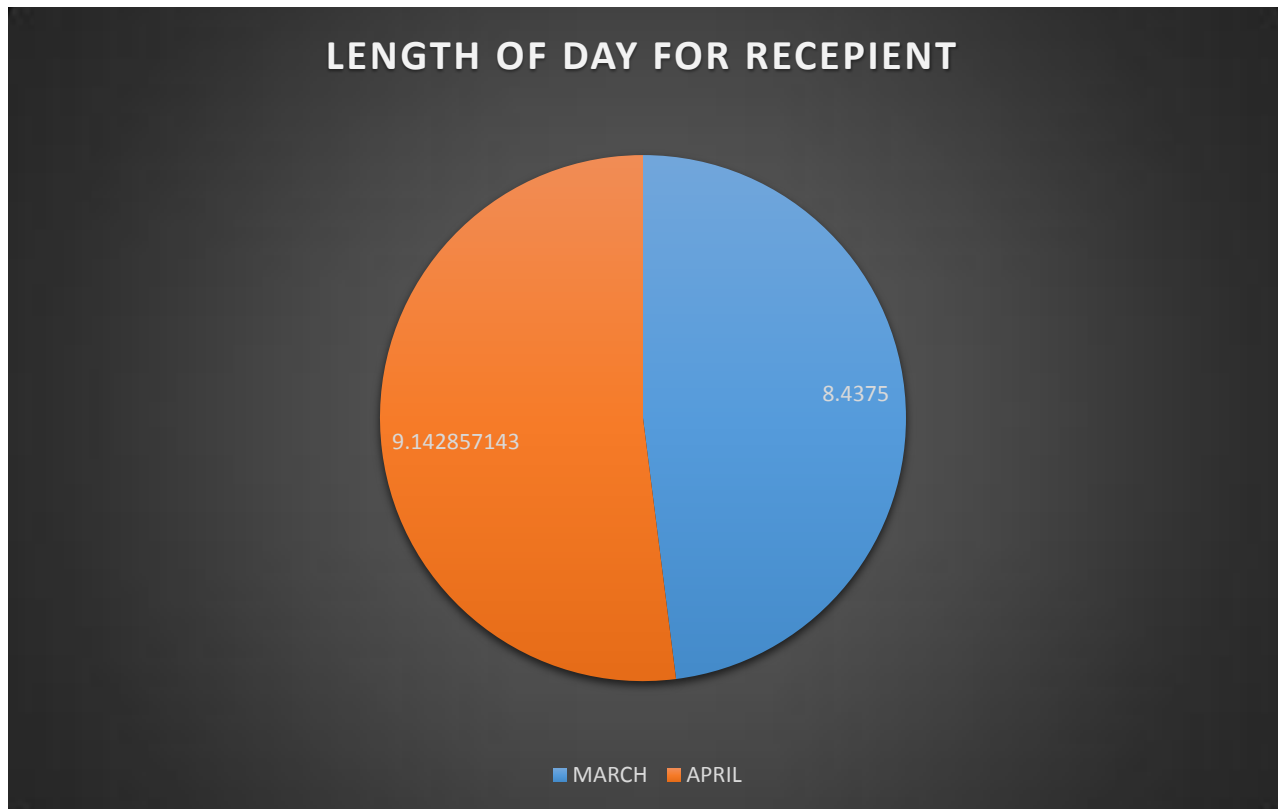


FIGURE: 13

INFERNCE :Figure shows the difference in the average of length of stay in recipient patient, that presents to be more in month of April(9.14 days) as compared to march (8.43 days).

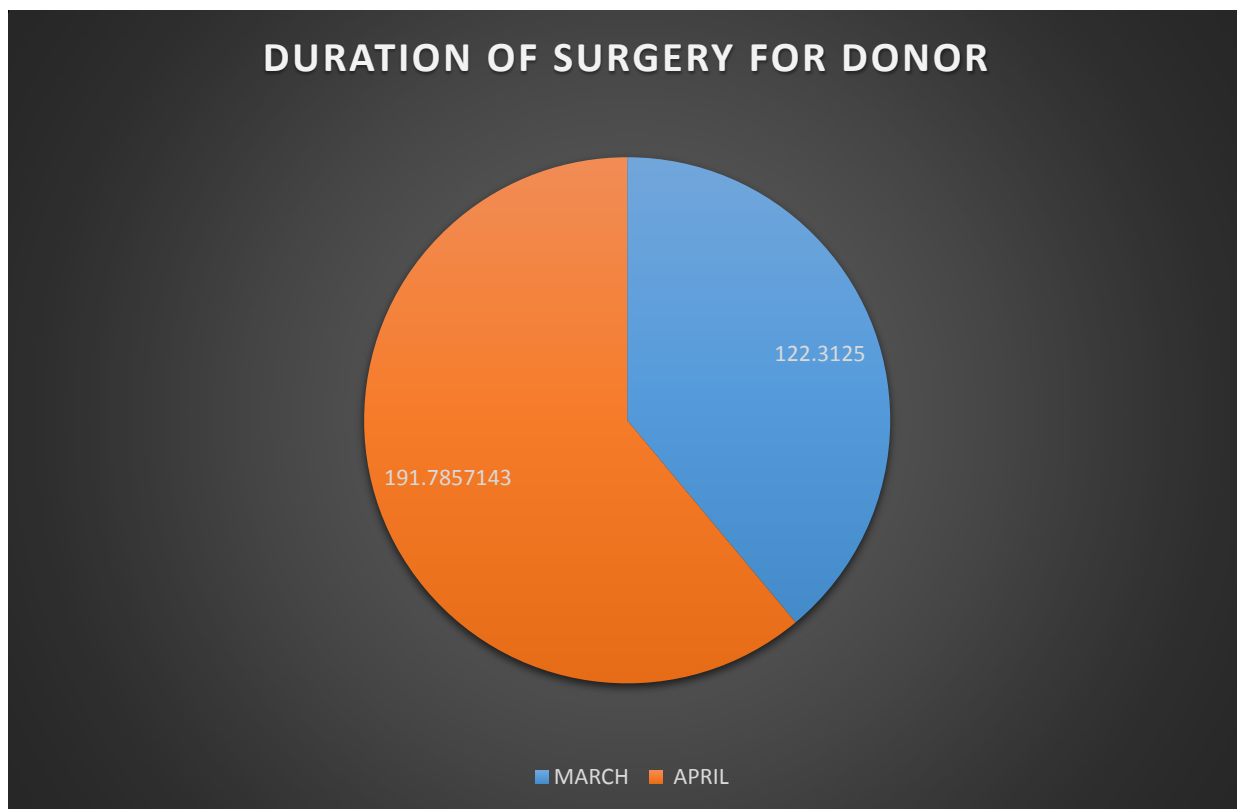


FIGURE: 14

INFERENCE: Figure showed compliance in month of march where surgery took average of 122.3 min. whereas in april it was 191.7 min.

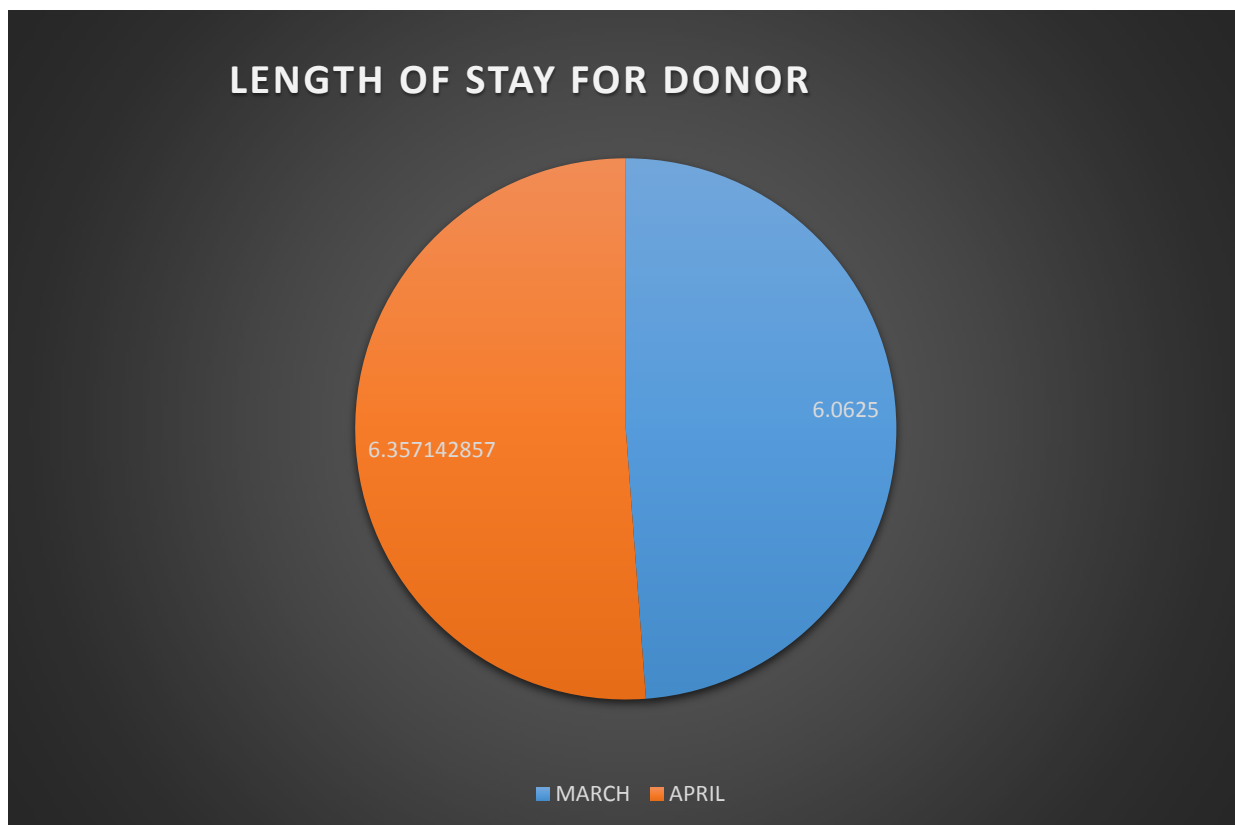


FIGURE: 15

INFERENCE: Figure shows more days stay in month of april (6.35 days) whereas it was slightly less in month of march(6.06 days).

OBSERVATION AND FINDING:

1. As per the observation, we found that in some cases the surgical procedure took longer than ideal time. The reason for same were,
 - In some cases, there was iron deficiency anaemia in the patients.
 - ABO incompatibility
 - Presence of 2 vessels for anastomosis
2. From the data, we observed that grafting time for recipient and donor was more than the ideal time. According to urology consultants, cold ischemic time can vary from 60 min. to 24 hrs. depending on the presence of vessels (for anastomosis) and patient specific parameters.
3. Length of stay post operatively in some of the transplant cases was high, varied from patient to patient condition.

It was highest in case of post-operative infection in patient that was for 16 days.

Other reasons for longer stay can be due to

- post-operative surgical complication
- viral infections
- If clinical parameters of the patient were not within normal limits.
- In cases of dual drain.
- If urine output is not within the normal limits.

RECOMMENDATIONS

- Post-operative proper nursing care i.e. 1:1
- It would be suggested that blood group compatibility between donor and recipient during transplantation.
- It is to maintain urine output chart for checking proper functioning of graft.
- Isolation must be done for vulnerable patients.
- To minimise infection rate.
- Diet must be according to patients' blood levels.
- Patient and family education.
- Rehabilitation.
- Follow up.

CONCLUSION:

Kidney transplant may be associated with various Nephrological and surgical complication whose treatment require a multidisciplinary team work. Although at one point of time the kidney was supposed to be unsalvageable but the great effort and persistent care invested from multidisciplinary team physician, nurses and the support from patient family, all complications were successfully over passed.

During the study in renal transplant unit, we observed average length of stay, cold ischemic time, duration of surgery, their recommended feed in around 30 cases enrolled in hospital for the same. Compliance in case of duration of surgery was quite less in some cases as there were pre and during surgical complication. In some cases length of stay was longer as patients suffered from post-operative viral and other infections.

- As per the recommendations, the processed time and ideal time can approximately same, if proper infection control measures followed, blood group compatibility done accordingly, maintenance of urine output chart for checking proper functioning of graft.

ANNEXURE:

[..\RT \(2\) \(1\).xlsx](#)



**A STUDY ON ADMISSION AND DISCHARGE CRITERIA OF INTENSIVE CARE
UNIT
(WEST BLOCK)**

AT

MAX SUPERSPECIALITY SAKET, NEW DELHI



Institute of Health Management Research, Jaipur

DECLARATION

I do hereby declare that I am a student of 1st year, MBA in Hospital and Healthcare Management, IIHMR University, Jaipur, Rajasthan session 2016-2018.

I would like to state that I have done the project on “Admission and Discharge Criteria For Intensive Care Unit” under the guidance of Dr. Tanu Goyal (Assistant Medical Superintendent) at Max Super Speciality Hospital, Saket, New Delhi for the partial fulfilment for the degree of MBA in Hospital and Healthcare Administration.

This project work is my own and has not been submitted to any of the other Institute or University for the purpose of award of any degree or diploma.

Tanvi Mittal

IIHMR University

(2016-2018)

ACKNOWLEDGMENT

I take this opportunity to express my profound sense of gratitude to all those who helped me throughout the duration of the project.

I would like to acknowledge, First and foremost of Dr. Tanu Goyal (Assistant Medical Supritendent) for showing confidence in me and giving me such a wonderful topic to do my project. I would like to thank my mentor at Max Hospital, Saket Dr. Sandeep Mor (Deputy Medical Superintendent) for his guidance throughout my internship period. I would also like to thank to all the nursing staff of ICU of west block.

I would also like to thank Dr. Nalini Kaul (Medical Superintendent) without whose permission I would not get this golden opportunity to do my internship in this esteemed hospital.

I would also like to thank my faculty at IIHMR-Jaipur and specially my Mentor- Dr. Alok Mathur (Professor) and also feel privileged to acknowledge Dr Shelly Singh for being my support throughout my project.

I would also whole heartedly thank the entire staff at Max, Saket for being so supportive and helpful and taking out some time from their hectic schedules and giving all the required information, especially Outpatient Department.

At the end, I am thankful to God and my heartfelt gratitude to my parents and friends who supported me throughout the course.

THANK YOU ALL

Tanvi Mittal

IIHMR

(2016-2018)

INTERNSHIP CERTIFICATE FROM MAX SAKET

This is to certify that Tanvi Mittal a student of IIHMR - Jaipur MBAHM-21 has carried out a project on the topic “Admission and Discharge Criteria For Intensive Care Unit” at Max, Saket, New Delhi”.

This project work has been prepared by the student herself with utmost sincerity and this work has not been presented earlier for any academic activity.

I wish her all the very best & success in her further future endeavours.

Dr. Tanu Goyal
Assistant Medical Superintendent

Dr. Sandeep Mor
Deputy Medical Superintendent

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Acknowledgment

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Admission and Discharge Criteria For Intensive Care Unit

INTRODUCTION

The Intensive Care Unit (ICU) is an area with medical facilities equipped with advanced technologies named as ventilators and personnel trained to provide intensive, advance life-supportive care to critically ill patients. The criteria for admission to Intensive Care Unit (ICU) is based on certain parameters which help guide medical and nursing staff to identify patients in need of Intensive Care Unit (ICU) care. The records of patients who are admitted/transferred/discharged to units providing specialized services contain evidence that they flow the criteria for services. Admission is also based upon clinical conditions as well as the likely benefits of ICU treatment and expectation of recovery.

The ICU is an expensive resource area and must be reserved for patients with reversible medical conditions with a reasonable prospects of substantial recovery.

POLICY AND PROCEDURE

1. Criteria for admission to ICU is based on specific parameters which help guide medical and nursing staff to identify patients in need of ICU care.
2. Doctors from intensive care and specialised units participates in developing these criteria.
3. The records of patients who are admitted/transferred/discharged to units providing intensive/specialized services contain evidence that they meet the criteria for services.
4. The staff is trained on using entry/admission and exit/discharge criteria. On the job training is provided to doctors and nurses by senior ICU consultants and record is maintained in the OJT registers of the respective ICU's

ADMISSION CRITERIA

1. ICU admission criteria must select patients who are likely to benefit under ICU care.
2. ICU care has been demonstrated to improve outcome in severely ill, unstable patient populations.
3. Resuscitation or admission must not be delayed where the presenting condition is imminently life threatening,(e.g. profound shock or hypoxia).
4. If admission is delayed or impossible due to bed unavailability the ICU staff will discuss and appropriate, assist in the process of alternative specialized care.
5. All admissions are arranged by consulting the on-call ICU consultant before transferring the patient.
6. Until the patient enters the ICU, their care remains the responsibility of the initial assessing physician.
7. Eligibility for admission is based on clinical condition along the likely benefits of ICU treatment and expectation of recovery
8. In case of conflict regarding admission criteria, decision is taken by ICU staff which patient should be given priority.
9. Some patients are admitted to the ICU only under unusual circumstances, at the discretion of the ICU consultant, and they should be discharged if necessary to make room for priority 1 or 2 patients.
10. The ICU admission decision may be based on several models utilizing prioritization, diagnosis, and objective parameters models.

ADMISSION POLICY

1. No patient may be accepted into the Intensive Care Unit without the acknowledge and consent of the duty ICU Consultant.
2. Resuscitation or admission must not be delayed where the presenting condition is imminently life threatening unless specific advance directives exist.

3. In general patients should be admitted to the Intensive Care where it is perceived they would benefit in some way as a result.
4. Patients with actual or potential organ system failure, which appears reversible with the provision of ICU care.

PATIENT TRIAGE

ICU admission criteria will select patients who are likely to benefit from ICU care. Patients not admitted should fall into two categories, “too well to benefit” and “too sick to benefit”. Defining substantial benefit is difficult, and no pre-admission model exists to predict outcome in a given patient. Rather than listing arbitrary objective parameters, patients will be assigned to a prioritization model to determine appropriateness of admission.

1. The ICU admits adult patients 18 years and above.
2. Admissions from Emergency for walk-in patients without a consultant label, the patient will get admitted to the ICU directly under the Consultant ICU Unit on Duty.
3. Admission of patients from another hospital is discussed with the ICU Consultant Before transferring the patient.
4. Admission must be arranged by the ICU consultants or nominated deputies provides that a bed is available.
5. If admission is delayed or impossible due to bed unavailability, the ICU staff will discuss and if appropriate, assist in the process of alternative specialized care.

DISCHARGE POLICY

1. Patients admitted to an ICU should be revised continuously so as to identify patient who may no longer need ICU care.
2. When a patient's physiologic status has stabilized and the need for ICU monitoring and care is no longer necessary.
3. All discharges must be approved by the on call ICU consultant.
4. Patients are discharged when the reason for admission has resolved.
5. Primary care teams must be informed for all patient discharges and any potential problems.
6. A discharge summary must be completed in the case notes prior to discharge and the Criteria for Discharge Mentioned.

DISCHARGE PROCEDURE

1. Nurses will not send patients to the ward without first checking with the on duty ICU Consultant.
2. All discharges must be approved by the Duty ICU Consultant.
3. The parent team must accept care of the patient, this acceptance must be recognised at ICU consultant and above level, either through their Registrar, or in some cases directly.

4. All other teams involved should be advised, including the pain team, dietician, special pharmacy requirements

A careful plan for the immediate discharge period must be discussed with the accepting team, and be clearly documented in the notes including:

1. Limitation of treatment where appropriate.
2. Non-return orders
3. Clear medical management plan including charting of the following for the next 24hrs:
 - Fluids
 - Feeding
 - Analgesia
4. Documentation to be completed prior to discharge:

Nurses will not send patients to the ward without first checking with the on duty ICU Consultant.

1. The status of patients admitted to an ICU should be revised continuously to identify patients who may no longer need ICU care.
2. Patient can be shifted from the ICU when a patient's physiologic status has stabilized and the need for ICU monitoring and care is no longer necessary.
3. Discharge criteria from Critical Care Units is similar to the admitting criteria for the next level of care such as intermediate care where available. However, not all patients require intermediate care after ICU discharge.

LITERATURE REVIEW

In acute care hospitals, one can identify a patient population that does not require intensive care but needs more care than that provided on a general ward. These patients may require frequent monitoring of vital signs and/or nursing interventions, but usually do not require invasive monitoring. In a study of 706 surgical and medical ICU patients, this patient population accounted for approximately 22% of all ICU bed days. In a more recent study of 17,440 ICU admissions, 6,180 patients were admitted strictly for intensive monitoring, though they had a less than 10% risk for requiring active treatment based on this monitoring. As a consequence, intermediate care has been proposed as a more appropriate means of resource utilization for these patients. Intermediate care areas can be represented as multipurpose "progressive care units" or as single-organ subspecialty floors such as cardiac telemetry, surgical (thoracic, vascular, etc.) neurosurgical/neurological monitoring areas, or chronic ventilator respiratory care units. In light of the recent emphasis on cost containment, the intermediate care unit concept is suggested as a strategy that promotes greater flexibility in

patient triage, increases accessibility to limited intensive care and provides a cost-effective alternative to critical care unit admission, particularly for patients with a low risk of, but potential for, major complications and who have been admitted for routine monitoring. Moreover, patient satisfaction may be increased since an intermediate care environment is less noisy and may have more liberal family.¹

The number of the Intensive Care Unit (ICU) beds has been increasing all over the world, but it seems that demands for them exceed the supply. On the other hand, as the ICU technology becomes more advanced, its costs rise, as well. Since sources are limited, it is crucial to design a model for ICU admission. In spite of the importance of this issue, few studies have been focused on decision making for ICU admission. Generally, decision making for ICU admission is based on identifying the patients who benefit more from ICU and rejection of those who are too well or too bad to benefit from the unit. Today, there are few guidelines which have identified all the indications for ICU admission of the patients; however, they are not always useful in practice. In some hospitals, especially in developing countries where sources are limited, it is not possible to follow such guidelines. Thus, decision making for ICU admission is performed according to the physicians' opinions rather than a standardized guideline. Therefore, it seems that designing a model which ranks the indications for ICU admission according to their importance could be useful in prioritizing the candidates for ICU admission. Delphi method is a forecasting method used to reach consensus by asking some experts to respond to questionnaires in several rounds.²

RATIONALE

This Report is intended to find out the Admission and Discharge criteria of Intensive Care Unit of Max Hospital, Saket as main goal is to provide finest patient care. The Admission and Discharge criteria is one of the major contributing factors that adds to the complete care of the patients which they expect from the hospital. Reducing the delay in Admission and Discharge and high occupancy rate of beds can lead to significant increase in enhancing the hospital's image.

OBJECTIVES

1. To determine the compliance of criteria for Admission to intensive and specialized care units.
2. To determine the compliance of criteria for transfer/discharge from intensive and specialized care units.

RESEARCH METHODOLOGY

Type of study: Descriptive study

Study population: All the Patients at Max Super Speciality Hospital, Saket, Delhi

Study area–Intensive Care Unit Max Super Speciality Hospital, Saket, Delhi (West Blocks)

Duration of Study– 2 Weeks

Type of Data- Qualitative

Sample size – 60Min.

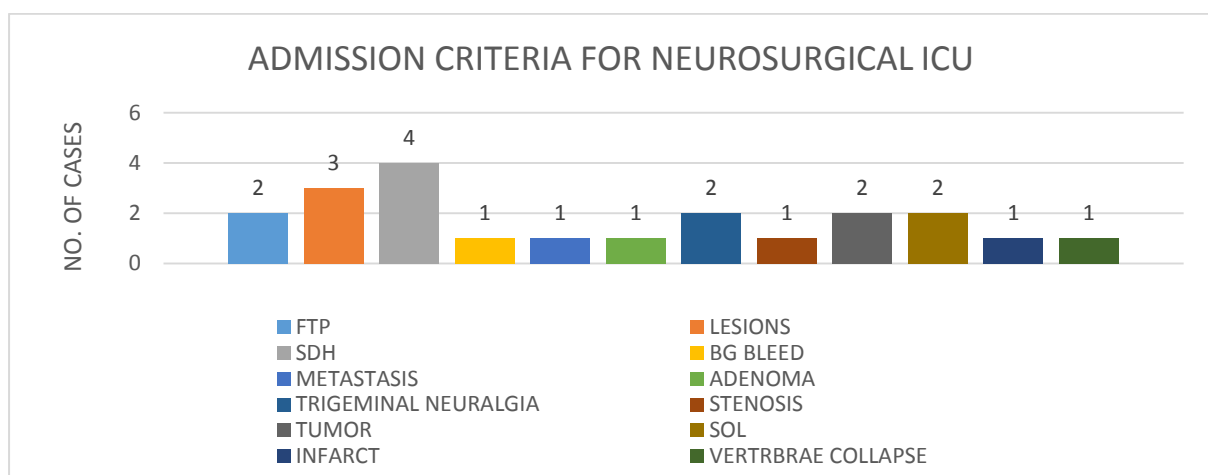
Sampling technique- Non probability sampling

Data collection-Primary and Secondary (2weeks)

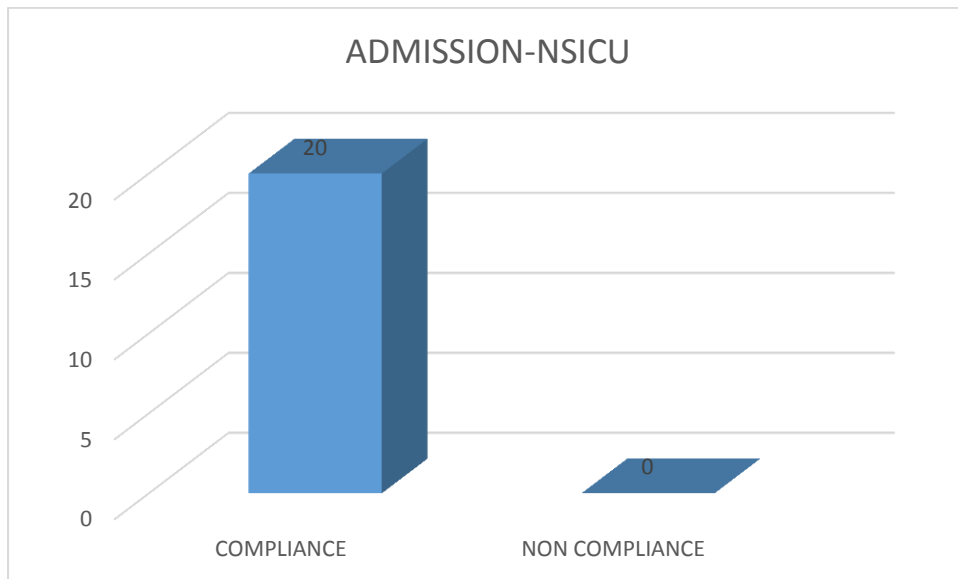
Data entry- Manually

Data Analysis- Using bar charts, pie charts in Microsoft Excel

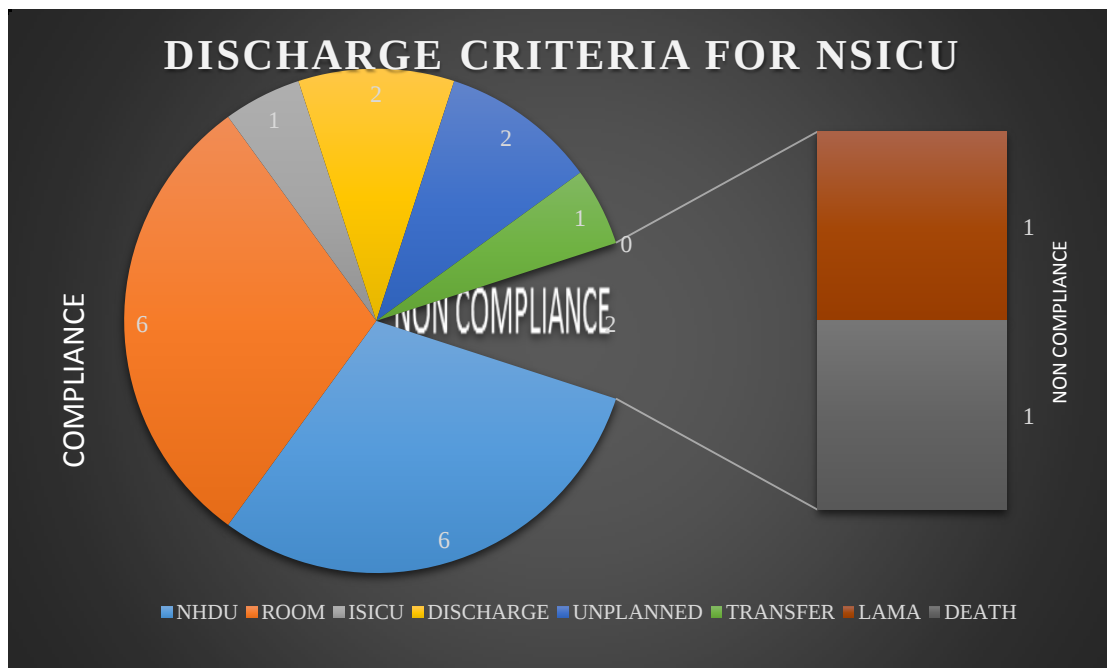
DATA ANALYSIS & INTERPRETATION FOR INTNSIVE CARE UNIT



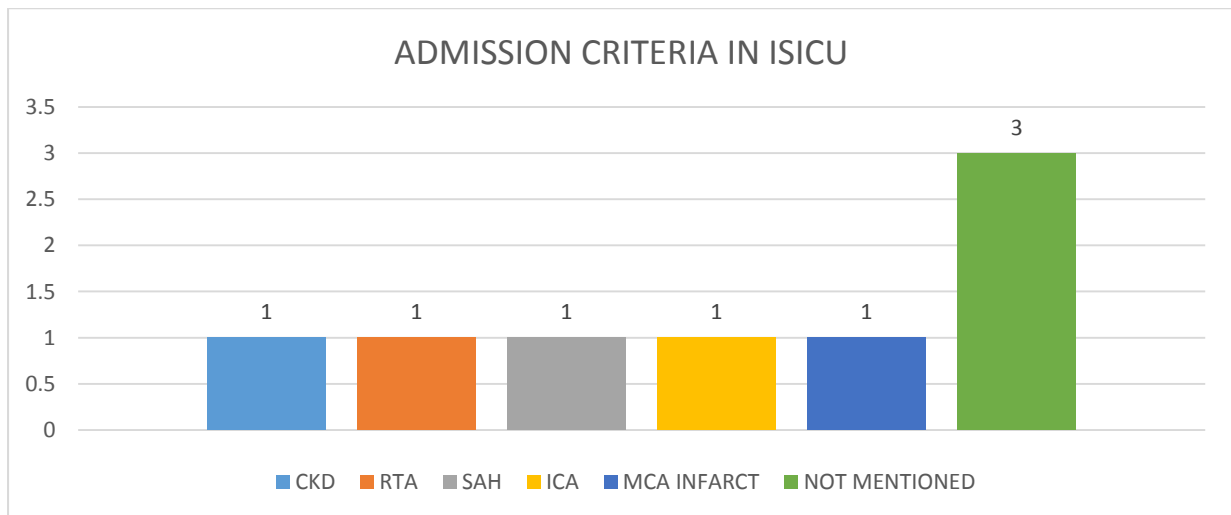
INFERENCE: This graph reveals that patient with actual and potential life threatening or unstable neurologic diseases were admitted consisting majorly the cases of Sub Dural haemorrhage and lesion like periventricular and cerebral lesions.



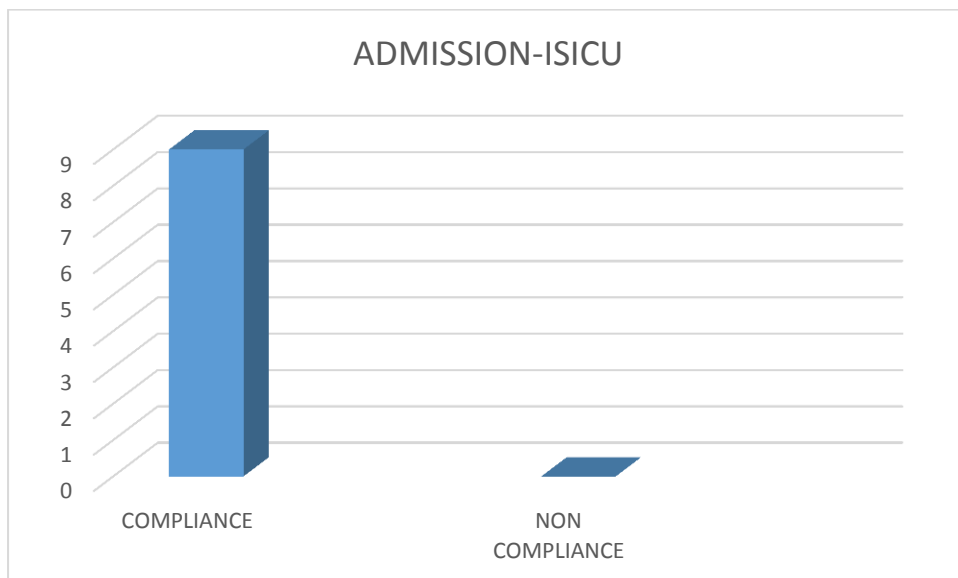
INFERENCE: figure depicts 100% compliance for admission criteria of 20 admitted patients during the study in Neurosurgical ICU.



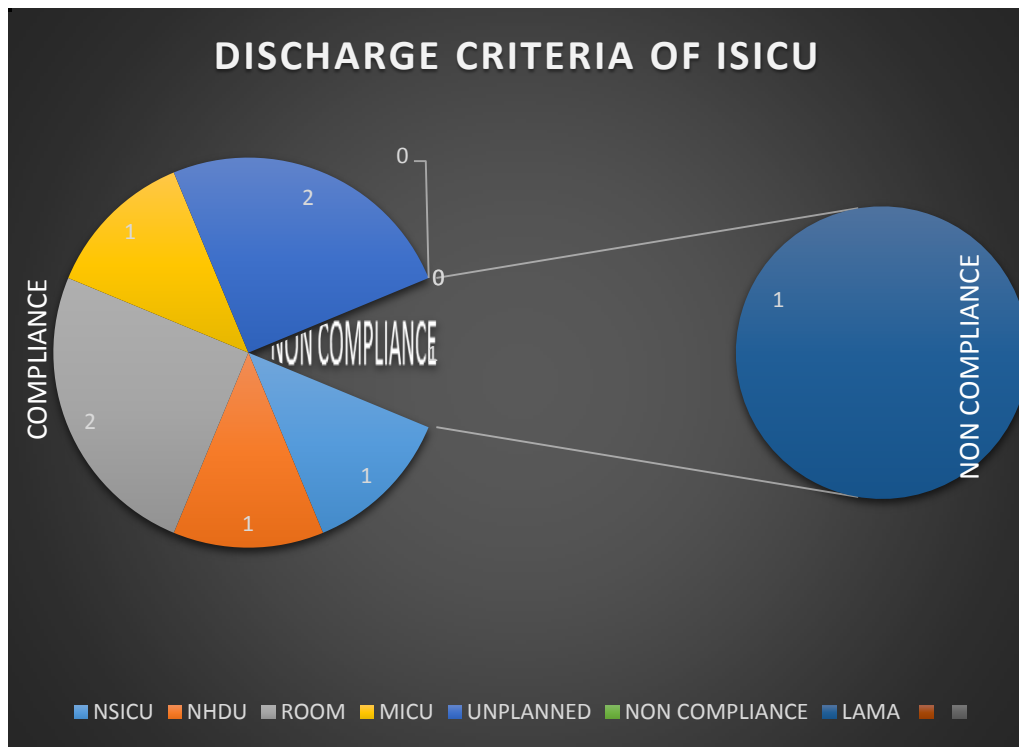
INFERENCE: Figure reveals 90% compliance for discharge criteria as patients were majorly shifted out to room and NHDU. Whereas one out of those 20 patients left the hospital against medical advice and one unfortunately died.



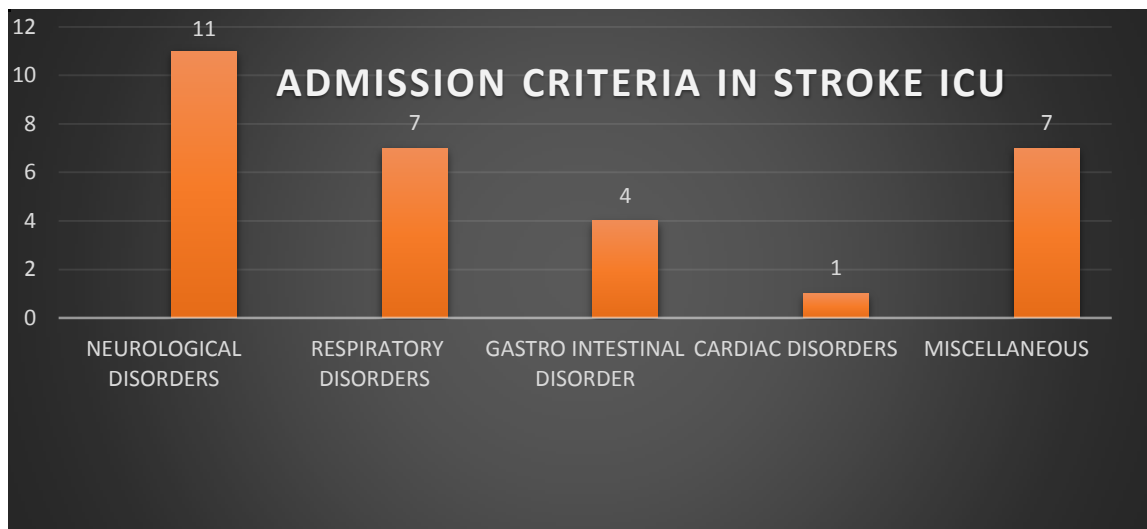
INFERENCE: figure specifies that patient from different specialities were admitted in ISICU, possibility is unavailability of beds or delayed admission of the patient.



Inference: figure depicts 100% compliance for admission criteria of 9 admitted patients during the study in Interventional stroke ICU as patients were in need of monitoring.

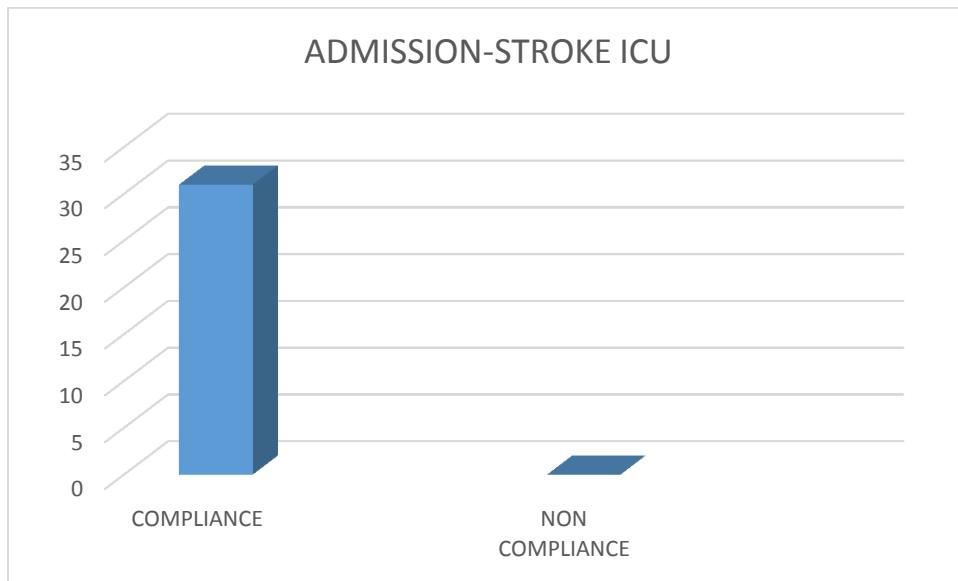


INFERENCE: figure reveals 89% compliance for discharge criteria as patients were majorly shifted out to room and some of them were still in ISICU. Whereas one out of those 9 patients left the hospital against medical advice.

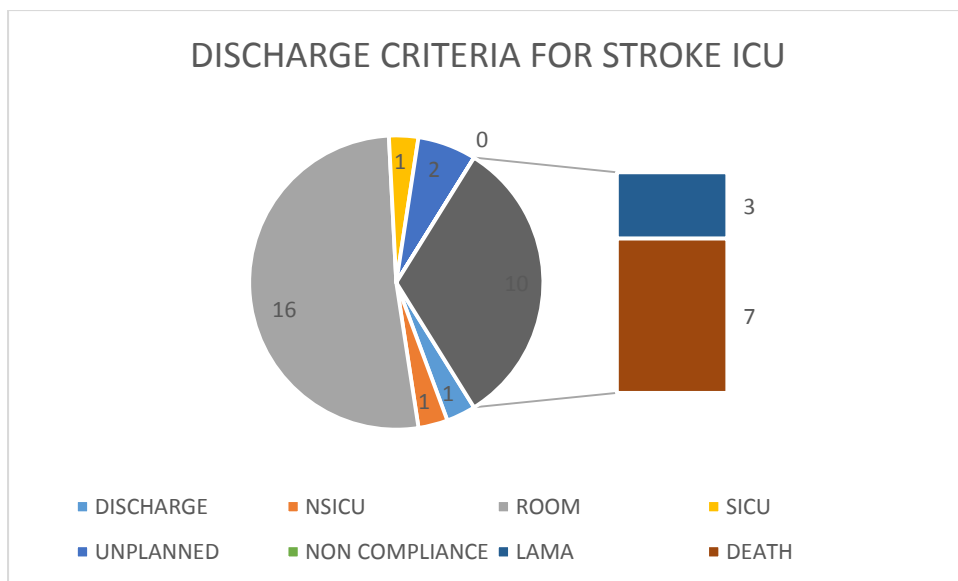


INFERENCE: This graph reveals that patient with actual and potential life threatening or unstable neurologic, respiratory, gastro intestinal, cardiac disorders, their admission to stroke ICU shows possibility of unavailability of beds or delayed admission of the patient.

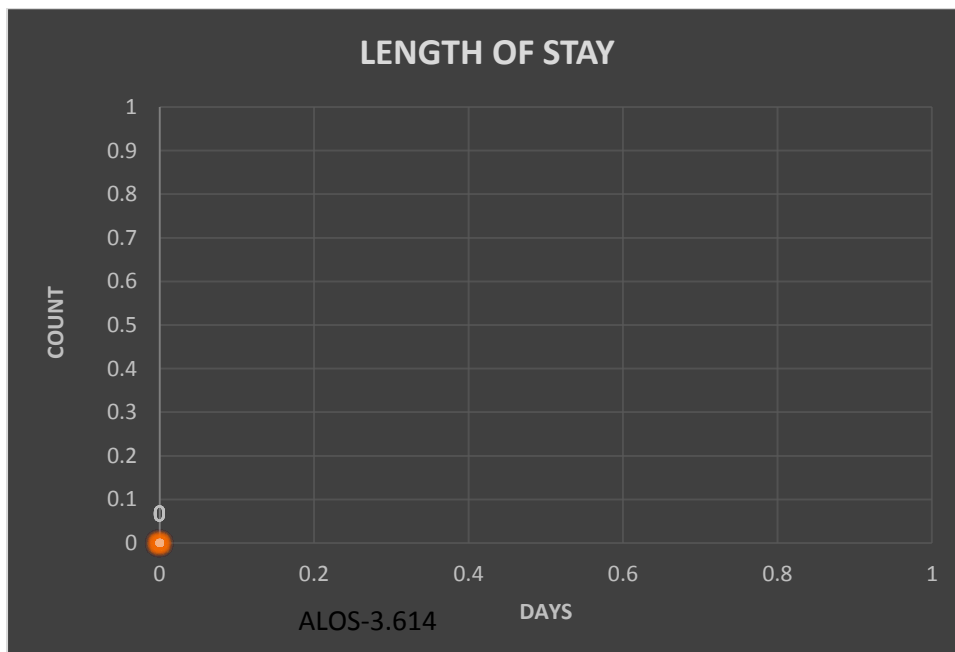
neurologic	Acute stroke, metabolic encephalopathy, seizures, altered mental status, MCA infarct
respiratory	Respiratory failure, H1V1 breathing difficulty, COPD, viral pneumonia
Gastro intestinal	Upper GI bleed, intestinal obstruction, pancreatitis
Cardiac	CSF
Miscellaneous	CKD, generalised weakness, traumatic injury,



INFERENCE: figure depicts 100% compliance for admission criteria of 31 admitted patients during the study in Interventional stroke ICU as patients were in need of monitoring.



INFERENCE: figure reveals that 67% compliance for discharge criteria as patients were majorly shifted out to room and one of them discharged. Whereas 10 out of those 31 patients were under non-compliance as 3 of them left against medical advice and 7 were unfortunately died.



INFERENCE: This graph reveals that the Length Of Stay of Patients in ICU, 15 Days is maximum, 1 Day is minimum and ALOS is 3.614.

OBSERVATION AND FINDING:

- 1.First and foremost finding was 100% compliance for admission criteria in all three ICU's we studied.
- 2.Non-compliance was reported majorly in case of discharge criteria.
 - 5 out of 60 patients leave against medical advice.
 - 8 out of 60 patients admitted to ICU unfortunately expired.
- 3.A proper isolation criterion for vulnerable patients was followed.
- 4.A patient was transferred to different branch of hospital as per need.
- 5.Patients with different diagnosis were admitted in any of these ICU's, may be due to bed unavailability. For the same, the ICU staffs discussed along them as patient need was their priority.
- 6.Proper biomedical waste management was followed.
- 7.Length of stay of the patient was found more in some cases.ICU patients wishes are often unknown, causing health care professional to err on the side more treatment. Additionally the highly technological nature of ICU appears to encourage over treatment.

RECOMMENDATION:

- It is important for ICU's and general wards to communicate and cooperate well, since there is mutual dependency for optimal patient flow between different departments. Interventions that improve the understanding and cooperation between these wards mitigate problems.
- No. Of LAMA cases can be reduce by two sources, either by health practitioner or by administrative staff.
Health practitioners must update time to time, the family members of the patient regarding the diagnosis and procedure along with improvement so that the family and the patient satisfy mentally.
Whereas administrative staff must let the family know about the schemes and plan accordingly.
- Proper infection control measures must be followed by the staff and the practitioner, so as to reduce the changes of nosocomial infections. This may help to reduce chances leading to death.
This may be also beneficial in reducing the length of stay of patients that will increase bed availability.
- The specialisations which obtain high number of Critical care patients, should consider establishing individual Intermediate Care units.
 - ❖ The intermediate care unit serves as a place for the monitoring and care of patients with moderate or potentially severe physiologic instability, requiring technical support but not necessarily artificial life support.
 - ❖ The Intermediate Care Unit is reserved for those patients requiring less care than standard intensive care but more than that which is available from ward care.
 - ❖ The intermediate care unit reduces costs, reduces ICU length of stay without increasing hospital length of stay, does not impact negatively on patient outcome and improves patient/family satisfaction by providing a physical environment that is quieter and calmer than the ICU.

CONCLUSION:

The nature of ICU environment makes it important for health care professionals to be aware of risk of overtreatment, reflect on why they, what they do, and mindful of a possible negative impact on over treatment on their patient.

THANK YOU