Internship Training

At

Max Super Specialty Hospital, Saket, New Delhi

(February 9th to May 9th, 2016)

A Report on the scheduling, cancellation and delays in the surgeries of the West wing, operation theatre complex, Max Hospital, Saket

By

Dr. NUSRAT AHMAD

PGDHM Hospital and Health Management (2015-2017)

International Institute of Health Management Research

ACKNOWLEDGMENT

I am using this opportunity to express my gratitude to everyone who supported me throughout the course of this PGDHM project and Internship training. I am thankful for their aspiring guidance, invaluably constructive criticism and friendly advice during the project work. I am sincerely grateful to them for sharing their truthful and illuminating views on a number of issues related to the project.

I express my warm thanks to Dr.Sandeep Mor, Deputy Medical Superintendent, Max Superspeciality Hospital, Saket for his support and guidance. I wish to express my deep regard and gratitude to him, who inspite of his busy schedule took time to hear, guide and keep me focused by giving his helpful advice, constructive comments and encouragement throughout the project. His valuable inputs made this project possible.

I am also very thankful to all the staff of Max for their attention towards my work and helping me which greatly added to my project. The administrative and clinical staff of the hospital has been very helpful to me and I would like to express deep gratification to all.

Dr. Nusrat Ahmad

Dr. Sandeep Mor

Deputy Medical Superintendent

Max Superspeciality Hospital, Saket

New Delhi

Internship Training

at

Max Superspeciality Hospital, Saket

A STUDY ON OT SCHEDULING, CANCELLATION AND DELAY IN THE SURGERIES OF WEST WING OPERATION THEATRE

by

Dr .Nusrat Ahmad

Enroll No. PG/15/051

Under the guidance of

Dr . Sumesh Kumar

Post Graduate Diploma in Hospital and Health Management

2015-17

International Institute of Health Management Reasearch

New Delhi

The certificate is awarded to

Dr. Nusrat Ahmad

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

Medical Administration

And has successfully completed her Project on

A STUDY ON OT SCHEDULING, CANCELLATION AND DELAY IN THE SURGERIES OF WEST WING OPERATION THEATRE

9th February 2017 to 9th May 2017

At

Max Superspeciality Hospital, Saket, New Delhi

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

We wish her all the best for future endeavors

Training & Development

Zonal Head-Human Resources

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(Devki Devi Foundation Registered under the Societies Registration Act XXI of 1860)
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M-0073

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Nusrat Ahmad** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at **Max Superspeciality Hospital Saket, New Delhi** from **9th February to 9th May 2017.**

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

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr. A.K. Agarwal
Dean, Academics and Student Affairs
IIHMR, New Delhi

Mentor

IIHMR, New Delhi

Certificate of Approval

The following dissertation titledA STUDY ON OT SCHEDULING, CANCELLATION AND DELAY IN THE SURGERIES OF WEST WING OPERATION THEATRE at **Max superspeciality hospital, saket New Delhi**is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
Dr. Pankaj Talreja	
Dr. Suresh Kumar	
Dr. Shyam Nayanjan	

Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Nusrat Ahmad** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. She is submitting this dissertation titled **"A study on ot scheduling, cancellation and delay in the surgeries of west wing operation theatre"** at **Max Superspeciality Hospital Saket,** New Delhi in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Sumesh Kumar
Professor
IIHMR, New Delhi

Dr. Sundeep Mor
Deputy Medical Superintendent
Max Hospital Saket, New Delhi

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INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,
NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation title **A study on ot scheduling, cancellation and dela in the surgeries of west wing operation theatre** and submitted by **Dr. Nusrat Ahmad** Enrollment No. **PG/15/051** under the supervision of **Dr. Sumesh Kumar**

For award of **Postgraduate Diploma in Hospital and Health Management** of the Institute carried out during the period from 9th February 2017 to 9th May 2017

embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

MAX HEALTHCARE

FEEDBACK FORM

Name of the Student: Dr. NUSRAT AHMAD

Dissertation Organisation: Max Super Speciality Hospital, Saket New Delhi

Area of Dissertation: To study the Scheduling, Cancellation & Delay of Surgeries in West wing O.T.

Attendance: Regular & punctual

Objectives achieved: - Surfacing of bottlenecks in Repective area
- Streamlined the process flow in O.T of West wing.

Deliverables:
- Timely Inputs
- Quality Data as required

Strengths:
- Good Interpersonal skills
- Keen learner

Suggestions for Improvement: Keep learning! All the Best

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

Dr. Sundeep Mor
Deputy Medical Superindent
Max Superspeciality Hospital,Saket
New Delhi
Date:
Place:

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ABBREVIATIONS

S.No.	Abbreviation	Meaning
1.	SSC	Surgical Safety checklist
2.	WHO	World health organisation
3.	OT	Operation theatre
4.	OR	Operating room
5.	PAC	Pre anaesthetic check up
6.	MRI	Magnetic Resonance Imaging
7.	OPD	Out Patient Department
8.	ALOS	Average length of stay
9.	IPD	In patient department
10.	IPS	International patient services
11.	NABH	National accreditation board for hospitals and healthcare
12.	TAT	Turnaround time
13.	FFP	Fresh Frozen Plasma
14.	TTI	Transfusion transmitted infection
15.	LAMA	Leave against medical advice
16.	GDA	Ground duty assistant
17.	COW	Computer on wheels
18.	ABG	Arterial blood gas
19.	VED	Vital essential desirable
20.	EOQ	Economic order quantity
21.	HEPA	High efficiency particulate arrestance
22.	LINAC	Linear accelerator
23.	CT	Computerized tomography

INTRODUCTION

Max Healthcare is the country's leading comprehensive provider of standardized and seamless healthcare services. It is committed to the highest standards of medical and service excellence, high care, scientific knowledge and medical education. Max healthcare has 14 facilities in north India,of this 11 are located in Delhi and NCR whereas the other three facilities are in Dehradun, Mohali and Bathinda. The Maxhealthcare includes state of art tertiary care hospitals at Patparganj, Shalimar Bagh, Vaishali , Mohali, Bathinda and Dehradun, Secondary care hospitals at Gurgaon, Pitampura and Noida and a speciality centre at Panchsheel Park. The company provides patient services including Nuclear medicine and cardioimaging,labs,scans, interventionalcardiology, cardiacpacing and electropy siology, neurosciences, orthopedics, gynecology and obstetrics, pediatrics, cancer care, kidney transplant, bone marrow transplant, maternity services, diagnostic services, pediatric, neurophthalmology, internal medicine, general surgery, urology, nephrology, gastroenterology, mental health and behavioral sciences, rehabilitative services

Maxhealthcare is pioneer in the introduction of technology to provide patients with highest quality medical care examples are the Brain Suit in Asia at Max Saket.The hospital is equipped with advanced medical Equipments in cath labs, robotics OTs with HEPA, Nuclear medicine, Gama camera, LINAC for radiotherapy, MRI and CT scan machines.Maxhelathcare had 2300 leading doctors, 3300 nurses, 3100 trained staff and 22, 00,000 patients from over 80 countries.

HISTORY

Max India Limited was founded in 1985. The first Max healthcare center was opened as Max Multispecialty Centre in Panchsheel Park, New Delhi with OPD facilities and day care surgeries in 2000.

Dedicated to mother and child care, Max Hospital, Noida was opened in 2002 with services including non-invasive cardiology, orthopedics, ENT, ophthalmology, nephrology etc. Max

Heart and Vascular Institute were established in 2004 with advanced cardiac life support and air evacuation service in Saket.

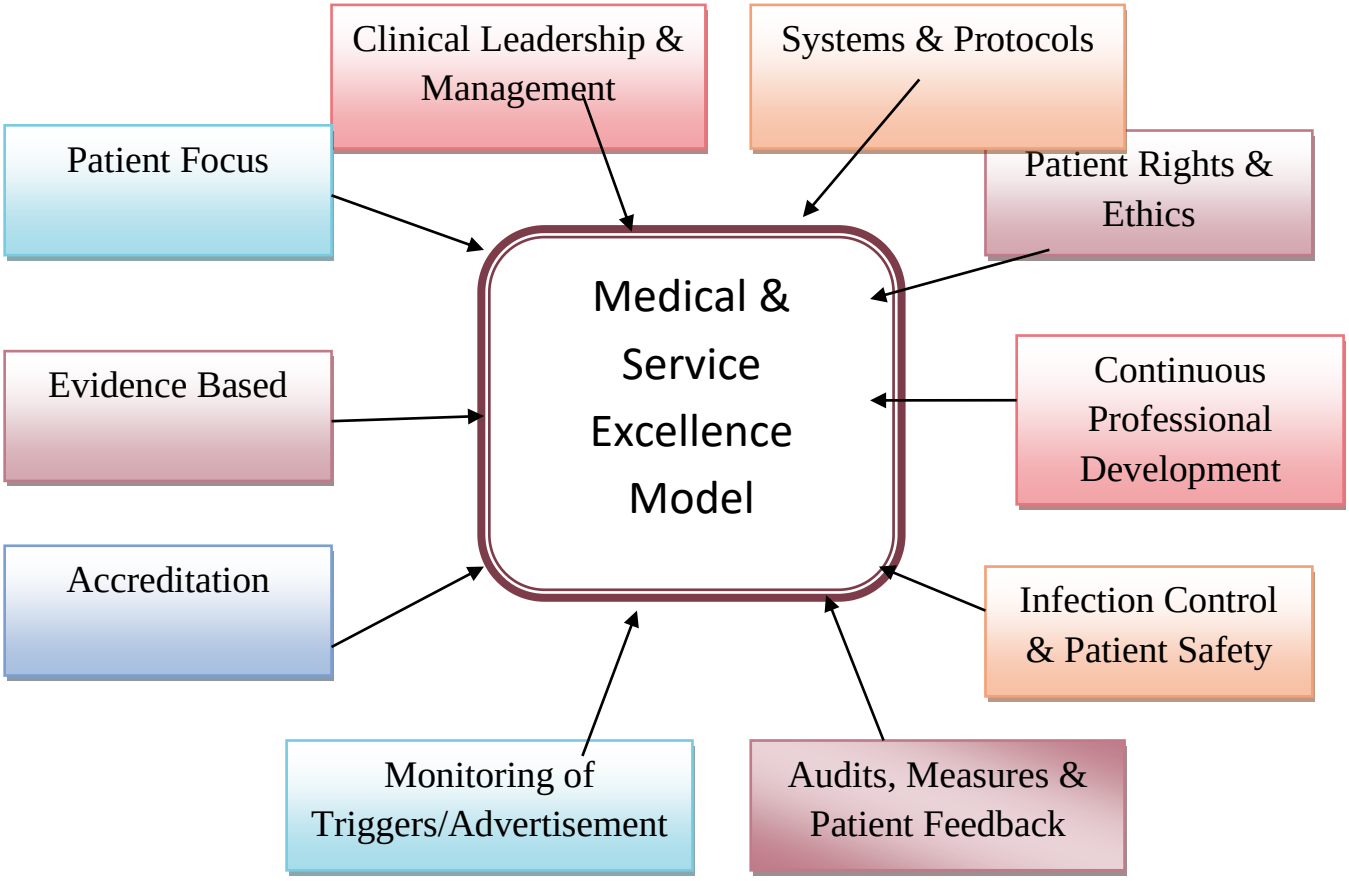
Max Hospital in Patparganj was founded in 2005. In the same year, Max Eye and Dental Care Centre was opened at Panchsheel Park, New Delhi. Max Super Specialty Hospital in Saket was founded in 2006 and Max Hospital, Gurgaon was opened in 2007.

In July 2014 the company formed a joint venture with LIFE Healthcare Group, the second largest private hospital operator in South Africa, with the two groups each holding a 46.4% equity stake in the new venture to be known as Max India.

VISION

Our passion well reflects in the fact that we set the industry standards when it comes to cure, care and comfort. To deliver International Class healthcare with a total service focus, by creating an institution committed to the highest standards of medical & service excellence, patient care, scientific knowledge and medical education.

Max Healthcare follows a core of '**Patient Centered Care'**. Widely acknowledged nationally and internationally for its quality patient care, Max has successfully implemented the "**Medical Excellence Model"** through its clinical team of expert physicians and nurses who work together in an integrated manner, assessing patient needs, ordering tests, planning treatments, scheduling surgeries, monitoring progress and planning for early discharge to home.



The pillars of this model include:

- **Clinical governance**
- **Credentialing and clinical privileging of physicians & nurses**
- **Use of standardized, evidence based protocols**
- **Patient and staff safety**
- **Infection control**
- **A culture of audit and continuous professional development**

Every department of the hospital was observed carefully for its 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:

- **Institute of Cardiac Vascular Surgery**
- **Institute of Bariatric & Metabolic Surgery**
- **Institute of Oncology**
- **Institute of Nephrology**

PROCESS FLOW OF DIFFERENT DEPARTMENTS

FRONT OFFICE

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

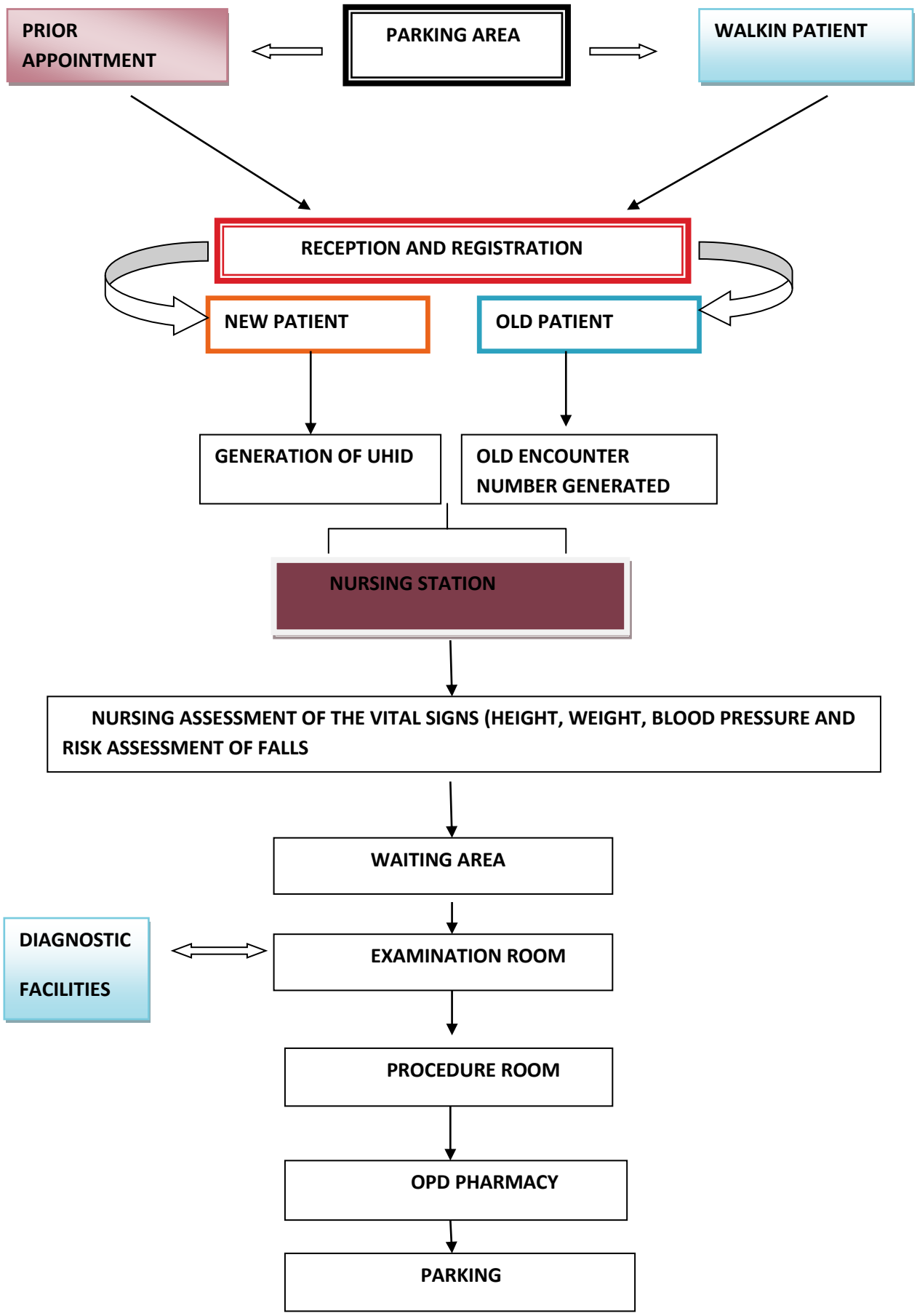
Challenges

- Shortage of staff
- Huge rush during peak hours such as morning

OUT-PATIENT DEPARTMENT

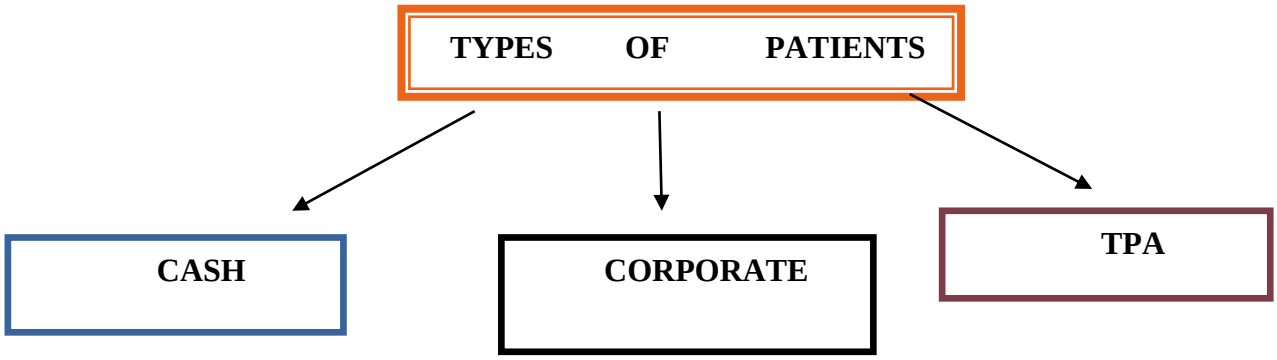
- Each department of Max hospital has its own OPD area as well as IPD area / day-care area wherever applicable with doctor's chambers and procedure rooms.
- Every OPD has a procedure room and its own Front Desk.

THE GENERAL PROCESS OF OPD FLOW IS AS FOLLOWS:


PRIOR APPOINTMENT
PARKING AREA
WALKIN PATIENT
RECEPTION AND REGISTRATION
NEW PATIENT
OLD PATIENT
GENERATION OF UHID
OLD ENCOUNTER NUMBER GENERATED
NURSING STATION
NURSING ASSESSMENT OF THE VITAL SIGNS (HEIGHT, WEIGHT, BLOOD PRESSURE AND RISK ASSESSMENT OF FALLS
WAITING AREA
DIAGNOSTIC FACILITIES
EXAMINATION ROOM
PROCEDURE ROOM
OPD PHARMACY
PARKING

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 dont's 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 , twin sharing 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

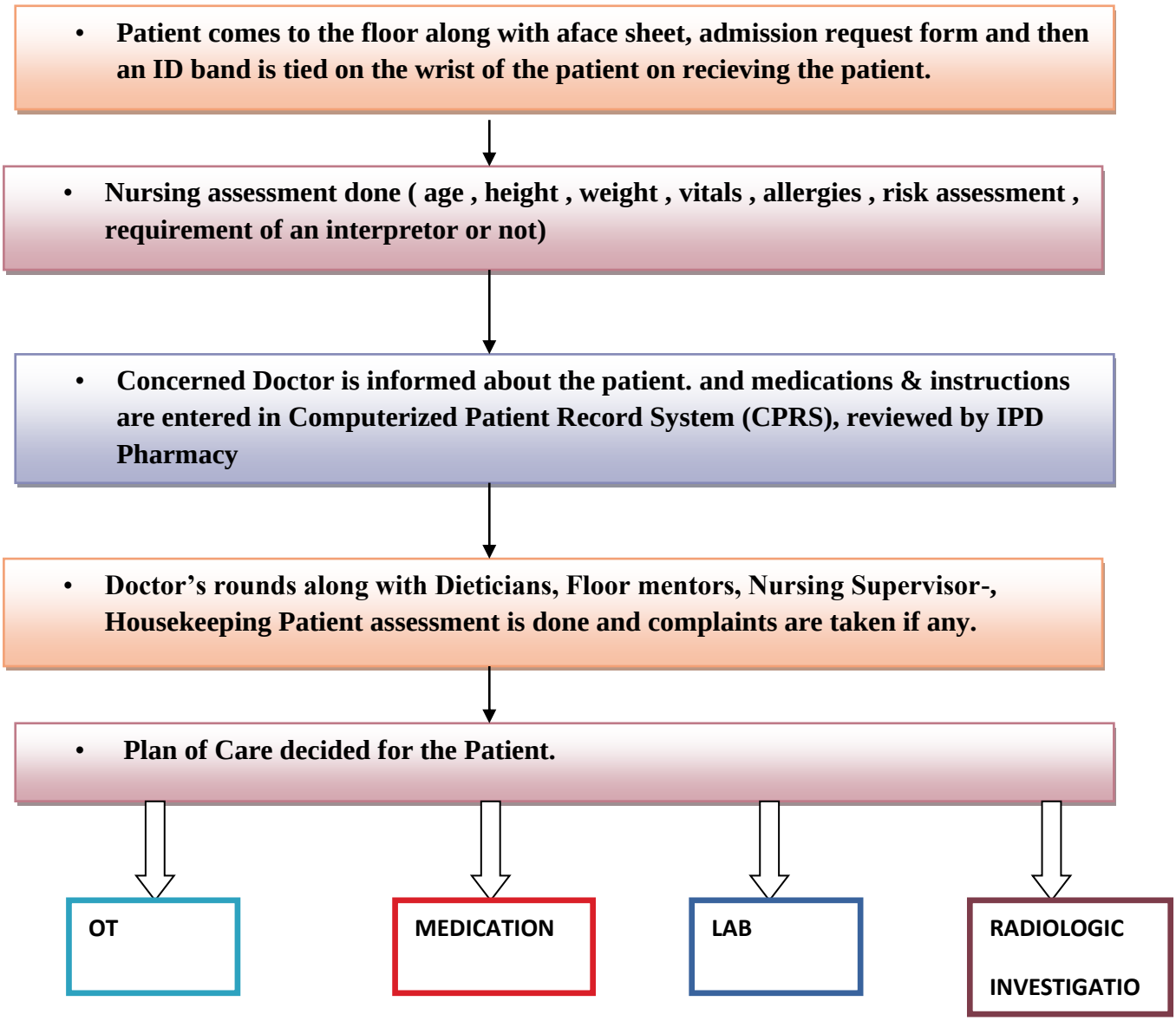


IN-PATIENT DEPARTMENT (IPD)

- IPD is distributed over four floors (3rd-6th) in the east wing and over five floors (2nd-6th) of west wing of Max hospital including a total number of 539 beds.

- Every bedside has:
    - **Details of Consultant, Nurse and Mentor written at the top of every bed**
    - **Room equipment checklist – side rails, Oxygen, Suction**
    - **Important Instructions**
- The rooms available in IPD have the following structure of beds per room:
    - **Economy room – 4 beds per room.**
    - **Twin Sharing – 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)
    - **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, Hypoglycaemia, Needle stick Injury
- Process of admission of new patient to IPD

IPD PROCESS FLOW



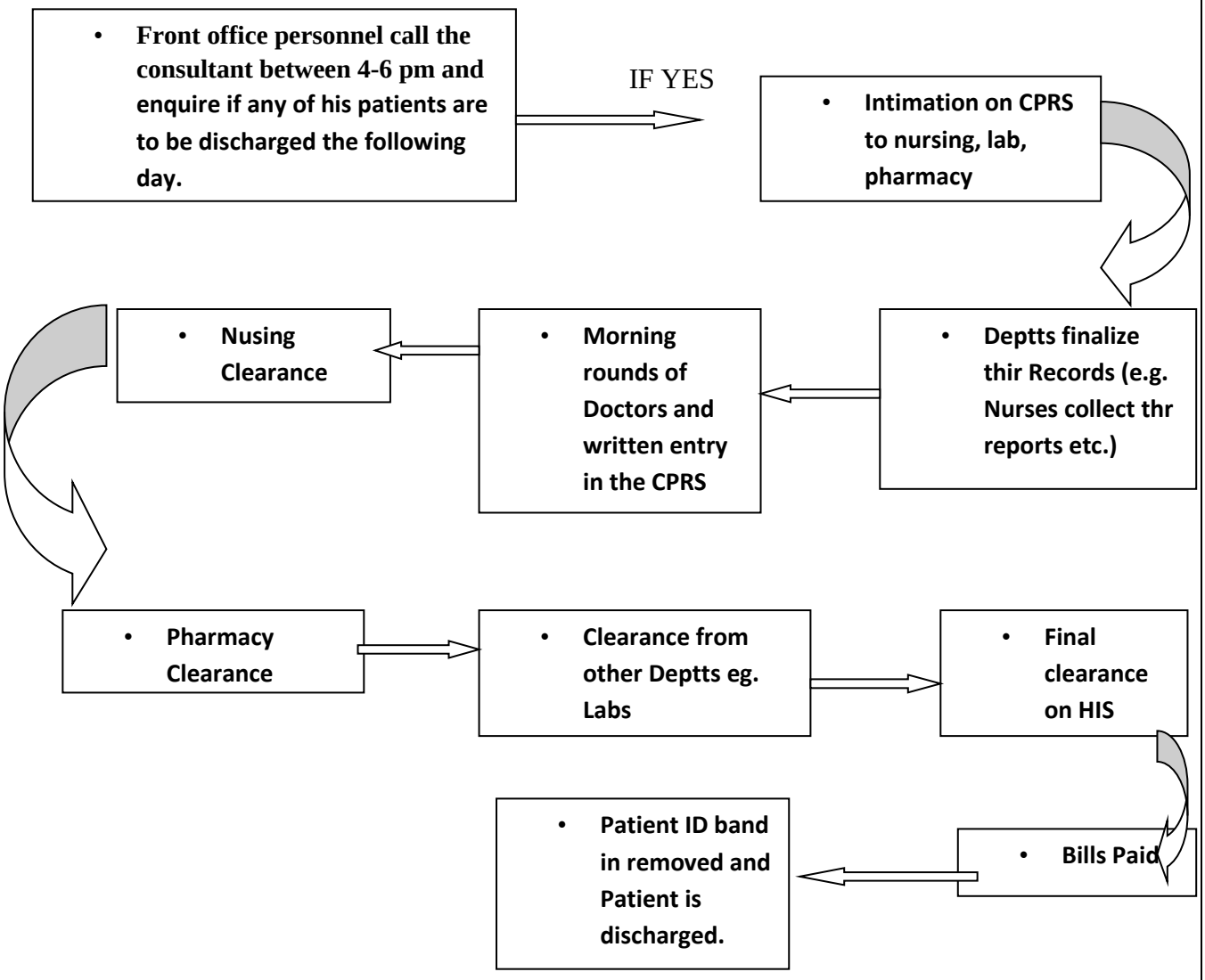
❖ **BARRIER NURSING-**

Isolation of the patient in case the blood or urine culture of the patient has been tested positive for any infection so that the infection does not spread to others.

❖ **REVERSE BARRIER NURSING-**

Done in cases where patient is immuno compromised so that infection does not travel to him from others.

THE PROCESS OF DISCHARGE FROM IPD:



EMERGENCY DEPARTMENT

Due to the unplanned nature of patient attendance, this department provides initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention, except for major burns. It is located at the ground floor with its own dedicated entrance and operates for 24 hours a day.

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

Patients are either transferred to other departments or are discharged within 4 hours. Max Super Speciality Hospital, Saket had made a world record for management of MI patient in emergency department from entrance to the balloon time in cath lab, 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:

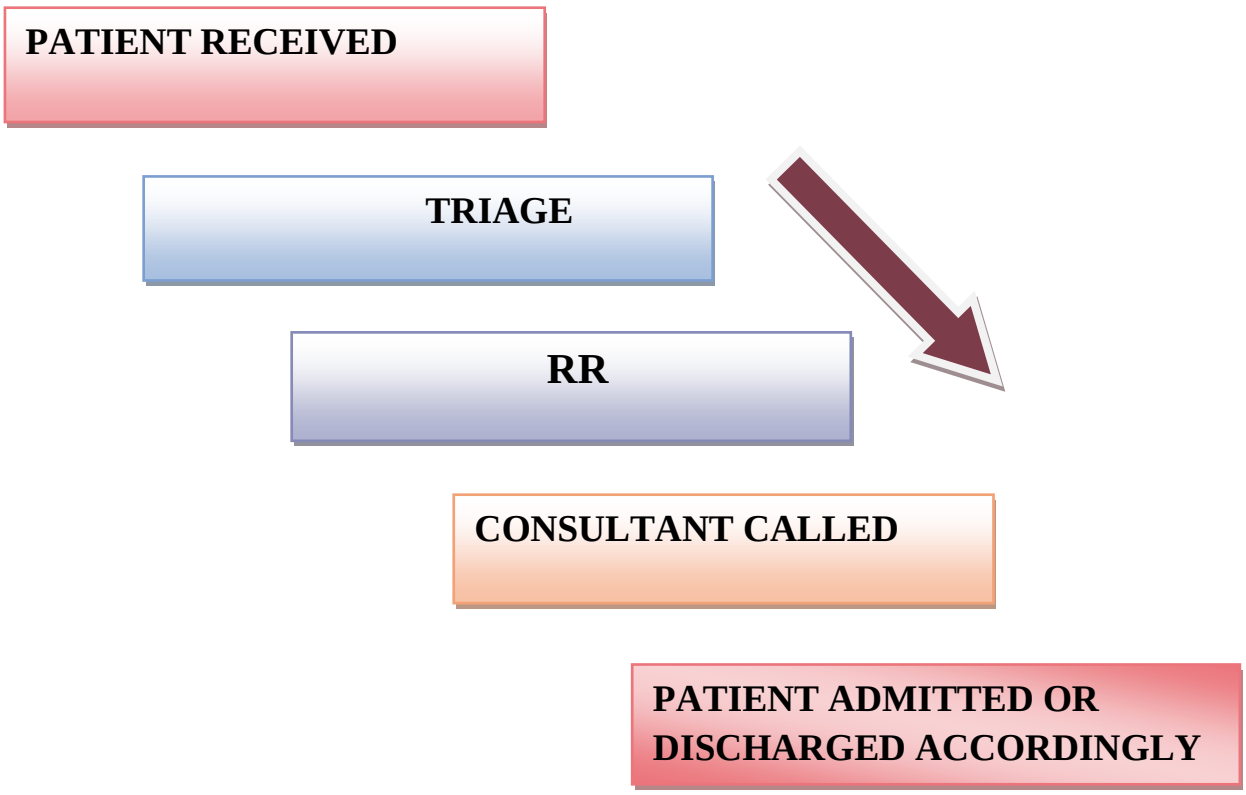
- Total 16 bedded triage
- Resuscitation suite -1 bed
- Urgent care area – 4 beds
- Observation area – 9 beds
- Clinical decision unit – 2 beds
- Doctors work station-is located in the centre of the urgent care area
- Store room- is located behind the reception. Medications are filled twice a day and 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.

PROCESS FLOW



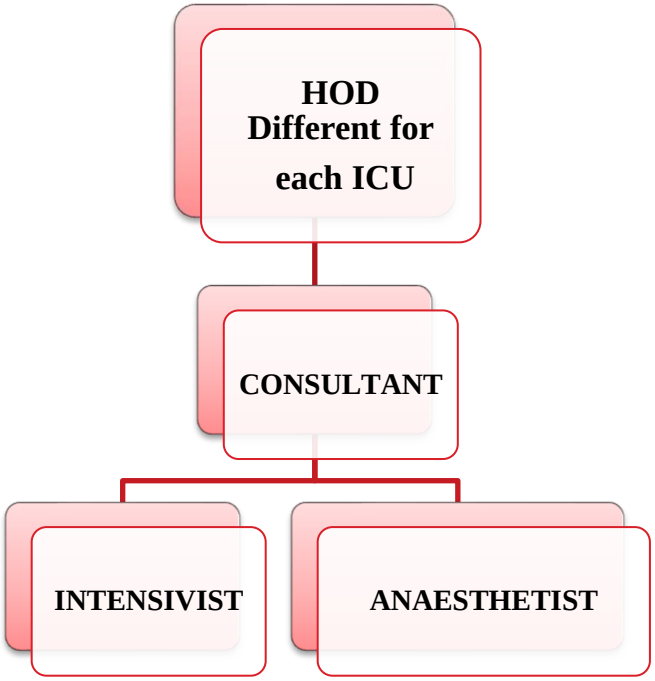
INTENSIVE CARE UNIT (ICU)

Max Saket has a total of 7 Intensive Care Units in the Hospital:

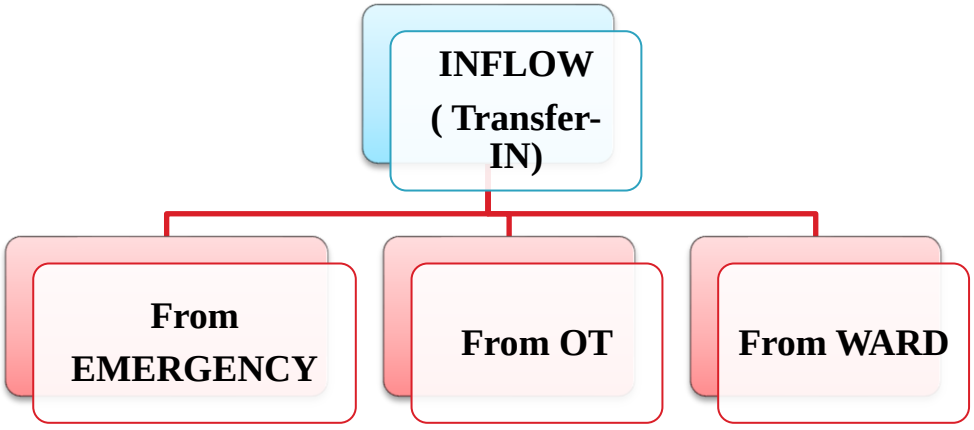
1. Respiratory ICU – 8 Bedded
2. Medical ICU – 8 Bedded
3. Neonatal ICU – 8 Bedded
4. Apex Coronary Care - Bedded
5. Stroke and Neuro Medical ICU - Bedded
6. Neurosurgical ICU – 8 Bedded
7. CTVS ICU - Bedded

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

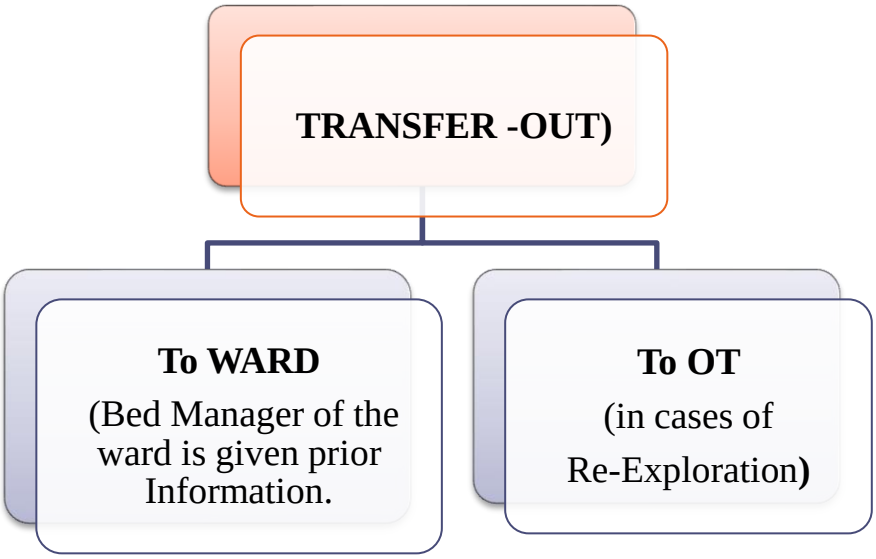
Hierarchy



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; Relative counselling – done twice a day by the Intensivist.
- Protocol for infected patients –
    - Isolation
    - Visitor's policy- no visitor allowed inside the isolation room
    - Aseptic policy
    - Full PPA
    - Separate linen disposal in separate bags
    - Separate dressing trolley
    - Separate housekeeping material- dusters, mops etc
- **Quality indicators-**
    - **Patient falls**
    - **Bed sores**
    - **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 an examination room with diagnostic imaging equipment used to visualize the arteries of the heart and the chambers of the heart and treat any stenosis or abnormality found.

Diagnostic procedures performed here are:

- Angiography
- 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 are:

- Percutaneous Transluminal Coronary Angioplasty
- Peripheral Transluminal Angioplasty
- Radio Frequency Ablation
- Permanent Pacemaker Implantation
- Intra Cardiac Defibrillation
- Cardiac Resynchronisation Therapy Defibrillator Device
- Cardiac Resynchronisation Therapy Pacemaker
- Left and right sided pressure studies
- Closure of some congenital heart defect

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

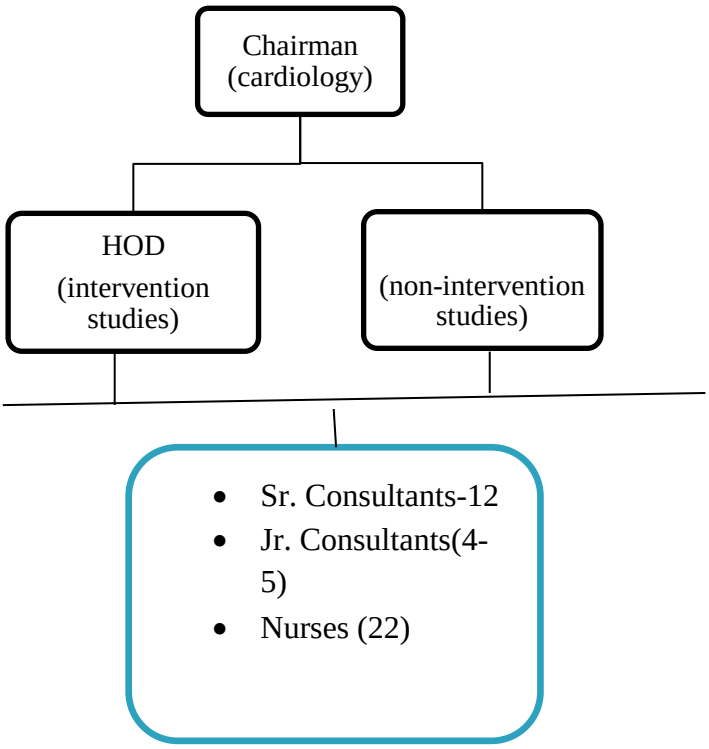
Units of cath lab:

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-7 Beds
8. Instrument washroom

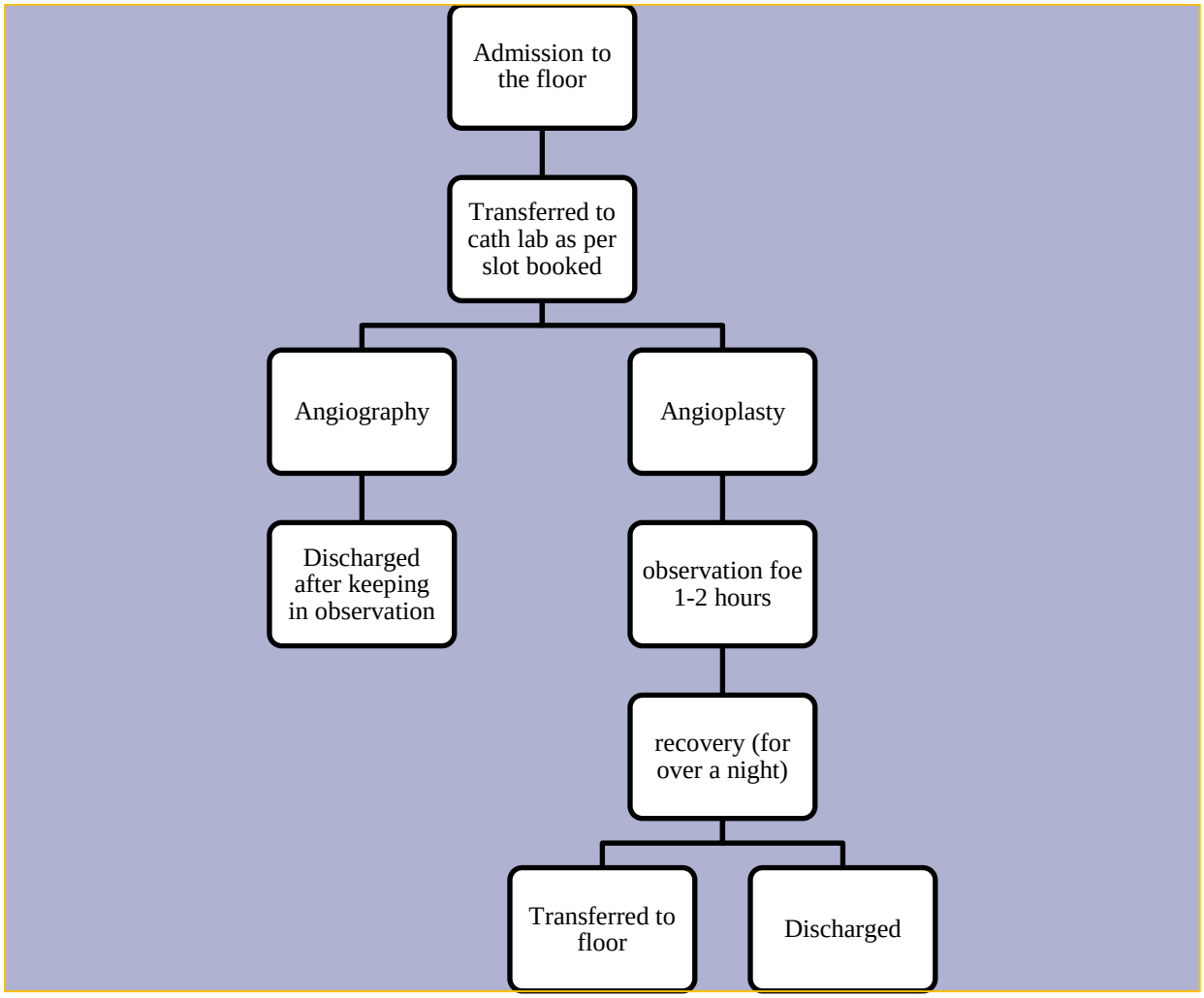
Location: Cath lab is located on the first floor with the vicinity areas as

- Emergency department
- Operation theatre
- Cath recovery-14 Beds
- Coronary care
- CTVS OT
- SICU
- PICU

Staff


Chairman
(cardiology)
HOD
(intervention studies)
(non-intervention studies)
Sr. Consultants-12
Jr. Consultants(4-5)
Nurses (22)

FLOW OF THE PATIENT



DEPARTMENT OF LAB SERVICES

INTRODUCTION-

An ISO 9001:200 certified lab, it is open 24 hrs a day. It's a high-tech lab with fully automated instrument which are directly interfaced with ***hospital information system***

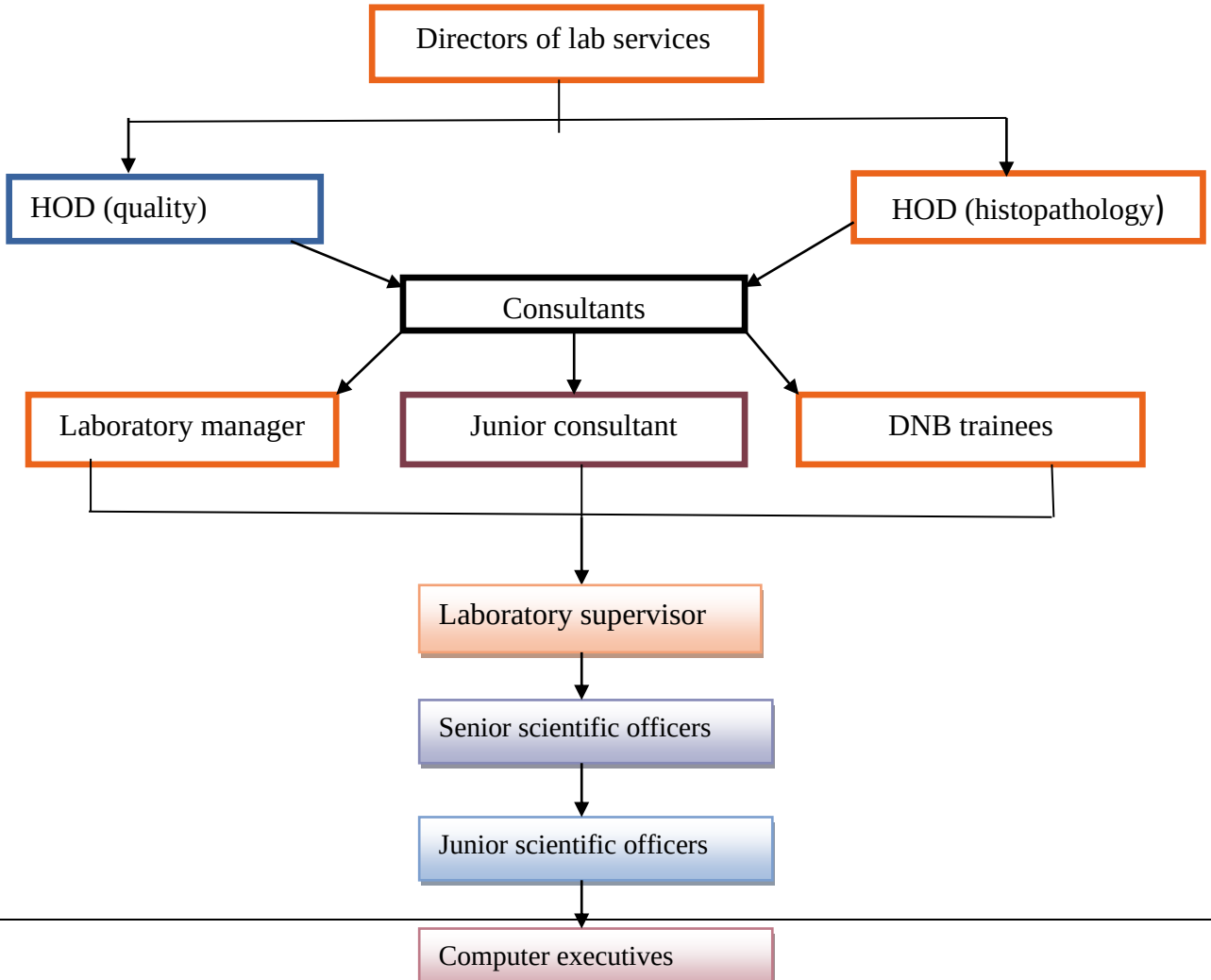
and ***laboratory information system***. Facility of stat tests (emergency) and sample collection from home is also available.

LABORATORY COMPRISES OF THE FOLLOWING DEPARTMENTS-

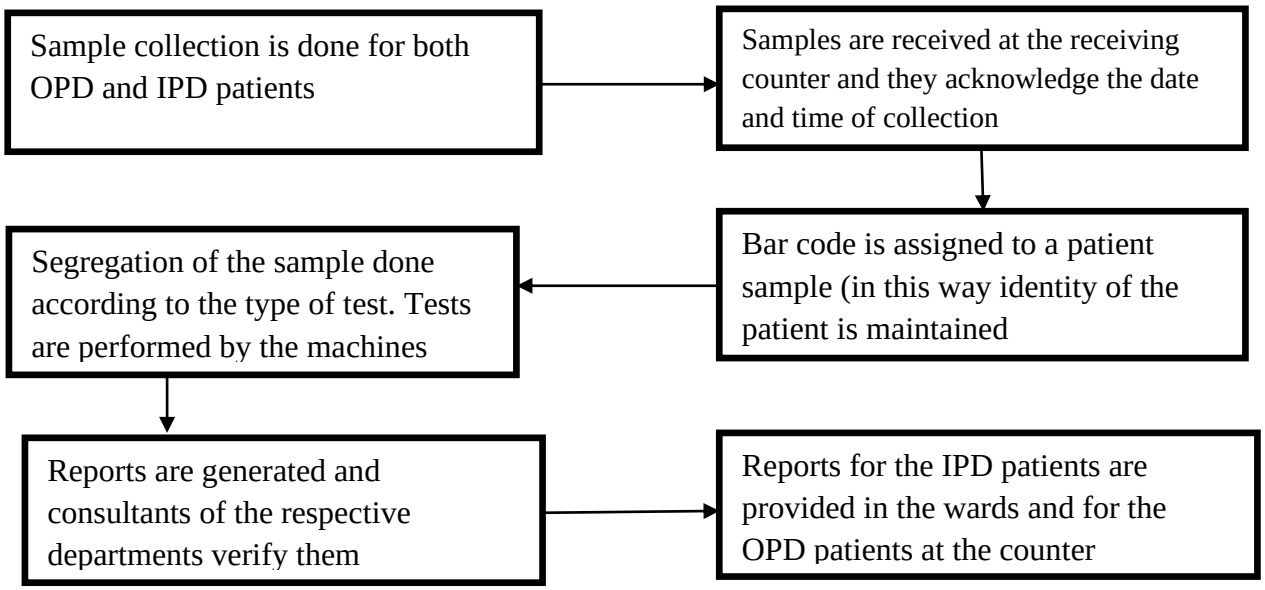
- Biochemistry
- Haematology
- Immunoassay
- Histopathology
- Clinical pathology
- Serology
- Microbiology

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

- Lab medicine
- Histopathology



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**

RADIOLOGY DEPARTMENT:-

Situated at the ground floor of the west wing of the hospital.

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 & colour) e.g. 2 D echo, vascular studies, etc

3) Mammography

4) Dexascan

5) Special imaging techniques

(a) CT Scan (Computerized Axial Tomography)
(b) MRI (Magnetic Resonance Imaging)

Divided into two parts:-

1) For Ultrasonography, mammography, Dexascan

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.

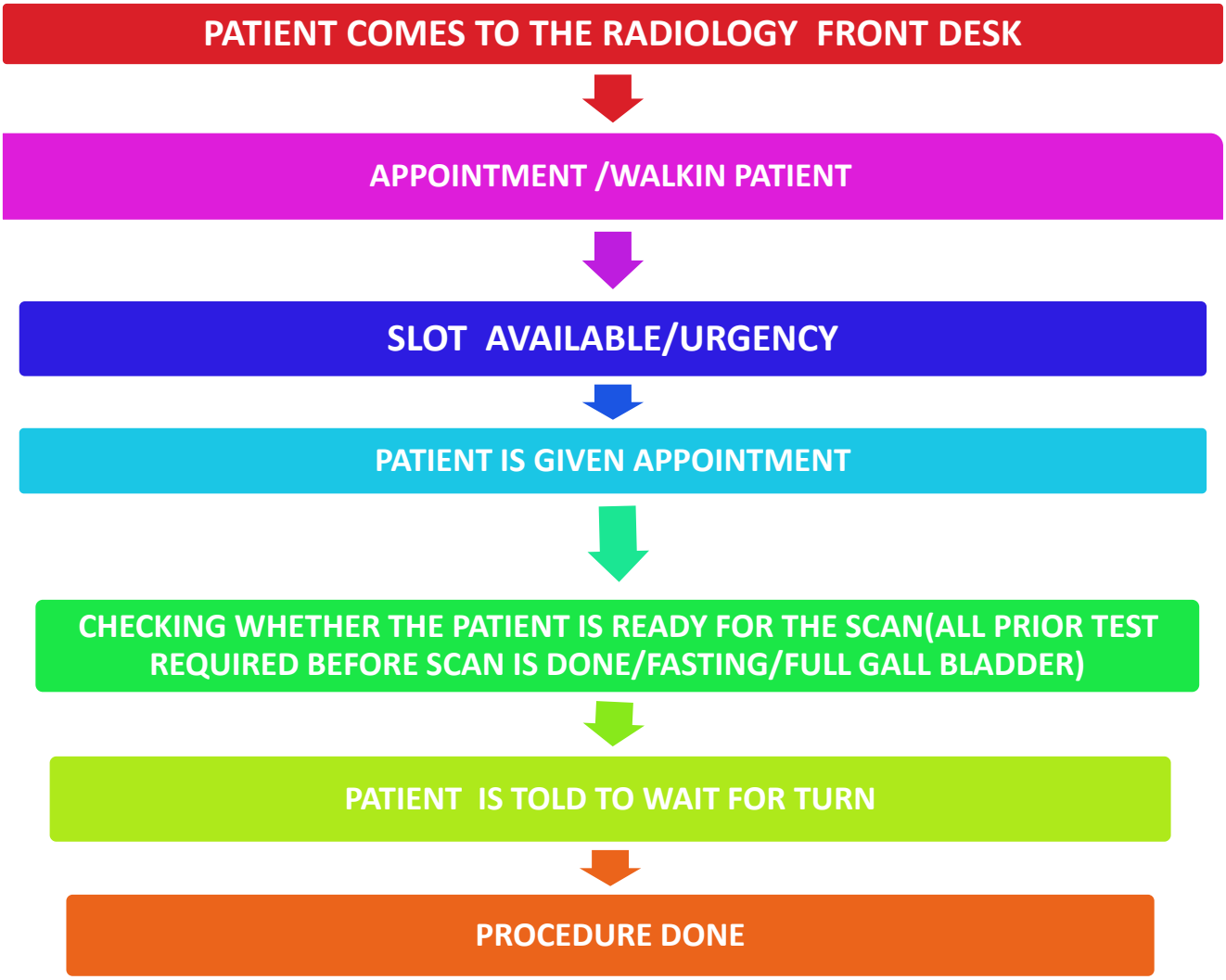
Main OPD hours: - 8am to 6pm and after 8pm only IPD and Emergency patients are taken

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



Firstly, the patient comes to the radiology front desk after been prescribed by doctor for the scan; patient is either taken prior appointment or walk in patient. The availability of the slot required is then checked for the walk in patient by the front desk. Once the slot is checked, the requirements for the scan i.e. condition of the patient required to undergo the scan is checked. (E.g. proper creatinine level for renal patients).After that the patient is been provided the appointment and been told to wait for his turn. Finally the procedure is been performed.

- 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. But it is preferred that patient arranges blood through his relatives or any friend and should give replacement.

Blood bank consist 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 have several components including red blood cells platelets and
   Plasma. Donor aphaeresis is a special type of blood donation in which a specific component platelet, plasma is withdrawn from donor
3. Component room: In component room, the whole blood is separated into packed cells FFP and platelets.
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.

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.

- Dr.Sangeeta Pathak heads the Department and the technical manager is Ms. Ruchi.
- The blood donation timings are from 9am to 5pm and approximately one volunteer comes for donating blood. Blood can be donated after every 3 months.
- The PRBC are stored for 45 days at 2-6 degree Celsius.
- The Platelets are stored for 5 days at room temperature 22± Celsius.
- The FFP (Fresh Frozen Plasma) are stored for 1 year at -40 degree Celsius.

CENTRAL STERLIZATION SERVICE DEPARTMENT

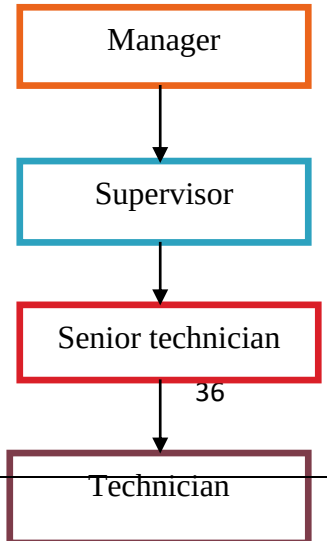
INTRODUCTION-

CSSD is the heart of the hospital infection control and the most important unit of the clinical support services. CSSD role lies 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 main aim of the CSSD department is to reduce the level of micro-organisms from 10^{6} to 10^{-6}.

HIERARCHY OF THE DEPARTMENT-



Dr. Sanjeev Bhatia heads the Department.

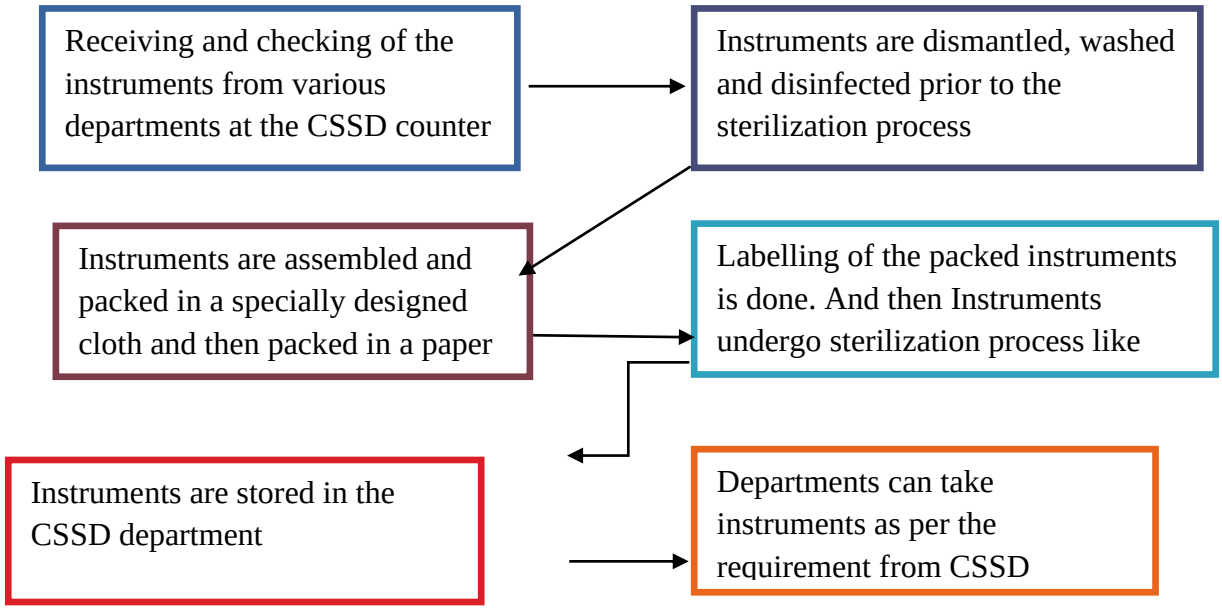
ZONES PRESENT-

- **Decontamination**
- **Clean**
- **Sterile**

Colour coding for the following zones -

- **Decontamination area-red colour**
- **Clean area-blue colour**
- **Sterile area-green colour**

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 medical grade 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-

- Washer-
- Autoclave -
- Plasma sterilizer-
- ETO sterilizers-
- Dryers-
  - Air-guns-
  - Water-guns-
  - Ultrasonic cleaners-

QUALITY INDICATORS-

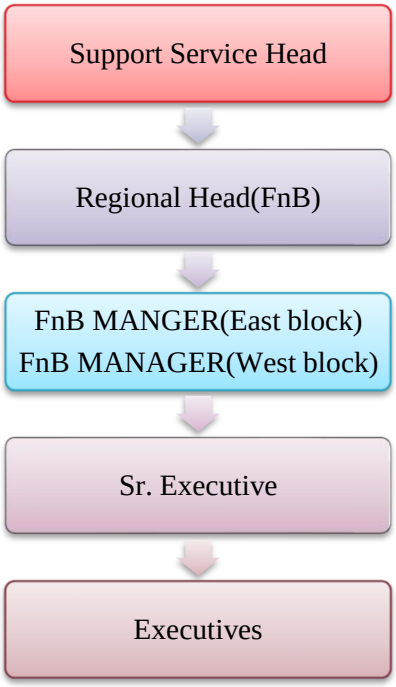
Various quality indicators used in CSSD are-

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

FOOD & BEVERAGES

- Food & Beverage department is responsible for the supply of food to the in-patients and sometimes their attendants (if required) and for arranging food during various meetings and conferences in the hospital.
- 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



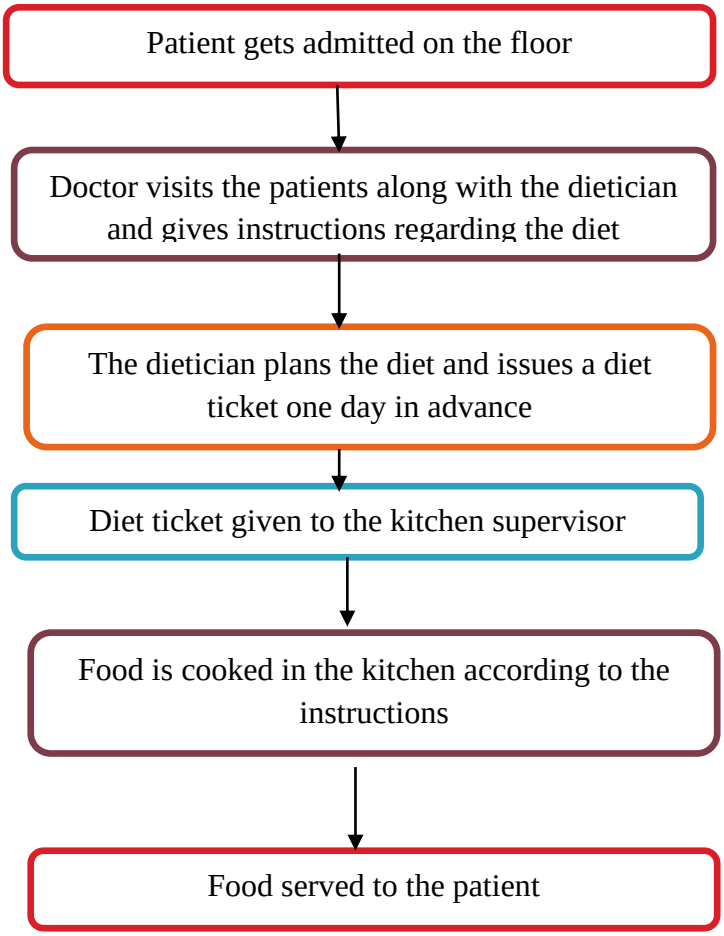
Time table for the diet of the patient

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

- 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, but for an extra charges.

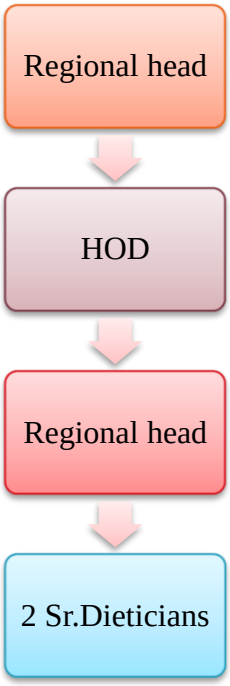
- Different menus offered are:
  - Continental
  - Afghani – for middle east patients
  - No onion and garlic – for middle east patients
  - Indian

- **Process flow** of the department



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

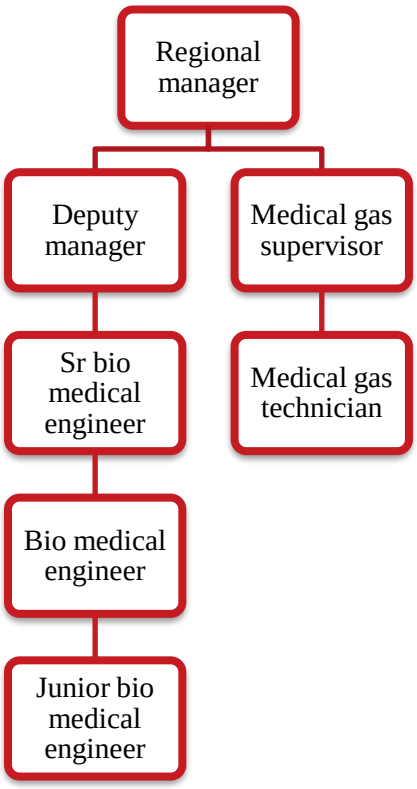


- Dietician: patient – 1:50
- Assessment of each patient to be done within 24 hours of admission and thereafter every 8th day after initial assessment.
- For enteral nutrition, all commercial supplements for each disease are available.

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 is done – to prevent breakdown, maintenance is done.
    - Calibration is done – i.e. to check how accurate an equipment is functioning
    - Breakdown call is checked for
    - Depreciation is measured
- For new equipment
    - Installation and commissioning 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.
- Organisational chart



- This department also handles gas manifolds and Max is awarded green OT certificate because of the efficient dispersion of OT gases.

PHARMACY

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

In CPRS, Medication orders posted by the clinicians is verified by pharmacist on PUTTY System labelled with (patient info, SSN no., drug name,) then the medications are dispatched after Billing via HIS (Hospital information system) and finally handover to GDA to dispense medicines. The Stat orders required immediately are dispensed within 30 minutes. The normal order is dispensed within 1 hour and routine order is delivered by 1 round per day.

NARCOTICS DRUGS

They are in kept in double lock and key system. 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 coloured sound alike and pink coloured 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.

Licences 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)

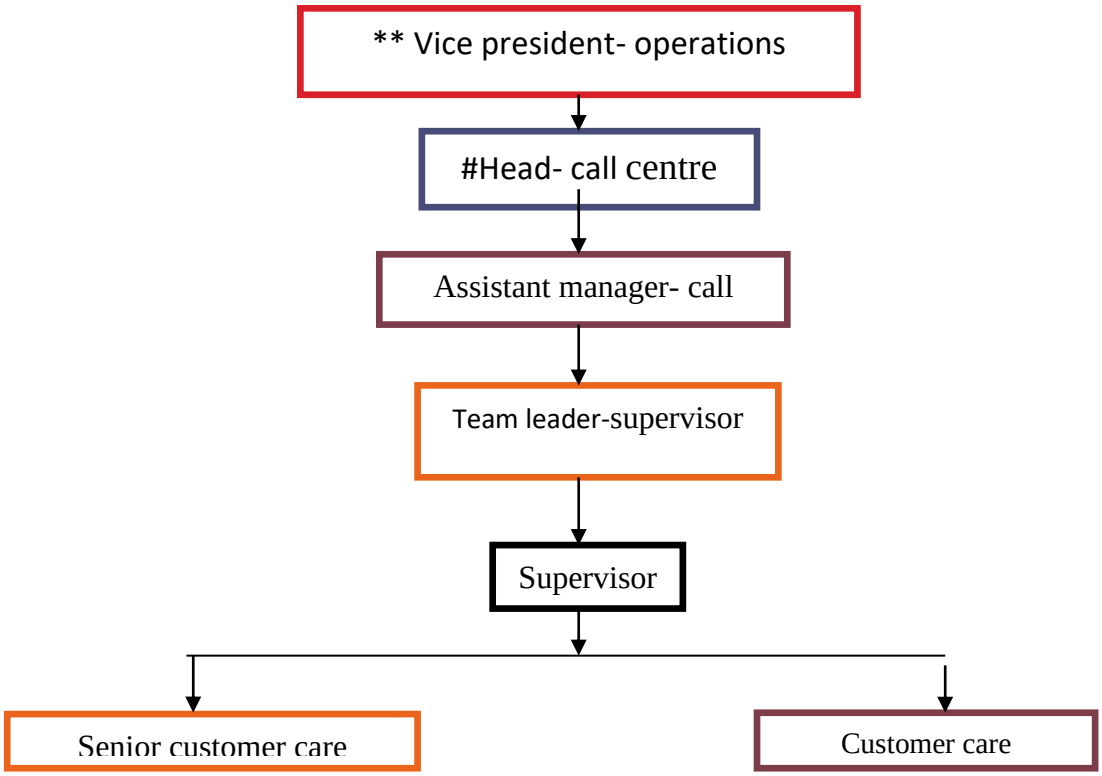
CALL CENTRE

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
- Speciality information
- Other department information
- It handles internal emergency e.g. Blue code
  Main board line number is 26515050

Organization chart:



SECURITY DEPARTMENT

The security department is an eye and ear of every organization acting as a liaison between 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:-

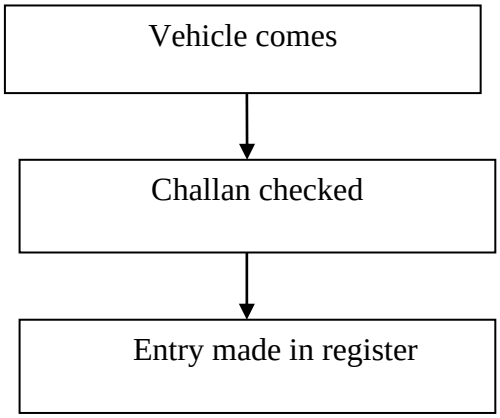
- Selection of people(guards and supervisors)
- Deploying of security staff to different floors and departments
- Checking of people entering hospital

- Turnout and grooming of security staff
- Training of security staff
- MLC handling
- Dispute handling

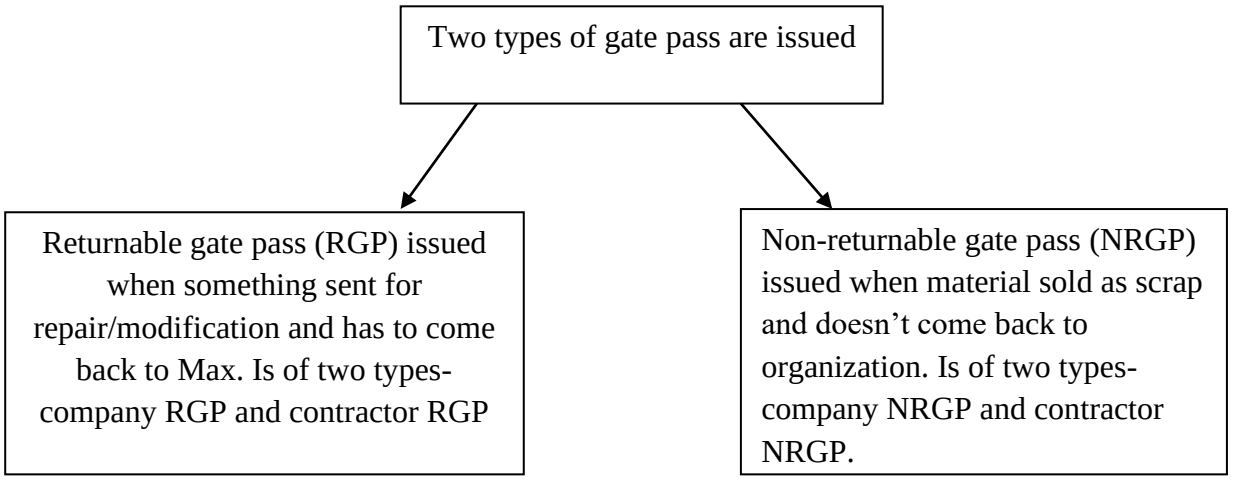
2. Material management:-It includes management of both incoming and outgoing materials.

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 to optimally utilize the parking space.
- Within a period of maximum 7 minutes, vehicle is handed over to customer when asked for in porch.

HUMAN RESOURCE MANAGEMENT

Human resource management (**HRM** or simply **HR**) is a function in designed to maximize employee performance in service of their employer's strategic objectives. HR is primarily concerned with how people are managed within organizations, focusing on policies and systems.

CORE VALUES

EXCELLENCE

CREDEBILITY

SEVAA BHAAV

HUMAN RESOURCE MANAGEMENT IN MAX HOSPITAL WORKSIN FOUR AREAS

TRAINING AND DEVELOPMENT

RECRUITMENT AND SOURCING

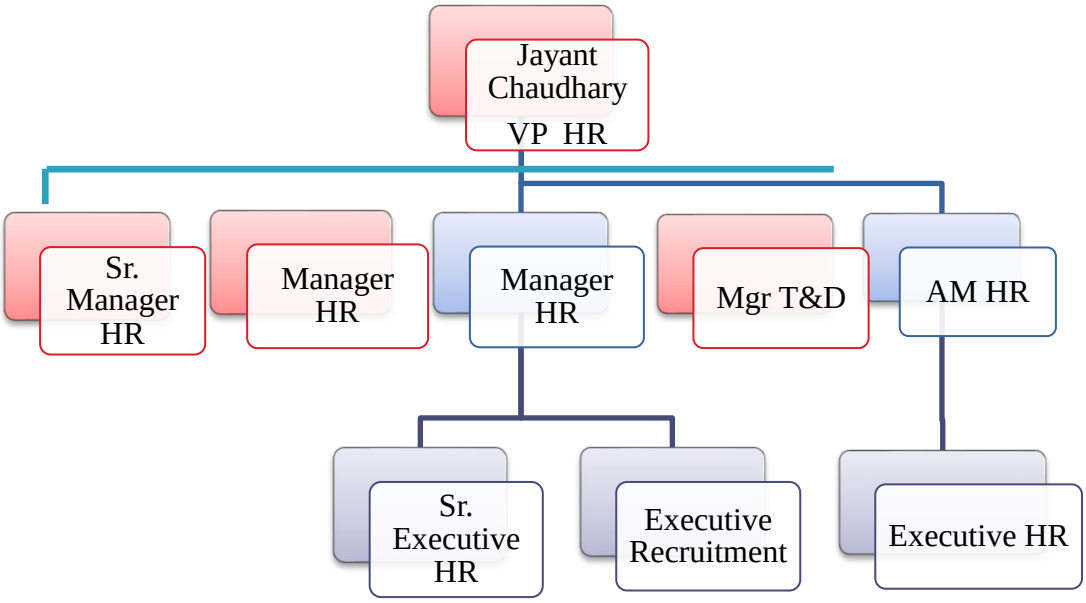
HR OPERATIONS

HR BUSINESS PARTNERS

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

- Human Resource Planning Policy.
- Job Profile Format.
- Recruitment policy.
- Training and development policy.
- Induction and Orientation policy.
- Performance appraisal Policy.
- Complaint & Grievances Redressal Policy.
- Disciplinary Policy.
- Medical Discount Policy.
- Annual Medical Check-up Policy.
- Clinical credentialing and privileging Policy.
- Nursing Credentialing and Privileging Policy.

HR Structure



INTERNATIONAL PATIENT SERVICES (IPS) DEPARTMENT

It takes a lot to be a world-class health care services provider and as per patient registration data, over 11 Lakh overseas patients have been helped to get back to their normal lifestyle. This department, situated in East wing, is exclusively dedicated for the services of international patients.

Contact Procedure:

- Patient sends a query and/or reports
- IPS Team consults the relevant consultant and provides diagnosis, proposed treatment and estimate
- If required, a telephonic meeting may also be arranged
- Patient confirms if he wants to have treatment at Max Healthcare to provide Visa Facilitation Letter

- Patient confirms the arrival date and time
- IPS Team, in the meantime, books room, OT etc. for the patient
- Patient is received at the Airport and then, brought to the Hospital/Guest House/Hotel

Also, another contact procedure is as follows:

- Max hospital conducts free outreach OPDs in other countries, at least 1-2 per year
- Max hospital also has tie ups with different hospitals in these countries

International patients avail treatment in India mainly because these 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 Iraq, African countries (Nigeria, Congo), Oman, Uzbekistan, Afghanistan, Nepal, and Bangladesh.

The hospital provides:

- Various Regional Translators such as Arabic, Persian, Iraqi, Bangladeshi and Russian (In house interpreter).
- Assistance in ground transportation such as finding a shuttle, hiring a car or choosing any other mode of transportation within the city.
- Relationship Managers, who closely work with over 50 Diplomatic Missions and numerous Expat bodies to ensure that international patients have a comfortable and memorable stay in India.

Staffing:

Director Marketing

→ **Regional Head**

→ **International – Country Head**

→ **Unit Head of Department**

→ **Assistant Manager** → **Senior Executives** →

A Study on

OT SCHEDULING, CANCELLATION AND DELAY

IN THE SURGERIES OF WEST WING OPERATION THEATRE

At Max Hospital, Saket, New Delhi

Declaration

I do hereby declare that I am a student of 2nd year, PGDHM in Hospital and Healthcare Management, IIHMR , NEW DELHI session 2015-2017.

I would like to state that I have carried out my Internship on the topic "A study on OT Scheduling, cancellation and delay in the surgeries of the West Wing Operation Theatre" under the guidance of Dr. Sandeep Mor (Deputy Medical Superintendent) at Max Super Speciality Hospital, Saket, New Delhi for the partial fulfillment for the degree of PGDHM 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

.

Dr.Nusrat Ahmad

IIHMR,NEW DELHI

(2015-2017)

INTRODUCTION

An OT is the specialized facility of the Hospital where live saving or life improving procedures are carried out on the body by invasive methods under strict aseptic conditions in a controlled environment by specially trained personnel to promote healing and cure with maximum safety, comfort and economy.

'Hospital Operating Theatre (OT) scheduling involves an arrangement of several operating rooms to the medical surgeons in a period of time. In the health service sector such as government or private hospitals, the scheduling of Operating Theatre plays an important role towards achieving their goals. Their main goal is to meet the patients 'satisfaction by minimizing his/her total waiting time before undergoing major or minor operations . Poor scheduling of Operating Theatre may cause longer waiting time and can also worsen the patient's disease. In this case, an effective schedule has to be developed in order to improve the reputation and performance of government as well as private hospitals.

Key elements to efficient use of operating theatres are:

- Effective management
- Good communication
- Well trained staff
- Appropriate facilities and equipment
- Operational layout that allows smooth flow of the patient

Effective planning and scheduling systems will enable smooth patient flow thus increasing capacity,improving patient and carer experience,improved employee satisfaction and morale.

Operating rooms are simultaneously the largest cost centers and the greatest source of revenues for most hospitals. OT planning and scheduling is a key tool which can be useful to improve the productivity level of Operating rooms and the related departments.

The west block OT complex of Max Hospital,Saket is located on the first floor.There are seven operating rooms in the complex.The major surgeries done in this complex are neuro-surgeries ,nephro and uro surgeries,general surgeries including gynae and obs and the orthopaedic surgeries.The schedule of the surgeries for the next day is prepared in the OT itself and is ready by evening 6'oclock.This scheduled list contains the name of the patient planned for the surgery.

The scheduling list contains the name of all those patients who have planned their surgeries and have done their OT booking by paying 2500 Rs as the fees.The cancellation, planning the surgeries of the unplanned patients and the continous updating of the list is done by the nursing staff of the operation theatre complex.There are three nurses for general surgeries and ortho surgeries, two for neuro surgeries for this work.There are certain timing slots in the OT booked in the name of specific consultant.

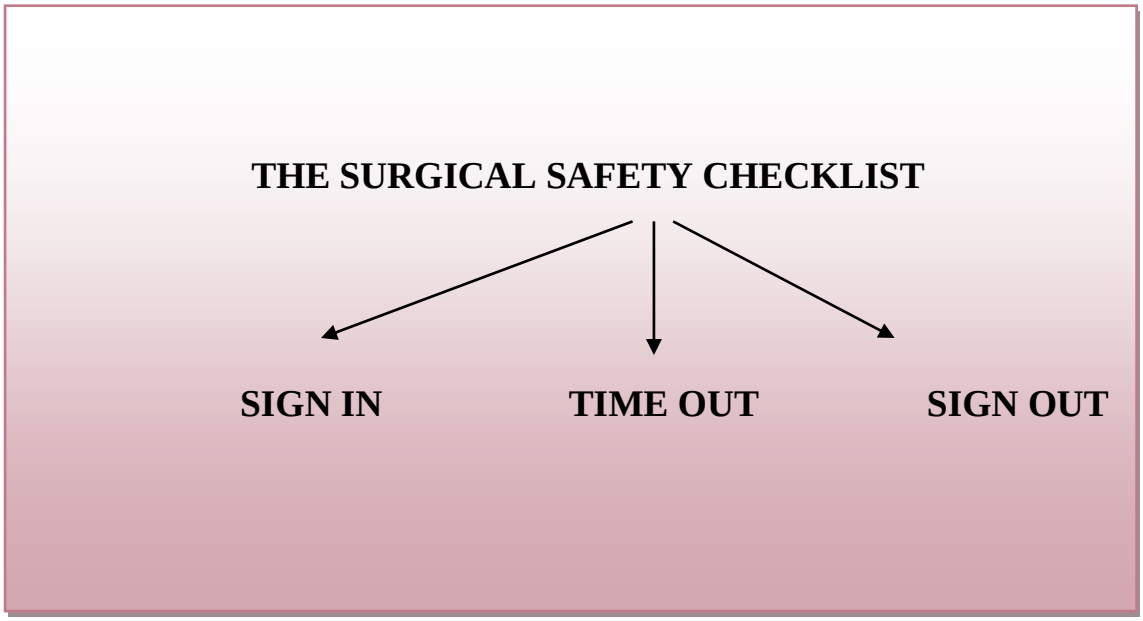
OPERATION THEATER COMPLEX

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, gynaecology, ENT and plastic surgeries are performed in these operation theatres. Operation theatre complex of west wing is located on first floor. It has seven operation theatres for various departments. Orthopaedic, neurology and general surgeries are performed here.

Organization of staff: The staffs of Operation Theatre are organized into four groups:
Anaesthetist and surgeon, nursing staff, technician, supportive staff.

- Average number of cases done per day – 30 in each wing
- 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).
- Staffing ratio- Nurses : patients – 4:1(pre-op) ; 2:1(post-op)
  Technicians: patients- 1:1
- OT Utilisation – average is 70%

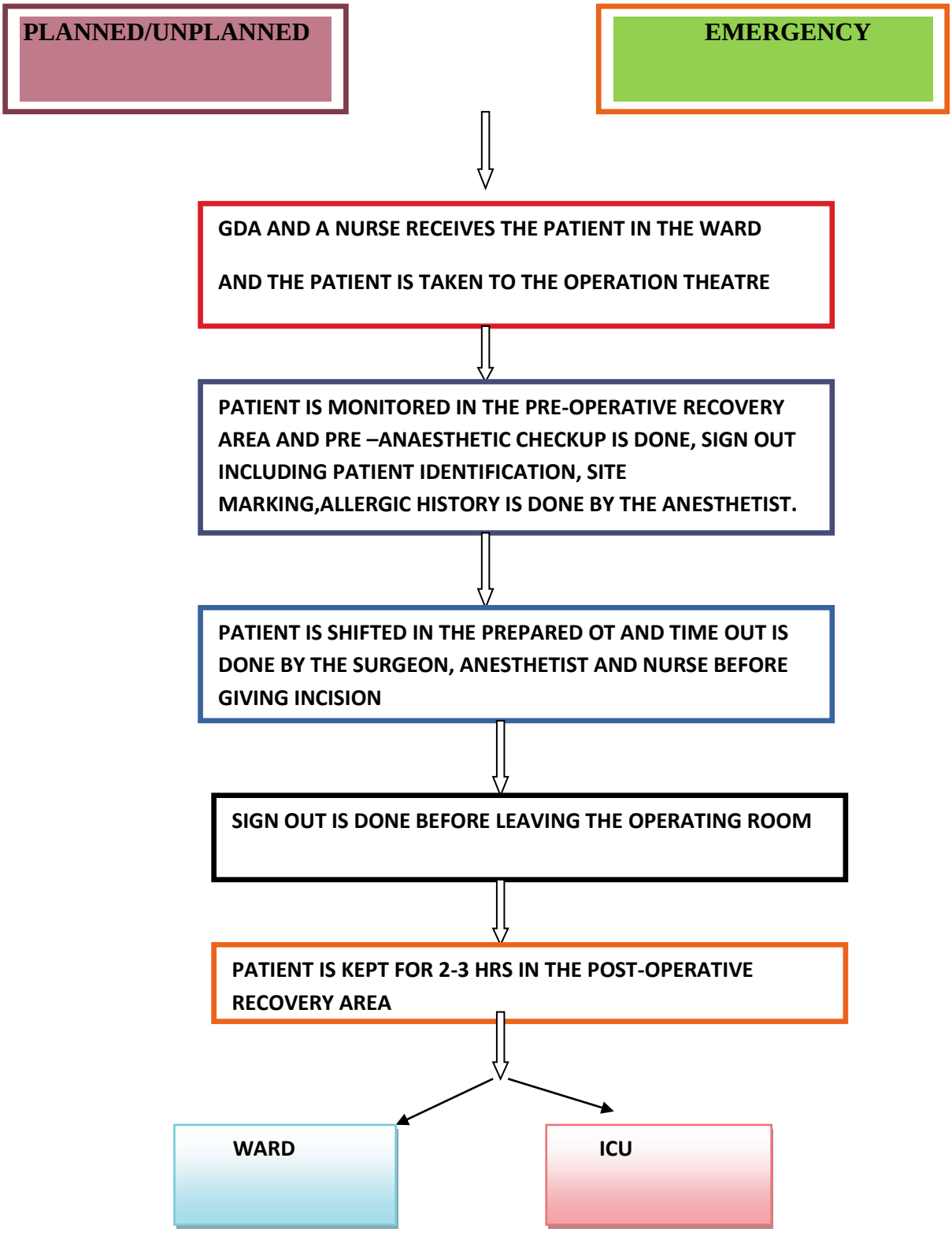
- Max super speciality hospital recently got a GREEN OT certificate which signifies minimal amount of pollution caused by OT gases and acceptable standards of practices being followed here.
- Sterilisation is done by ETO (12 hrs); autoclave. Fumigation is done twice a day in the morning and evening.
- Bio medical waste disposal is done every 2 hours.
- No. Of pre-op beds -3
- No. of post-op beds -4
- The maintenance of patient safety is an important concern for the hospital.Max Hospital; Saket also follows WHOs Surgical Safety Checklist to keep an eye on the standards to be followed in the process flow of surgery for the safety of its patients.



Quality indicators:

- **wrong patient**
- **wrong surgeon**
- **wrong surgery**
- **return to OT(within 7 days)**
- **waiting time for OT**

PROCESS FLOW IN THE OPERATION THEATRE COMPLEX



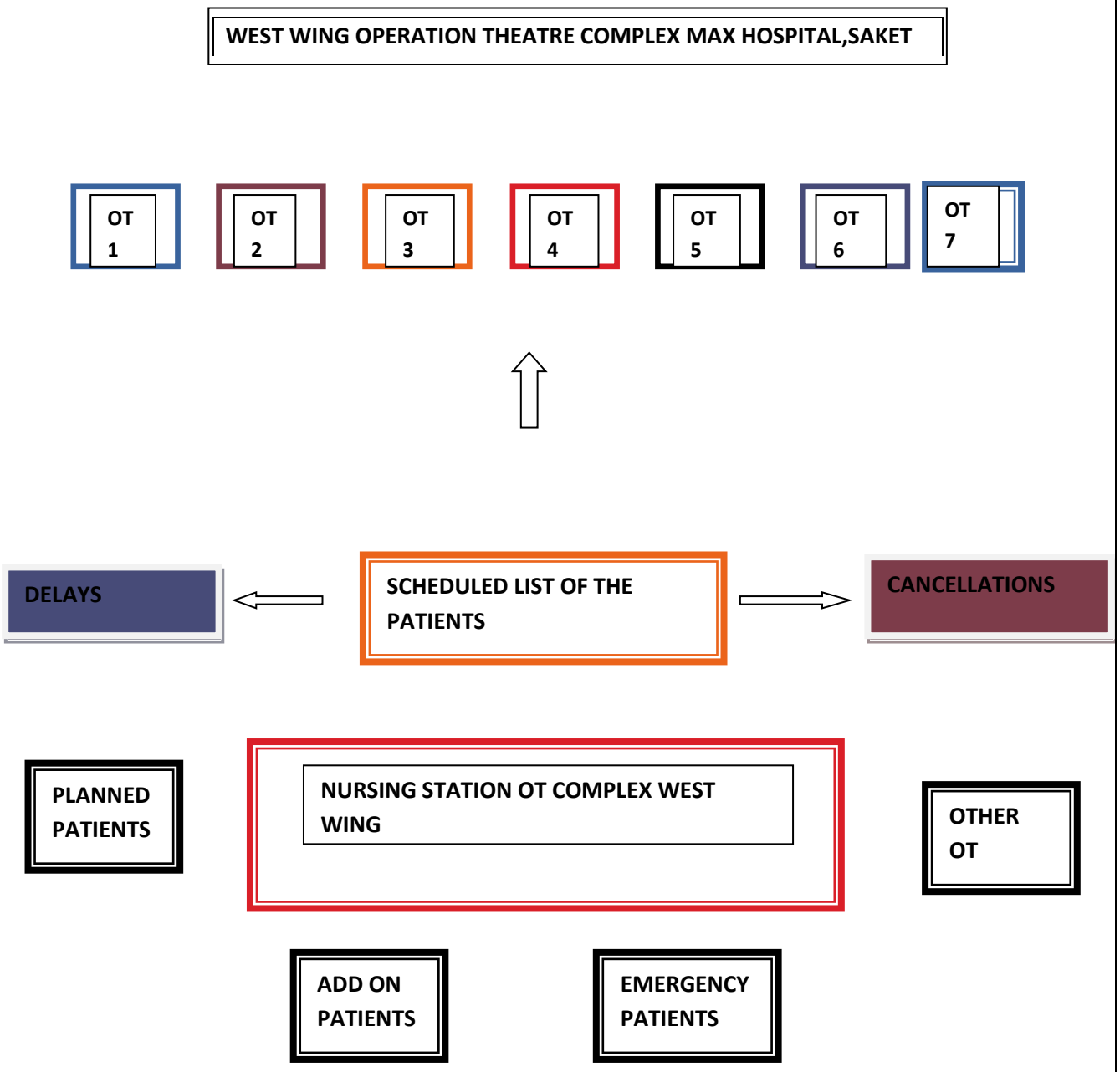
GREEN OT CERTIFICATION

Green OT certification was undertaken with an object to promote sustainable healthcare delivery using green and safe practices in the operation theatres.

Green OT protocols focuses on the below mentioned factors which influence the activities in the operation theatre.

- Types of anaesthetic agents used
- QA safety norms followed by operation theatre.
- Scavenging systems used
- Ventilation systems
- Anesthesia filling system
- Other relevant factors

Currently in the MHC network, two Max Hospitals are Green OT certified.They are
Max Superspeciality Hospital, Saket.
Max Superspeciality Hospital, Shalimar Bagh


WEST WING OPERATION THEATRE COMPLEX MAX HOSPITAL,SAKET
OT 1
OT 2
OT 3
OT 4
OT 5
OT 6
OT 7
DELAYS
SCHEDULED LIST OF THE PATIENTS
CANCELLATIONS
PLANNED PATIENTS
NURSING STATION OT COMPLEX WEST WING
OTHER OT
ADD ON PATIENTS
EMERGENCY PATIENTS

REVIEW OF LITERATURE

Health care expenditures comprise a meaningful portion of the Gross Domestic Product in both developed and developing countries. Expenditure on healthcare in the UK as a percentage of the UK Gross Domestic Product (GDP) was estimated to be 8.4% in 2007, from which the public share was 69%. Also, according to the statics released by the WHO (World Health Organization), health care expenditures in 2007 in Iran as a developing country were estimated to be about 6.4% of its GDP, and the portion covered by the government was about 46.8%. This fact makes health systems an important research field for industrial engineering and operations research to improve their operational efficiency.

Case scheduling or correctly selecting the day on which to do each elective case so as to best fill the allocated hours is most important, much more so than, for example, correcting errors in predicting how long elective or add-on cases would last, reducing variability in turnover or delays between cases, or day-to-day variation in hours of add-on cases. Poor scheduling is often the cause of lost OR time. To more efficiently operate a surgical setting, managers may consider centralizing all scheduling to the operating room suite itself. Ideally, holding patient and surgeon preferences constant, an operating facility can identify cases and appropriately place them into predetermined time slots, or blocks. Health care expenditures comprise a meaningful portion of the Gross Domestic Product in both developed and developing countries. Expenditure on healthcare in the UK as a percentage of the UK Gross Domestic Product (GDP) was estimated to be 8.4% in 2007, from which the public share was 69%. Also, according to the statics released by the WHO (World Health Organization), health care expenditures in 2007 in Iran as a developing country were estimated to be about 6.4% of its GDP, and the portion covered by the government was about 46.8%. This fact makes health systems an important research field for industrial.

Basically, there are three OR scheduling strategies commonly employed :(1) blocked scheduling strategy, (2) open scheduling strategy, and (3) modified scheduling strategy.

Under a blocked scheduling strategy, individual surgeons or surgical groups are assigned times in a particular OR in a periodic (typically weekly or monthly) schedule. The planning within the framework of a blocked strategy consists of three stages. In the first stage, the OR

capacity is divided among the surgeons, surgical groups, or departments on a strategic level. Then, a cyclic timetable called “Master Surgical Schedule” is constructed that defines the number and type of operating rooms available, the hours that ORs will be open, and the surgical groups or surgeon sessions for each OR . The last stage which may be called “surgery process scheduling” splits into two subproblems called “advance scheduling” and “allocation scheduling”. The first subproblem at a tactical level (one weak to one month) solves a planning phase by assigning an operating date to each patient over the time horizon. The second subproblem solves a scheduling phase which determines the sequence and resource allocation of cases in a given day.

In the open strategy, the hospital does not hold operation rooms specific to a single surgeon although there is sometimes a weekly schedule for each surgeon. In this strategy, the intention is to accommodate all patients. The surgeons submit cases up until the day of the surgery, and all the cases are scheduled in ORs.

The modified strategy is similar to the blocked one except that certain slots in the master surgical schedule are left open for flexibility. In fact, this strategy is a mix of open and blocked strategies

The reported rates for day-of-surgery cancellation rates vary widely among institutions from 10-40 %. We found that 30.3 % of all scheduled elective operations in general surgery were cancelled on the day of surgery. Fischer reported that almost 90% of operating room (OR) cancellations are day-of-surgery cancellations.

Jonnalagadda et al reported the reasons for cancellation of scheduled routine and emergency cases as non-availability of beds in the recovery room (15%), improper preoperative patient preparation (13%), patient not showing up (9%), and unavailability of staff (19%).
Jonnalagadda R, Walrond ER, Hariharan S, Walrond M, Prasad C. Evaluation of the reasons for cancellations and delays of surgical procedures in a developing country.International Journal of Clinical Practice. 2005; 59:716–20.
Schofield et al in their study of cancellation of intended surgery at a major hospital in Australia reported 941 (11.9%) cancellations out of 7913 theatre sessions. The reasons included no bed available (18.9%), run out of theatre time (16.1%), patient non-arrival

(10.5%), patient unfit (9.2%), and cancelled by patient or relatives (8.2%). *Schofield WN, Rubin G, Pizza M, et al. Cancellation of operations on the day of intended surgery at a major Australian referral hospital. Medical Journal of Australia.2005; 182:612–5.*
Windokun et al reported that only 38% of the booked surgery was performed and the reasons for such cancellation included 'surgeons did not show up' (62%), 'surgery postponed by surgeons' (18%) and 'patient ill prepared for surgery' (10%).

In our study non-availability of OR time was the most common reason. An analysis in USA examining 56,000 cases retrospectively found that 31% of lists were predictably overbooked. Moreover, unforeseen anaesthetic or surgical problems may delay the planned list. The time taken for a particular surgery also depends on the skill of operating surgeon. Less experienced surgeons and trainees often take more than the expected time. For some surgeries the total duration exceeded the usual surgical time due to an unexpected surgical complication, juniors being taught and allowed to do the surgery especially for laparoscopic procedures, unavailability of sterilized instruments, and technical problems in instruments. Medical cancellations are generally presumed to be another reason of cancellations. Because cancellations caused by medical problems are especially upsetting for patients and can be more contentious for members of the medical staff these cancellations may be more memorable than other types of cancellations. Inadequate preoperative medical optimization was another important reason for cancellation of cases in our study. The major reasons were hypertension, recent onset respiratory tract infections, uncontrolled diabetes and an acute onset cardiovascular abnormality. Some cancellations due to failure to comply with the preoperative orders and the development of a medical illness can be minimized by a preoperative visit by the anaesthesiologist and the surgeon a day prior to scheduled surgery.

Last-minute cancellation due to failure of a patient to present is especially difficult to resolve. It may be due to the patient's last minute doubts and fears. Efforts should be made to improve patient communication and facilitate their compliance with scheduled procedures. Paschoal reported that 54.3% cases of the total cancelled cases were due to absenteeism of the patient because of unawareness of the date of surgery, clinical problems like respiratory tract infections and social/economical reasons.

RATIONALE

This study is indented to observe the scheduling of the surgeries in the West Wing operation theatre of the Max Hospital, Saket.The observation will help, in understanding the process of planning a schedule for the surgery.It will provide an insight to the cancellation, delays and unplanned surgeries and the loopholes associated with the same.

This study is done to understand the areas of improvement during the complete process.

OBJECTIVES

- To analyze the complete process of scheduling in the operation theatre complex, West Wing, Max Hospital, Saket.
- To observe the number of cancellation and delays in the entire process.
- To find out the reasons behind all the cancellation and delays in the surgery of both planned and unplanned cases.

METHODOLOGY

- ***Type of study :*** Observational cross-sectional
- ***Study population*** :Patients, Doctors, Nurses, Patient care co-ordinators in the operation theatre complex , West wing , Max Super Speciality Hospital, Saket, Delhi
- ***Study area*** – Operation Theatre complex west wing, Max Hospital, Saket, Delhi
- ***Duration of Study*** – 1st March , 2017 to 30th April, 2017
- ***Type of Data*** – Qualitative
- ***Technique*** – Direct Observation of patients, nurses, doctor's and OT staff
- ***Sample size*** – 302
- ***Sampling technique***- convenience sampling
- ***Inclusion criteria***-
    - Patient Doctor's, Nurses in the operation Theatre complex, West wing, Max Hospital, Saket

- ***Data collection*** – Primary and secondary

MODE OF DATA COLLECTION

Data collection involved discussions with the HODs on the managerial issues and talking to the other staff and going through the records.

Sources of Data

- Primary
- By interacting with the HODs, executives, Doctors and other employees of the hospital.
- By interacting with the patients and their attendants.
- Through direct observations.

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

- ***Data entry***- Manually

- ***Data Analysis***- Using bar charts, pie charts

DATA ANALYSIS

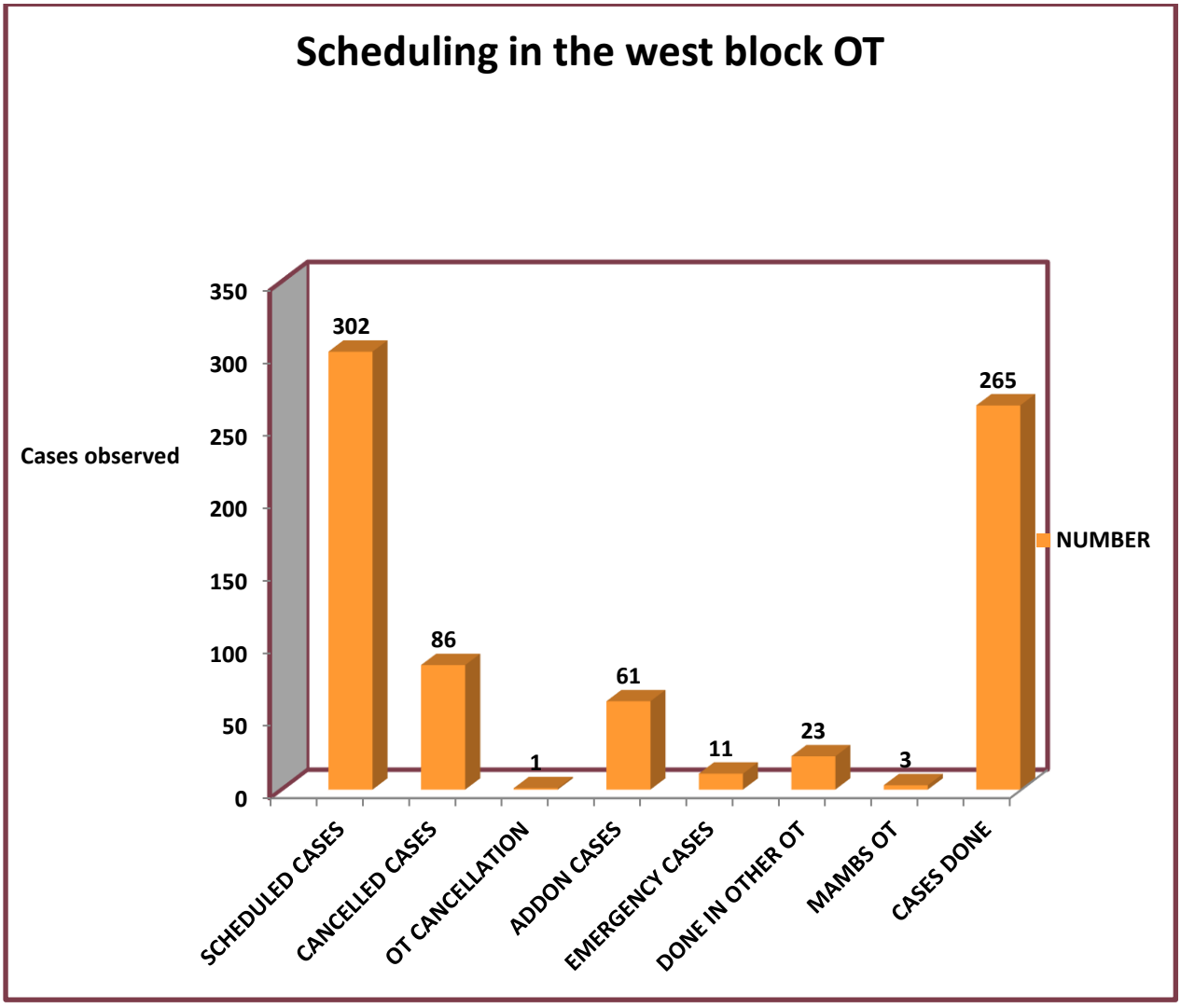


Figure 1: **Scheduling of cases in the west block OT**

INTERPRETATION

It has been observed during the study that 86 cases were cancelled, there were 61 addon cases, 11 emergency cases, and 23 are those done in other OT.

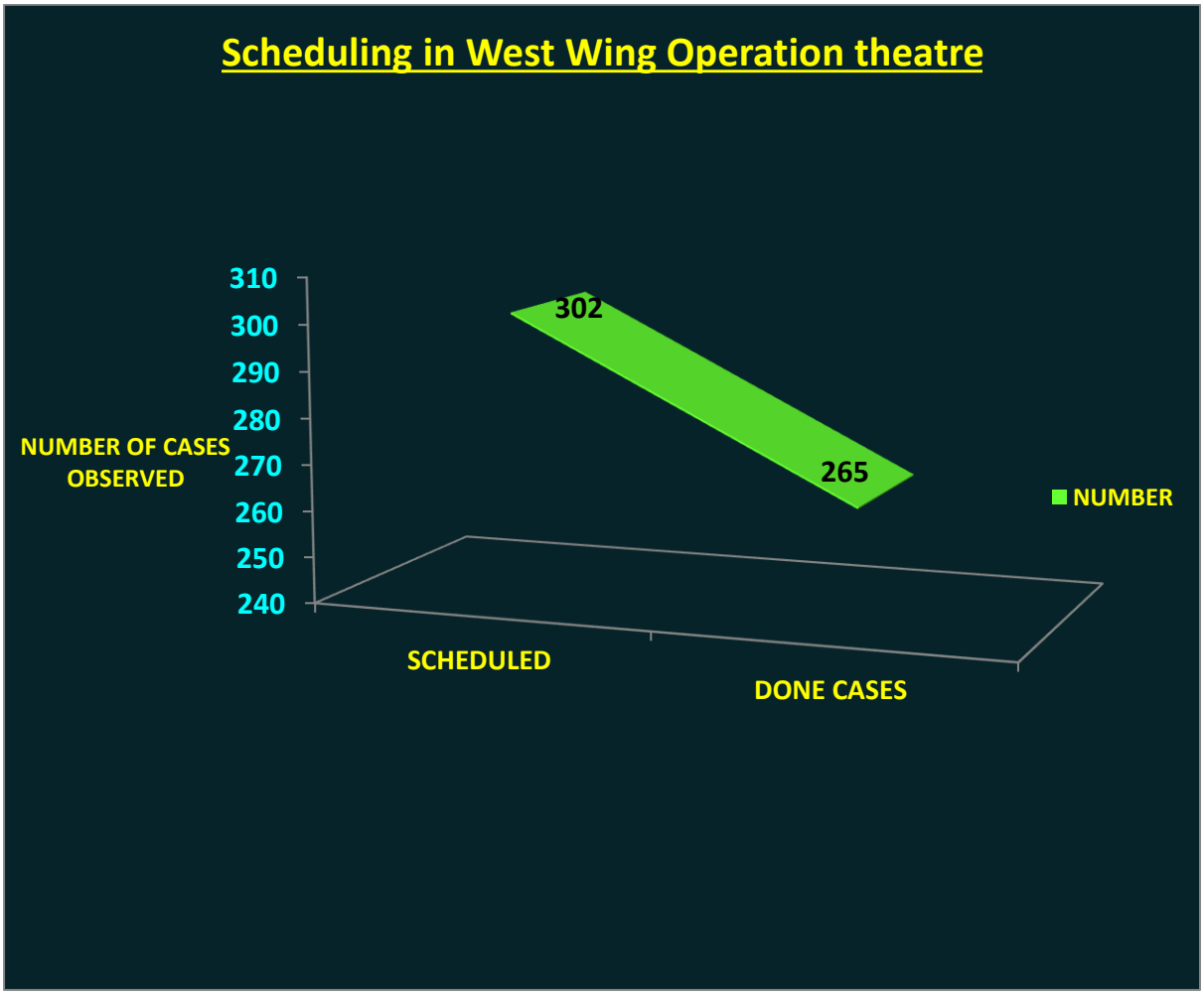


Figure 2: **Scheduling in West Wing Operation theatre**

INTERPRETATION

It is observed during the study that out of the 302 cases scheduled for the surgery, 265 cases were completed on the similar day.

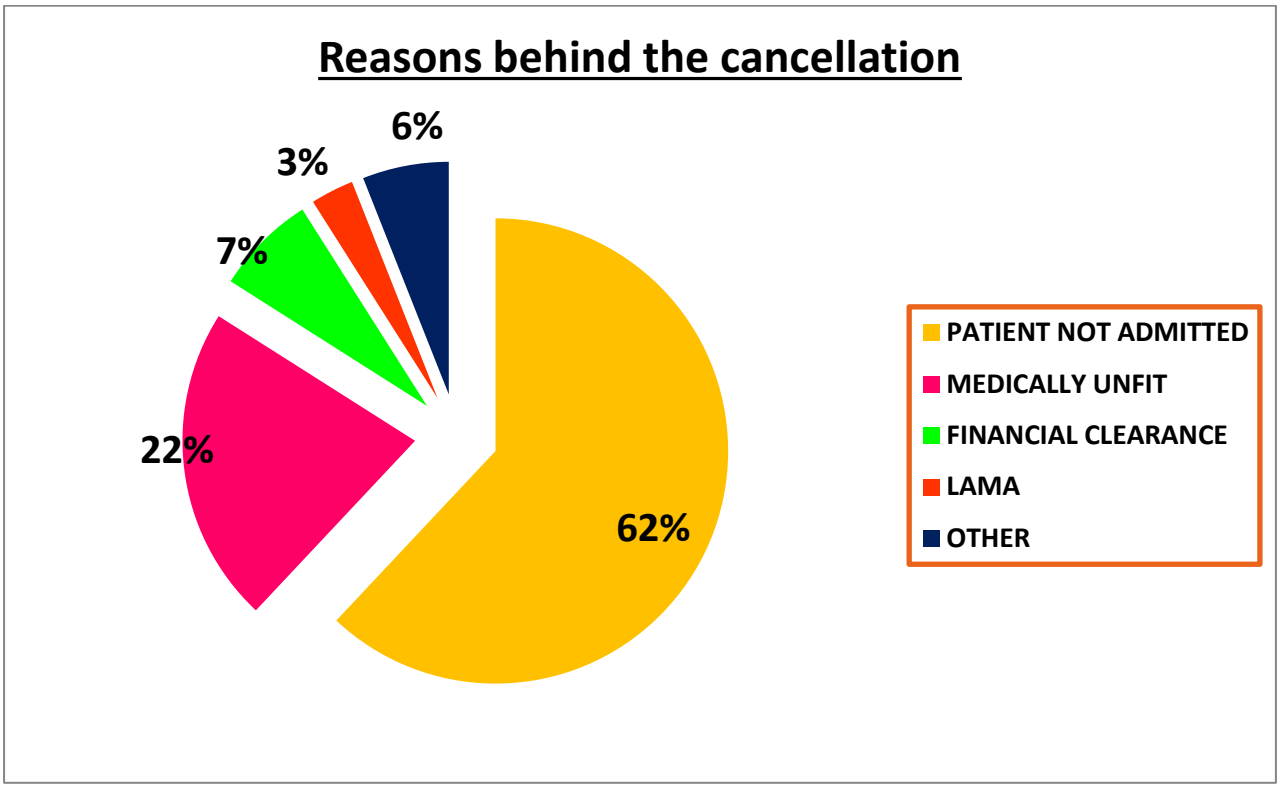


Figure 3: shows Reasons behind the cancellation

INTERPRETATION

It is seen that 62% belong to the patients who are not admitted inspite of the planned surgery booking.There are 22% who are medically unfit, 7% are those having no financial clearance, 6% leave against medical advice.

The number of cases scheduled and done in the West Wing operation theatre complex

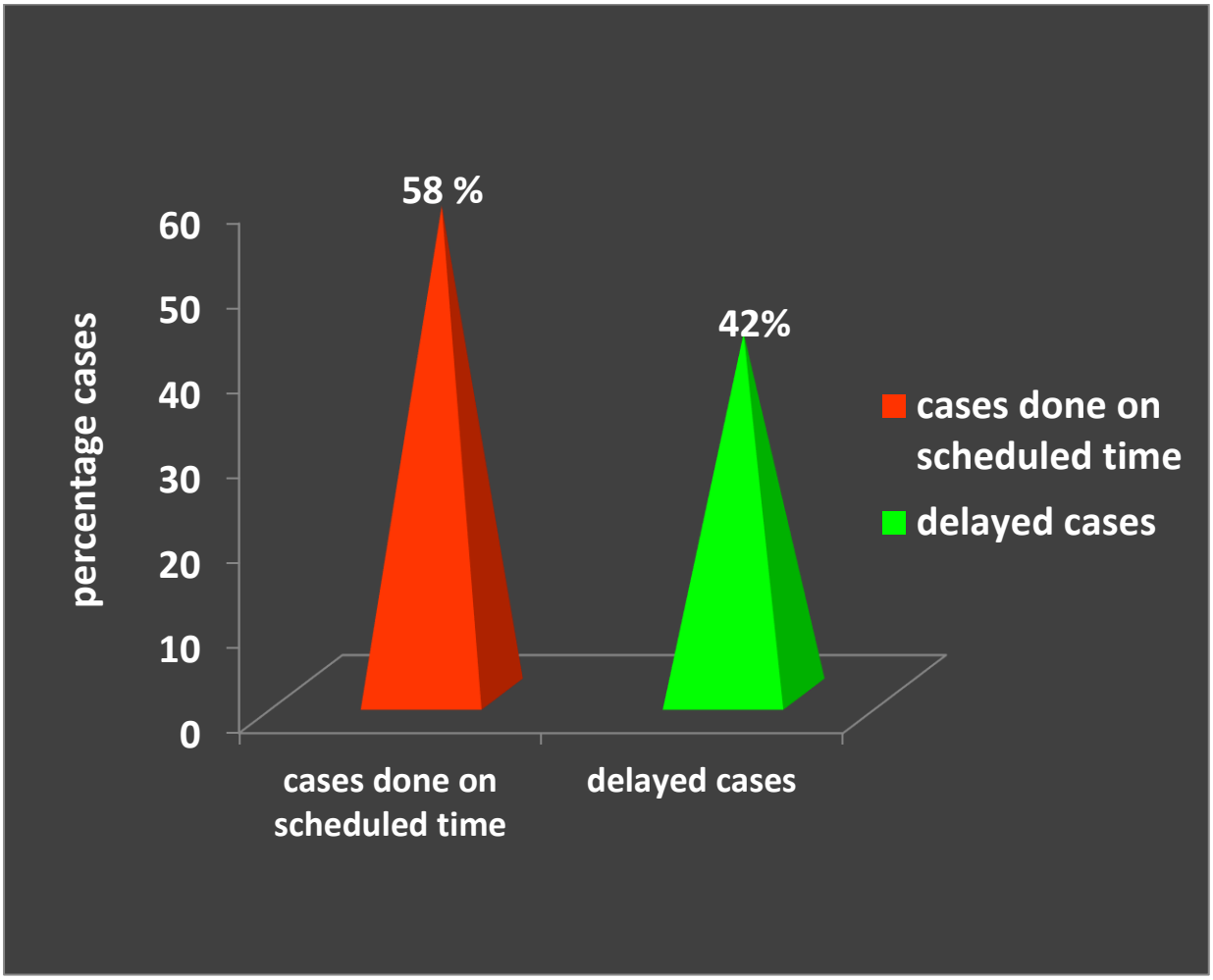


Figure 4: The number of cases scheduled and done in the West Wing operation theatre complex

INTERPRETATION

On observing the data it is seen that out of the 80 cases done 58% were done on the scheduled time whereas the remaining 42% are delayed due to specific reasons

The reasons behind the delay in the surgeries (planned/unplanned) in theOperation theatre complex west wing, Max Hospital, Saket

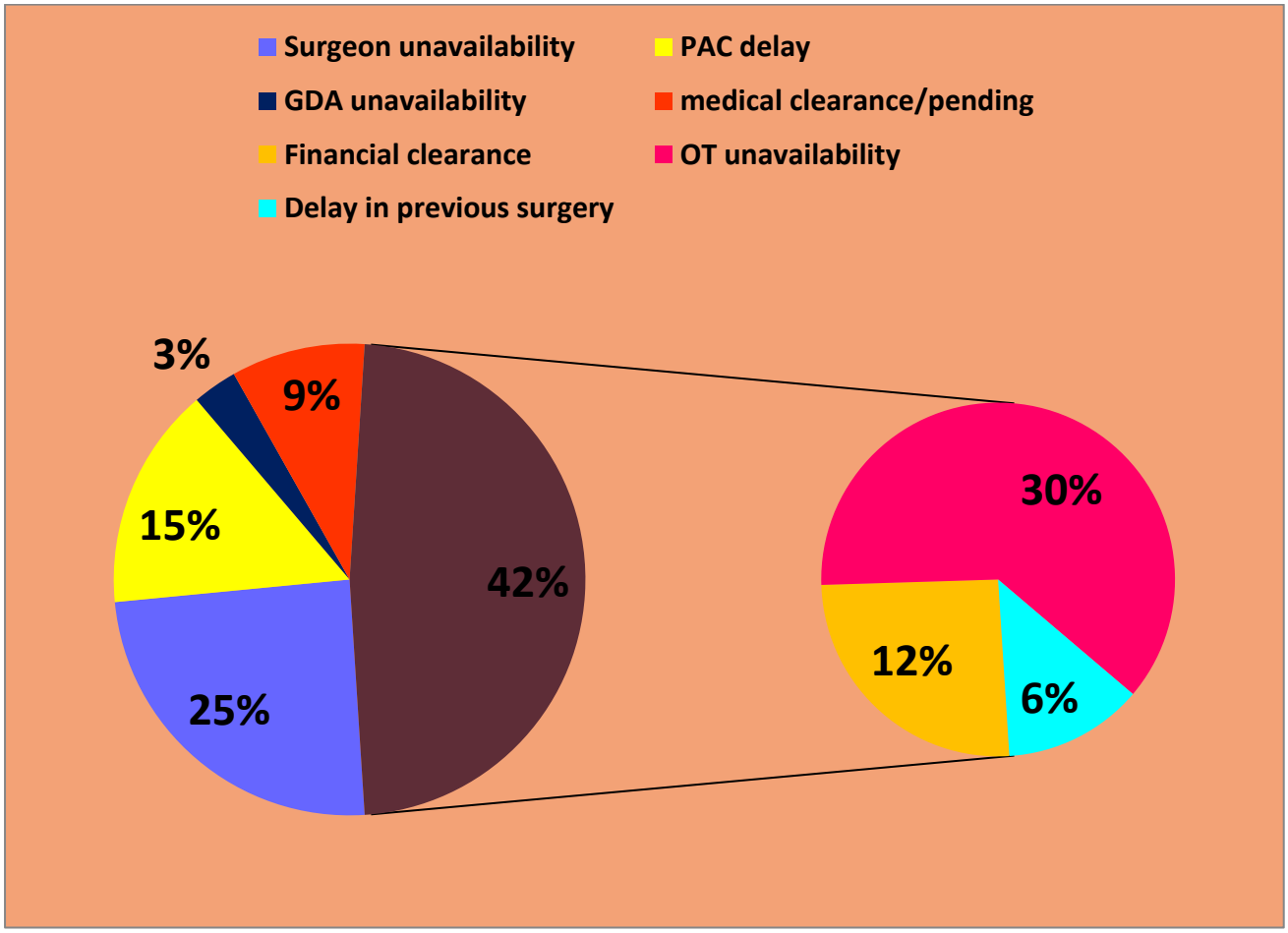


Figure 5: **The reasons behind the delay in the surgeries (planned/unplanned) in theOperation theatre complex west wing, Max Hospital, Saket**

INTERPRETATION

There are many reasons behind the delay in the operation theatre. It is seen that 30 % delay is due to the unavailability of OT, 25% due to surgeon's unavailability, 15% is due to the delay in the PAC in the wards, 9% is because of the medical clearance and the remaining 3% is due to GDA unavailability.

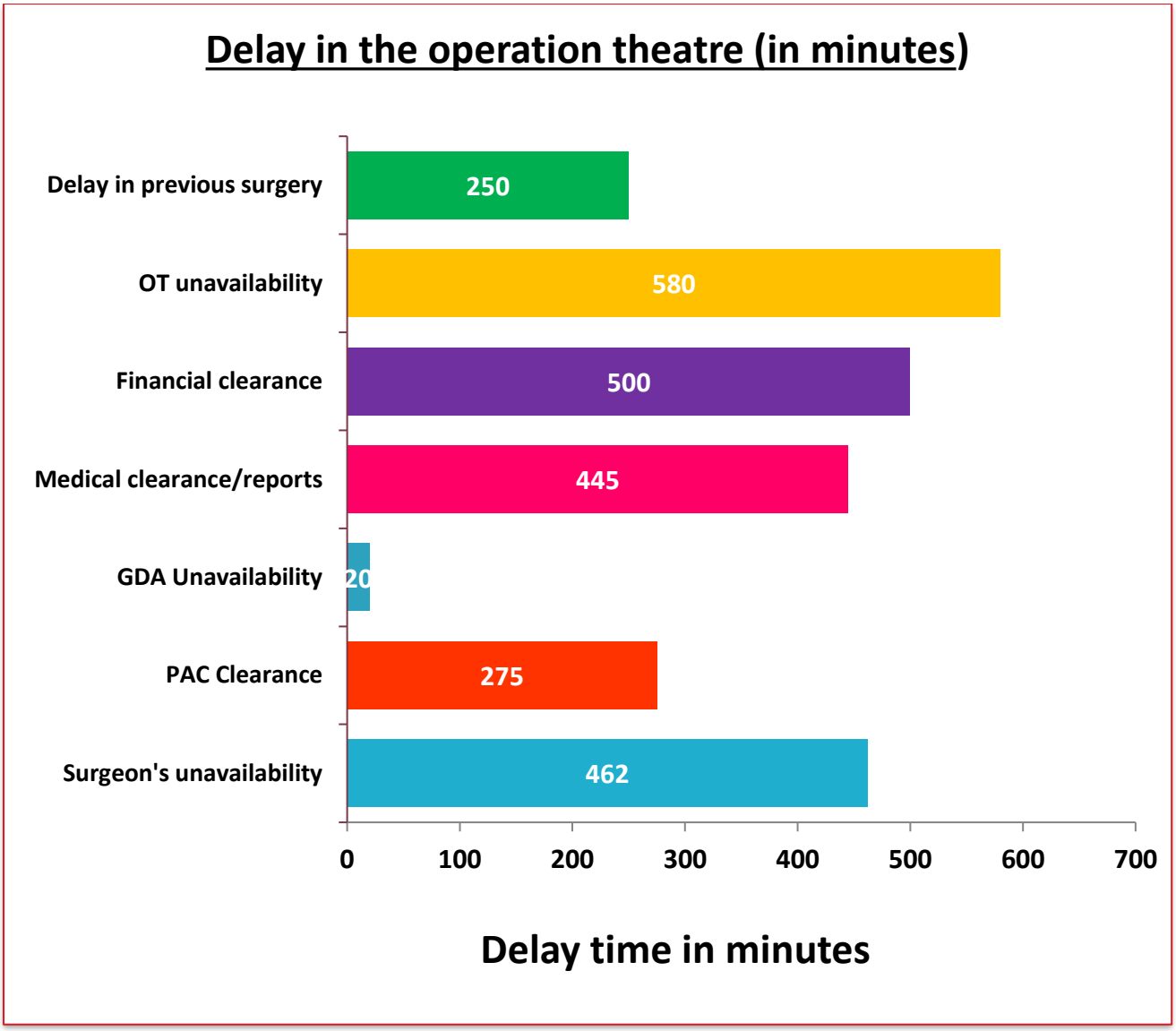


Figure 6: Delay in the operation theatre (in minutes)

INTERPRETATION

It i s seen that the maximum delay of 580 minutes(9.6 hours) is associated with the unavailability of Operation theatre, 500 mins(8.3 hours) delay is due to the delay in the financial clearance of the patient.There was 462 mins(7.7 hours)delay reported in the surgeon's unavailabilityThe medical clearance took 445 minutes(7.4 hours) and PAC clearance was 275 minutes(4.58 hours).The GDA unavailability was recorded as 20 mins delay in the complete process.

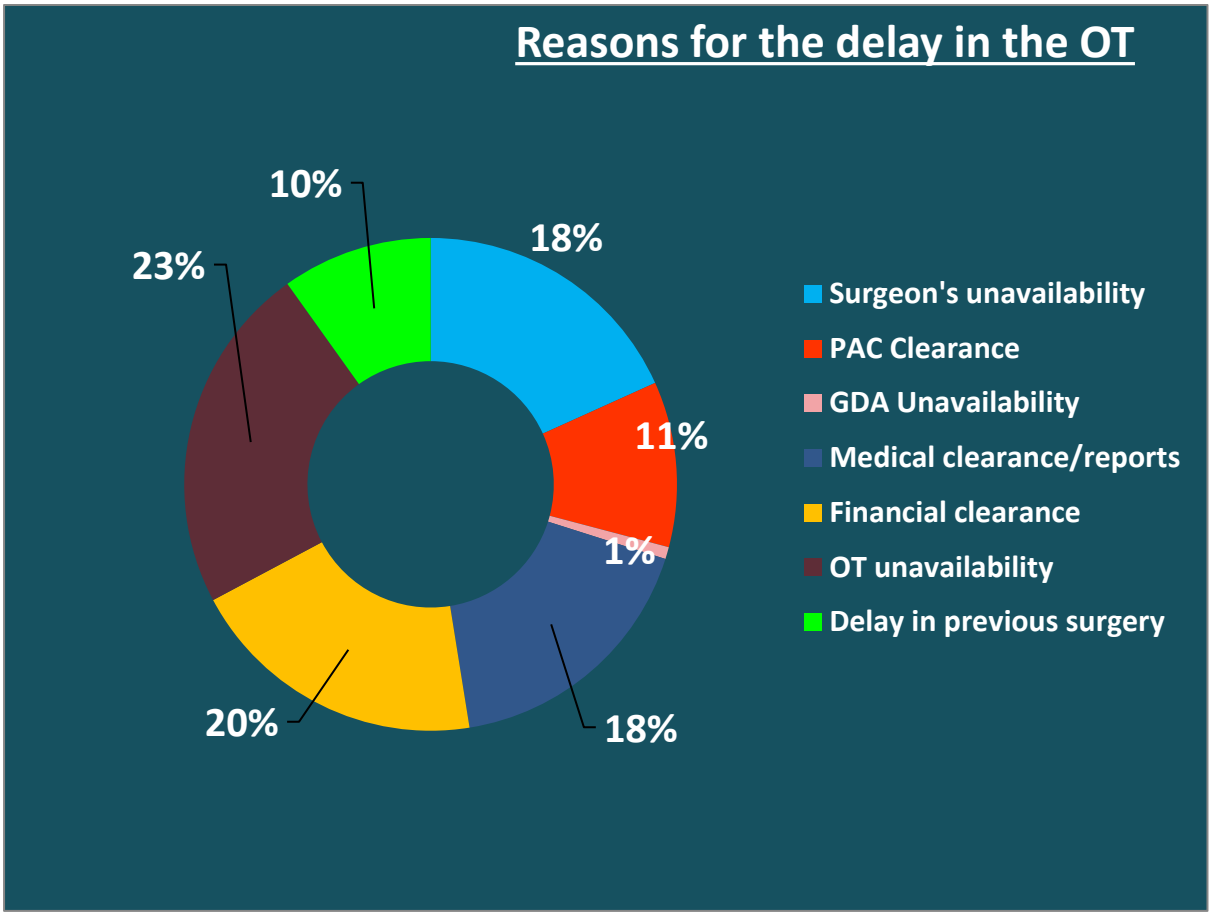


Figure 7: **Reasons for the delay in the OT**

INTERPRETATION

A delay of 23% was recorded with OT unavailabilty. Another significant reason which came ahead was financial clearance and it accounts to 20% of time.The unavailablity of surgeon and medical clearance was 18% each. There was a delay of 11% with th e PAC clearance ,10% was due to the delay in previous surgeries and 1% is a reason behind was the unavailabilty of the GDA.

DISCUSSION & RESULTS

- The schedule of the list of the surgeries is prepared inside the OT by the OT staff by the confirmation from the IPD department and there is fees of Rs. 2500 for the same. This money are non-refundable.

- The list is ready with the staff a day before surgery.

- The slots of the surgeon's are booked according to the number of surgeries.

- The cancellation cases are high compared to the cases done and the major reason is cancellation on part of the patient himself. The other significant reason behind the cancellation is Financial clearance, Medically unfit patient and patient leaving against medical advise.

- A delay in the surgeries were seen in 48% of the cases. There were 52% surgeries which happened at the scheduled time.

- There was a significant delay of 2532 minutes in the observed cases.

- There were many reasons behind the delay which include OT unavailability, Financial clearance, surgeon's unavailability, delay in medical reports, PAC clearance, GDA unavailability etc.

- There was a delay of 580 minutes due to the OT unavailability and 500 minutes in the financial clearance.

RECOMMENDATIONS

1. The scheduled list should contain names of the patients who have given a significant amount for the surgery and have given conformation about it.
2. The surgeon's, anaesthetists should have a finalized list of the patients who have given confirmation for the surgery.
3. There should not be any prior booking of the slot in the name of the patient who has not given confirmation.
4. There should be a reasonable amount for the surgery booking to avoid the cancellation at the later stage.
5. The patient should be scheduled only after the financial clearance.
6. The anaesthetists should have the list of scheduled surgeries to avoid PAC Clearance in the ward.
7. There should be a turnaround time for the PAC clearance as it is one of the significant reasons for the delay.
8. The slots should be booked according to the surgeries not at the name of the doctor.
9. All staff concerned with the operating schedule should be punctual to ensure cases are done at planned time.
10. The operating list should be made judiciously. Meticulous care and proper planning must be taken to complete the OR list daily.
11. It is the duty of the theatre-in-charge in consultation with surgeons to ensure that there is no wastage of operating time or is there over-crowding of the list leading to postponement of surgery. Any postponement of surgery should be justified.
12. The requirement of the instruments/drugs/other equipment necessary for scheduled surgical list should be discussed among surgeon, staff nurse and the anaesthesiologist a day prior to planned OR list.
13. The non-availability of the surgeon should be informed in time so that another case is substituted in that slot.

14. OT cleaning should be on time and should be a fast process to avoid the delays in Surgeries.

15. Day care patients should be counselled adequately to report on time. Computerized scheduling should be utilized to create a realistic elective schedule.

16. Audit should be carried out at regular intervals to find out the effective functioning of the OT.

CONCLUSION

Operation theatre is an important part of the hospital system. It is the highest revenue generating unit as well.

The proper management and efficient working of the OT is hence highly essential. Scheduling of patients for surgery is an integral part of the management .The study has shown the number of cancellation cases planned and number of surgeries done in the same day. The unnecessary booking of the patients not only cause the wastage of resources but also the delays in other surgeries .Due to the scheduling of these patients, the other patients are deprived of the OT availability, surgeon's time and a high delay in their surgeries.

It should be the duty of the management to look into this area and frame a proper scheduling model to decrease patient's waiting time. The financial clearance is seen as one of the important reason behind it.There should be a proper planning for these kinds of patients.

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THANKS