

**Summer Training at
MAX Super Specialty Hospital
(April 1-May 31, 2014)**

Process Flow and Utilization of Operation Theatre

**By
Ankita Kohli**

**Under the guidance of
Dr. Monika Chaudhary**

**MBA- Hospital & Health Management (MBA-HM)
2013-2015**



**The IIHMR University, Jaipur
2014**

**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

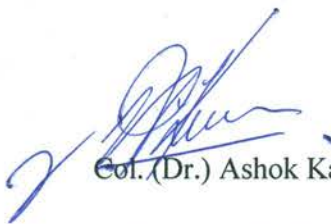
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 029, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : <http://www.iihmr.org>
Gram : HEALTHINST

CERTIFICATE

This is to certify that Dr Ankita Kohli has undergone her summer training in Max Super Specialty Hospital, Saket, New Delhi from 01th April to 31st May, 2014. The candidate herself carried out all the studies related to her summer training

The study is on Process Flow and Utilization of Operation Theatre. Her approach to the study has been scientific and analytical. This summer training is in the partial fulfilment of the course requirement recommended for awarding the Post graduate Diploma in Health and Hospital Management.

I wish her success in all her future endeavours.



Col. (Dr.) Ashok Kaushik

Dean (Academics and Student Affairs)

IIHMR, University

Jaipur



Dr. Monika Chaudhary

Associate Professor

IIHMR University

Jaipur

CERTIFICATE OF COMPLETION

This is to certify that

ANKITA KOHLI

has been associated as an

INTERN

with the department of

HOSPITAL ADMINISTRATION

for a period of

1st April 2014 To 31st May 2014

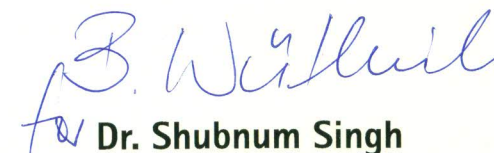
at

**Max Super Speciality Hospital
Saket, New Delhi**

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


Head of the Department

Dr. SAHAR QURESHI
Assistant General Manager-Operations
Max Super Speciality Hospital-East Block
2, Press Enclave Road, Saket,
New Delhi


Dr. Shubnum Singh
Dean - Nursing, Allied Health, & Wellness Programs
Max Healthcare, New Delhi

ACKNOWLEDGEMENT

For a MANAGEMENT student, the power of knowledge is unattainable unless an element of practical observation and practical performance is not added. I consider myself to be fortunate for having been provided an opportunity to undergo summer training at **MAX SUPER SPECIALITY HOSPITAL, SAKET, DELHI**. It is a great pleasure to express my sincere gratitude to **Mr. Anil Vinayak (Head Sales and Marketing)** and **Dr. Sahar Qureshi (Assistant General Manager)** for providing me an opportunity to undergo training in this highly esteemed organization.

My very special thanks to **Dr Shihad Khader** (Program Manager-Oncology) for helping me with his valuable suggestions in completion of my report. He has been a constant guiding light and source of illumination to me. It entirely goes to his credit that this report has attained its final shape.

I would also like to thank the **Team of Operation Theater** for clearing my doubts regarding my topic and providing the necessary detail whenever was required I acknowledge them for sparing time out of their hectic schedules and helping me in completion of my report.

Lastly I want to express my gratitude to all those people who took time out from their busy schedules and cleared my queries. I would like to thank mu family and friends for being a constant source of inspiration to me.

Dr. Sahar Qureshi

(Assistant General Manager)

Dr Shihad Khader

(Program Manager)

TABLE OF CONTENT

S No	Gra	Topic	
A		Observational Learning on various departments.	6
B		Project	42
1)		Introduction 1.1 Location 1.2 Areas 1.3 Organisation of staff	43
2)		Rationale	46
3)		Research question	46
4)		Research methodology 4.1 Study topic 4.2 Objective 4.3 Research method 4.4 Data collection	46
5)		Process flow 5.1 OPD 5.2 Pre operative 5.3 Operation theater 5.4 Post operative 5.5 Discharge	47
6)		Findings	53
7)		Operation theater utilization Data analysis and interpretation	57
8)		Findings	64
9)		Suggestions	65
11)		Annexure	

LIST OF TABLES

Table No	Table Title	Page No
1	OT assigned to various department	43
2	Average, Minimum and Maximum time taken to shift the patient.	56
3	Number of Surgeries	57
4	Average Utilization of each OT (Jan- March)	58
5	Average Utilization of OT in January	60
6	Average Utilization of OT in February	61
7	Average Utilization of OT in March	62
8	Average Utilization of three months	63

LIST OF GRAPHS

Graph No	Graph Tittle	Page No
1	Average Utilization of each OT (Jan –March)	59
2	Average Utilization in January	60
3	Average Utilization in February	61
4	Average Utilization in March	62
5	Average Utilization (Jan – March)	63

L

ACRONYMS

- 1) OT – Operation theater
- 2) ICU – Intensive care unit
- 3) ENT- Ear, nose and throat
- 4) GDA- General duty assistant
- 5) HIV – Human immunodeficiency virus
- 6) HT- Hypertension
- 8) DM- Diabetes mellitus
- 9) ECG- Electro cardio gram
- 10) PAC- Pre anesthetic clearance
- 11) IV- Intravenous
- 12) NBM- Nothing by mouth
- 13) TPA- Third party administrator
- 14) CPRS- Central patient registration system
- 15) PACU- Post anesthesia care unit

A. OBSERVATIONAL LEARNING

INTRODUCTION

Max health care is an integral health care service provider in India. It is a subsidiary of max India limited and a major private hospital network in India. Max health care owns and operates ten health care center in Delhi and national capital region (NCR) in India with services spanning over 30 medical disciplines.

Founded in 1985, Max India limited is a public limited company listed on NSE and BSE of India with over 30,000 shareholders. Max India limited is a multi business corporate entity driven by the spirit of enterprise with a focus on people and service oriented business.

Prominent shareholder of the companies are Mr. Analijit Singh and a leading private equity firm, Warburg Pincus. The balance shareholding is held by the public and institutional investors.

Max healthcare commenced operations in 2001 with the intention to provide comprehensive and world class health care services in India. The company's vision is to be one of India's most admirable corporate for service excellence. Performance , trust and service excellence are enshrined in Max India group vision mission and values. In addition to this life centered business, max India manufactures specialty products for the packaging industry through its division – max specialty products. MSP too has a strong service excellence orientation that strives on building long lasting partnerships with marquee customers.

Max India Group Mission

- Establish niche service business in life insurances, health care and clinical research.
- Life insurance and healthcare convergence
- Rank amongst top three players in each niche
- Partner with best in class world leaders.
- Create trust and services excellence in all business.

Protecting life through its life insurance subsidiary Max Newyork life, a joint venture between Max India and Newyork life, a fortune 100 company.

Caring for life through its healthcare company, max healthcare institute limited a subsidiary of Max India limited.

Enhancing life through its health insurance company, Max Bupa health insurance a joint venture between max India and Bupa finance Plc.,UK which is set to launch after statutory approvals.

Improving life through its clinical research business , Max enema a fully owned subsidiary of Max India.

Passion:

To deliver world class healthcare with a service focus, by creating an institution committed to the highest standards of medical and service excellence, patient care, scientific knowledge and medical education.

Objectives

- Satisfying customers needs.
- Enhancement of quality systems.
- Effective performance measurement and compliance systems.
- Continuous improvement loop.
- Engage every employee in quality drive.

Max focus is “completely satisfying customer needs profitably “ by using DMAIC and lean methodology. They follow systematic data driven approach to reduce variation, eliminating non value added activities, optimizing and sustaining the desired results to reach excellence.

Accreditations and awards

- Max healthcare has been awarded with various certifications and awards which include:
- D L shah national award on 'Economics of Quality'.
- NABH accreditation for blood bank.
- NABH
- NABL
- ISO 9001: 2000 and ISO 14001: 2004

- FICCI Healthcare excellence Awards.

The max healthcare network of hospitals in NCR

1. Max Super Specialty Hospital (Devki Devi Foundation) Saket New Delhi
2. Max Super Specialty Hospital, Saket New Delhi
3. Max hospital Pritampura, New Delhi
4. Max hospital Noida
5. Max hospital Panchsheel park
6. Max hospital Gurgaon
7. Max hospital Parparganj
8. Max hospital Shalimar

Max Super Specialty Hospital (Unit of Devki Devi Foundation) Saket

Max Super Specialty hospital (a unit of Devki Devi foundation) , Saket is conveniently located in south Delhi, approximately 15 km away from new Delhi railway station and 12 km from the domestic airport. It is also easily accessible from all the satellite townships of NCR, Delhi. It is designed by internationally renowned architect Mr. Richard Wood and constructed in conformity with globally accepted standards for hospitals. Max super specialty hospitals Devki Devi

Foundation is divided into two blocks namely the east wing and the south wing . The east wing mainly provides world class cardiovascular care with a service focus and creates unparallel standards of medical and service excellence. It is committed to pursuing independent as well as collaborative research in all aspects of cardiology, cardiothoracic and vascular surgery and other medical specialties. The south wing is designed to provide highest level of professional expertise and leadership in all disciplines of oncology and institute of minimal access and metabolic and bariatric surgery.

MSSH (East wing) Physical Layout

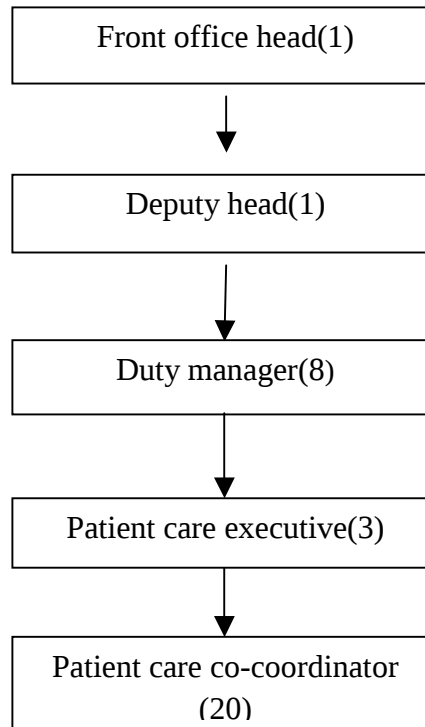
BASEMENT	OPD ,CSSD , Medical stores, pharmacy stores, security control room, cafeteria , training room, labs, administrative offices, engineering
GROUND FLOOR	Reception, chemist , billing, OPD, nuclear medicine, emergency , emergency base station, ACC, waiting areas, IPS, TPA desk
FIRST FLOOR	OT Complex, Cardiac ICU, Cath lab, CTVS ICU, Cath Recovery
SERVICE FLOOR	IT, Telemedicine , Marketing, Administrative offices, call centre, MRD, HR , Training room, biomedical engineering ,library
SECOND FLOOR	Wards, HDU, ICU, Visitors waiting lounge
THIRD FLOOR	Wards
FOURTH FLOOR	Wards, administrative offices
FIFTH FLOOR	Blood bank , wards, TPA office, waiting area

OBSERVATIONAL LEARNING ON VARIOUS DEPARTMENTS

1. FRONT OFFICE

Front office is the first point of contact between the hospital and its customer.

Organization chart of the dept.

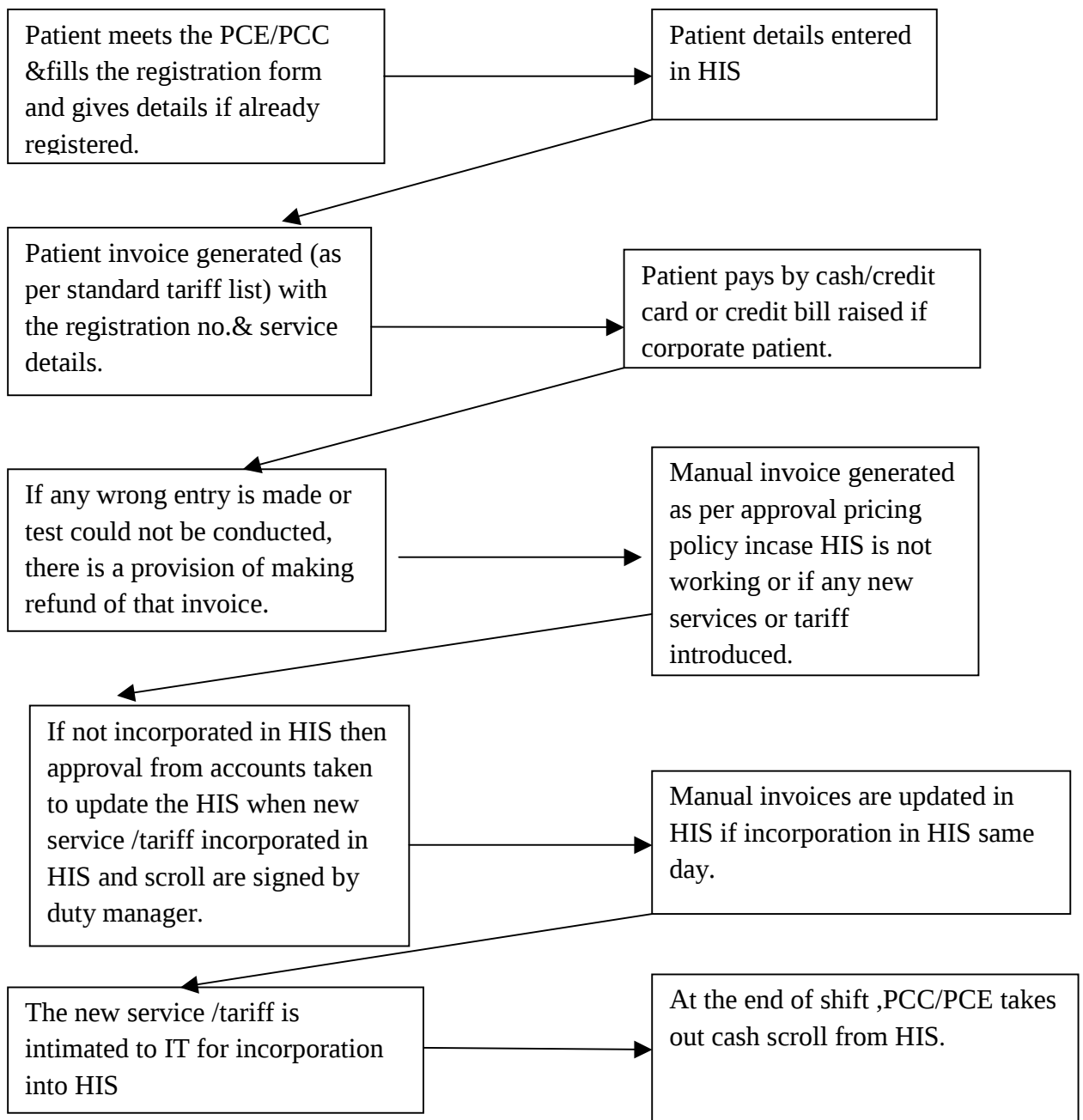


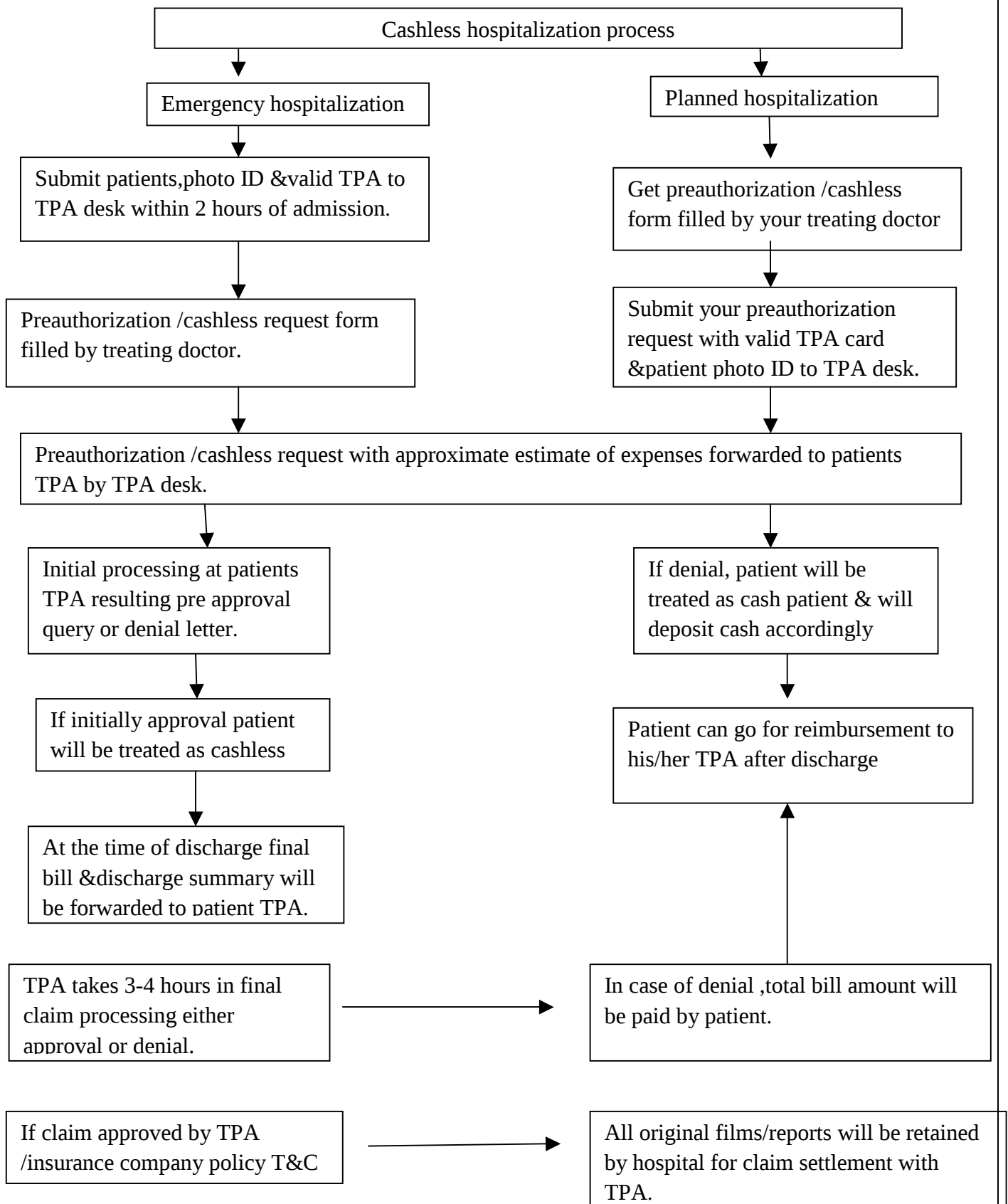
Services provided by front office

- 1) In patient and out patient registration.
- 2) IP admission and discharge
- 3) Medical alert details
- 4) Appointment scheduling
- 5) Doctors schedule summary
- 6) Patient billing(IPD,OPD)

- 7) Insurance management
- 8) Patient visit history
- 9) Medical records movements
- 10) Appointment for diagnostic tests
- 11) Preventive health program registration and scheduling.

Patient registration process





2 .IN-PATIENT DEPARTMENT (IPD)

- IPD is distributed over five floors (2nd-6th) in the east wing of Max hospital including a total number of 201 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:
 - 6 in 1
 - 4 in 1
 - 2 in 1
 - Single Deluxe
 - VIP suite
- Every floor has a central nursing station with
 - Information Board covering:
 - Designation & Contact numbers of
 - Duty doctor
 - Administration Staff
 - Support Staff
 - Nurses' names with shift timing and designation
 - Crash Cart parked next to the nursing station

- o Computer on wheels (COW) - 4
- o Cupboards with forms- down time form, investigation track sheet, blood request form, PAC sheet, informed consent, inventory files and registers
- o Medication rooms - 2
- o Pantry – 1
- o Records room
- o Biomedical Waste Disposal
- Process for admission & discharge of new patient to IPD:
 - IPD receives intimation call from the department from where patient is referred
 - Duty doctor is informed
 - Room is assigned by the floor mentor
 - Patient is admitted and vitals are checked by the nursing staff
 - Physical assessment is done
 - History is taken
 - Concerned doctor is informed and medications & instructions are entered in Computerized Patient Record System (CPRS), reviewed by IPD Pharmacy
 - Patient bill is consolidated at IPD billing
 - Discharge intimation given by doctor and processed by Nursing staff
 - Clearance from pharmacy required
 - Discharge process TAT = 30 minutes for cash payment patient
- Nurse to bed ratio = 1:4 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:
 - o Patient Fall, Hypoglycemia, Needle stick Injury

3. 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.

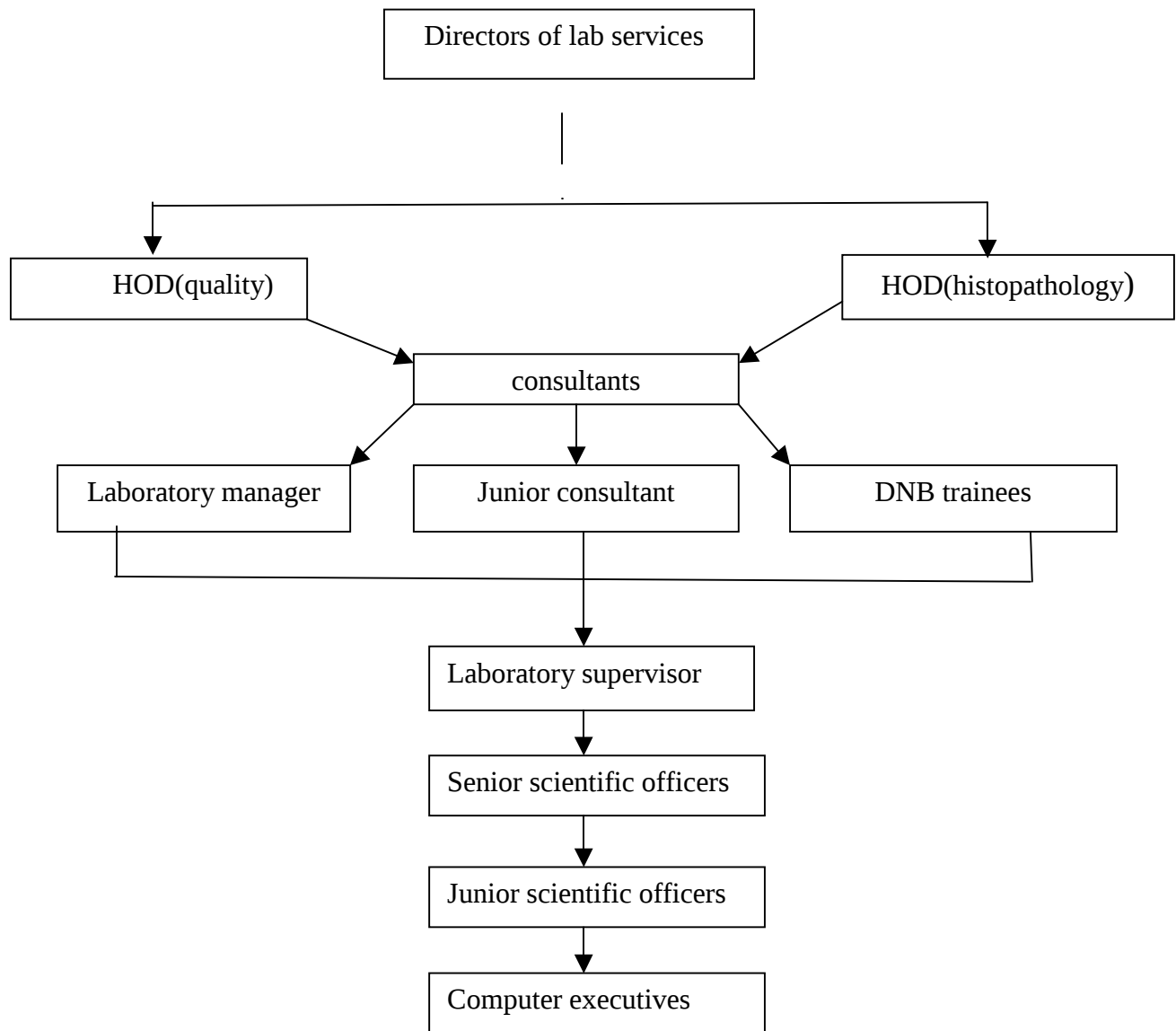
LABORATORY COMPRISES OF THE FOLLOWING DEPARTMENTS-

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

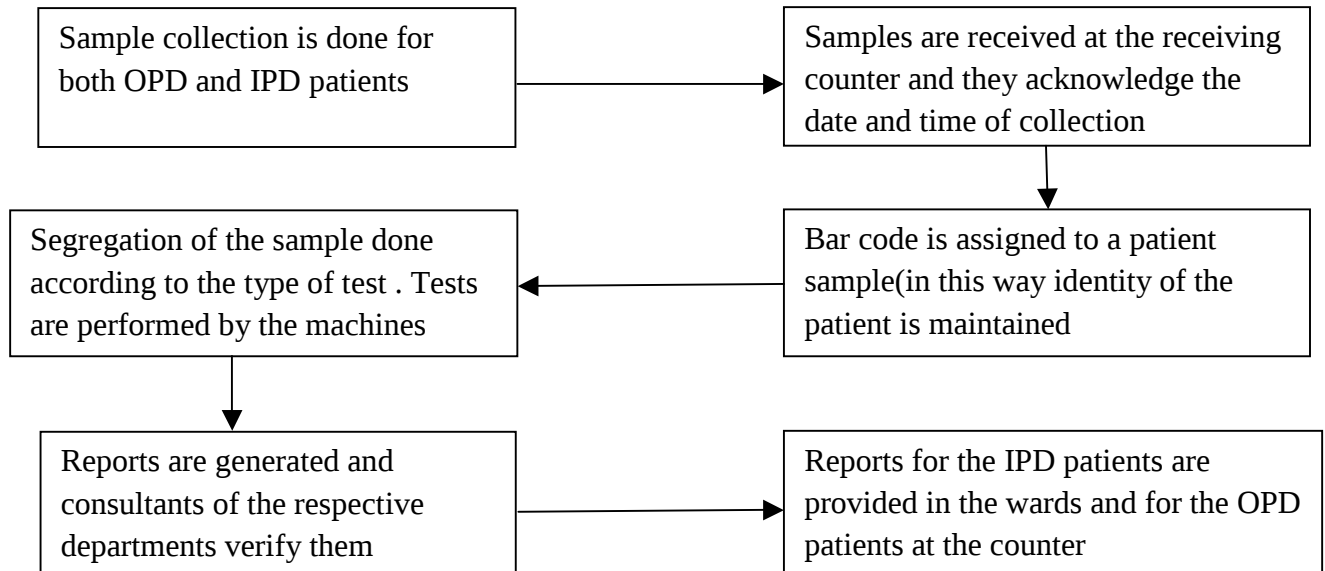
HIERARCHY- The Department Of Lab Is Broadly Divided In Two Departments

- Lab medicine

- Histopathology



PROCESS FLOW-



LABORATORY INFORMATION SYSTEM- It is connected with hospital information system

- Sample received-red color
- Samples acknowledged-yellow color
- Test done-blue color
- Result verified-green color
- Billing done-pink color

4. RADIOLOGY DEPARTMENT:-

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

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) Dexascan

5) Special imaging techniques

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

Radiology Department is 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(OPD)

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



Figure:-Process flow in radiology department for outpatients.

5.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 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 Tran luminal 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

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

8. Instrument washroom

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

- o Emergency department
- o Operation theatre
- o Cath recovery
- o Coronary care
- o CTVS OT
- o SICU
- o PICU
- o MICU

Staffing:

- 9 interventional cardiologists
- 19 nurses
- 9 technicians
- 1 person from store

6.EMERGENCY DEPARTMENT

Due to the unplanned nature of patient attendance, this department provide 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) and 4 BCLS

Patients are either transferred to other departments or are discharged within 4 hours. Max Super Specialty 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:

- o EMO response time <1 min
- o Consultant response time <60 min
- o Code blue response time <3min
- o 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 safe.
- 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. Team leader
3. Emergency physicians - 3
4. Nurses : Male- 4 to 5
Female- 2 to 3
5. 2 personnel at reception
6. Paramedical staff for ambulance
7. 2 GDA
8. Outsourced staff : security personnel.

7.CENTRAL STERILIZATION SERVICE DEPARTMENT

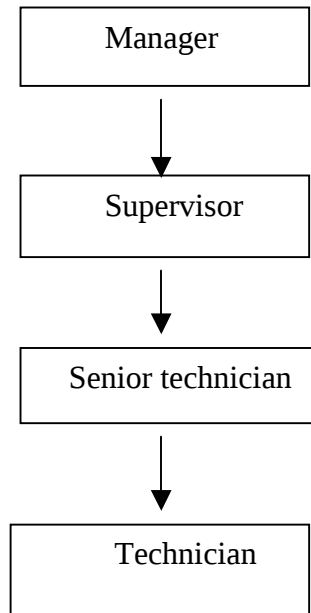
INTRODUCTION-

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-



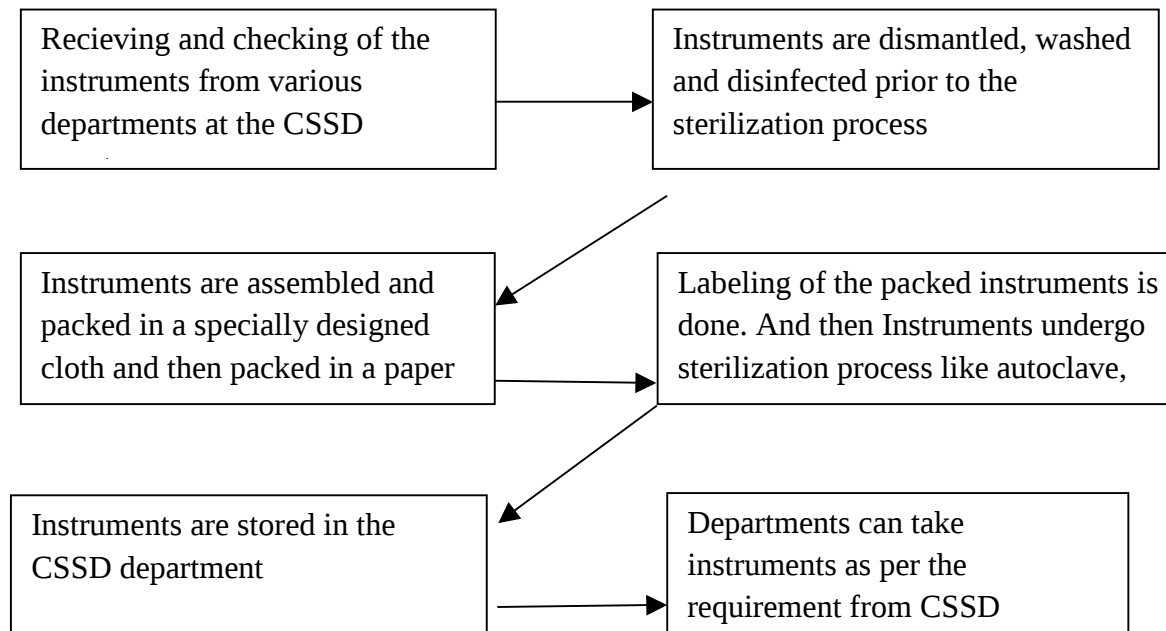
ZONES PRESENT-

- Decontamination
- Clean
- Sterile

Color coding for the following zones -

- Decontamination area-red color
- Clean area-blue color
- 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.

- Instru
ments 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-

- r- Washe
- ave - Autocl
- a sterilizer- Plasm
- sterilizers- ETO
- - Dryers
- guns- Air-
- guns- Water-
- onic cleaners- Ultras

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

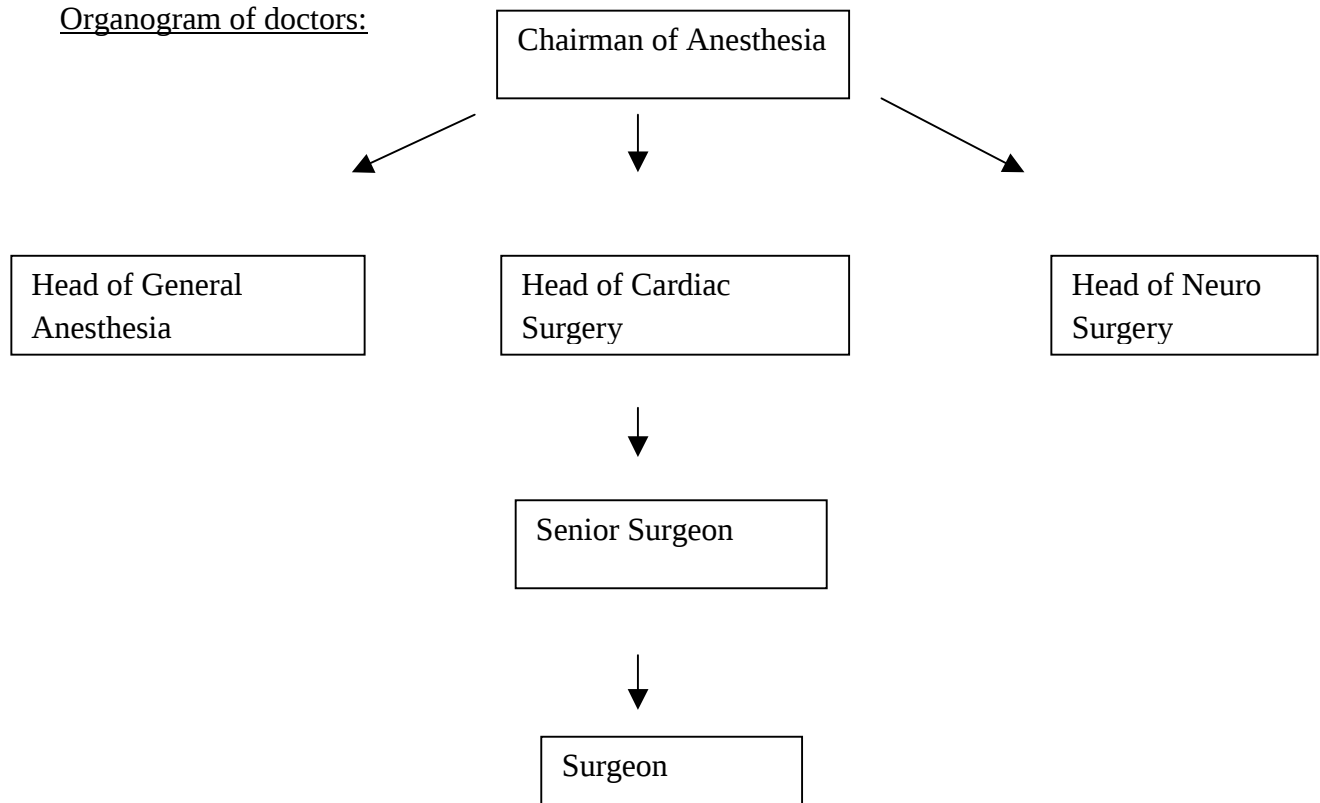
8.OPERATION THEATER COMPLEX

Operation theater complex of East wing is located on first and second floor. Operation theater complex has 11 operation theater assigned to various departments. Cardiac, oncology , bariatric laparoscopic, gynecology, ENT and plastic surgeries are performed in these operation theaters.

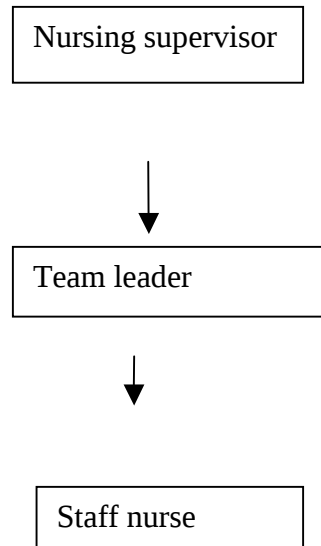
Operation theater complex of west wing is located on first floor. It has 7 operation theaters for various departments. Orthopedic, neurology and general surgeries are performed here.

Organization of staff: The staff of Operation Theater is organized into four groups: Anesthetist and surgeon, nursing staff, technician, supportive staff.

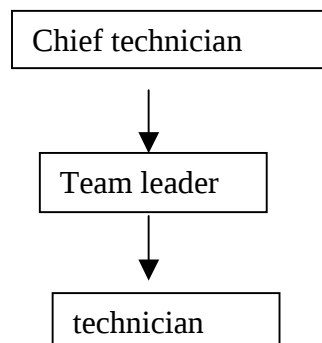
Organogram of doctors:



Organogram of nursing staff :



Organogram of operation theater technicians:



9. 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. Apheresis 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, 6 techncians, 2 staff nurse, 2 computer executives, 4 GDA.

10.HUMAN RESOURCE MANAGEMENT

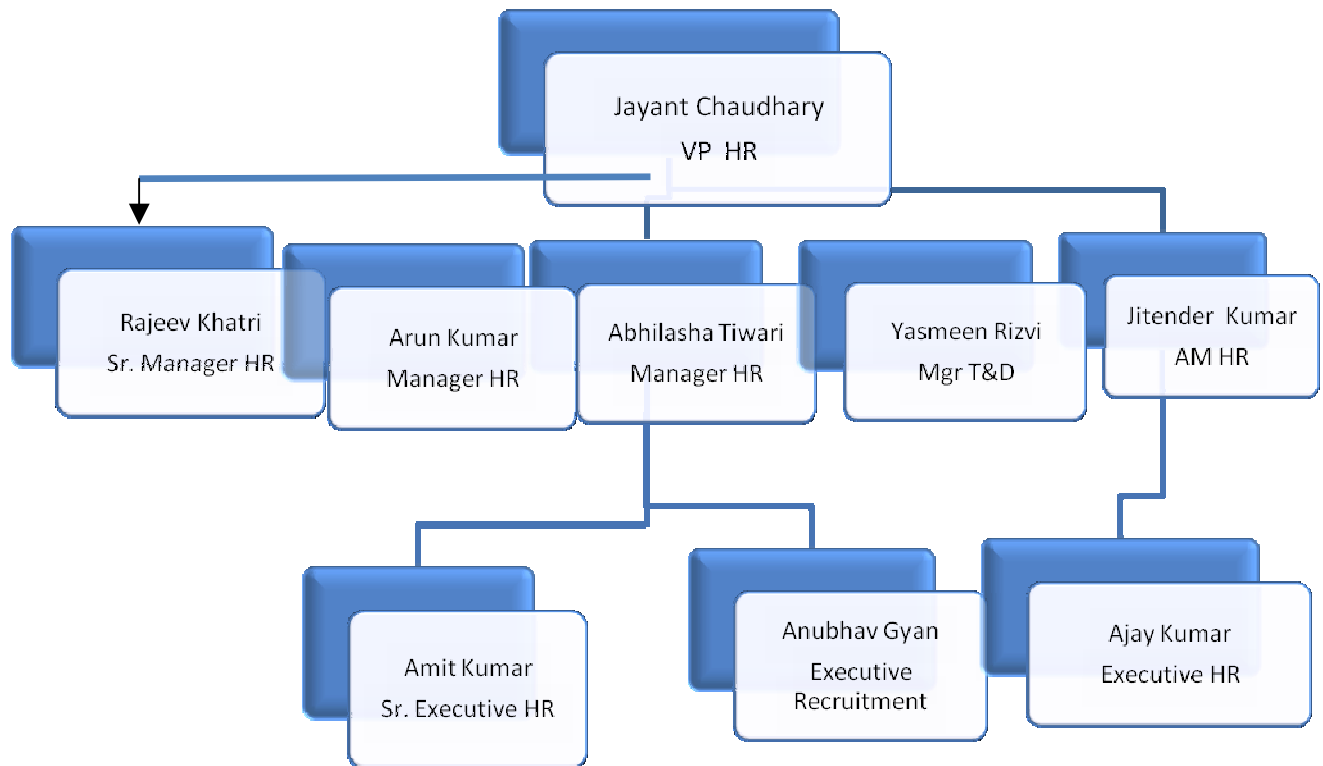
Human resource management (HRM or simply **HR**) is a function in designed to maximize employee performance in service of their employer's strategic objectives. HR is primarily concerned with how people are managed within organizations, focusing on policies and systems.

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



11. ONCOLOGY DEPARTMENT

Oncology is a branch of medicine that deals with cancer.

Oncology in MAX is concerned with:

- The diagnosis of any cancer in a person (pathology)
- Therapy (e.g. surgery, chemotherapy, radiotherapy and other modalities)
- Follow-up of cancer patients after successful treatment.
- Palliative care of patients with terminal malignancies.
- Ethical questions surrounding cancer care.

The Oncology Day Ward/Day Care (ODW) as the word implies, provides care for people who need to receive treatment as day cases and do not require staying in hospital as inpatients. Its main function is to assess and treat the patients who are receiving chemotherapy. In the Oncology Day Care 9 beds, 8 recliners and 4 dummy beds are available. Before chemotherapy is commenced, the patient is assessed to make sure that he/she understands and consents to the planned treatment. Blood tests are performed to ensure that their levels are at the required limits. The patient's weight and height needs to be measured as most chemotherapy doses are calculated according to one's body surface area.

12.BIOMEDICAL ENGINEERING

The department of biomedical engineering deals with purchase, installation, commissioning, training on operating, handling and maintenance of all medical equipments in all the areas and departments of the hospital. Also deals with the in-house calibration of equipments.

Gas manifolds are also handled by the biomedical department.

The areas included are:

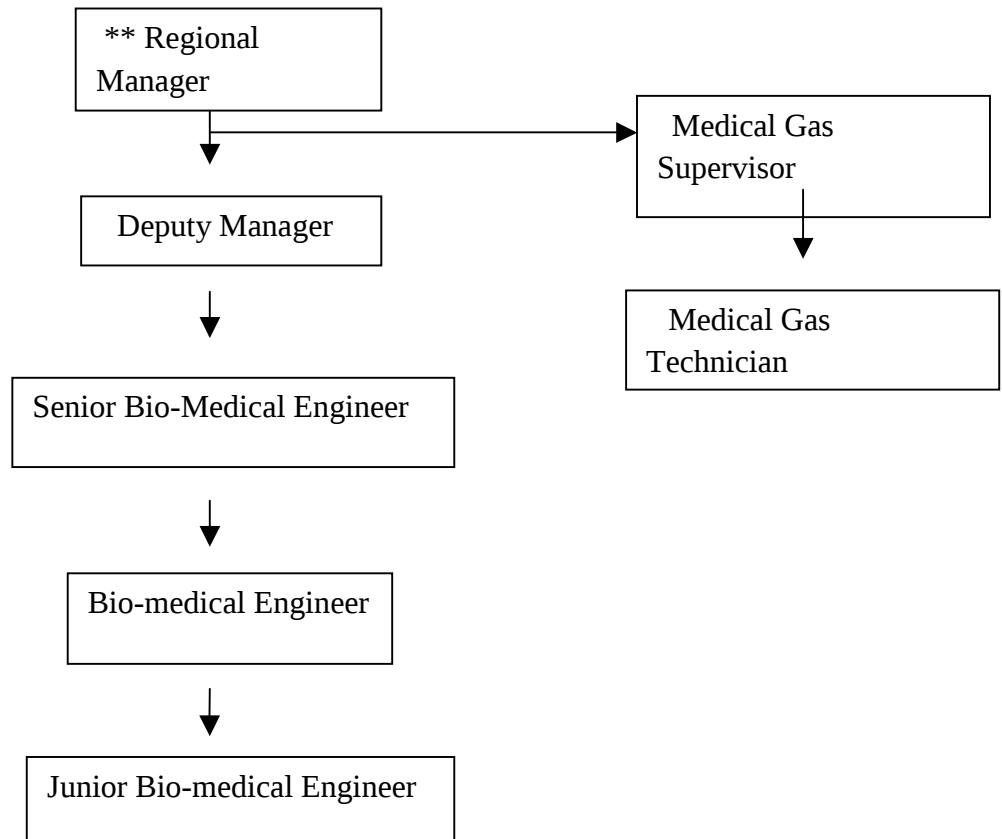
- All wards , operation theatres, ICU's
- Patient rooms, Cardiac non invasive diagnostics
- Radiology, LINIAC, Nuclear Medicine
- Triage, Medical Gases, Blood Bank

Objectives:

- To maintain assets list
- To conduct preventive maintenance for biomedical equipments.

- To ensure timely repair of biomedical equipments medical furniture.
- To conduct calibration/validation of biomedical equipments.
- Preventive maintenance for Medical Gas equipments.

Organizational chart



**showing – Department head

12. 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 lac 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

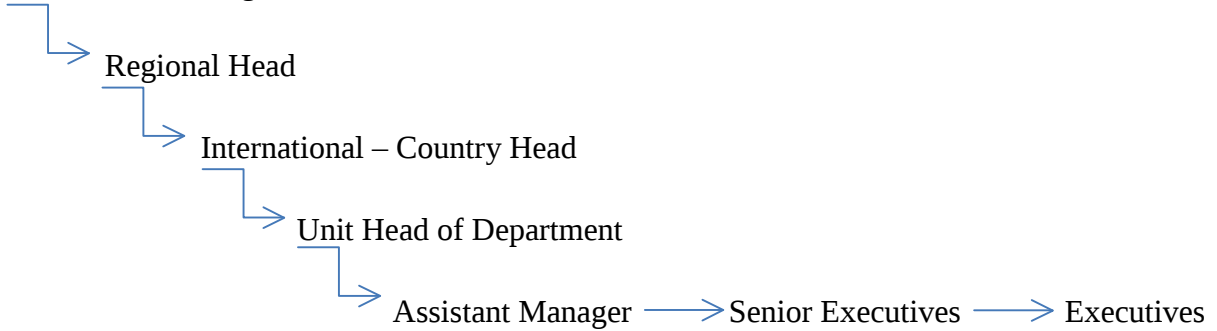
International patients avail treatment in India mainly because these facilities or treatments are not available in their respective countries, and are available at a much cheaper price in India than other countries such as US, UK or European countries. The countries from where patients come to seek treatment 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



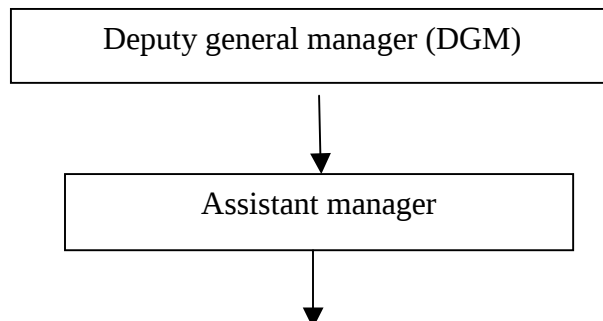
13. FOOD AND BEVERAGES

Introduction

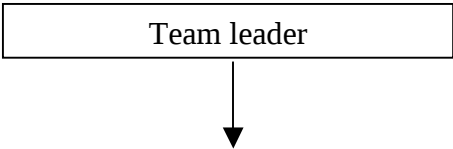
Food and beverages department deals with supply of food to the patients sometimes to the patients attendant and during the various conferences and meeting in the organization.

Although food and beverages dept at the max healthcare centre is outsourced to the sodexo food services but controlling power is with **max employee**.

Organization chart



Team leader

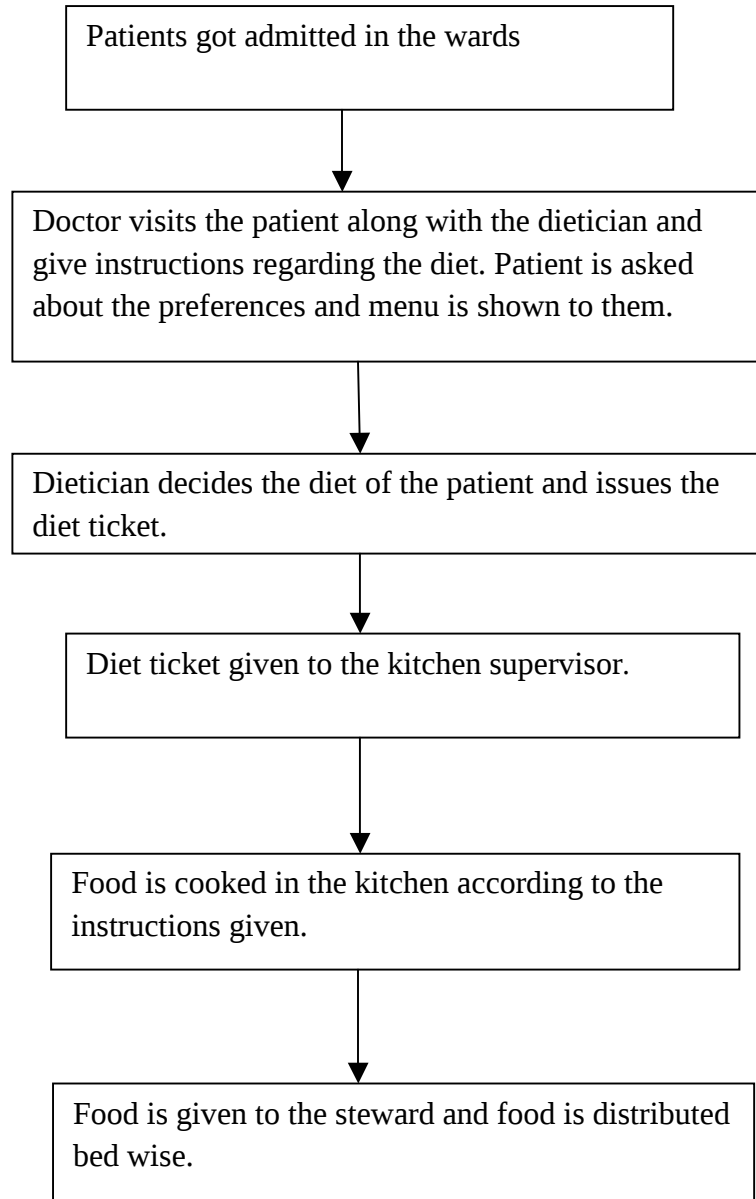


- The department consist of one head chef from Max , 26 chefs are from sodexo,72 stewards from sodexo.
- Dietician -25 of Max.
- Max chef keeps check on quality of food provided to the patients.
- The task of the sodexo is to provide food to ipd patients , max staff and visitors.
- Other then sodexo there are various food outlets which are as follows
 - Sagar ratna
 - Café coffee day
 - Subway
 - Quality express

Royalties are being charged from these outlets.

Process flow

Supply of food to the patients



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 want to have something extra, those can be provided to the patient after consulting dietician, but for an extra charge.

Different menu offered are –

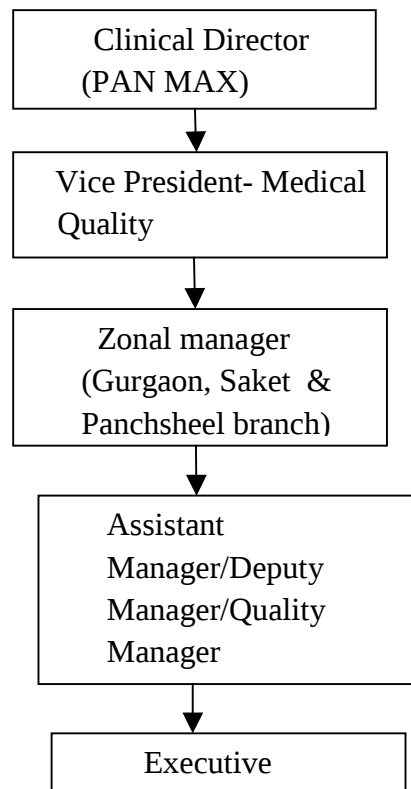
- Indian menu
- Afghani menu for middle east patients.
- Continental menu

- garlic menu for jain patients

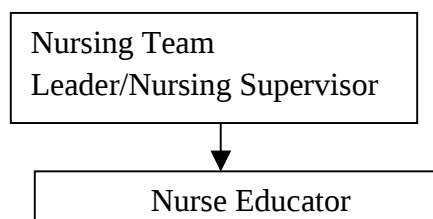
No onion and no

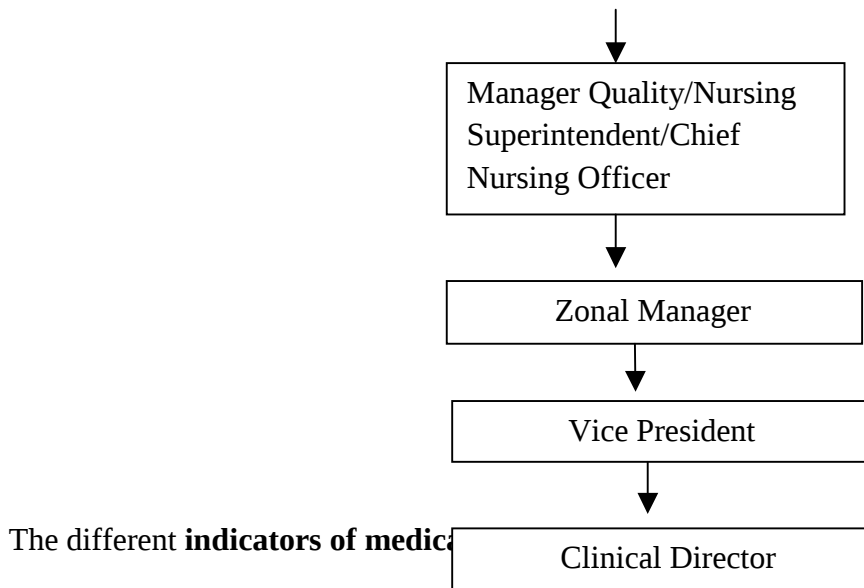
14.MEDICAL QUALITY DEPARTMENT

Organogram of the department



Flow of reporting in the Quality Team:-





1. Falls
2. Nosocomial infections
3. Phlebitis
4. Medication errors
5. Near miss(incident might have occurred)
6. Needle stick injury
7. Pressure sores

15.SERVICE QUALITY DEPARTMENT

This department deals with the quality of the services provided by the hospital.

Feedback forms that are kept in the feedback box in every department are collected daily and then divide it into positive and negative forms. Suggestions are also considered as negative feedback

After going through all the complains lodged by the patient or their attendants, service quality departments informed the respective department head within 24 hrs about these responses from their department and tell them to rectify or improve the quality of their services.

Department head who look after these services then try to know the root cause of the problem and within 72 hrs solve and close the case by providing proper training or counseling

Various ways to collect the feedback:-

- 1) Through feedback forms
- 2) Through blogs
- 3) Directly to the quality manager

Everyday quality manager takes a round to every ward to know their problems or feedback about the services provides to them.

This will help to know the various issues related to the quality of the services provided by the hospital and to help them to understand the various areas which need to be improved.

Issues can be related to:-

- 1) Behavior of the staff , nurses ,doctors
- 2) Cleanliness
- 3) Quality of food
- 4) Getting medications on time or not
- 5) Delay in any of the services etc.

Therefore, this department plays a very important role to understand the needs of the patient or their attendant and to improve the quality of the services provided by the hospital.

16. CALL CENTER

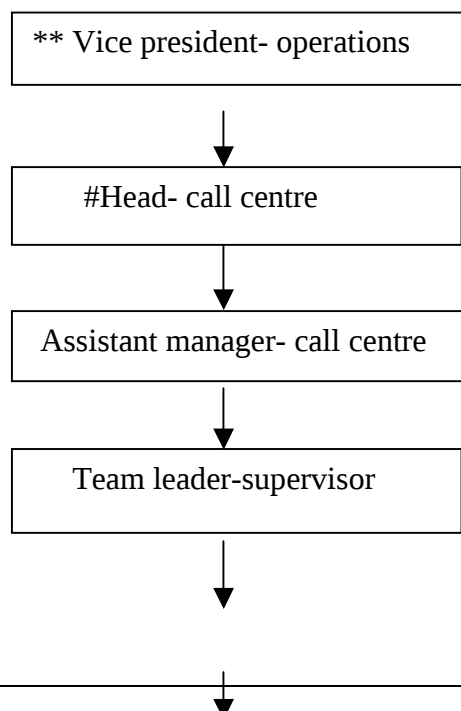
Call centre of Max hospital, Saket operates at 24*7. It is centralized patient contact centre for Saket. It can be used as an information centre for all customers.

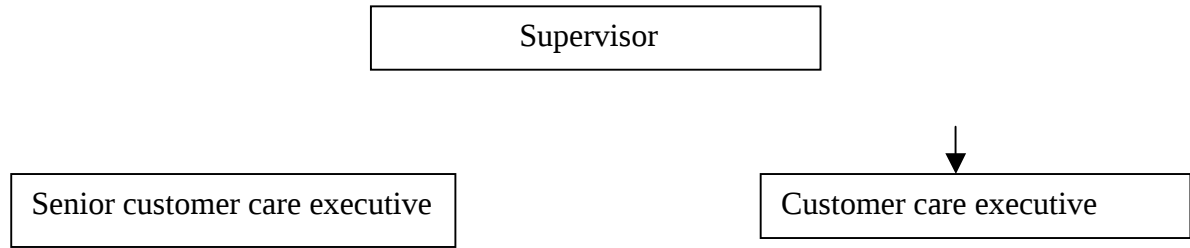
Call centre deals with:

- Doctor's appointment
- Health check ups
- Radiology and diagnostic appointments
- Patient's information
- Doctor's information
- Employee's information
- Specialty information
- Other department information
- It handles internal emergency e.g. Blue code

Main board line number is: 2651505

Organization chart:





** indicates administrative head #indicates functional head

17. 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.

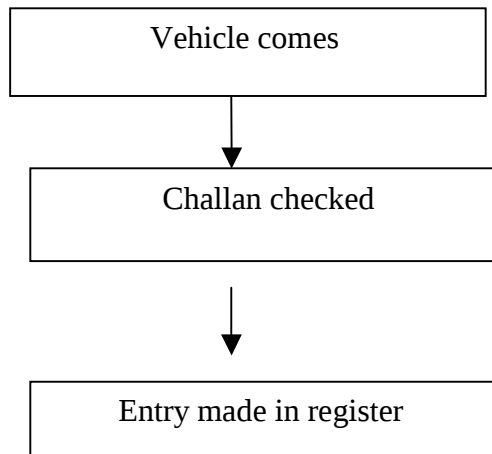
Functions of Security Department:-The security department performs four main functions as discussed below.

1. Security management:-

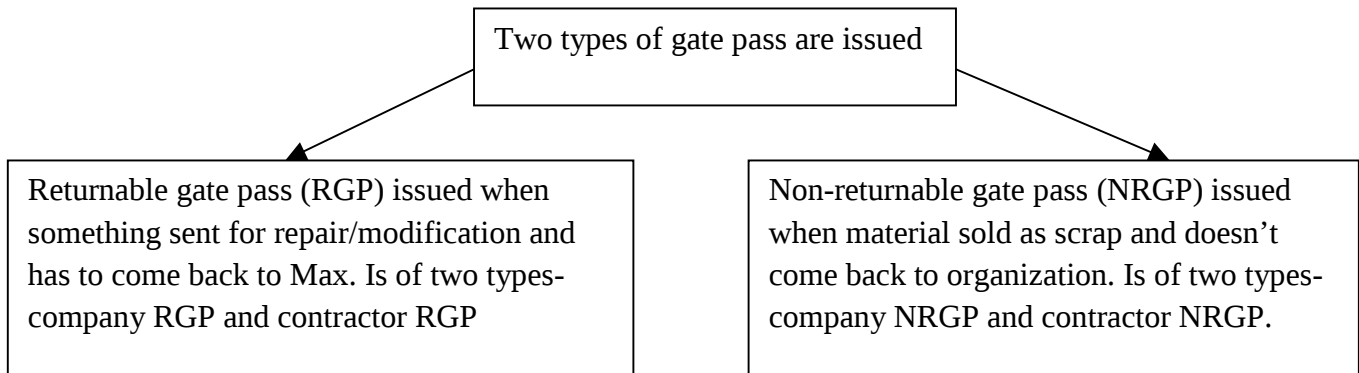
- Selection of people(guards and supervisors)
- Deploying of security staff to different floors and departments
- Checking of people entering hospital
- Turnout and grooming of security staff
- Training of security staff
- MLC handling
- Dispute handling

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



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 time frame of maximum 7 minutes, vehicle is handed over to customer when asked for in porch.

PROJECT ON PROCESS FLOW AND UTILIZATION OF OPERATION THEATER

1 Introduction:

1.1 Location: Operation theater complex of East wing is located on first and second floor. Operation theater complex has 11 operation theater assigned to various departments. Cardio thoracic vascular surgery ICU, Cath lab, recovery area, waiting room for the patient's relatives and patient counseling room is located near to OT complex on the same floor.

Operation theater complex :

Table 1 (OT assigned for department)

OT	Specialty
1	cardiac (tue, thurs,fri) gynae(mon,sat)onco (wed)
2	cardiac(adult)
3	cardiac(adult)
4	cardiac (pediatrics)
5	onco (mon,wed,fri)ENT (Tue,thur,sat)
6	onco (mon,wed,fri)plastic surgery, ENT (Tue,thur,sat)
7	onco (mon,wed,fri)ENT (Tue,thur,sat)
8	Bariatric
9	Bariatric
10	laparoscopic
11	laparoscopic

1.2 Areas of operation theater Operation Theater complex has following areas:

- Operating rooms
- Pre and post operative area (3 beds)
- Nursing station
- Doctors work station

- OT in charge room
- Consumables Storage room
- Anesthesia (perfusion) store
- Scrub area (3)
- Dirty utility room for collection and disposal of soiled material
- washing area
- Equipment storage room
- Separate changing area for male and female nursing staff, doctors, technicians with the facilities of locker, toilets
- Staffs lounge separate for doctors, nurses and technicians.

1.3 Organization of staff:

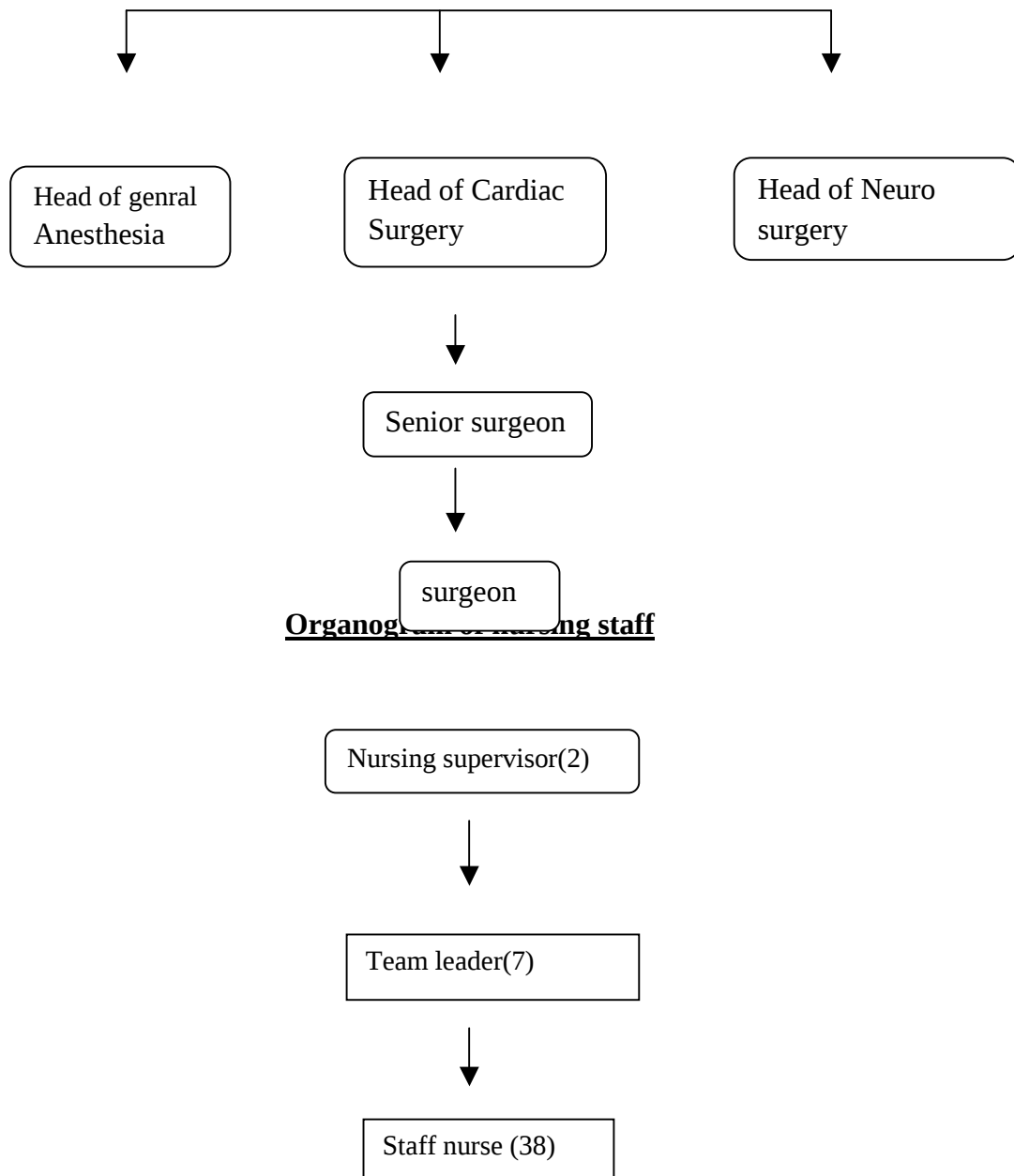
The staff of operation theater is organized into four groups:

1. Anesthetist and surgeon
2. Nursing staff
3. Technician
4. Supportive staff

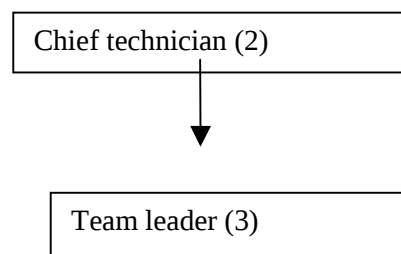
Organogram of doctors:

Chairman of Anesthesia

|



Organogram of operation theater technicians:





Technician (14)

2 Rationale:

Operation Theater is one of the important departments of the hospital. Surgical facilities represent a central life saving activity. Its performance, success and failure are highly visible. The activities carried out in this department makes reputation of the hospital. . Owing to recent advancement in the technology and expectation of people modern surgery has become a complex and expensive affair. There is a great need of making maximum utilization of operation theater complex for benefit of hospital and patients as the number of surgical patients are proportionally high. . In a hospital operation theater is the primary source of revenue generation earning around 50-60 % of the revenue (1). The OT complex in a hospital represents an area of considerable expenditure in a hospital budget and requires maximum utilization to ensure optimum cost benefit.(2)

This study will help to understand the process flow, identify the delays and level of utilization of operation theater .In order to maximize the operation theater utilization it is essential to study the process flow and identify the delays resulting in under utilization.(3)

3 Research Questions:

1. What is the level of utilization of Operation Theater at max super specialty hospital Saket?
2. What are the causes of delay in process flow of Operation Theater?

4 Methodology

4.1 Study topic: To study the process flow and utilization of operation theater at Max super specialty hospital, Saket.

4.2 Objective: To understand the process flow, determine the causes of delays and level of utilization of Operation theater.

4.3 Research Method: Descriptive study

4.4 Data Collection :

- o Primary Data : was collected by personal interview of Operation Theater in charge and team leaders to understand the process flow of Operation Theater, Shadowing of patient was done to determine the causes of delay.
- o Secondary Data : was collected from records of OT to study the OT utilization.

5.1 OPD PROCESS FLOW

FRONT END PEOPLE:

Front desk coordinator

1

Patient Registration

Doctor

2

Plans for the surgery & investigations required

Doctor coordinator

3

Gives estimate of the surgery

BACK END PEOPLE :

Doctor coordinator

4

Sends admission request to front office.
Prepares OT list.

TPA

ε

Pre approval from the insurance company.

5.2 PRE OPERATIVE PROCESS FLOW

: In minor surgery when a patient admits on the same day of surgery pre operative investigations and references are to be done earlier whereas in major surgeries when patient admits one day prior investigations and references are carried out after admission.

FRONT END PEOPLE

1

Billing of required investigations, consultation & dispatch the report.

Front desk coordinator

2

Examination of patient & prescribes treatment.

Consultant

ε

Collects the sample

Laboratory staff/nurse

4

X- ray, Ultrasonography , Magnetic resonance imaging, computed tomography, angiography

Consultant & Technician
of Radiology Department

ε

Preoperative evaluation record, HIV informed consent form, informed consent for blood transfusion.

Doctor

Nurse

Anesthetist

6

Preanesthesia clearance and anesthesia consent, form of anesthesia given and related risk.

Surgeon

7

Surgery consent explains about the medical condition, treatment, procedure and associated risks.

BACK END PEOPLE

GDA

8

Takes the sample to lab

Lab technician

9

Process the sample

Typist

10

Types the report

Consultant

11

Validates the report

5.3 PROCESS FLOW IN OPERATION THEATER

When patient is shifted from ward to OT

FRONT END PEOPLE :

OT staff GDA

1

Will go to respective ward and fetch out the patient & confirms preoperative nursing checklist with ward nurse which includes previous surgery, allergies, patient identity band, anesthesia consent, surgery consent, high risk consent, history of HTN/DM , investigation, premedication, blood arranged, part preparation, site marking

Brings the patient to preoperative area

In pre operative area:

Anesthetist

2

Administer anesthesia to patient & Before induction of anesthesia Confirms the surgical safety checklist with nurse (patient identity, site, procedure, consent, site marked, known allergy, risk of blood loss)

Surgeon

3

Operates the patient & before the skin incision confirms the patient name, procedure, site of incision

OT Nurse (Circulatory & Scrub nurse)

Circulatory nurse

4

Applies ECG leads, enters the surgery information on board- count no. of instruments, artery forceps, gauge pieces , sponges, needles

Before patient leaves the operation room confirms the name of the procedure, recount the no. of instruments, sponge, needles.

Records duration of surgery, start & end time of surgery

Scrub nurse

ε

Handles the sterile instrument trolley set and assist the surgeon.

BACK END PEOPLE :

OT Coordinator

ε

Confirms medical clearance with ward nurse & financial clearance with front desk coordinator. Informs surgeon & anesthetist about arrival of patient to preoperative area.

5.4 POST OPERATIVE AREA PROCESS FLOW (patient remains for 1-2 hrs)

FRONT END PEOPLE

OT nurse

γ

Gives post op care, connects IV line, Pulse oximeter, regular monitoring of vitals, informs patient relative, PACU Scale assessment , updates postoperative notes on CPRS, Send specimen for biopsy,

Anesthetist

ε

Postoperative assessment, trigger tool checklist. If patient is stable sent to ward. In case of complication shifted to surgical ward or OT.

BACK END PEOPLE

OT Coordinator

ε

Informs ward nurse to prepare bed for the patient

Patient shifted from ward to OT

FRONT END PEOPLE

OT NURSE

GDA

1

Patient is shifted to ward with OT staff & GDA. In serious cases, patient is shifted to surgical ICU accompanied by assistant anesthetist. OT staff gives handover to ward nurse. (patient condition, surgery undergone, medication, lines .NBM period. drains .documents)

WARD NURSE

2

Inform the consultant, starts the post operative treatment , connects IV line , drains, oxygen , monitor.

5.5 DISCHARGE PROCESS FLOW

FRONT END PEOPLE

Doctor

1

IF the patient is stable doctor gives discharge order to ward nurse

Billing staff

2

Inform patients regarding amount of bill.

In cash patients after payment of amount In TPA patients after confirmation from insurance companies

2 discharge slip given to patient which is supposed to be returned to ward nurse and security guard.

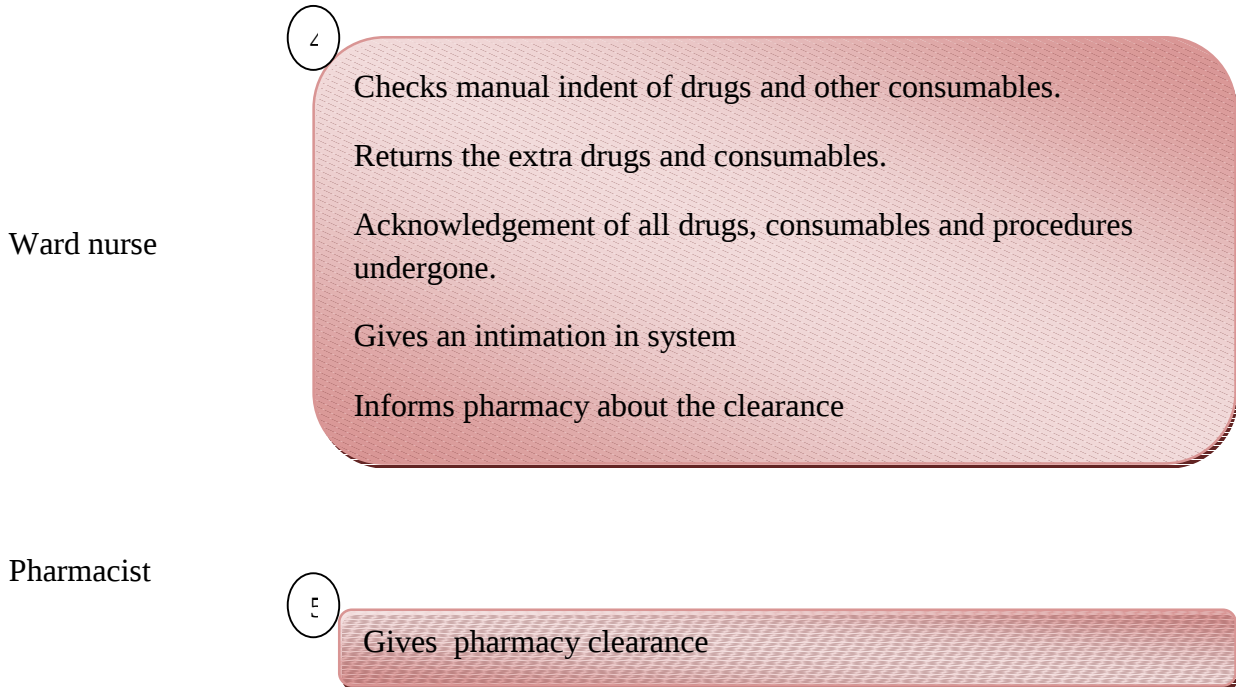
Ward nurse

3

Hand over all investigations & reports to patient. In TPA patients original reports are retained by hospital and Xerox copy of report is given to patient.

Explains discharge summary drugs and dosage to patient

BACK END PEOPLE:



FINDINGS :

Delay in performing operating procedures is one of the key factors that hinders optimal flow of patients and has a significant impact on the economic outcome of the hospital. These delays could arise at various points as multiple personnel involved in the process of performing a surgery.

Reasons behind Delays in start time of surgeries :

- Delays in Financial clearance
- Delays in medical clearance
- Patient unavailable (in day care surgeries)
- Delay in shifting from ward to operation theater

- Delay in start time of first case.
- Delay in completion of previous case.

Causes of delays in financial clearance

1. Delay in payment of estimated amount by patient.
2. Delay in preapproval from TPA. TPA responses after 10 am leads to delay in start time of morning surgeries.

In cashless patients with preapproval from TPA . TPA does not pay the entire amount of surgery before the surgery where as hospital policy is to take the complete amount. So patient has to pay the remaining amount out of pocket.

Lack of awareness of TPA policies among patient leads to delay in financial clearance.

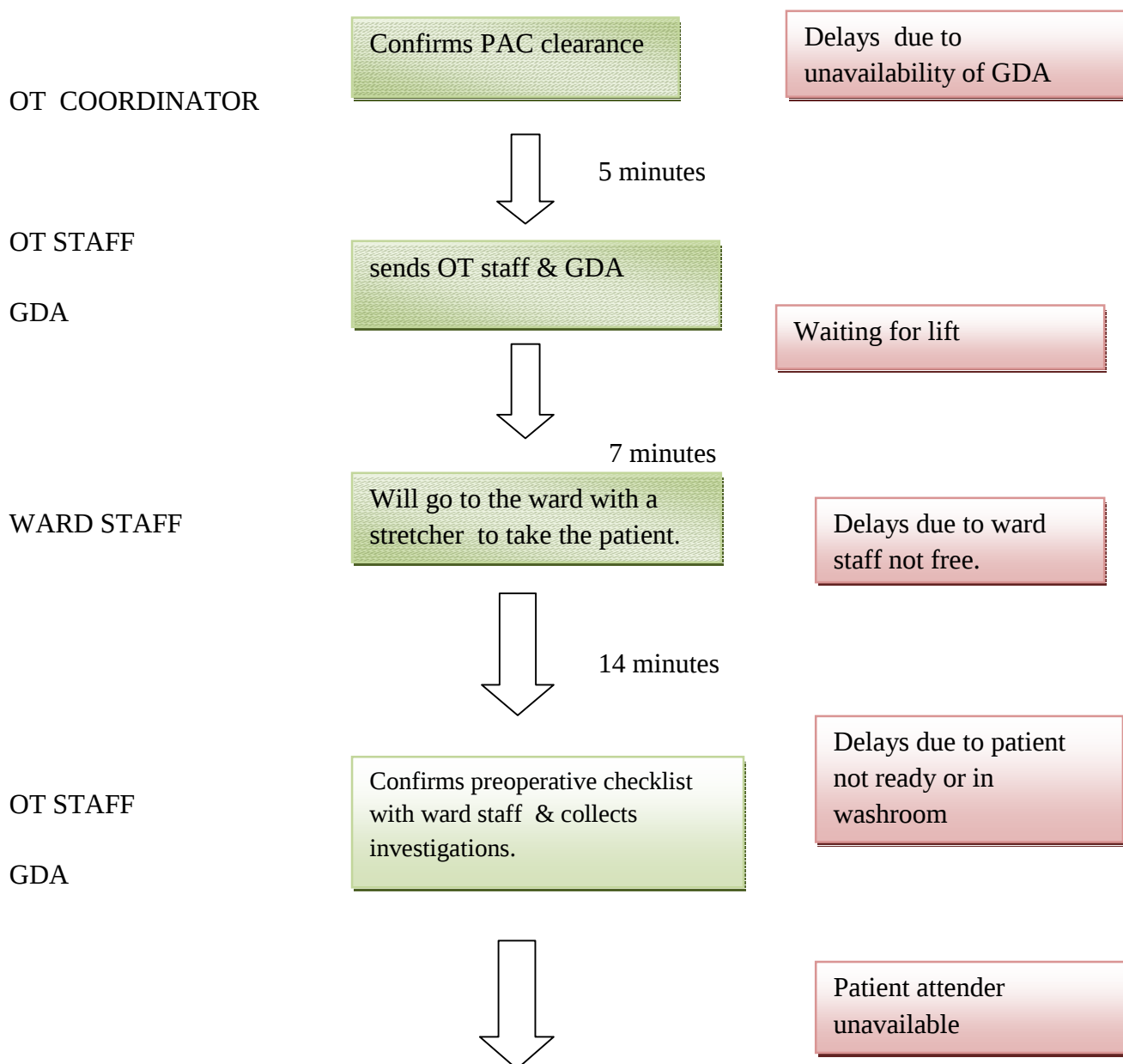
Causes of delay due to medical clearance :

- Patient unfit for the surgery (electrolyte imbalance)
- Delay in Pre anesthetic clearance (PAC), investigation reports.
- Any new abnormal findings detected in the investigation.
- Delay in referred specialist consultation.
- Delay in biopsy reports, other outside test reports.

Delay in start time of first case of the day:

Delayed start for the first case of the day has a ripple effect as following surgeries get delayed

Causes of delay in shifting patient from ward to operation theater



OT STAFF & GDA

Brings the patient to OT

Delays due to waiting for lift.

Column1	Average time(min)	max time(min)	time(min)
shifting patient from ward to OT	32	45	25

Table no 2.1 Average , maximum & minimum time taken in shifting patient from ward to OT

The data is obtained from shadowing 20 patients movement flow, from ward to operation theater.

S. no	STEPS	AVERAGE TIME (minutes)	MAX TIME (min)	MIN TIME (min)
1	Sending OT Staff & GDA		510	2
2	To reach ward	7	12	5
3	hand over of patient	14	15	10
4	bring patient to OT	12	18	7

Table no. 2.2 Average ,maximum & minimum time taken in each step of shifting patient from ward to OT

OPERATION THEATER UTILIZATION ;

Table no. 3 NUMBER OF SURGERIES (Jan –March 2014)

OT	JAN	FEB	MARCH	TOTAL	Average
1	65	52	63	180	60
2	35	35	39	109	35.6
3	28	31	35	94	31.3
4	36	34	38	108	36
5	70	51	67	188	62.6
6	72	57	67	196	65.3
7	75	68	79	222	74
8	54	52	60	166	55.3
9	57	57	66	180	60
10	66	57	63	186	62
11	63	60	71	194	64.6
TOTAL	619	554	648	1821	
	56.2	50.3	58.9		

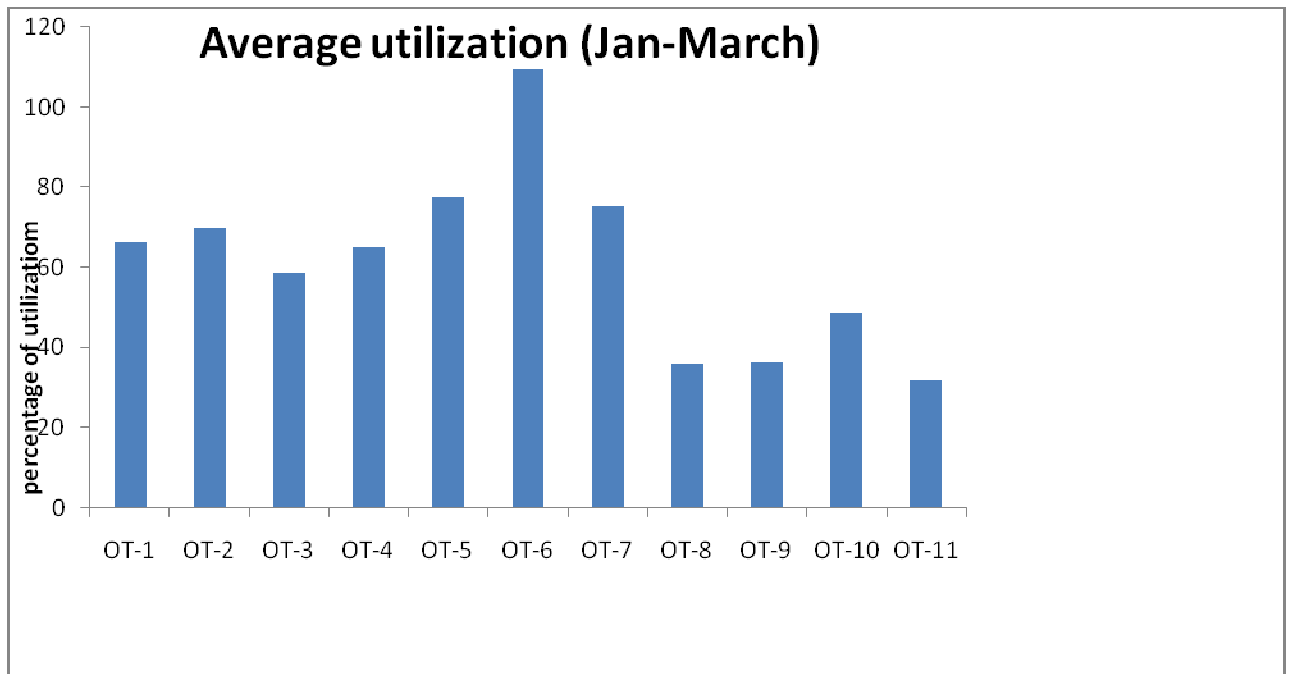
Table no 2 shows the number of surgeries performed in 11 OT's in month January to march 2014 Total number of surgeries conducted during study period was 1821. Highest no of surgeries conducted in OT-7 followed by OT-6 & OT-5. In OT-7 as multi speciality surgeries are done (oncology, ENT).ENT surgeries which are done are of 1-2 hrs duration. As duration of surgeries is less so number of surgeries is more comparatively.

In OT-3 lowest number of surgeries were conducted.OT-3 is assigned for adult cardiac surgeries

The number of surgeries performed in month of March is more than January and February.

Table no .4AVERAGE UTILIZATION OF OT 1-11 (JAN- MARCH)

Column1	Column2
OT-1	66.4
OT-2	69.79
OT-3	58.5
OT-4	65.08
OT-5	77.52
OT-6	109.29
OT-7	75.28
OT-8	35.7
OT-9	36.06
OT-10	48.79
OT-11	31.62
average utilization	61.2



Graph no.1 shows average utilization of OT -1 to OT-11 in month January –march.

The highest utilized Operation theater are OT-6 followed by OT-5 and OT-7. The reason behind is 3 days in a week they are assigned for oncology and other 3 days for ENT, plastic & genral surgeries. Highest utilization is seen in OT-6 as all oncology commando and reconstruction surgeries are conducted in OT-6. These surgeries continue for long duration (13- 14 hrs).

OT-8, OT-9, OT-10 & OT-11 are utilized much lesser then the capacity.

OT-11 is least utilized as minor laproscopic surgeries (hernia, lap colon) are conducted here.

OT-8 & OT-9 are exclusively utilized for bariatric surgeries. These surgeries take 3-4 hrs.

OT-10 for laparoscopic surgeries.

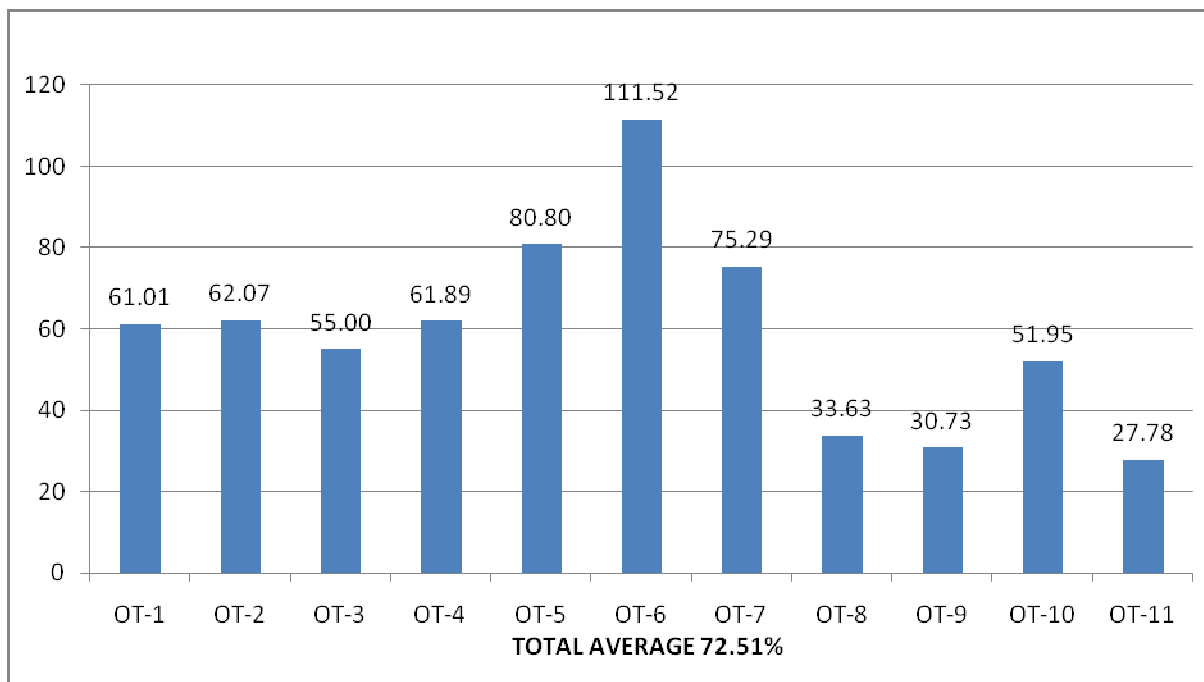
OT-2, OT-3, OT-4 exclusively utilized for cardiac surgeries.

OT-4 for paediatric cardiac

OT-2, OT-3 for adult cardiac surgeries. OT-2 is better utilized then OT-3 as surgeries are preferred in OT-2 when occupied then OT-3 is used.

UTILIZATION FOR 10hrs CASES (E)	
OT-1	61.01
OT-2	62.07
OT-3	55.00
OT-4	61.89
OT-5	80.80
OT-6	111.52
OT-7	75.29
OT-8	33.63
OT-9	30.73
OT-10	51.95
OT-11	27.78
AVERAGE	72.51

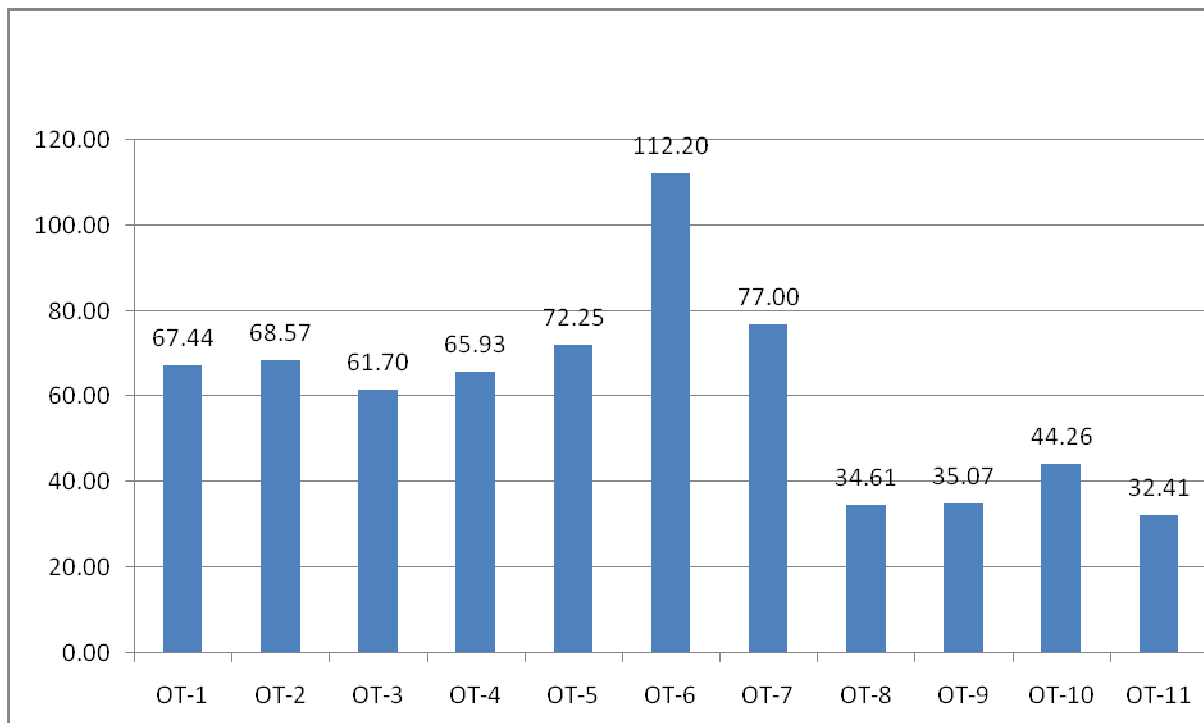
Table no 5 shows Average OT utilization in month of January.



Graph 2 shows average utilization of OT in month of January.

UTILIZATION FOR 10hrs CASES (E)	
OT-1	67.44
OT-2	68.57
OT-3	61.70
OT-4	65.93
OT-5	72.25
OT-6	112.20
OT-7	77.00
OT-8	34.61
OT-9	35.07
OT-10	44.26
OT-11	32.41
AVERAGE	75.01

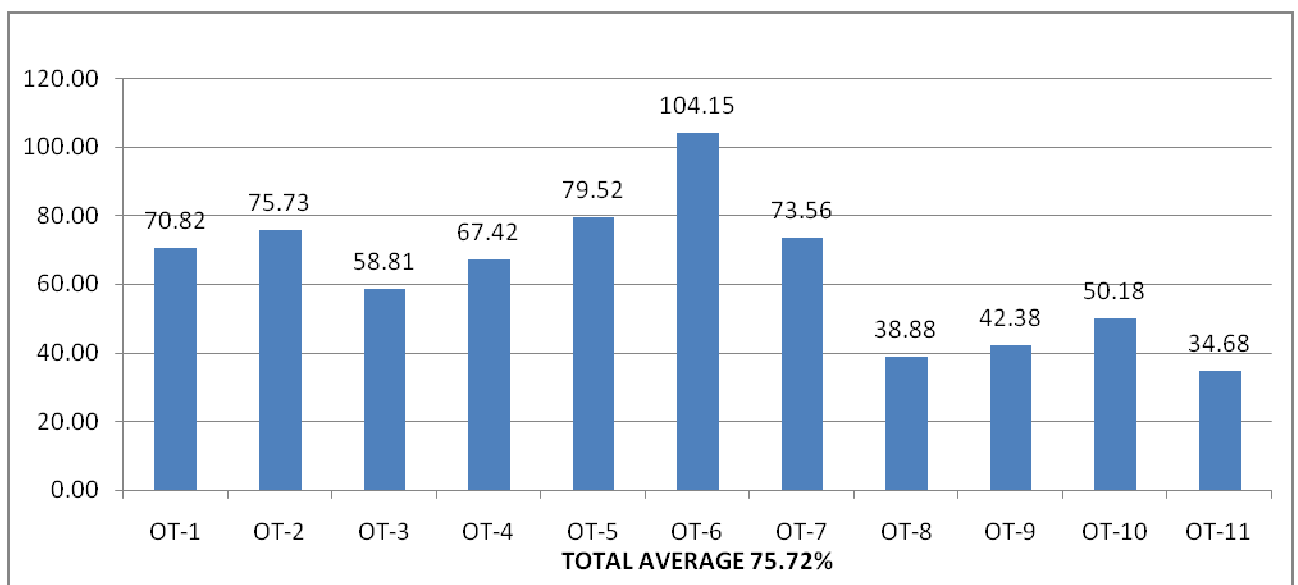
Table 6 shows Average OT utilization in month of February



Graph 3 average utilization of OT in month of February.

UTILIZATION FOR 10hrs CASES (E)	
OT-1	70.82
OT-2	75.73
OT-3	58.81
OT-4	67.42
OT-5	79.52
OT-6	104.15
OT-7	73.56
OT-8	38.88
OT-9	42.38
OT-10	50.18
OT-11	34.68
AVERAGE	75.72

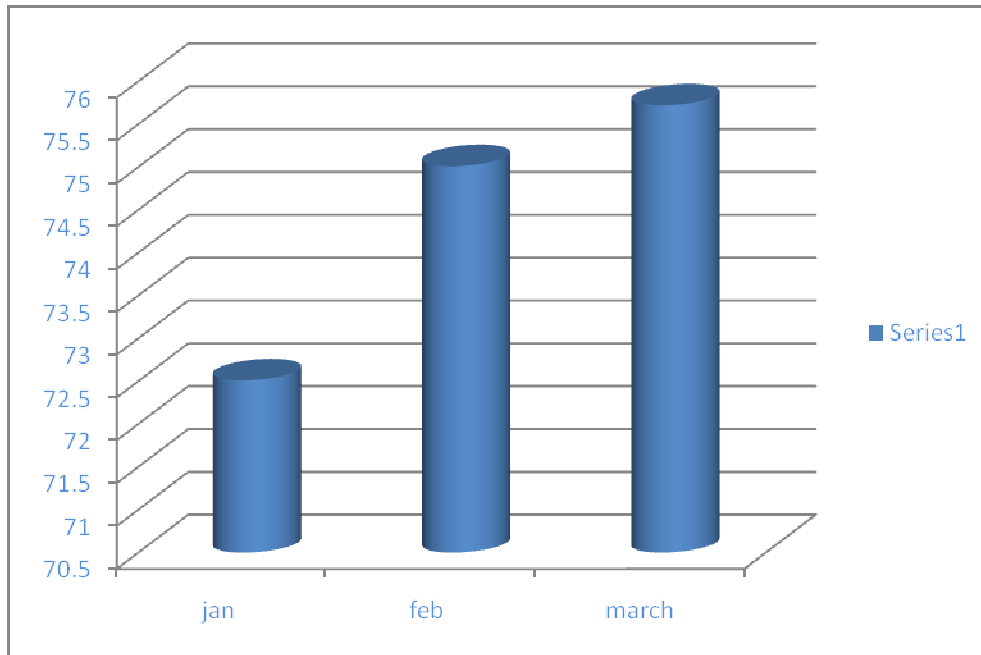
Table 7 shows Average OT utilization in month of March .



Graph 4 average utilization of OT in month of March.

The above table and graph depicts the average OT utilization of all 11 OT in month of March 2014

Operation theater Utililization (Jan-march 2014)



Graph no 5 shows the average utilization of 11 operation theater's in month of January , february and march 2014.

month	OT utilization
Jan	72.51
Feb	75.07
March	75.72
average	
utilization	74.5

Table no.8 Average Operation theater utilization of three months.

The Average utilization of Operation Theater for three months is 74.5%

FINDINGS:

- Max super specialty hospital (east) has a well equipped operation theater complex with 11 operation theater. The operation theater are shared among 7 units. Every unit is given a fixed OT and days of surgery. The operation theater is assigned depending on the specialty and workload. Even though Operation Theater is assigned to all units surgeries are done in other operation theater other than assigned to them
- The OT wise analysis of the utilization of OT complex reveals that utilization of OT-5, 6 & 7 (above 85%) comparatively better than OT-8, 9, 10 & 11 (laparoscopic, bariatric).
- The average utilization of OT-8, 9, 10, 11 is less than 40% which is much less than its capacity.
- The average utilization of OT-1, 2, 3 & 4 is below 65%.
- It is observed that delay in medical clearance, financial clearance, shifting of patient from ward to operation theater, start time of first case are some of the reasons of noncompliance of operation theater schedule.

SUGGESTIONS:

1. The study shows that OT 5, 6 & 7 (oncology, plastic surgeries) are adequately utilized. As data reveals that OT-6 is utilized above 100% so more OT days should be assigned for oncology and plastic surgeries because of increasing work load.
2. As OT 8, 9, 10 & 11 are utilized much lesser than its capacity. The management, doctor & OT personnel can jointly design the strategic plan for optimum utilization of Operation Theater. It can be done by increasing the number of surgeries. In order to increase the number of surgeries following issues need to be addressed.
 - Increasing the number of out patients department.
 - The total number of patients recommended for the surgery by the hospital's doctor. Out of these, number of surgeries performed by the hospital doctor.
3. Delay in start time of surgeries is one of the key factor affecting the utilization of operation theater. Effective interventions should be taken for smooth process flow of patients and avoid the delays.
4. Avoiding the delay in first case will not only be beneficial for adequate utilization of operation theater also improve the quality of patient care, appropriate utilization of staff time and resources available.
5. Effective scheduling of elective cases Operation Theater list that starts on time, ends on time and quick turnovers. Realistic scheduling will also prevent the cancellation
6. Delays in shifting of patient from ward to Operation Theater can be reduced by
 - Assigning a separate ward nurse for confirming the preoperative checklist and handover of patients to OT staff.
 - Strict monitoring of patient lift not been used by attender and staff.
 - Assigning a separate GDA in preoperative area for shifting of patient.

- A pre intimation call to patient attender about the arrival of OT staff to take the patient for OT.
-
- 7 Proactive reallocation of other surgery in case of delays due to financial and medical delays

REFERENCES:

- 1) www.haigekassa.ee/.../12_Operating%20theatre%20performance.doc
- 2) www.rguhs.ac.in/cdc/onlinecdc/uploads/15_HM02_15586.doc
- 3) *healthcare.financialexpress.com/200812/strategy01.shtm*

ANNEXURES

Table no.3.1 OT-1 Utilization (Jan-Mar 2014) for cardiac, gynaecology, oncology surgeries

Month	working days	total no of	time utilized	ot utilization
		surgeries	(min)	%
Jan	27	65	8770	61.06
Feb	24	52	9162	67.4
March	25	63	9639	70.82
			AVERAGE	
			UTILIZATION	66.4

The average utilization of OT-1 in January-march 2014 is 66.4%

Table no. 3.2 OT – 2 Utilization(jan-mar) for adult cardiac surgeries:

Month	working days	total no. of	time utilized	ot utilization
	days	Surgeries	(min)	%
Jan	27	33	9912	62.07
feb	24	35	9176	68.57
Mar	25	39	10805	75.73
			AVERAGE	
			UTILIZATION	68.79

The average utilization of OT-2 in January-march 2014 is 68.79%

Table no. 3.3 OT- 3 Utilization (jan-mar) for adult cardiac surgeries:

Month	working	total no. of	time utilized	OT utilization
	days	surgeries		%
jan	25	35	8606	58.81
Feb	27	28	8787	55
Mar	31	31	8628	61.7
			AVERAGE	
			UTILIZATION	58.5

The average utilization of OT-3 in January-march 2014 is 58.5%

Table no 3.4 OT -4 Utilization (jan-mar) for pediatric cardiac surgeries:

Month	working	total no. of	time utilized	Ot utilization
	days	surgeries	(min)	%
jan	27	36	9551	61.89
Feb	24	34	8903	65.93
March	25	38	9631	67.42
			AVERAGE	
			UTILIZATION	65.08

The average utilization of OT-4 in January-march 2014 is 65.08%

Table no 3.5 OT -5 Utilization (jan-march) for oncology and ENT surgeries:

Month	working	total no. of	time utilized	OT utilization
	Days	surgeries	(min)	%
Jan	27	70	11777	80.8
Feb	24	51	9683	72.25
March	25	67	10766	79.52
			AVERAGE	
			UTILIZATION	77.52

The average utilization of OT-5 in January-march 2014 is 77.52%

Table no 3.6 OT -6 Utilization (jan-march) for oncology and plastic surgeries:

Month	working	total no. of	time utilized	OT utilization
	days	surgeries	(min)	%
Jan	27	72	16261	111.52
Feb	24	57	14824	112.2
March	25	67	14007	104.15
			AVERAGE	
			UTILIZATION	109.29

The average utilization of OT-6 in January-march 2014 is 109.25%

Table 3.7 OT 7 Utilization (jan –mar) for oncology and ENT surgeries:

Month	working	total no. of	time utilized	OT Utilization
	days	surgeries	(min)	%
Jan	27	75	10888	75.29
Feb	24	68	9867	77
March	25	79	9428	73.56
			AVERAGE	
			UTILIZATION	75.28

Table no 3.8 OT -8 Utilization (jan-march) fo bariatric surgeries:

Month	working	total no. of	time utilized	OT Utilization
	days	surgeries	(min)	%
Jan	27	54	5095	33.63
Feb	24	52	4525	34.61
March	25	60	5235	38.88
			AVERAGE	35.7 %
			UTILIZATION	

The average utilization of OT-8 in January-march 2014 is 35.7%

Table no3.9 OT -9 UTILIZATION (Jan –March) for bariatric surgeries:

Month	working	total no. of	time utilized	OT
-------	---------	--------------	---------------	----

				Utilization
	days	Surgeries	(min)	%
Jan	27	57	4625	30.73
Feb	24	57	4605	35.07
March	25	66	5720	42.38
			AVERAGE	
			UTILIZATION	36.06

The average utilization of OT-9 in January-march 2014 is 36.06%

Table no 3.10 OT -10 Utilization (jan- march) for laparoscopic surgeries

Month	working	total no. of	time utilized	OT Utilization
	days	surgeries	(min)	%
Jan	27	66	7555	51.95
Feb	24	57	5925	44.26
March	25	63	6810	50.18
			AVERAGE	
			UTILIZATION	48.79

The average utilization of OT-10 in January-march 2014 is 48.79%

Table no 3.11 OT – 11 UTILIZATION (Jan – March) for laparoscopic surgeries:

Month	working	total no. of	time utilized	OT Utilization
	days	surgeries	(min)	%
Jan	27	63	4130	27.78
Feb	24	60	4120	32.41
March	25	71	4485	34.68
			AVERAGE	
			UTILIZATION	31.62

The average utilization of OT-11 in January-march 2014 is 31.62%