

**Summer Training at
Asian Institute of Medical Sciences (AIMS), Faridabad
(April 3 to June 2, 2017)**

- **OT Scheduling – Causes of Delay**
- **Analysis of Consumables in LSCS to Increase their Optimal Utilization**

**By
Bhawana Rupani**

**Under the guidance of
Dr. Suresh Joshi**

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


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

CERTIFICATE

This is to certify that Dr. Bhawana Rupani has undergone summer training in Asian Institute Of Medical Sciences (Faridabad) from 3rd April to 2nd June 2017.

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

I wish her success in all her future endeavors.



Col. (Dr.) Ashok Kaushik

Dean (Academic & Student Affair)

The IIHMR University, Jaipur



for Dr. Suresh Joshi

Professor

The IIHMR University

AIMS/Fbd/HR/BR/17

Date: 3rd June '17

TO WHOM IT MAY CONCERN

This is to certify that Dr. Bhawana Rupani D/o Mr. Narayan Das Rupani, student of MBA in Institute of Health Management & Research.

She has successfully undergone her internship in the department of Medical Operations from 3rd April 2017 to 2nd June 2017 on the topics "OT Scheduling" and "Analysis of consumables consumption in Lower Segment Caesarean Section (LSCS) to increase their optional utilization".

She also observed and witnessed NABH re-audit preparation & its related activities.

We wish her all the best.

Yours truly,

For Asian Institute of Medical Sciences



Rajeev Khatri

Group Head – Human Resources

Rajeev .K. Khatri
Group Head - Human Resources



Dr. Umakant Sharma

AGM – Medical Administration

AIMS/Fbd/AGM/BR/17

Date: 3rd June '17

CERTIFICATE OF APPRECIATION

Is hereby granted to Dr. Bhawana Rupani D/o Mr. Narayan Das Rupani, student of MBA in Institute of Health Management & Research for her outstanding performance and lasting contribution to the projects assigned with the effectual recommendations for the benefit of the organization and effectively understanding the working in the department of Medical Operations and also for being an Outstanding Administrative Professional.

Best Wishes.

Yours truly,

For **Asian Institute of Medical Sciences**



Dr. Sachin Arora

AGM – Medical Administration

ACKNOWLEDGEMENT

I am exceptionally thankful to all the professionals at **ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS)** for sharing generously their knowledge and precious time. I owe a great debt to **Dr.Prashant Pandey** (Director- Medical Services) and Dr.Hilal (Regional Director and Medical Superintendent) for sharing their valuable views in spite of their busy schedule. It has been my privilege to work under his dynamic supervision in the hospital.

I express my sincere gratitude to **Dr. Umakant Sharma** (Manager Medical Operations) and I would also like to grab the opportunity to thanks **Dr. Sachin Arora** (Asistant General Manager Operations), Mr. Karan and Mr. Sumit (Manager on Duty) for their helping hand, keen interest and valuable suggestions in the compilation of the report without their guidance and regular encouragement my project would not have been compiled.

I would also like to grab the opportunity to thanks **Dr. Divesh Arora** (H.O.D Anesthesia) and **Mrs.Deepa Sharma** (OT Manager) and her whole team of Operation Theatre Department for data collection and my learning would have not been possible without in depth discussion with them.

I am highly grateful to all the departmental heads and staff for giving us time and helped in learning the process. Without the active cooperation and participation of **ASIAN TEAM** it would not have been possible to accomplish my project.

Most importantly I would like to thank our college Mentor **Dr.Suresh Joshi** (Professor for guiding and supporting me on my given project work and **FACULTY OF IIHMR UNIVERSITYJAIPUR** for providing facilities for our study.

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ABBREVIATIONS

1. **NABH:** - National Accreditation Board of Health and Hospital
2. **NABL:** -National Accreditation Board for Testing and Calibration Laboratories
3. **OT:** - Operation Theater
4. **ICU:** - Intensive Care Unit
5. **IMCU:** - Intensive Medical Care Unit
6. **CCU:** - Critical Care Unit
7. **CCD:** - Causality Medical Director
8. **CTV; s:-** Cardio Thoracic Vascular Surgery
9. **ER:** - Emergency Room
10. **OPD:** - Out Patient Department
11. **ETO:** Ethylene Oxide
12. **CMO:** - Chief Medical Officer
13. **HOD:** - Head of Department
14. **GDA:** - Ground Duty Assistants
15. **MLC:** - Medico-Legal Case
16. **MRD:** - Medical Record Department
17. **MTP:** - Medical Termination of Pregnancy
18. **PNDT:** - Pre-Natal Determination Test
19. **TPA:** - Third Party Administration
20. **FDA:** - Food & Drug Administration
21. **HDU:** - High Depending Unit
22. **LDR:** - Labour Delivery Recovery Room
23. **IVF:-In- Vitro** Fertilization
24. **HDR:** - High Dynamic Range imaging
25. **SLED, CRRT:-**Sustained Low-Efficiency Dialysis, Continuous Renal Replacement
26. **EEG:** - Electro Encephalogram
27. **EMG:** -Electromyography
28. **RFA:** -Radio Frequency Albation
29. **LED:** -Light Emitting Diode
30. **P:** - probability

- 31. L:** - Likelihood
- 32. R.S:** -Risk Score
- 33. PET/CT:** - Positron Emission Tomography/ Computerized Tomography
- 34. Psig:-** Pounds per square inch gage
- 35. Hg:** - Inches of mercury
- 36. O2:-**Oxygen
- 37. CO2:** -carbon dioxide
- 38. N2O:** -Nitrous Oxide
- 39. MA:** - Medical Air
- 40. CCTV:** -Closed-circuit Television
- 41. SRM:** -Safety and Risk Management
- 42. ISO:-**International Organization for Standardization
- 43. WHO:** - World Health Organization
- 44. LSCS:** -Lower Segment Caesarean Section

INTRODUCTION OF HOSPITAL



**ASIAN INSTITUTE OF MEDICAL SCIENCES, FARIDABAD
(AIMS)**

HOSPITAL PROFILE



ASIAN INSTITUTE OF MEDICAL SCIENCES, a 425-registered bedded super specialty tertiary care hospital is truly futuristic in its services & technology and brings together some of the most talented medical professionals in India. The hospital has been accredited with NABH and NABL accreditations and is equipped with state-of-the-art technology. The hospital provides preventive, diagnostic, therapeutic, rehabilitative, and palliative and support services all under one roof and is designed to meet patient care and research requirements of the new millennium.

Situated in the national capital region of Delhi, the hospital is centrally located in Sector 21A, Faridabad, easily accessible from New Delhi International airport, New Delhi Railway station and New Delhi Interstate bus terminal.

ASIAN INSTITUTE OF MEDICAL SCIENCES, has been rated eighth best hospital in Delhi NCR by “The Week” magazine as per the “A C Nielson Survey”. The hospital is the vision of Padmashri awardee, Dr. Narendra Kumar Pandey, FRCS (Edinburgh), FRCS (Glasgow) FACS, FICS. Dr. Pandey is also recipient of Dr.B.C Roy National Award, the highest award in medicine instituted by the Government of India. He was honored for his pioneer work in Video Assisted Thoracoscopic Surgery (VATS)

Asian Institute of Medical Sciences provides comprehensive multi-specialty tertiary care facilities through its **Thirteen Centers of Excellence**.

The ASIAN CANCER CENTRE offers end to end services – from prevention, early detection to comprehensive treatment and Palliative care. The first hospital in North India to deploy the Varian’s Rapid Arc on a Trilogy system along with several high-end equipment’s such as PET/CT, DUAL head Gamma Camera and HDR brachy-therapy among others....

The ASIAN HEART CENTRE provides comprehensive cardiac care including non-invasive, interventional and surgical facilities. The hospital runs the most advanced cardio thoracic vascular surgery program including Bypass, open heart and valvular heart surgery. The Centre is equipped with the most advanced cath-lab for angiography and angioplasties.

The ASIAN CENTRE FOR ADVANCED SURGERY is manned by highly skilled surgeons, fitted with ultra-modern surgical and diagnostic tools to tackle the most complicated surgical procedures. The 11 modular operation theaters are equipped with LED lights, media bridges, laminar air flow, operating microscopes, image intensifiers, laparoscopic equipment, harmonic, RFA, Hepa-filters, Laser, Cusa etc.

The ASIAN CENTRE FOR NEUROLOGY AND NEUROSURGERY is fully equipped to treat all kinds of disorders of the brain and spine. The department is equipped with latest high end machines like Digital EEG, EMG etc.

The ASIAN CENTRE FOR UROLOGY & KIDNEY TRANSPLANT is a state of the art facility providing excellent care for all urological conditions such as kidney stones, prostrate, laparoscopic urology & uro-oncology.

The ASIAN CENTRE FOR RENAL DISEASES offers all forms of dialysis- hemodialysis, SLED, CRRT, Peritoneal dialysis and provision to dialysis hepatitis and HIV+ patients. The center is also successfully running Renal Transplant programs.

The ASIAN CENTRE FOR BONE & JOINTS offers one of the most COMPREHENSIVE treatments of bone and joint ailments. The hospital offers extensive expertise in joint replacement surgeries like knee, hip and other joints.

The high end and innovative technologies in the ASIAN CENTRE FOR ADVANCED IMAGING gives patients access to a reliable and intensive diagnosis. The Imaging department of the hospital is equipped with state of the art Phillips equipment including a 1.5T MRI, Mammography, Bone Densitometer, 4 D Ultrasound and Digital X Ray. The center has PET/ CT and dual head Gamma camera installed for early detection of cancer.

THE ASIAN CENTRE FOR GASTROENTEROLOGY is a state of the art facility providing excellent diagnostic and curative facilities in gastro intestinal problems, with the most experienced specialists for a wide spectrum of Gastro intestinal problems like: Gaseous Distension, Dyspepsia, Jaundice, Constipation, Bleeding from mouth & rectum.

VISION

“To be the most trusted healthcare partner for people through our unsurpassed quality & care and by striving to provide **accessible, affordable** and best **available** healthcare services in India”.

MISSION

“To provide comprehensive patient care by working as a team and offering highest standards of medical service in an ethical manner for delivering extraordinary customer satisfaction.”

MOTO

Will to Serve...

.... Skill to Cure

PUNCH LINE

Caring for what matters most

INTRODUCTION

As an integral part of the **MBA course**, the summer training helps us in understanding the overall functioning of the hospitals from a managerial point of view. Keeping this factor in view, I tried to visit different hospital departments of **ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS)** with a special focus on understanding the various procedures in place. I visited different departments, met the department In-charge and interacted with the doctors, nurses and other staff.

The **Aim** of the summer training was:

“To study the functioning of ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS) by undertaking the special projects” .

Objectives:

- ☐ To learn the daily operational management of the Organization and its various departments / areas.
- ☐ To identify issues / problems associated with some specific departments / areas.
- ☐ To undertake the projects / special tasks assigned to us.

Methodology:

Study design-

- ☐ Type of study- Cross Sectional Descriptive study, Observational study

Type of Data collected -

- ☐ Primary data collected by visiting the different departments.
- ☐ Secondary data from the various Hospital policies, documents in various departments.

What sets AIMS apart:

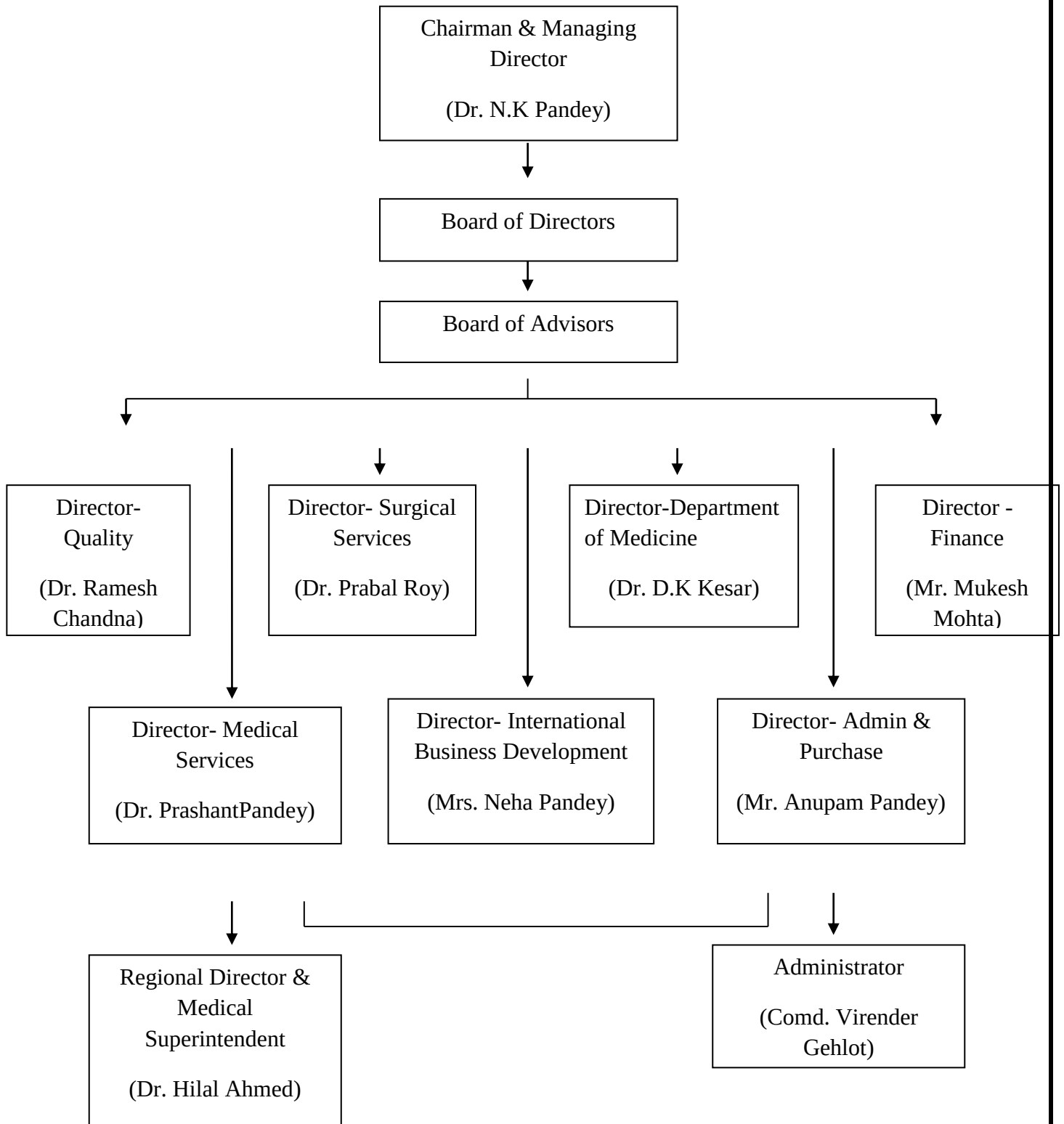
The institute is planned with international quality specifications and equipped with state-of-the-art equipment in all specialties. Some of the leading-edge healthcare services that will be provided are:

- The cancer centre at Asian Institute of Medical Sciences is a state-of-the-art facility that is slated to become North India's most comprehensive Cancer Centre offering all forms of treatment from early detection to cure and palliative care.
- AIMS is the first hospital to acquire and install **Rapid Arc- IGRT & IMRT Linear Accelerator (Varian)** in North India and it is the only hospital in Haryana, with this kind of comprehensive facility.
- AIMS is equipped with the **first PET/CT** in this region. The PET/CT is one of the most advanced diagnostic equipments available today for early detection of cancer
- 11 modular modern and state of the art operation theatres equipped with LED Lights, media bridges, Laminar flow, operating microscopes, image intensifiers, laparoscopic equipment, Harmonic, RFA Laser, CUSA etc.
- Imaging department equipped with state of the art Phillips equipment including a 1.5T MRI, The first PET CT in South Delhi/Faridabad, 64 Slice CT Scan Mammography, Bone Densitometer, High end ECHO, 4D Ultrasound & Digital X-Ray.
- Comprehensive Cardiac Program including Non-invasive & Interventional Procedures and Cardiac Surgery. Centre of Excellence in Renal Care – round the clock facility for dialysis.
- Comprehensive and State of the art Laboratory & Blood Bank, with all machines in imaging and diagnostics online and results available on posting immediately on the intranet and internet
- Preventive Health Check-up facilities tailored to individual requirement.
- A comprehensive physiotherapy center and a dedicated centre for alternate medicines and treatments such as Homeopathy, Ayurveda and Reiki Spiritual healing.
- A 250-seat auditorium and amphitheatre for education, conferences, workshops and seminars. The auditorium is connected to a live stream from all operation theatres.
- Air Ambulance Service.

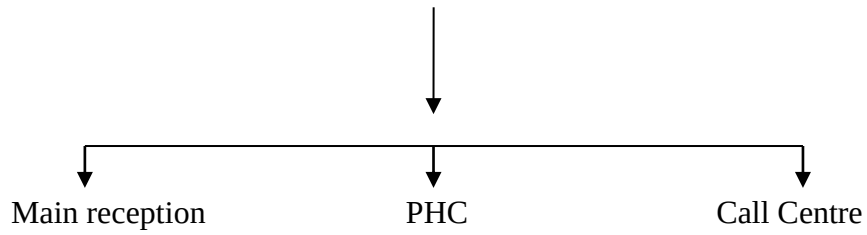
Distribution of Beds

	No. of Beds
Suit/R	10
Private Cabins	34
5 th floor	17
6 th floor	17
Semi Cabins – 1 ST Floor	12
Semi Cabins – 6 th Floor	14
General Wards – 1 st Floor	43
General Wards – 2 nd Floor	60
Emergency Ward	11
ICU	10
CCU	18
IMCU	6
LDR	8
LR	14
PICU	6
NICU	6
PD	18
NUR Ward	8
CTVS	7
Recovery Room	15
Dialysis Ward	23
TOTAL	325

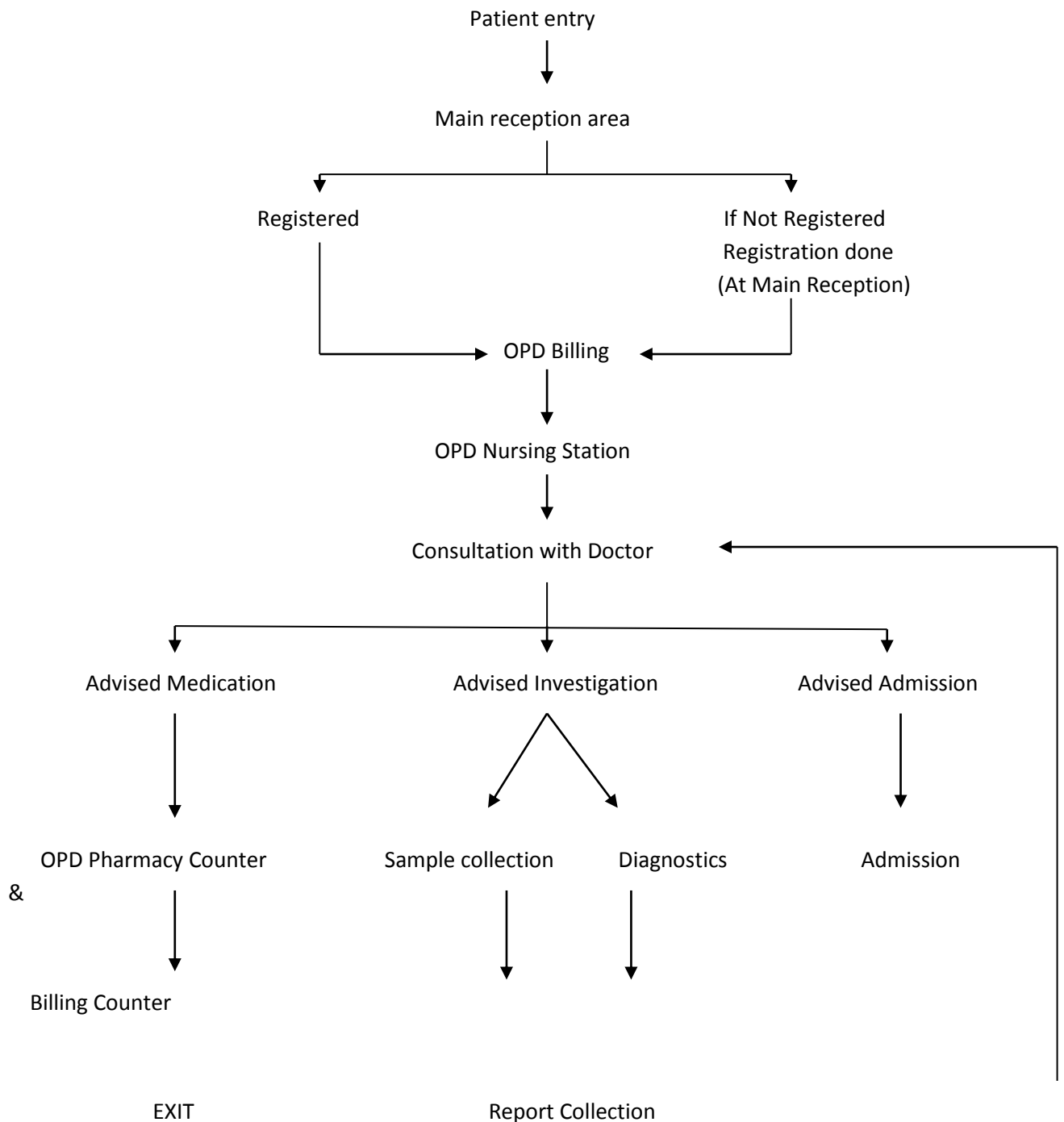
ORGANISATIONAL STRUCTURE



FRONT OFFICE



I) MAIN RECEPTION



Infrastructure:

Wheelchair : 4

Stretcher : 1

No. of OPD Billing Counters: 7

No. of Admission Billing Counters: 2

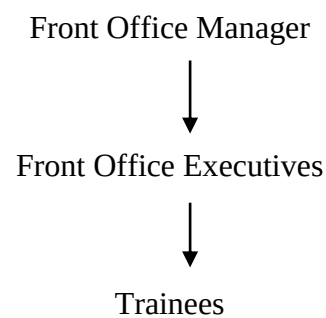
Sample Collection Room: 1

International Patient's Reception: 1

Staff:

- 1 Front Office Manager
- 4 Front Office Executives
- 1 Healthcare Executive
- 9 Trainees

Hierarchy:



Records Maintained:

- ✓ Current Inpatient reports.
- ✓ Appointment details.
- ✓ Daily patient's registration details.
- ✓ Doctors attendance details.

Responsibilities of Front Office Manager:

- Responsible for overall supervision of the front office staff.
- Formulation of department goals, policies, procedures and their implementation.
- Coordinates operations, assigns responsibilities and supports the staff in peak hrs.
- Coordinates events in hospitals like CME, VIP visits.
- Inventory control and budget forecasting w.r.t front office.
- Training of newly appointed front office executives and other staff under him/her.

Roles & Functions of Front Office Staff:

- Attending the patient, visitors & staff.
- Handling their queries.
- Patient coordination.
- Provide them necessary information according to the policy.
- Helping patients fill up their registration form.
- Making appointment with the doctors.
- Taking of the feedback in the feedback forms.

Roles & Function of Call Centre Executives:

- Receive and answer the various calls from outside and within the hospital
- Answering queries regarding the OPD appointments and charges, various tests availability and charges
- Connecting to various employees within the hospital by Star-Dialing.

GAPS:

- No wall clock at Main Reception Area.
- No STD/PCO facility provided in or around front office.
- No provision of pen besides suggestion box.
- Problem of “Change” (Rs) faced by most of OPD Counter & Admission Counter assistants.
- No Counselor’s room.
- No Mission & Vision of hospital in Main Reception Area.
- No photocopy machines.
- No ATM facility.

II) OPD RECEPTION

OPD's are distributed amongst Ground, First & Second floor of the hospitals.

<u>Basement (-1) OPD</u>	<u>Ground Floor OPD's</u>	<u>First Floor OPD's</u>	<u>Second Floor OPD'S</u>
- Oncology	- Urology - Orthopedics - Neurology - Neurosciences - Surgery - Internal Medicine - Ophthalmology - ENT - Dietetics - Alternate Medicine - Psychiatry - Physiotherapy	- Cardiology - Gastroenterology - Dermatology - Respiratory Medicine - Dental - Psychology - Nephrology - Cardiac Surgery	- Gynecology - Pediatric

No. of OPD Counters: 7

- One for Orthopedics & Neurosciences
- One for E.N.T & Urology
- One for Eye & Surgery
- One for Cardiac Surgery, Nephrology, Respiratory Medicine, Gastroenterology & Dermatology
- One for Dental & Cardiology
- One for Gynecology & Pediatrics
- One for Oncology.

Total Manpower for OPD Counter: 15

Records Maintained:

- Patient's OPD Registration records.
- Daily visitor's report.

GAPS:

- Need for a separate billing counter for Gynecology and Pediatrics OPD since the OPD location causes discomfort.
- No defined protocols of waiting for those coming to get their reports checked by consultants.

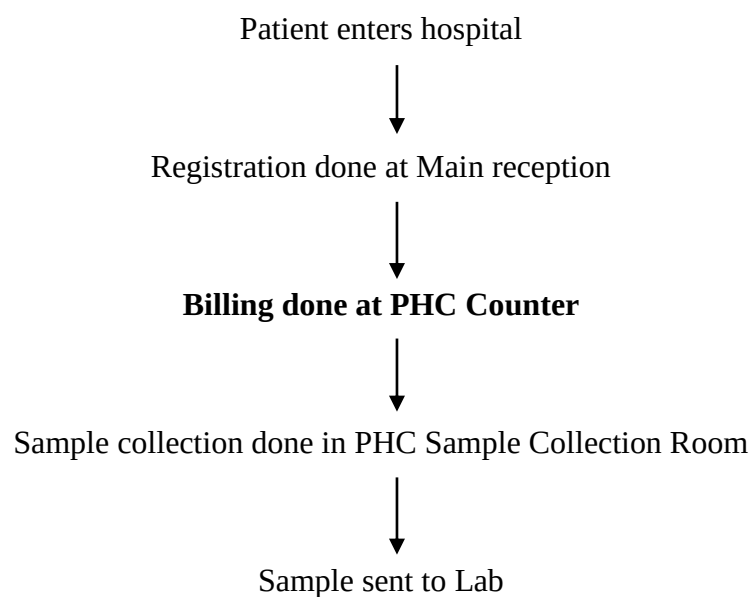
PHC

(PREVENTIVE HEALTH CHECKUP)

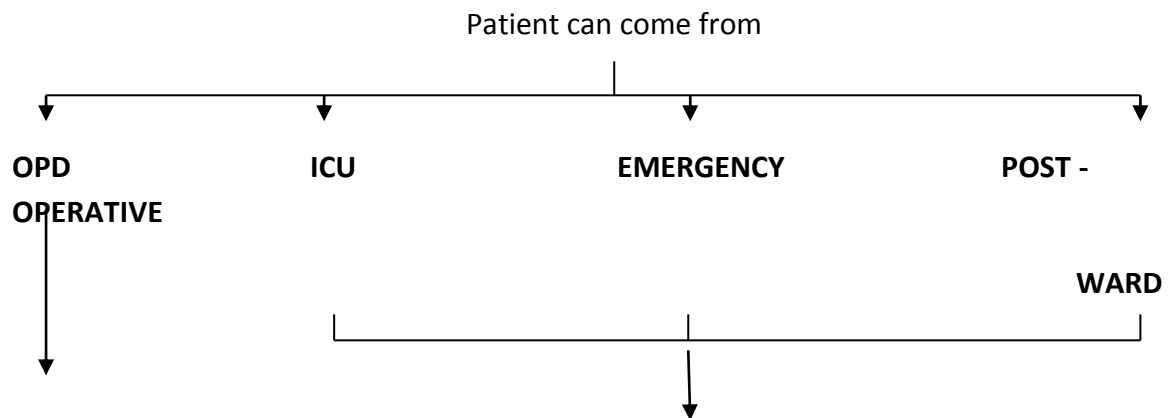
Layout: 1st Floor

Staff: 4

WORKFLOW:



FLOWCHART FOR ADMISSION OF A CASH/NON TPA PATIENT



Admission counter
Assistant gives a call
to nursing station to
confirm for bed
availability.

- Nursing staff of ward changes the patient status in HIS by
doing "**CHECK-IN**" of the patient received.
- ICU/ EMERGENCY/ POST-OPERATIVE WARDS (from where
the patient is coming) changes the patient status in their
HIS by doing "**CHECK-OUT**" of the patient.

Nursing staff prepares the room/bed.

Entry done in HIS, Register, White Board

Nurse informs the concerned Doctor

Doctor comes & prescribes medication and investigation (if any)

Nurse writes the prescribed drugs on Indoor Drug Requisition Form

Ward boy goes and collects the drugs from Pharmacy



Nurse starts medication + prepares the patient for investigation (if any).

DISCHARGE PROCESS FOR NON-TPA PATIENT

Doctor prescribes the discharge



Nurse informs the patient about the time of discharge



Staff nurse starts discharge formalities

By

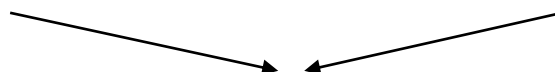


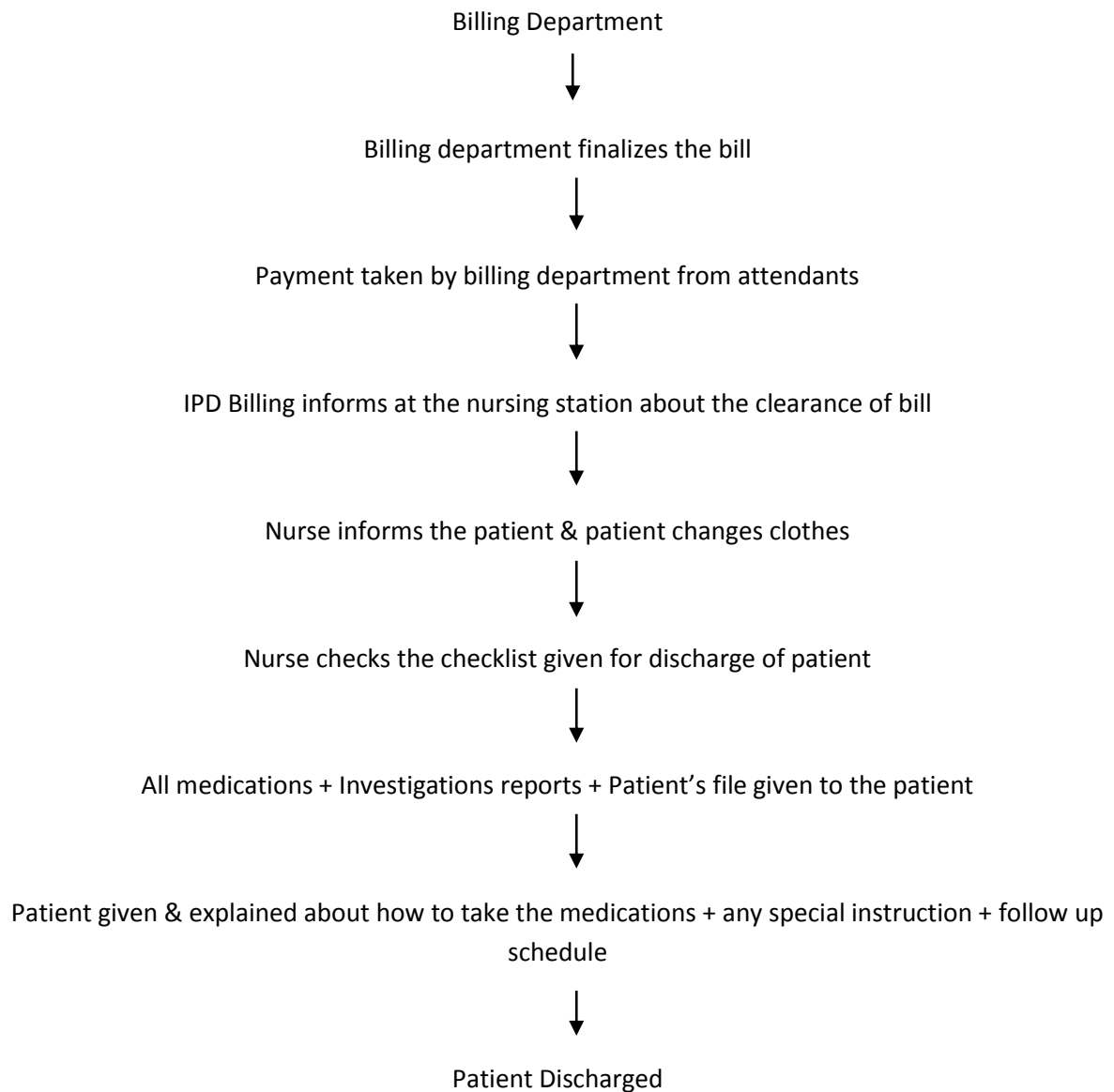
- Asking the Medical Officer / Concerned Physician to make discharge summary.
- Informing Dietician to make discharge diet report for patient.
- Counseling of the patient by the dietician and physiotherapist (if physiotherapy is going on for patient)

- Sending to Pharmacy:
 - Daily Billing Activity Sheet
 - Daily Pharmacy Bills
 - Discharge medication details
 - Medicines left unconsumed
- In Pharmacy, Summary of Pharmacy Bill is prepared.

Discharge Summary completion
(by Medical Transcriptionist)

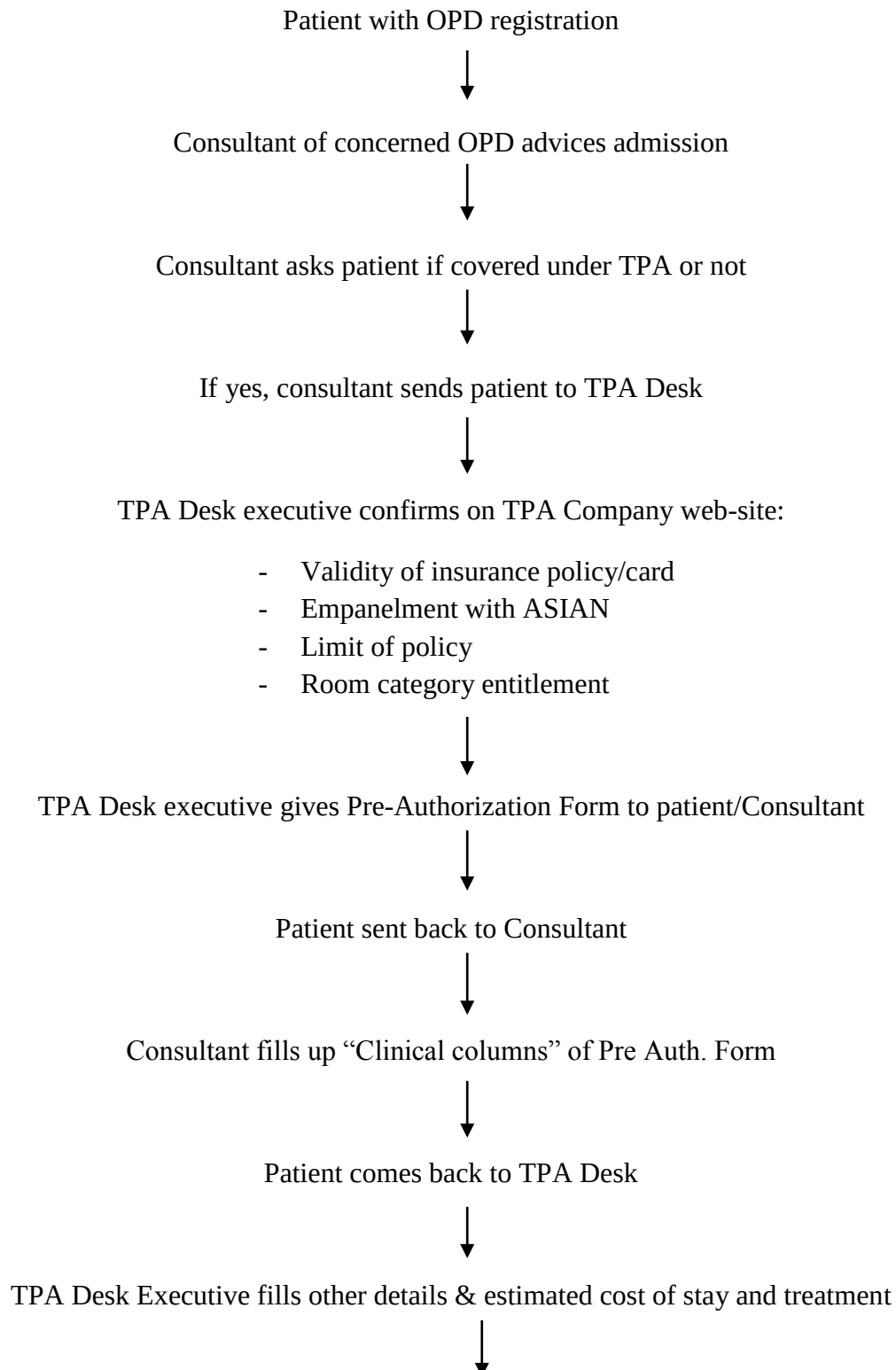
Daily Billing Activity Sheet +
Summarized Pharmacy Bill

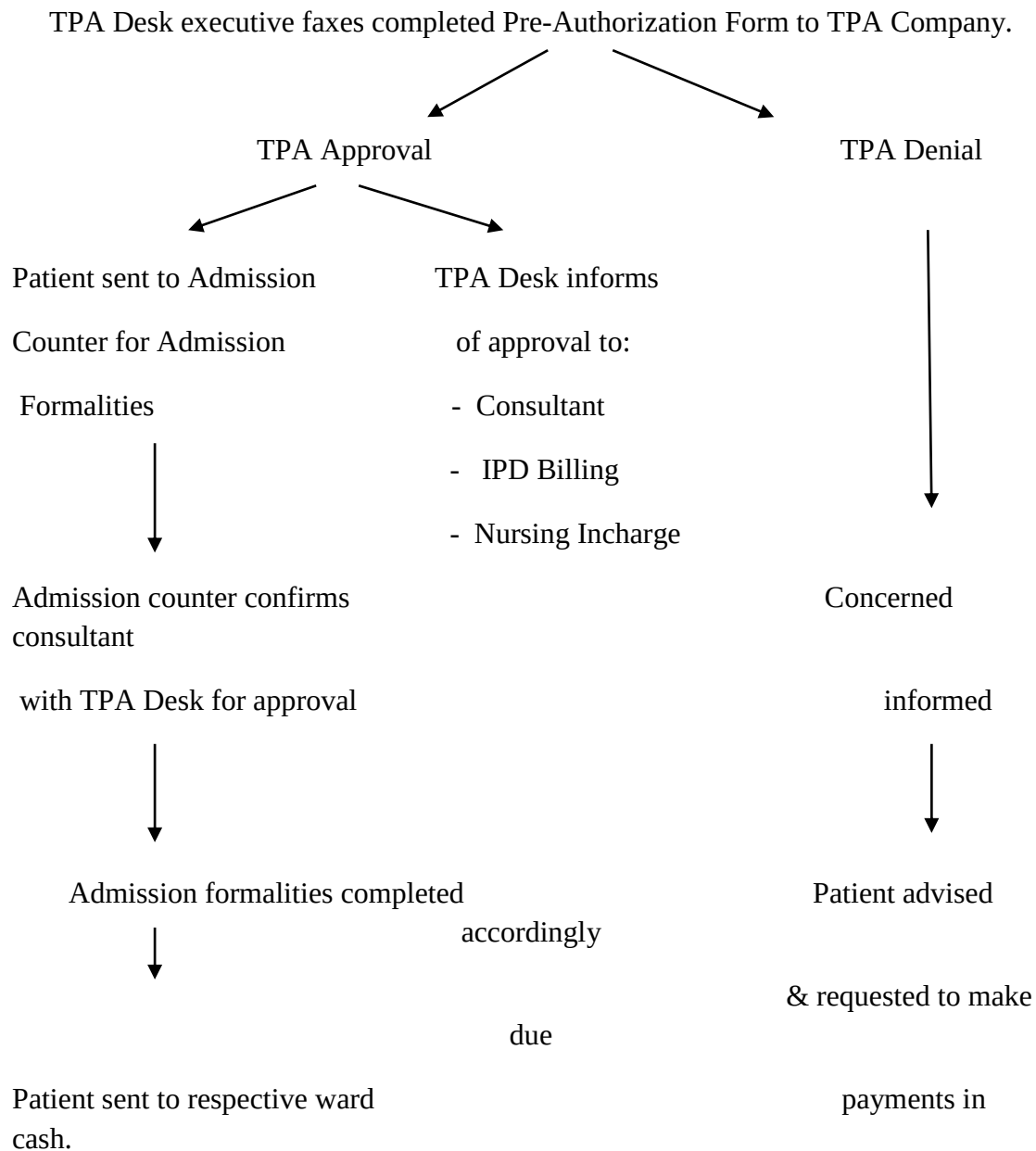




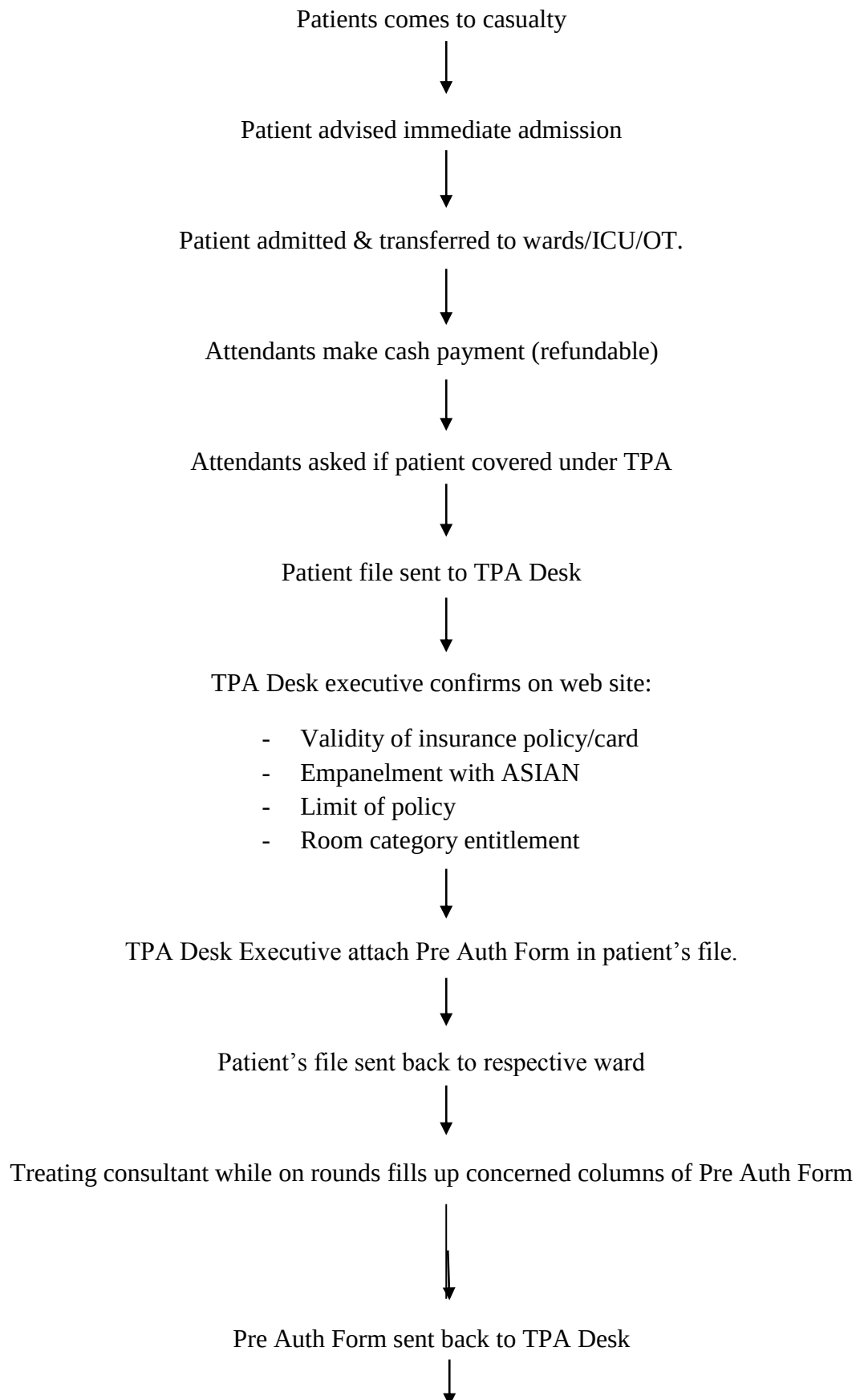
FLOW OF A TPA PATIENT

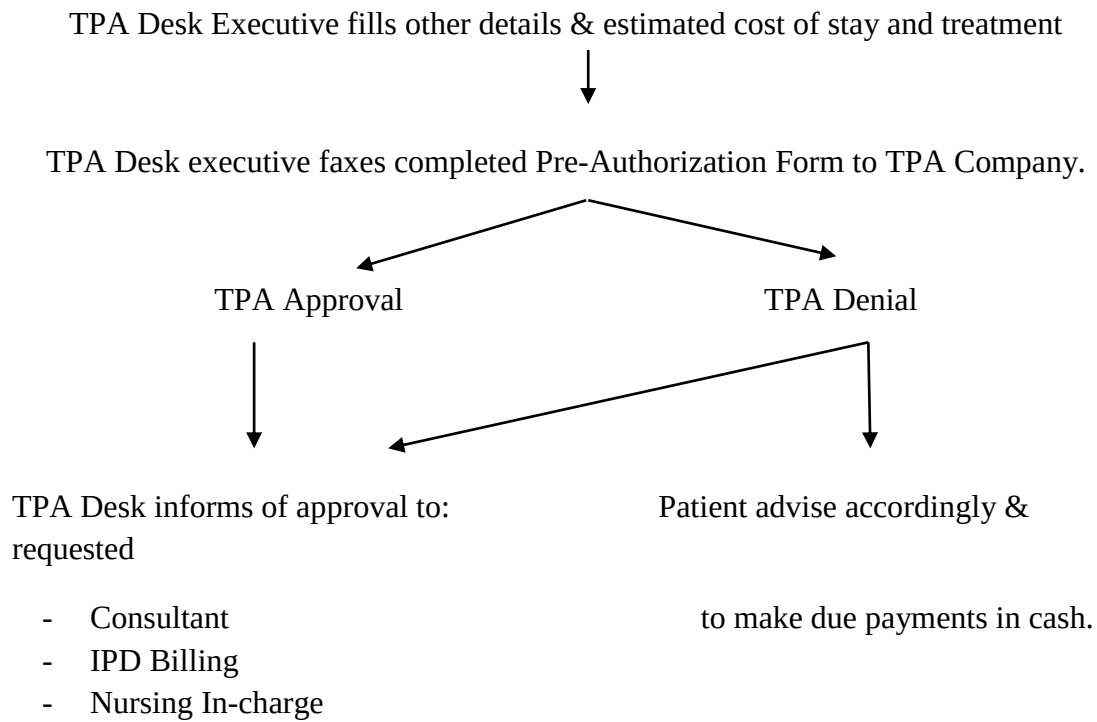
I) PRE-PLAN ADMISSION



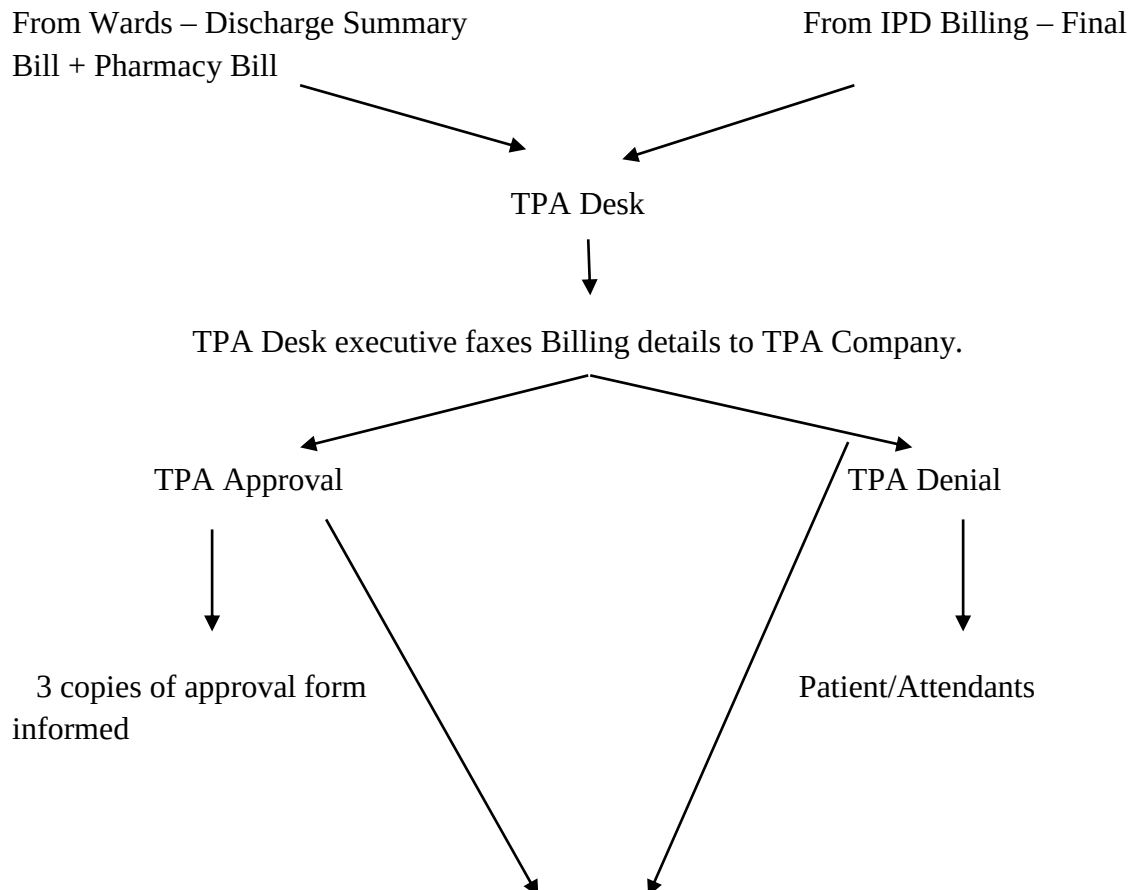


EMERGENCY ADMISSIONS FOR TPA PATIENTS





FLOW OF TPA PATIENT DISCHARGE



- 1 for patient
- 1 for TPA Desk
(Hospital's records)
Documents
- 1 for Billing

& made to sign:

- Denial copy
- Self Payment

TPA Desk informs

of approval to:

- Consultant
- IPD Billing
- Nursing In-charge



Patient sent to IPD Billing for bill clearance.
Patients/Attendants



Patient takes Bill clearance copy to Nurse In-charge
Patient/Attendants



Patient discharged and handed over duplicate copies
denial
of TPA formalities



make self-payment.



handed over
original TPA-
documents

OT (Operation Theatre)

- ❖ **Layout:** 3rd floor
- ❖ **No. of OT's:** 10
 - General OT's – 8
 - Eye OT- 1
 - Cardiac OT's – 1
- ❖ **No. of beds in Pre-operative ward :** 7
- ❖ **No. of beds in post-operative wards :** 10
- ❖ **Utility room:** 1
- ❖ **Doctor's Lounge:** 1
- ❖ **Nurse and Technician Lounge:** 1
- ❖ **Pantry:** 1
- ❖ **Sterile room:** 1
- ❖ **Changing rooms:** 4
 - Doctor (male) changing room:** 1
 - Doctor (female) changing room:** 1
 - Nurse (female) changing room:** 1
 - Technician + Nurse (male) changing room:** 1

Department Head:

Dr. Divesh Arora

(MD, Senior Consultant, HOD- Anesthesia)

AREA SPECIFICATIONS OF EACH OT

OT NUMBER	H X L X W	Cubic Feet
OT-1	10 X 21 X 19	3990
OT-2	10 X 20 X 19	3800
OT-3	10 X 21 X 18	3780
OT-4	10 X 21 X 17	3570
OT-5	10 X 22 X 18	3960
OT-6	10 X 21 X 18	3780
OT-7	10 X 26 X 18	4680
OT-8	10 X 20 X 18	3600
OT-9/10	10X26.5X18	4770

Records Maintained:

Forms Maintained	Registers maintained at OT Pre-holding area	Registers maintained in Sterile Room	Registers maintained with Nursing In-charge	Registers maintained with Manager Technician
- Consent forms: - Informed - Anesthesia - Surgical/ Medical Treatment. - Pre anaesthesia Check up form - Surgical safety checklist form - Requisition form : - Histopath. - Blood bank - Laboratory - Indoor patient drug requisition form - Operation note - Instrument checklist form - Form for linen & laundry.	- OT Patient Pre Hold Register - Operation Record Register - OT Daily Charge Register - In-Out - Register - CSSD Register	- Instrument Set Register - OT Fridge medicine Register - Cidex OPA Register - Formalin Register - Re-Autoclave Register - Autoclave Register - ETO Register - Plasma Register	- Inventory Book - Movement Register OT - Duty Roaster - OT Purchase Book - Emergency OT Register - Complaint OT Register - Pharmacy Bill OT Register - OT Checklist Register - Consent form file	- OT Culture File - Daily OT Cleaning Register - Fumigation Record File

OT Washing & Fogging Schedule:

OT - 1,2,3,8 and sterile room : Every Saturday

OT - 4,5,6,7 : Every Sunday

Present Scenario:

10 functional OT's



Therefore, OT Washing every Saturday and Sunday, fogging done every Saturday



In case, culture report (every 72 hrs for each OT) shows more **than 3 types of isolates** then fogging done on same day in OT.

INFECTION CONTROL SURVEILLANCE PROGRAMME FOR OT

Records maintained for OT Sterilization Check:

1. OT Culture File:

- Contains culture report of each OT
- Done every **72 hrs.**
- Swabs taken from OT Floor, walls, table locations.
- Method used : **Slit Air Method**
- FORMAT : Site (OT No.)
Method
Receiving date
Reporting date
Microbiology report

2. Daily OT Cleaning File:

- Daily OT cleaning record (compiled to get monthly record) with format as :
OT No./Item name /Qty./ Date /Morning, Evening, Night with
(personnel sign & ID no.)
- OT Washing date record, OT Fogging date record.

3. Fogging Record File

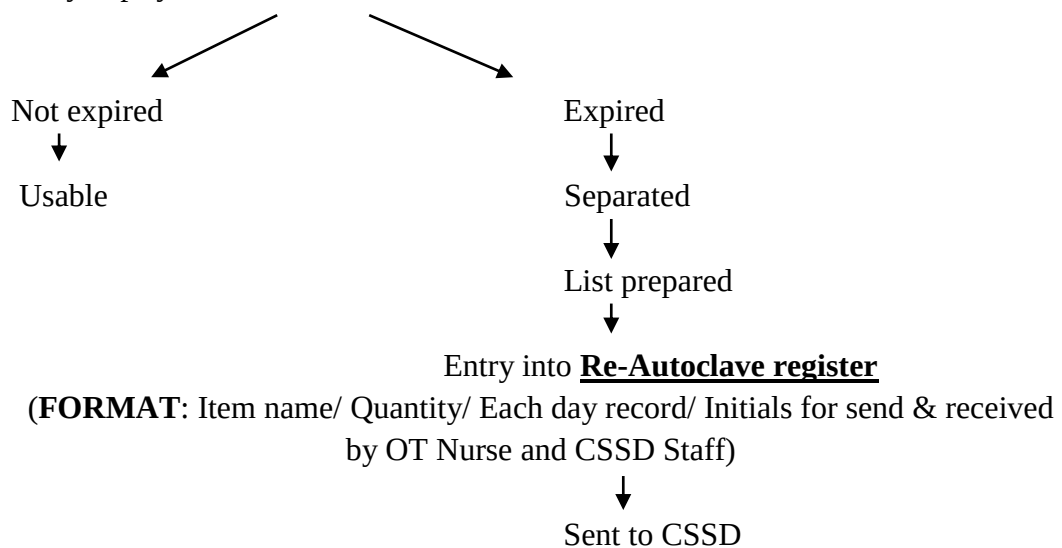
- Separate record for each OT
- Fogging done by **OT guard.**
- Weekly reporting
- FORMAT:

Date/ Fogging done by/ Technician name/ Remarks

OT Inventory Management & Records:

1. INSTRUMENT SET REGISTER (In sterile room)

- For daily inventory management in sterile room
- Person on charge: nursing staff personnel (assigned duty everyday)
- Inventory maintained according to **racks number**
- Each rack assigned a specific number
- Daily expiry checks of each item in racks



2. FRIDGE MEDICINE REGISTER OT (In Sterile Room)

- Each day inventory maintained by personnel incharge of sterile room
- Daily expiry check

3. INVENTORY BOOK OT

- For each OT separate register
- For drug inventory in OT
- Inspected, maintained and signed daily by nurse incharge.

GAPS:

1. Need for HIS in OT for smooth inventory management.
2. Way to recovery room not a part of sterile zone.
3. Wheels of stretchers and trolleys in pre-holding area not cleaned when brought in from recovery room.
4. Need for a form to check OT preparation in between cases.
5. Needles instead of pins, used for pin-ups in technician bulletin.
6. No separate corridor for waste disposal after surgery.

STRENGTHS:

1. State of art equipment's.
2. Wall mounted communication system in OT (Telephone + Intercom).
3. **Modular OT'S** fitted with state-of-the-art **LED Trilux Aurinio Lighting** and equipped with a **Trilux Media Bridge****.
4. OT's are designed with HEPA filters, Laminar airflow systems with **separate AHUs** for infection prevention.
5. Wall mounted digital temperature and humidity controller and medical gas alarm panel.
6. **AGSS** (Anaesthesia Gas Scavenger System) in OT's: First in any North India Hospital.

**** The Trilux Media Bridge system** combines lighting, media supply and clean air equipment in a perfectly matched system. The possible combination with a laminar flow air supply ceiling for turbulence free displacement current that delivers extremely high air purity.

DOCUMENTS AND CHECKLIST MAPPING ACCORDING TO PATIENT FLOW IN OT

Patient's Progress	Documents in file	Documents to be added	Checks and checklist	Procedure done by nursing staff (during the process)
From WARD to PRE-OPERATIVE AREA	Consent forms: - Informed - Surgical - Anaesthesia Pre operative checklist Bill clearance papers Records of- Antibiotic & Investigations Pre anaesthetic check up record	Surgical safety checklist form Requisition forms: - Histopath - Blood bank - Laboratory - Indoor patient's drug requisition form	All documents received from wards are complete. Part preparation done On-time pre surgery antibiotic schedule	OT Patient Pre hold register completion Time in entry in "In-Out Register"
From PRE-OPERATIVE AREA to OPERATION THEATRE (OT)		Completed Surgical safety check list form. Operation notes	"First column" of Surgical safety check list form completed or not. Checks of : -Medical gases -Equipments -Electrical points -Linen -Complete surgical set "Pre column" of Instrument checklist form.	Completion of "second column" of Surgical safety check list form Operation records register completion "Post column" of Instrument checklist form completed.

From OT to POST OPERATIVE AREA/RECOVERY AREA		Completed operation notes form OT Daily Charge Bill	Proper disposal of OT waste as per procedures laid down. OT preparation for next surgery. Special attention to blood spills.	OT Daily charge bill completion Completion of “Time-out” in “In-Out OT Register”
---	--	---	---	--

DEPARTMENT OF CRITICAL CARE

Components: ICU, IMCU

Layout: 3rd Floor

Infrastructure:

Desktops: 3

Printers: 1

Intercom: 1

Nursing staff: 29

Housekeeping staff: 3

Working Shifts:

Morning: 8.00 AM to 2.00 PM

Evening: 2.00 PM to 8.00 PM

Night: 8.00 PM to 8.00 AM

ICU ADMISSIONS

Admission in ICU can occur from:

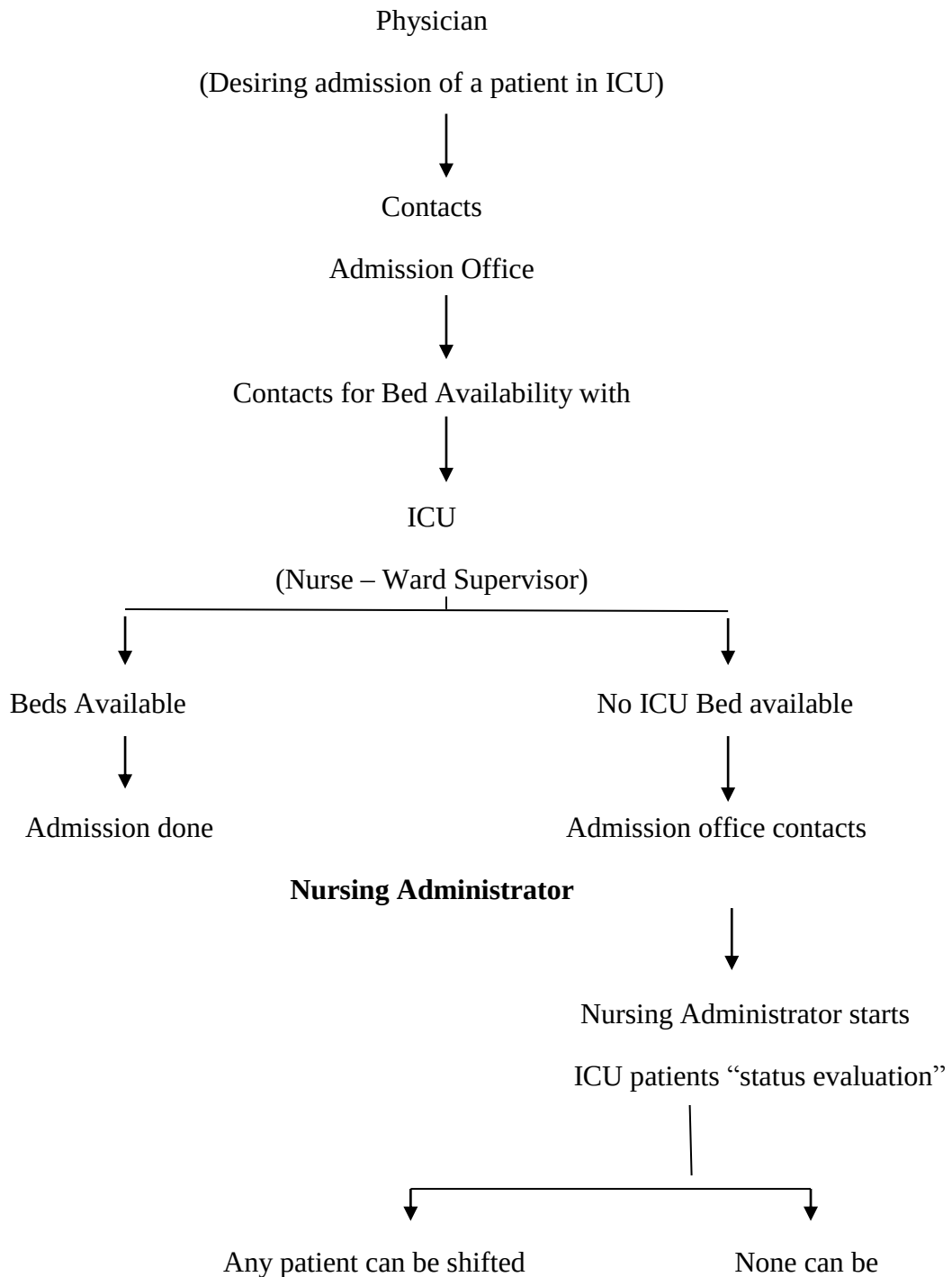
- Inpatient wing of the hospital
- OT
- Emergency complex
- From other hospitals
- Transfer from IMCU
- Sometimes directly from OPD
- Rarely from Bronchoscopy, Endoscopy, Dialysis unit

Ownership of patient care in ICU:

- ICU & IMCU are running under **“Semi-Open Model”**.

- Patients are admitted under consultants of various medical and surgical specialties.
- Thereafter, patients are managed jointly by: **ADMITTING TEAM & CCM TEAM.**
- All admissions must be notified by Duty Doctor to both the teams.

Patient admission procedure in ICU

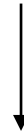


to IMCU/ Wards/ CCU



Patient shifted to ICU
after one patient shifted
to IMCU/ Wards

shifted



Patient is stabilized
↓
Nursing Supervisor contacts
Administrator on-call
↓
He authorizes transfer of
patient to other hospital**

**AIMS Physician is responsible to locate a physician who will admit the patient to another hospital.

DEATH PROTOCOL

In case of clinical death



Duty doctor informs both Admitting & CCM team
before declaring death



Family informed of death



Doctors on duty issues a Death Certificate ASAP after death



Body is duly packed in fresh sheet & retained in ICU**



Family is requested to clear bills (Hospital + Pharmacy + any other)

& fill Dead Body Form



After receiving Dead Body Form, body handed over to family

** Body retained in ICU for a maximum of 1 hr. after death and upto 4 hrs in exceptional situation on orders of Duty Doctor & beyond that on orders of GM (Admin). Thereafter body is sent to Mortuary and security is informed.

If MLC case, packed body is sent to mortuary & handed over to police by security.

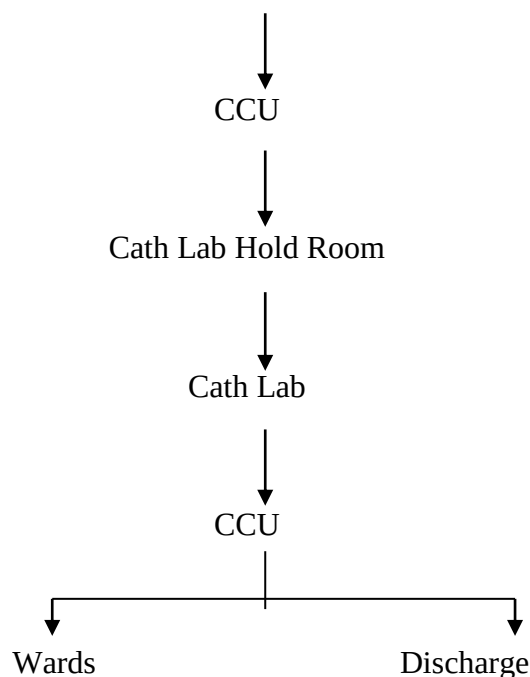
GAPS: -

- Nursing handover is not filled by nursing staff.
- Pacemaker functioning is not checked daily.

Cath Lab

- **Layout:** 6th floor
- **Department Head:** Dr. Rishi
- **Workflow:**

Patient from Cardiac OPD/ Emergency/ Wards (rarely)



- **Common procedures in Cath Lab:**

- Coronary Angiography (CAG)
- Coronary Angioplasty (PTCA)
- Balloon Mitral Valve Valvoplasty
- Permanent Pacemaker
 - Single chamber
 - Dual chamber
 - Bivent
 - Combo device
 - AICD
- Peripheral Angiography
- Peripheral Angioplasty
- Renal Angioplasty
- Electrophysiology study- Radiofrequency Ablation (EPS-RFA)

- **EQUIPMENT:**

PHILIPS FD-20 Flat panel (for coronary & vascular intervention)

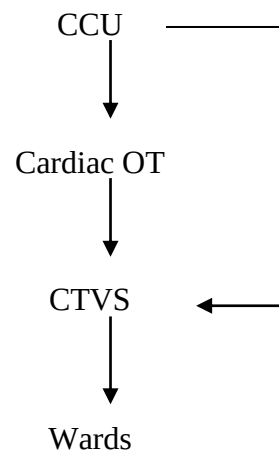
- **Records Maintained:**

- CAG Register
- PTCA Register
- PTA Register
- PPI Register
- Cleaning records
- Fumigation records
- Inventory records.

CTVS

- **Layout:** 3rd floor
- **Beds:** 7
- **Store room:** 1
- **Doctor's room:** 1
- **Clean utility room:** 1
- **Dirty utility room:** 1

Workflow:



GAPS:

- No signage for attendants to wear mask and head cap before entering CTVS.
- No signage of CTVS- ICU at entrance.

EMERGENCY COMPLEX

Layout: -1 Basement

N: P Ratio: 1:1

AMBULANCE SERVICE FLOW

Call centre executive attends the emergency call



Transfer the call to Emergency's CMO



Notes down necessary details like:

- Place/address
- Time of call received
- Details of call
- Name & contact no of caller



Informs Casualty Nurse Incharge



2 male nurses + 2 wardboys + 1 RMO (if required)

get ready

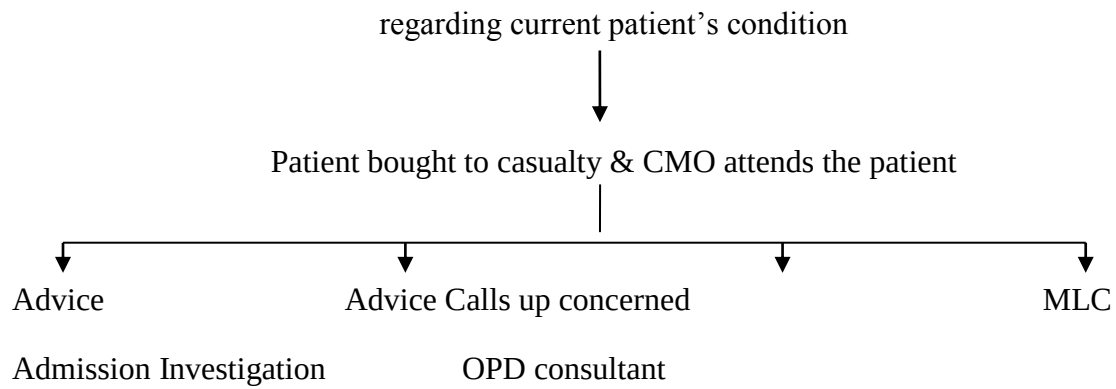
Ambulance dispatched within 5 mins



Ambulance picks up patient



Necessary first aid given to patient & call is given to CMO



STRENGTH:

- Staff is trained and competent.
- Records are maintained properly.
- Jump kit and disaster kit is stored properly.

GAPS:

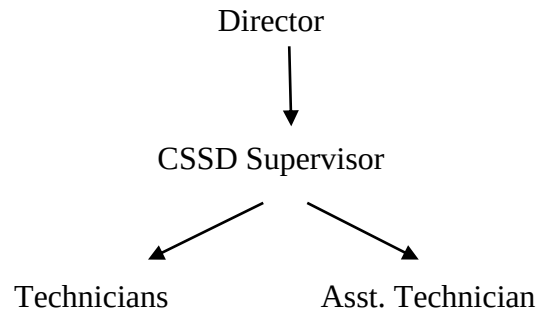
- Sitting arrangement for nursing staff poor.
- Shortage of almiraahs & racks.
- Only 1 fire extinguisher in whole ER Complex.
- City's & NCR region map not available with ambulance driver.

CSSD

(Central Sterile Supply Department)

Layout: 4th floor (“U” shaped layout)

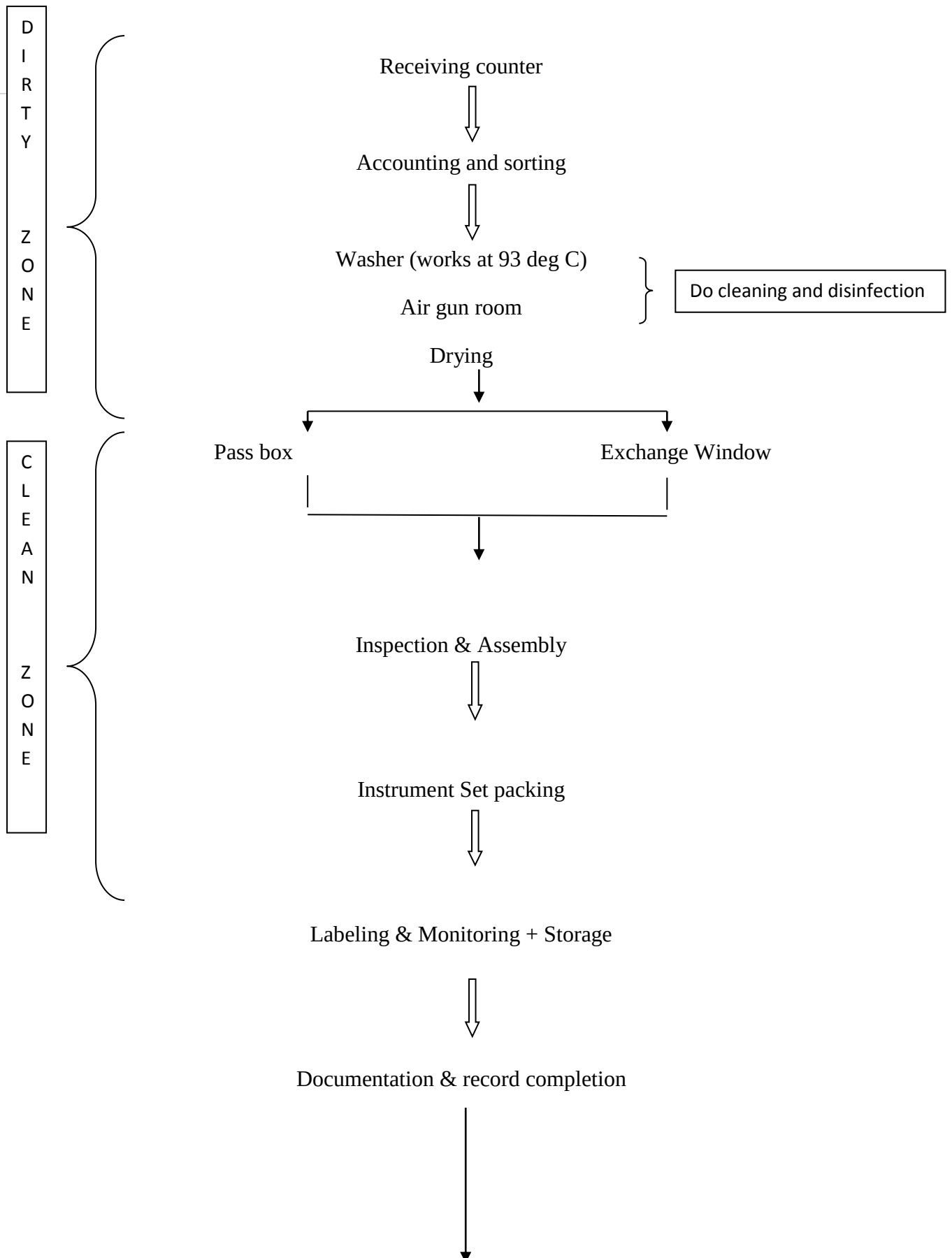
Organogram:

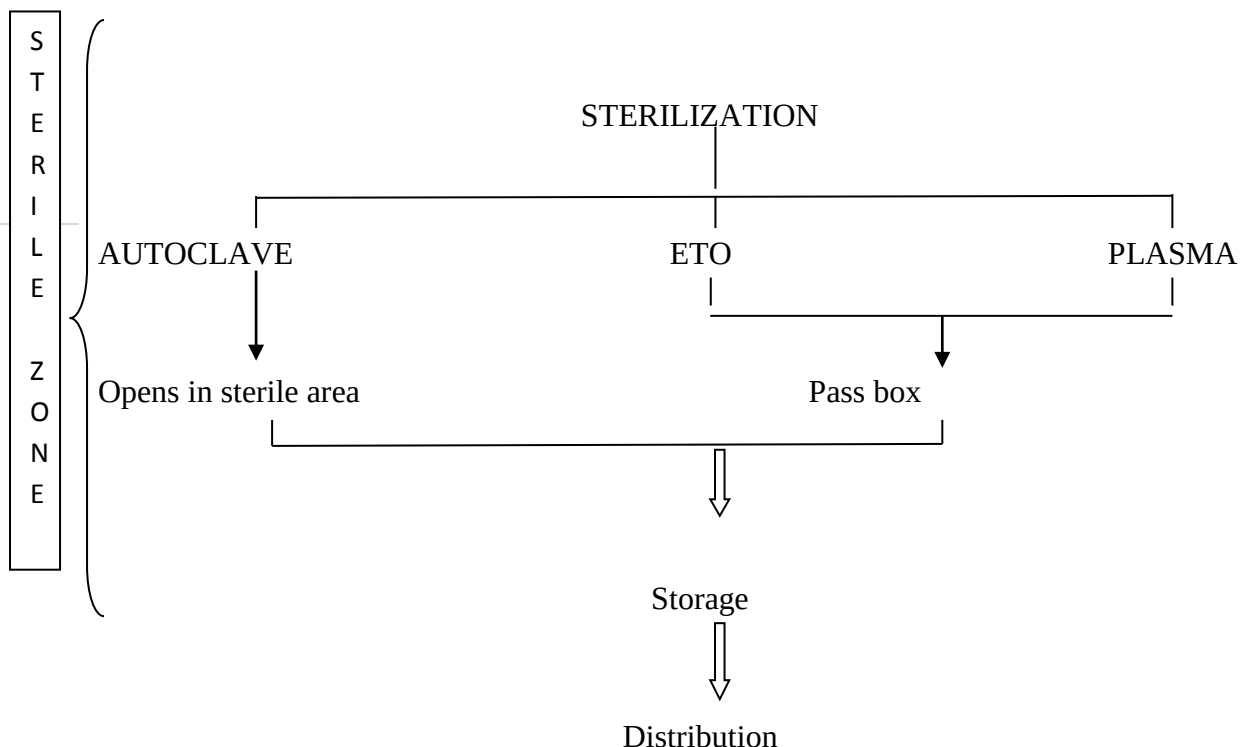


Infrastructure:

- Desktop -1
- Intercom -1
- Printer -1
- Autoclaves (Pulse vacuum type) -2
- ETO -1
- Plasma sterilizer -1
- Steam boiler -3
- Auto sealer -1
- Loader -2

DEPARTMENT WORK FLOW:





METHODS OF STERILIZATION USED:

<u>AUTOCLAVE</u> <u>(Steam sterilization)</u>	<u>ETO</u>	<u>PLASMA</u>
- No. of autoclaves – 2 - Type – Pulse vacuum type - No of cycles per day – Acc. to load. <u>Temp/time/pressure.</u> 121 deg C/ 15 mins/ 1.2 kg 134 deg C/ 4 mins/ 2.2 kg STERILIZATION CHECK: <u>Bowie Dick Indicator</u> (Chemical Indicator) Once a day <u>Biological Indicator:</u> <u><i>G. Stereothermophilus</i></u> Once a week	- Number – 1 - No of cycles – usually 1 / day (But can vary acc. to load) <u>Temp</u> – 54 deg C 12-hour cycle STERILIZATION CHECK: ✓ <u>Biological indicator</u> <u><i>Bacillus atrophaeus</i></u> : Each load.	- Number – 1. - Not regularly used. Used in case of emergency; when ETO not in use. <u>Temp</u> – 45 deg C 50 min cycle. STERILIZATION CHECK: ✓ As such no biological indicator available. ✓ Therefore, its use is limited and only for emergency purpose. ✓ But <i>Bacillus atrophaeus</i> can be used.

MONITORING:

PHYSICAL MONITORING	CHEMICAL MONITORING	BIOLOGICAL MONITORING
• Gauges • Graphs • Process Logic Controller (PLC)	• Class I Indicator : Interlocking Tape applied on packs. • Class II Indicator : Bowie Dick + Batch Monitor • Class VI Indicator : To be put in packs.	• <i>G.stereothermophilus</i> • <i>B.atrophaeus</i>

Packing paper used :

1. Linen
2. Medical grade paper: - Used for ETO
- Lasts up to 6 months
3. Tyvec paper: - Used for plasma
Expensive

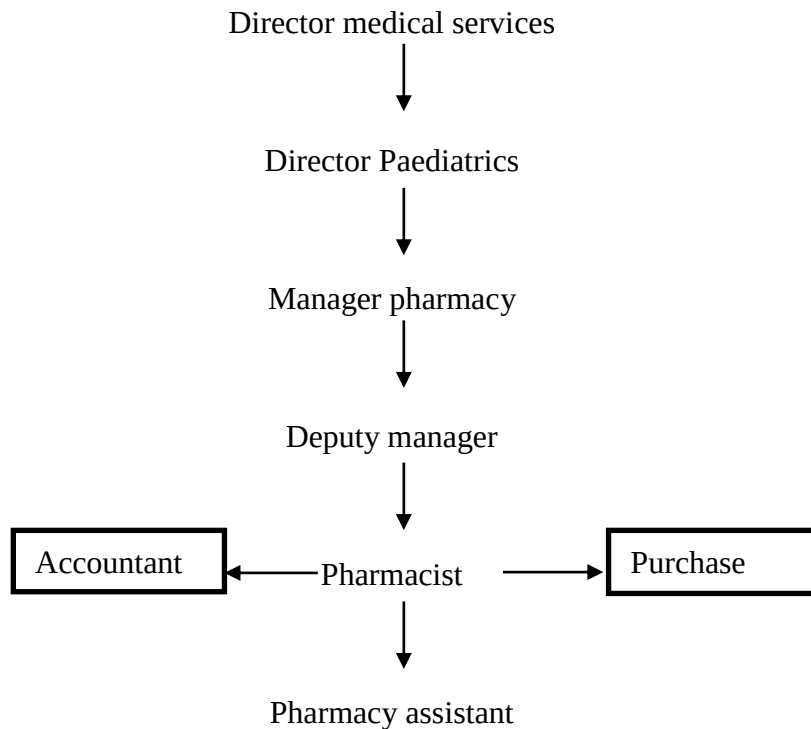
Strength:

- State of art equipments.
- Experienced staff
- Strong focus on sterilization, its monitoring and continuous physical, chemical, biological monitoring is done.

IPD PHARMACY

Layout: -Basement 2

Hierarchy:



Staffing: -

- Senior pharmacist → 2
- Pharmacist → 6
- Purchase assistant → 1
- Assistant pharmacist → 5
- Non-pharmacist → 2

Infrastructure and Equipment Required: -

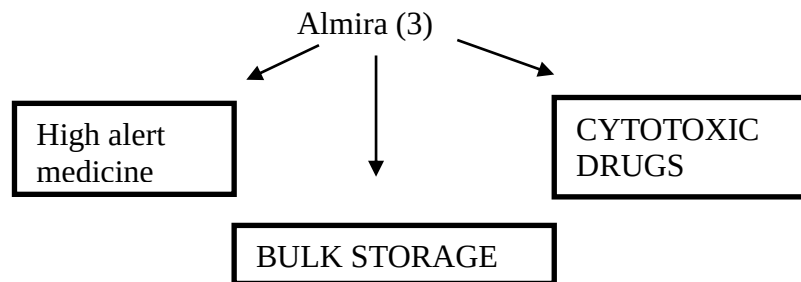
AREA: -

- 180 square feet
- 10 feet height

EQUIPMENT: -

- Billing software navision

- Printer → 2
- System → 3
- Racks for storage of drugs → above 20
- Walking cooler → 1 → temp. 2 to 8°C → Onco drugs, vaccines.
- Fridge → 1 → Insulin, high risk drugs.



Colour Coding and Labelling: -

(Look Alike, Sound Alike drugs [LA SA]):-

- LA drugs are GREEN color coded.
- SA drugs are YELLOW color coded.
- LASA drugs have been identified and stored separately, read back procedure being followed for verbal order,
- Fast Moving Drugs: - stored in separate rack and labeled.
- Medicines are arranged in alphabetically order.
- High risk drugs are coded by RED colour.
- Cut piece of medicine is stored in different sealed bag marked with batch number, expiry date, brand name in same box of medicine.

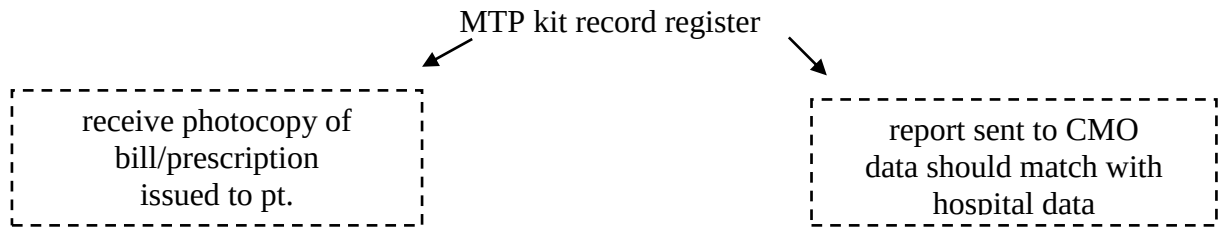
Analysis: -

- ABC analysis has been done for all medicine regularly...
- FIFO (first in first out)

Record Maintain Register: -

- Room temperature log book
- Fridge -1 temperature register [High Risk Alert]
- Fridge -2 temperature register

- Verbal order registers → doctor order medicine on telephone to pharmacy.



Licenses: -

- 4 main licenses is issued by the drug controller office
- Distributing and sales form no: - 21
- Schedule `X drug form no: -20
- Narcotics form no: -24 under NDPS rule, 1985

Storage of Drugs: -

- Emergency drug: - about 10 patient stalks of drug stored in I.P.D Pharmacy and about 50 pt. stalk of drug are stored in emergency dept.
- High risk drug: - stored in different LOCK & KEY at separate place (cytotoxic drugs, high alert medicine.
- Narcotic drug: - stored in DOUBLE LOCK \$ KEY almira.
- Oncology drugs and vaccines: - are stored in walking fridge at 2 to 8`C
- High nutrient meal: - under table they are light sensitive.
- Cool & dry place: - general medication at room temperature 22 to 28`C

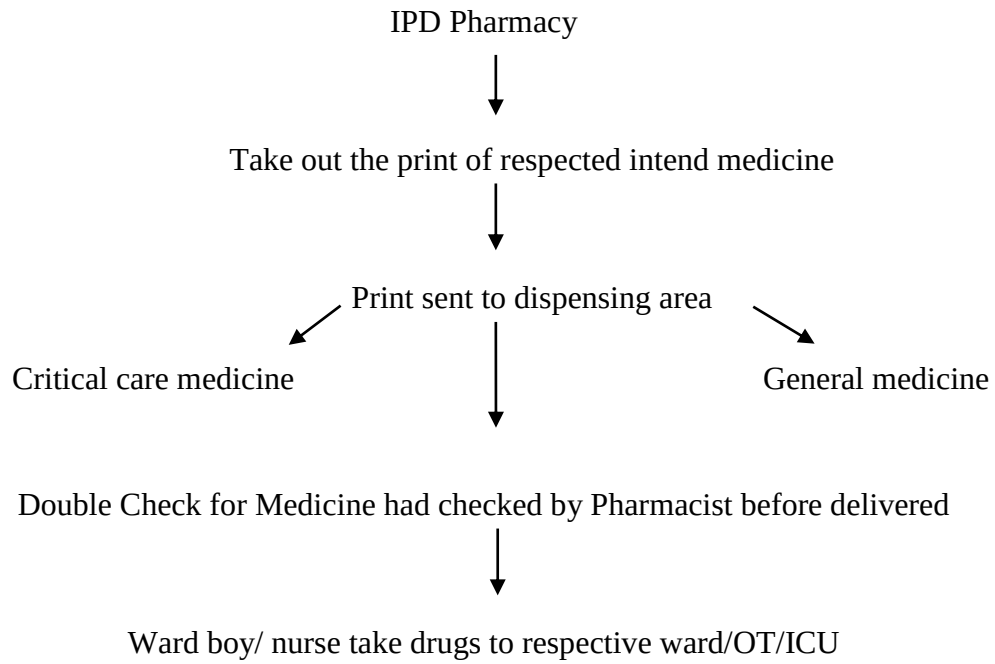
Work Flow:

In-Patient Wards, All ICU's, OT, Emergency, CTVS, Cath Lab



Ward boy/Nurse brings Request for Drug indentation through “**HISorIndoor Patient Drug Requisition Form**”





STRENGTH:

- Drugs are kept in organized manner; LASA drugs are kept separately and inventory is managed by ABC analysis.
- High risk and narcotics drugs are kept under lock & key.

GAPS:

- Space constraints.

BLOOD BANK

Layout: 4th Floor

Staffing: -

- Director- Dr. Ramesh Chandra
- Medical officer- Dr. Uma rani
- Technical supervisor- vishwajeetsarkar
- Laboratory technician- 8

Area required: -

- Total→ 150 square feet
- 100 m sq. for its operations
- 50 m sq. for preparation of blood components.

Storage and shelf life: -

WHOLE BLOOD→450 or 350 ml (>60kg)→blood loss→1-4`C→35 to 42 days,→(-40`C→1 Year)

RBC→250 ml red cell, 100ml SAGM~CPD→O2 transport→1 to 6`C→42 days.

Platelets apheresis→200-300ml→20 to 22`C→5 days

Cryoprecipitate→-80 to -40`C→1 Year

Fresh frozen plasma→-40 to -80`c→1 Year

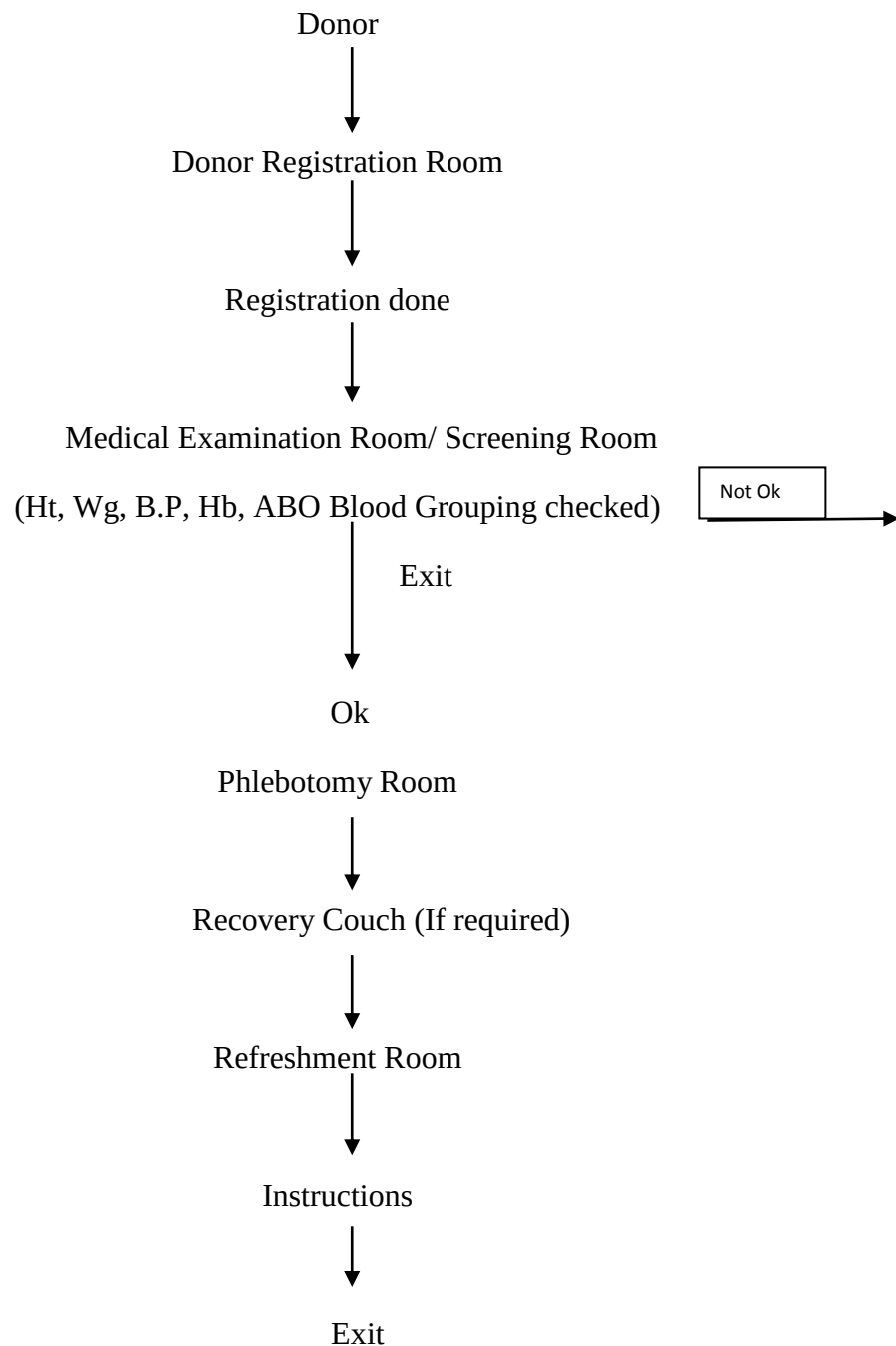
Labelling on bag: -

1. **Color scheme: -**
 - Blood group O- Blue
 - Blood group A- yellow
 - Blood group AB- white
 - Blood group B- pink
2. Storage temperature, expiry date, Rh type
3. Name,address and manufacturing license number
4. Volume of blood.
5. Type of donor

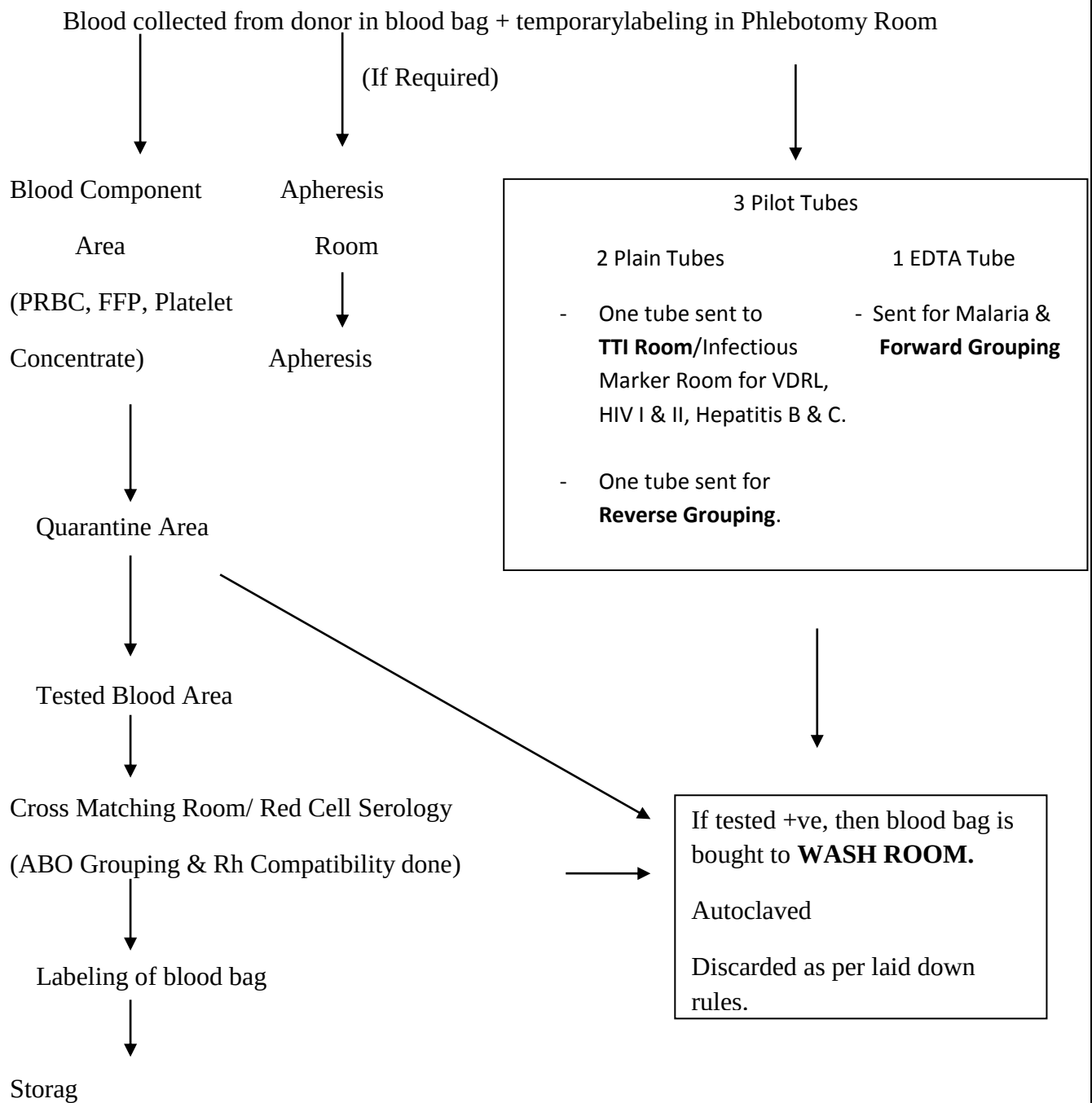
License for Blood Bank: -

- Licensed by State Drug Controlle.(panchkula, Haryana.)
- Regulated by Drugs and Cosmetic's Act.
- Licensed for processing whole blood and for prepration of its components. [lic. No.680B(H)]

FLOW OF DONOR:



Movement of Donor's Blood:



Label Colour codes to be used -

- | | |
|----------|------|
| - Yellow | - A |
| - Pink | - B |
| - Blue | - O |
| - White | - AB |

Infrastructure of the blood bank: -

- **Donor Registration Room**
- **Medical Examination Room**
- **Donor room/Phlebotomy/Bleeding room-** Blood is collected in this room.
- **Apheresis Room**
- **Refreshment Room-** After donating the blood, refreshments are provided here.
- **Component Room:** Here collected blood is formed into different components.
- **TTI/ Infectious Markers Room-** Here Blood is checked to rule out any kind of infection in the collected blood.
- **Cross matching Room (Serology room) -** Here Blood is tested & cross matched.
- **Store Room/ Record Room-** All the records and inventories are stored here.
- **Wash & sterilization Room-** Here any blood tested +ve for any infection or unmatched blood is discarded.

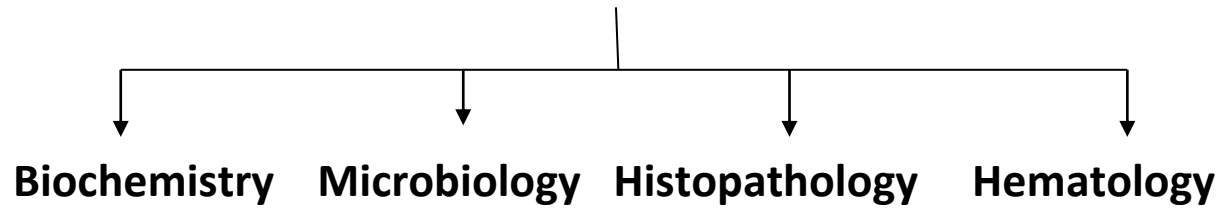
Strength: -

- Staff is trained and competent.
- Record maintenance was excellent.
- Preventive maintenance sticker was placed on all equipment's.

Gaps: -

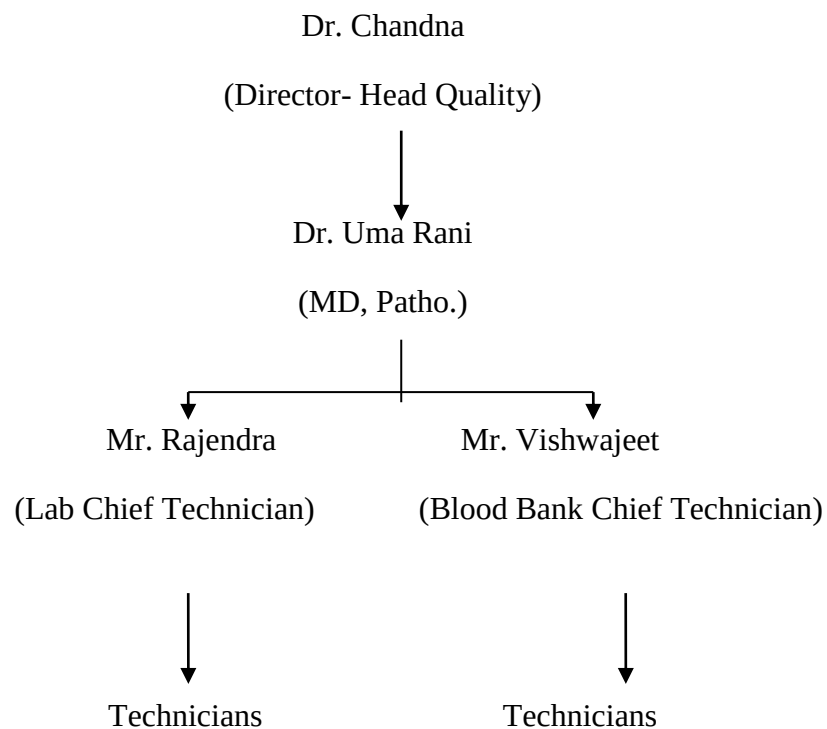
- Blood bags are not carried in trays or thermocol boxes.
- Post care instructions are not written in bilingual language.

Laboratory Services

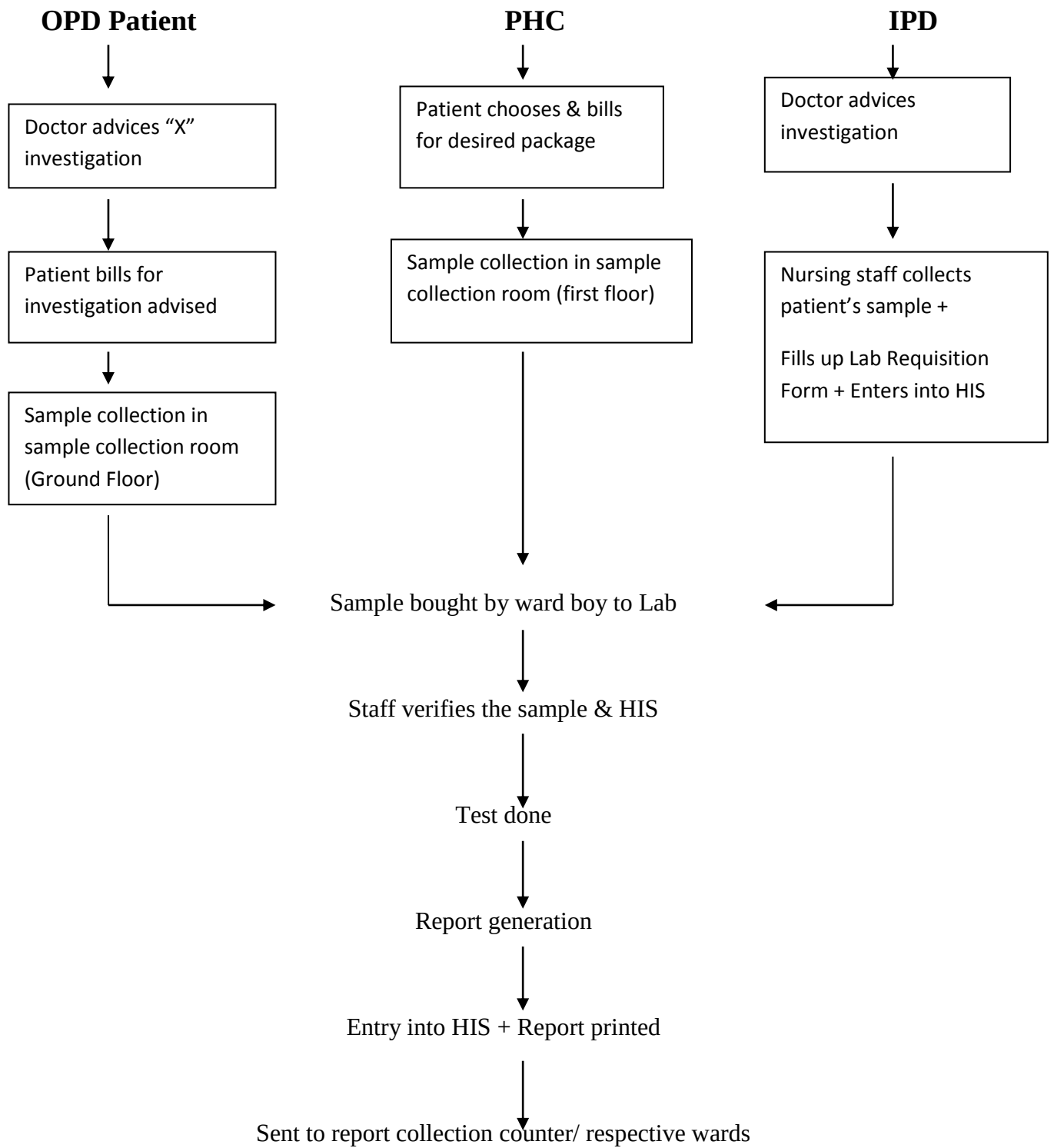


Layout: 4th floor

Staff & Hierarchy:



Workflow:



Records Maintained:

- QC File
- Calibration Log
- Scheduled service log
- Instrument log
- Instrument service log
- Daily maintenance log
- Delivery file
- Purchase file
- Patient Record Reg.
- Quota File

Equipments:

- Synchron CX 5- Pro (Beckman Coulter) – Fully Automatic Chemistry Analyser with Random Axis
- Vitek 2 compact – For Automated identification & Sensitivity Testing
- Bact Alert 3D- Blood Culture Machine
- Sysmex XT- 2000i
- Sysmex KX- 21
- Cytocentrifuge.

BIO MEDICAL ENGINEERING DEPARTMENT

(GAS MANIFOLD)

Location: - 2 Basement

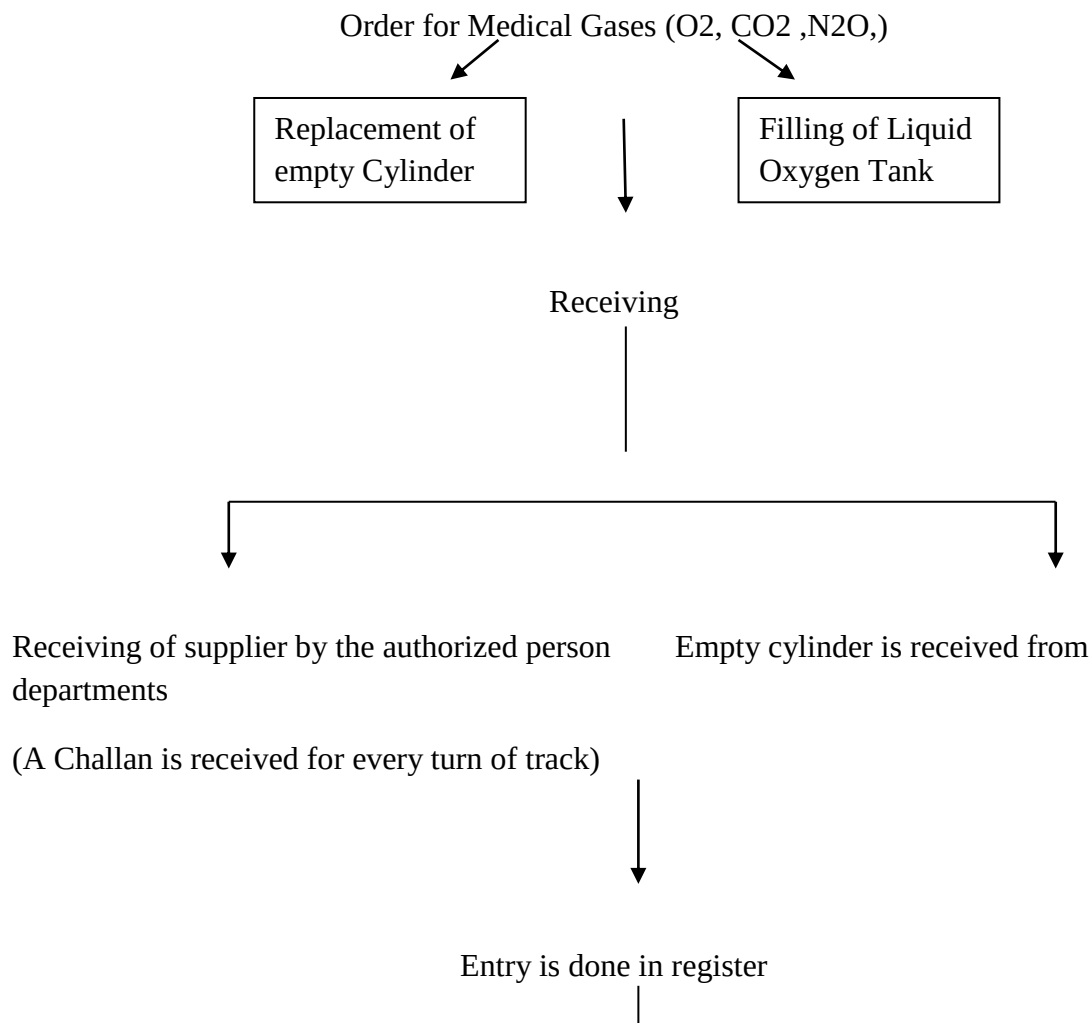
Staffing: -3

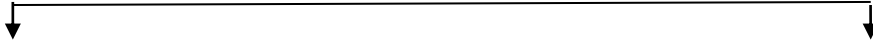
Supervisor: -Mr.Mishra

Records Maintained: -

- Gas Manifold Log Book for Oxygen, Nitrous Oxide
- Complaint Register
- Cylinder Issue Register
- Cylinder (Out Party) Register
- Shift Register

WORK FLOW





For issuing a cylinder in department
Machine

Hourly Reading is monitored for every

Gaps:

- No CCTV Camera is present in gas manifold area
- Liquid oxygen tank is not covered by shed
- Poorly sitting arrangement for staff
- Maintenance sheet is not filled on time

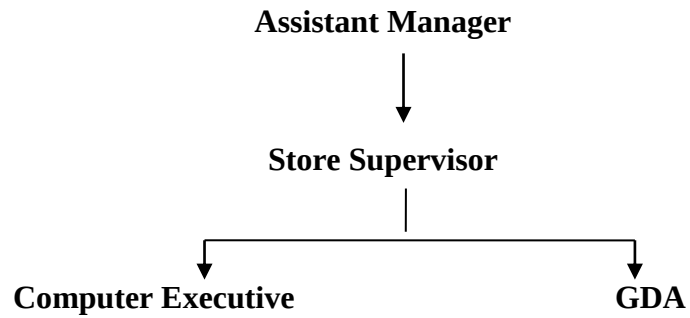
Strength: -

- Trained and Competent staff and every morning training is provided to the GDA's regarding handling of cylinder
- Medical gas supply systems are often monitored by various alarm systems
- Medical air is supplied by a special air-compressor, through a dryer (in order to maintain correct dew point levels)
- Inlets and outlets are colour coded
- Pin index safety system is used to prevent errors of identification of cylinders
- Standardized colour coding is done on cylinder

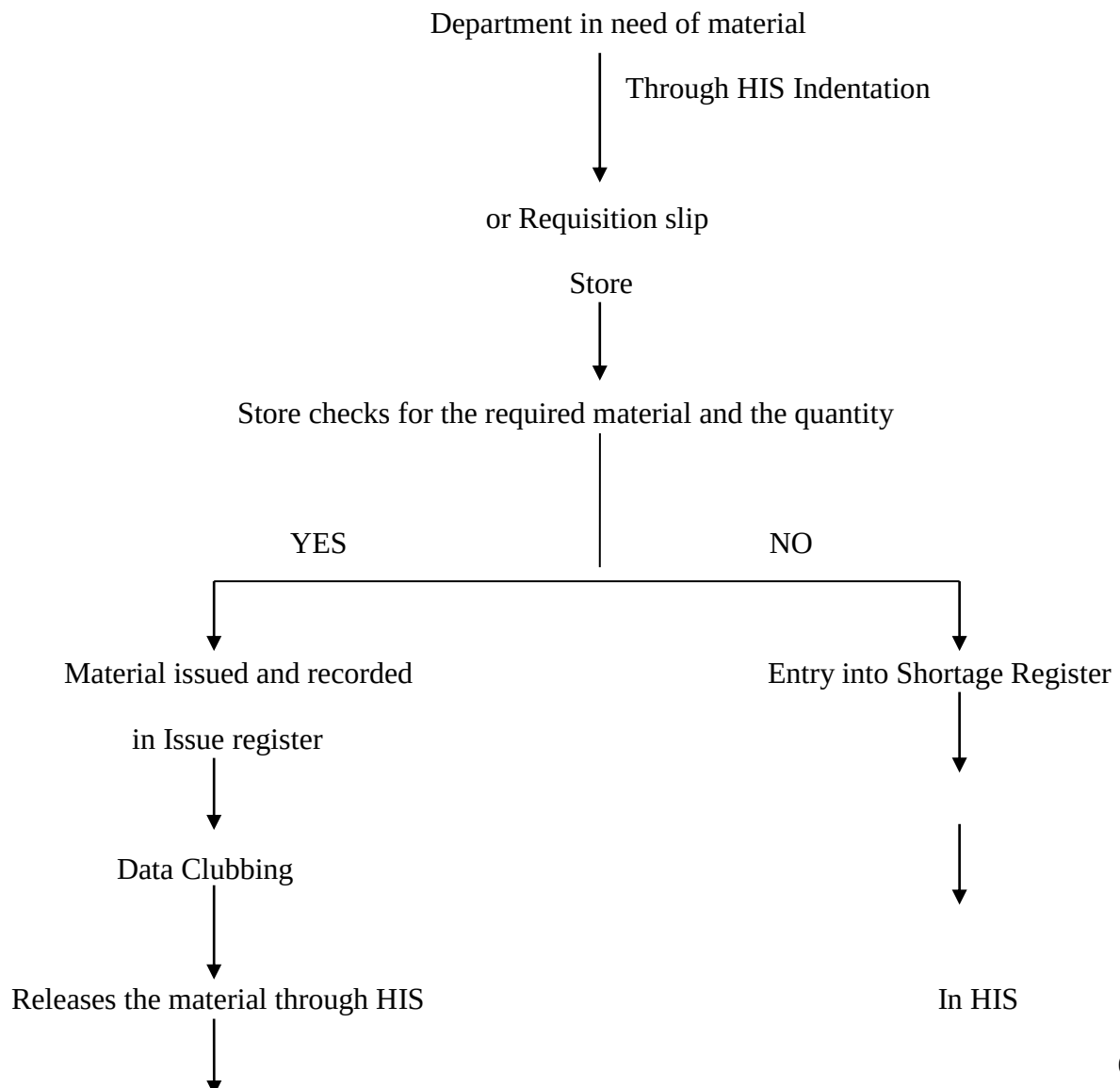
STORES

Layout: -2 Basement

Hierarchy: -



WORK FLOW



“Purchase Request” is filled.

Print out of material released

is given to department's, ward boy

with shisinitials.

Gaps: -

- Space constraint
- Inventory is poorly organized

Strength: -

- ABC analysis is done for the inventory by the quality department

MEDICAL RECORD DEPARTMENT

Layout: -1 Basement

Functions of MRD

- To ensure that the AIMS Hospital has complete & accurate medical record for every patient.
- Public dealings wrt. to TPA **queries, Bill verification, MLC cases and dealing with Summons to the doctors, hospital.**
- To maintain high level of confidentiality as far as patient's records are concerned.
- To ensure that the records are Identified and stored safely to prevent unauthorized changes and easily retrieved whenever required.
- Issuing **Emergency, Medical, Birth & Death certificates.**
- To generate **Bed Occupancy reports** (daily & monthly), **P.N.D.T, M.T.P** reports (monthly).

Record RetentionPeriods:

- IP Record : 05 years
- Emergency Register : 02 years
- MLC Records : Not to be destroyed
- Birth/Death Register : Not to be destroyed
- OPD documents : Handed over to the patient's Relatives

WORK FLOW:

Admission & Discharge Report generation

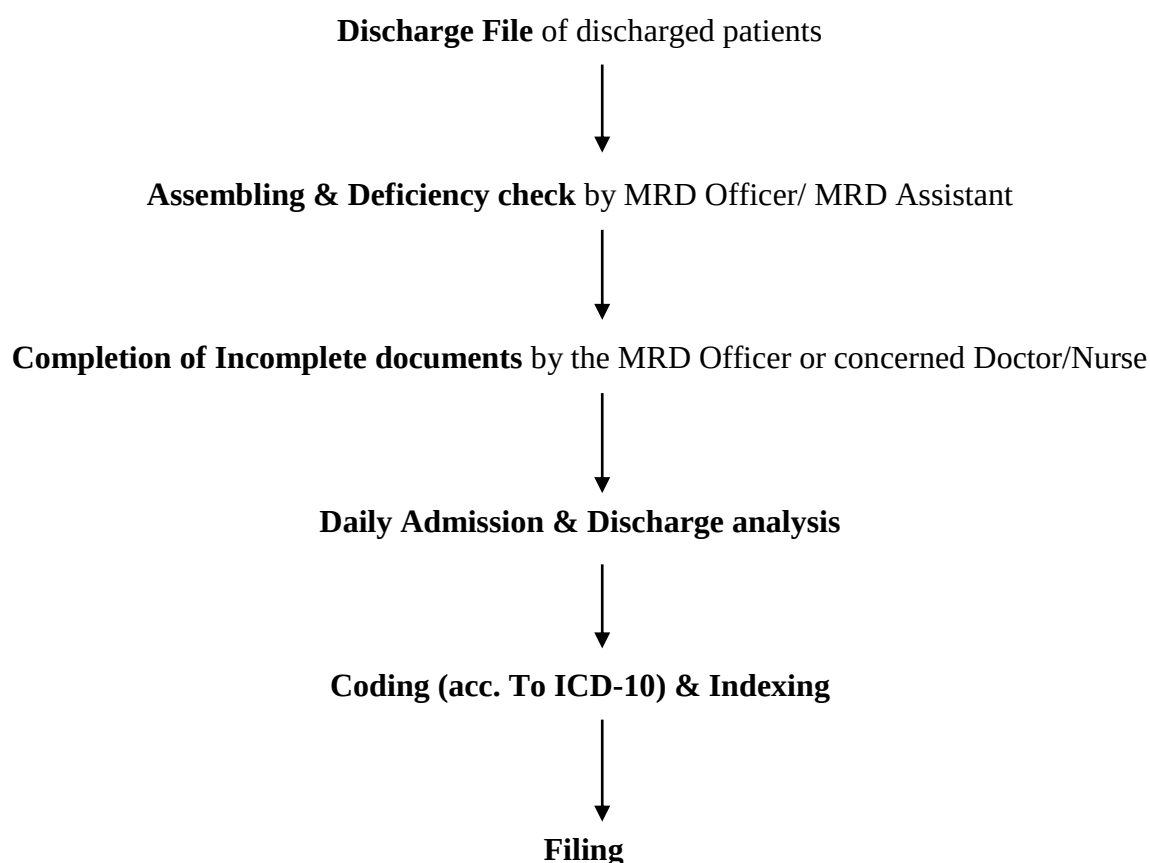
of previous day by MRD Officer



MRD Peon collects from each ward:

Daily Floor Census

+



Filing Order:

1. Face sheet
2. Patient's Discharge Records
3. Discharge sheet (Discharge, DOR, LAMA, Death)
4. Emergency & OPD card
5. History sheet
6. Investigation flow chart
7. Consultation form
8. Informed consent
9. Valuable handover form
10. Undertaking for payment Primary/ ADHOC PTCA
11. Angiography- Angioplasty Checklist
12. Cardiac Anesthetic Record
13. Consultation for surgical & medical treatment
14. Pre-operative instruction checklist
15. Anesthesia record
16. Surgical safety checklist
17. Operation note, Delivery note
18. Post-operative evaluation form
19. Labor chart

20. Progress notes
21. Temperature chart
22. Intake output chart
23. Blood sugar
24. Diabetic Monitoring chart
25. Drug prescription & Administration Record
26. NICU Observation Chart
27. Nurses Record
28. ICU & CCU Observation chart
29. Medical Certificate cause of death
30. Release of dead body certificate
31. Final Bills (MLC case)
32. Any other relevant document concerning to patient

GAPS:

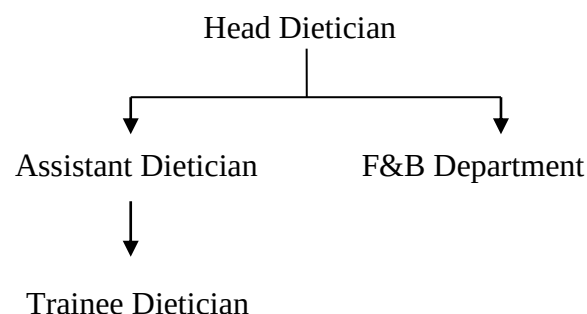
- No color coding format (for year identification) followed.

CLINICAL NUTRITION & DIETICS DEPARTMENT

Layout: -2 Basement

Head Dietician: Dr. Shilpa Thakur

Organogram:



Functions:

- Catering to Inpatients, Hospital staff, Patient attendants.
- Diet counseling
- Education
- Smooth provision of laid out 9 diets to the patients.
- To check the patient, Attendant & Staff food for quality, preparation, presentation and packing.
- Coordinating closely with the Nursing shift in charges for changes in the patient's diet or new admissions etc.

Areas in Kitchen

- **Receiving & Storage Area**
- **Preparation Area:** For peeling, cutting, chopping, slicing, mincing.
- **Cooking Area**
- **Tray Layout & Packing Area**
- **Service Area:** From here food is transferred to patients on trolleys.

Other Areas:

- Dish washing & pot washing area
- Dietician Room

Brand List

	<u>Diet Card Color</u>	<u>Tray Color</u>
Normal	White	Red
Diabetes Mellitus	Yellow	Yellow
Chronic Renal Failure	Green	Green
Renal Stone	Pink	

Flowchart of Dietician and Inpatient Interaction:

The Dietician takes details of new patients such as name, UHID, doctor's name, diagnosis and diet prescribed.



Then Dietician takes a detailed round wherein she meets every patient and determines patients' actual intake. Dietician then provides nutritional counseling and education,



ensures patients' compliance to recommended diet. She also recognizes personal eating and food preferences.

Afterwards, the dietician does nutritional screening in order to know about patients' clinical condition, appetite and tolerance to food and acceptance to hospital diet, personal preferences, disliking and food allergies if any.



After the rounds, detailed food summary sheets are planned and prepared for every patient keeping in mind medical history and preferences of patient as well.

Flowchart of Dietician & Nursing staff interaction:

Dietician receives a daily diet requisition once a day from all nursing station.



Dietician cross-checks received diet requisition from time to time with nurse both during rounds and on phone constantly.



Dietician updates changes with respect to new admissions/ transfers/ discharges/ changes in diet

Gaps: -

- Gloves were not used by food handlers.
- Food handlers had long nails.
- Daily temperature was not recorded for walking cooler.
- Daily cleaning sheet was not filled for food trolley.

LAUNDRY SERVICES

Layout: -2 Basement

Records Maintained:

- Department Register
- Items Received register
- Items issued register
- Detergent register
- Machine records

GAPS:

- No barrier between soiled linen & infected linen.
- No sewing machine for repair.

PROJECTS UNDERTAKEN ARE –

- 1. OT SCHEDULING – CAUSES OF DELAY**
- 2. ANALYSIS OF CONSUMABLES IN LSCS TO INCREASE THEIR OPTIMAL UTILIZATION.**

PROJECT REPORT NO.1

OPERATION THEATER **SCHEDULING**



CAUSES OF DELAY IN OT



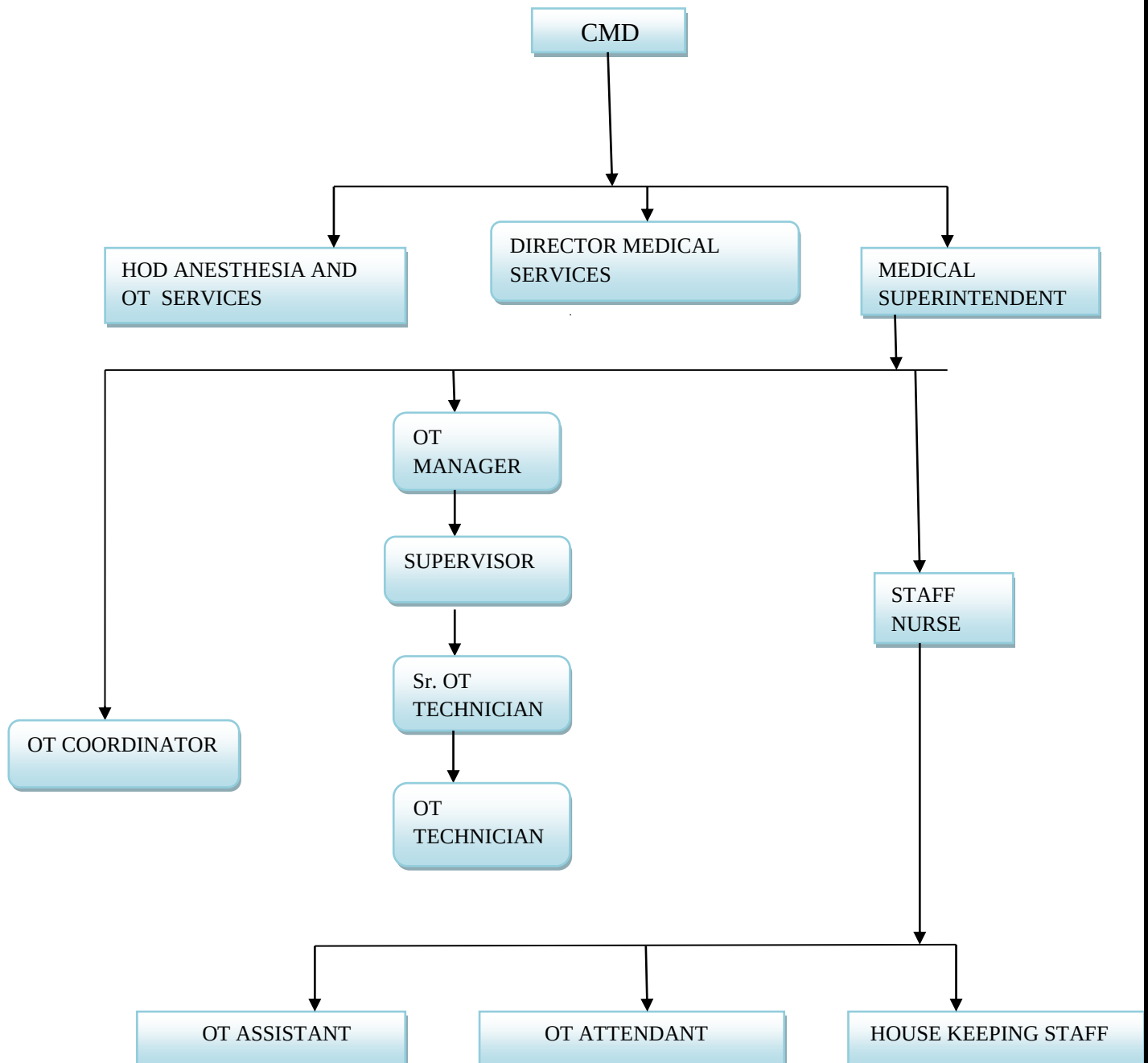
INTRODUCTION

- Operation Theater is also known as “HEART OF HOSPITAL”.
- OT is a facility within a hospital where surgical operations are carried out in a sterile environment.
- Historically, the term “Operating Theater” referred to a non-sterile amphitheater in which students and other spectators could watch surgeons perform surgery.
- OT delay reduces the efficiency and manpower utilization of the hospital.
- Every two or three years, someone, usually a hospital administrator, decides that delays in operating room (OR) turnover time needs to be looked into. A committee of 20 or 30 stakeholders is appointed and assigns someone the job of measuring the time between cases and identifying reasons for delays. In years when turnover is not being studied, first case starting delays are on the agenda.

IMPORTANCE OF OT SCHEDULING

- To ensure patient safety and optimal patient outcome.
- To provide surgeons with the appropriate access to the operating room so that patients can have operations in a timely manner.
- To maximize the efficiency of operating room utilization, staff and materials.
- Decrease patient delays.
- Enhance satisfaction among patients, staff and doctors.

ORGANIZATIONAL CHART OF OT



BACKGROUND

- Delays in operating room have a negative effect on its efficiency and the working environment. Starting late means considerable wait time for staff, patients, and waste of resources.
- In this prospective study, we analyzed data on pan operative system delays.

RATIONALE

Late starting of scheduled operations is a major cause of inefficient use of operating room time and wastage of resources. Delays during operating time are associated with dissatisfaction for health care providers and patients alike. OT lists account for a significant proportion of a hospital's revenue and an even larger fraction of its total expenses. Efficient use of theatre sessions relies on **prompt start times**, an appropriately booked theatre case-mix and **finishing on time** to reduce overtime delays. Hence, scrutinizing the causes affecting the start time delays is a key area of concern.

RESEARCH QUESTIONS

- What are the causes of delay of starting the first case in respective OTs?
- Is there any difference in delay based on type of Anesthesia used w.r.t. different parameters?

REVIEW OF LITERATURE

Effective and adequate Operating Theatre rooms scheduling includes complicated, technological, specialized and interpersonal communication. This article gives a summary of what has been proclaimed on operating room scheduling in the belief that it will provoke further analysis and scrutiny.

The review of literature over operating room scheduling clarifies broad factors of organization, i.e. utilization of OR, managing the cost, planning and contemplating, organizing particular needed resources (for eg. nursing staff, technicians, anesthesia, equipments, and necessary medicines and properly appointing the surgeries into the ORs.)

Discovering OR Utilization.

Studies accomplished to calculate, OR utilization or fulfillment is generally distinguished by; firstly, defining **utilization** (i.e. the time in which ORs are engrossed is divided by the time these are accessible and secondly the usage of the OT register or prepared data sheet. The prepared excel data sheet is constructed for accumulating the applicable information and knowledge about every surgical process. (for example, beginning and completion of surgery times i.e., wheeling in and wheeling out, causes of delay, equipment fulfillment, surgeon names, anesthesiologists, OT technician, nursing in charge, times of drugs given.)

Two studies were conducted in the 1960's that had used the acceptable means of analyzing the information collected in the OT rooms data record or data OT data register.

In this, one of the studies offered to analyze the causes of idle hours, but not with much achievement.

After examining the delays caused due to the late entrance of the doctors or the patients; one reporter emphasized the want of assistance and grading of each and every staff member associated for acquiring genuine enhancements in utilization of operating room.

A graphical interpretation is exerted for observing and calculating the total and average delay hours for each OT room for starting the first surgery of the day. Whenever an OR is not in use or starting late than the scheduled time; the causes are accessed and are therefore apprehended for the betterment. [Zbigniew H. Przasnyski] [1]

A review of literature on operational demand scheduling and differentiate b/w advance and allocation scheduling. The process of arranging a operation date for a patient is the advance scheduling while the scheduling which discovers the operating room and the starting time of the process on the same day of operation is the allocation scheduling. [Magerlein and Martin] [2]

A perspective of decreasing the first case delay along with an exact booking time with NO 'to-follow' schedule [Malhorta, 2006] must be put in place. It was categorically rejected, as per literature, to have 'To-Follow' recognition of surgery [Malhorta, 2006; Macario, 2010]. To manage all these areas apart from decreasing staff scheduling variation and confirming enough housekeeping services contributed in many studies to reduce the delayed operating theater turn over time. [McIntosh et al, 2006] [3]

AIM AND OBJECTIVE Of THE PROJECT -

AIM – To identify the causes of delay in Operation Theater.

OBJECTIVE-

- To understand the causes of delay in starting surgery in respective OTs.
- To find out any difference in relation to the type of Anesthesia given.

RESEARCH METHODOLOGY

STUDY DESIGN – Prospective Study. An observational study of the workflow of the OT complex of Asian Institute of Medical Sciences, Faridabad was done from 04th APRIL 2017 to 13th APRIL 2017 via direct observation.

STUDY DURATION- 4th April – 13th April 2017

LOCATION- Operation Theatre department in Asian Hospital, Faridabad.

RESEARCH TYPE – Cross **Sectional Analytical Research**.

DATA COLLECTION

- Based on **Primary Data**.
- The sample size taken for the study is **197** patients; data was analyzed and worked upon relevant causes.

TOTAL MANPOWER IN OT

Category	Number Of Staff
OT Coordinator	2
Data Operator	2
OT Manager	1
OT Supervisor	1
OT Technician	12
Cardiac OT Technician	2
Anesthesiologists	10
Surgeons	22
Chief Perfusionist	1
Nursing Staff	26
Ward boy	11
Housekeeping	11
TOTAL	99

Different OTs are individually designated by different surgical cases.

OT Number	Type of Surgeries
1	Infected Cases
2	Urology Cases
3	Gynecology Cases
4	Laparoscopic/Lap Cholecystectomy Cases
5	Ortho Cases
6	Oncology/Plastic Surgery
7	Neurosurgery Cases
8	General Surgery
9	Eye Cases
10	Cardiac Surgery

OT Timings – 8 A.M. to 5:30 P.M.

WORKING OF OT COMPLEX

There are 10 Operation Theatres in the OT complex.

All Operation Theatres are operable.

Working hours of OT1 - OT10: 8:30 AM to 5:00 PM.

Minimum 20 minutes gap given between 2 surgeries for cleaning and preparation for next patient.

Sunday: only emergency cases taken. (if any)

PROCESS MAPPING



1.

- Doctor calls up OT for OT booking one day prior to the day of surgery.



2.

- Patient admitted atleast 1 day prior to surgery to the hospital except CGHS and GYPSA cases.
- Investigations, Clearances, Consent.
- Pre-Anesthetic check up conducted by the Anesthetist.



3. Patient is reviewed by the doctor.

- OT Coordinator gives a call in the Ward to send the patient 30 minutes before the surgery.



4. Patient is brought to Pre-hold area by the sister with the ward boys of respective OT- Handover Is Given by the staff of the respective ward.



5.

- After surgery patient is moved to Recovery Room/ ICU till he/she regains consciousness.
- If the surgery adons during a particular surgery then the surgeon or the assistant of the surgeon calls and informs the financial counsellor for the recounselling.



6.

- From recovery room patient is then moved to respective ward/room after complete monitoring.

OT EXISTING MODULE

The screenshot displays the 'OT Schedule' module interface. The main window shows a calendar view for June and July 2017. A modal window titled 'OT Schedule' is open, displaying a form for scheduling an operation. The form includes fields for Patient No., Name, Gender, Date of Birth, Age, Email, Mobile No., Operation Name, Main Surgeon, Level, Anaesthesia Type, Surgery Req., Case Type, Diagnosis, Additional Info, and Remarks. There are also checkboxes for Anaesthetist Reqd and Assistant Reqd. The form is set for 'OT 8' and '08:00' to '08:24'. The background shows a calendar with a legend for 'NORMAL'.

- OT Window – The source and the OT is selected for the particular month, week, date, day and suitable time.

Web Access x Web Access x HTML5 x

172.16.0.37:92/software/html5.html

File Edit Tools Help

OT Schedule

Source: OT
Name: OT 2

Time Based Token View for Time Based

08:00

Legends: NORMAL

OT Schedule

From Time: 08:00 To Time: 08:44 Status: [Dropdown]

Patient No.: AFB000004347

Name: MRS. SHARMILA VERMA

Gender: FEMALE

Date of Birth: 10/07/1960 Age: 56 YEARS, 9 MONTHS

Email: NA Mobile No.: 9910385197

Operation Name: [Dropdown] Add Services

Main Surgeon: P

Anaesthetist Reqd: FACE PACK DETOX EQF010

Anaesthesia Type: Reconstruct. With Interpolation Composite Flap SLNO16 CATG4 92

Assistant Reqd: 131-Iodine Therapy SLNO14-1364 DEP038

Diagnosis: 131-Iodine Therapy >100mCi SLNO14-1365 DEP038

Additional Info: 131-Iodine Therapy <15mCi SLNO14-1366 DEP038

Remarks: 131-Iodine Therapy 15-50mCi SLNO14-1367 DEP038

17-DH Progesterone. SLNO14-1571

2 D echocardiography SLNO14-592 DEP003

2 D Planing SLNO14-1260 DEP038

3 D echocardiography SLNO14-593

3 D Planning SLNO14-1259 DEP038

3 D TEE(Transoesophageal echo) SLNO14-596

Diagnosis List Save Cancel

June 2017 July 2017

W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4							1	2
7	8	9	10	11	3	4	5	6	7	8	9
14	15	16	17	18	10	11	12	13	14	15	16
21	22	23	24	25	17	18	19	20	21	22	23
28	29	30			24	25	26	27	28	29	30

Desktop View Calendar 10-

Nakul.jpg Show all X

- Patient details are filled in with the surgery to be conducted under the specific doctor/surgeon.

Web Access x Web Access x HTML5 x

172.16.0.37:92/software/html5.html

File Edit Tools Help

My Menu

Source: OT

Name: OT 8

Slot Position Today Refresh Appointments

April 2017 May 2017 June 2017 July 2017

Time Based Token View for Time Based List Based

Tuesday, 11 April 2017

OT 8

08:00-08:24 [C] MADHVI (FEMALE Age:44 Mob:) Service:LAP CHOLE+LAP ADHESIONOLYSIS, Appointment No: AFBAP170000043, User ID: DEEPAJOSHI

Legends

☒ NORMAL ☐ Un-Available

Desktop View Calendar 10-Apr-2017 04:15:32 User: DEEPAJOSHI - OT Nurse

Nakul.jpg Show all

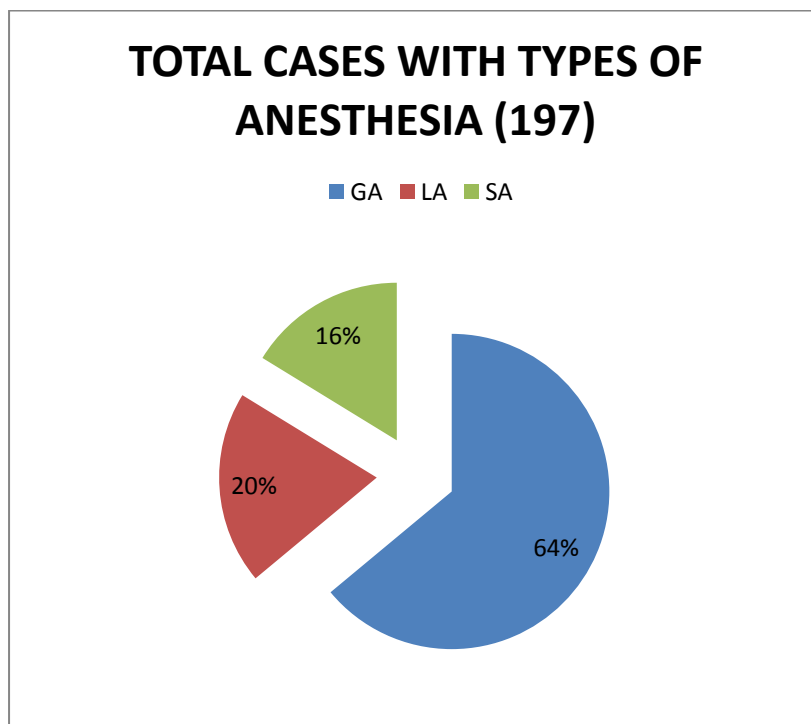
- The appointment is fixed and the OT booking is registered.

DATA ANALYSIS- Done with the aid of MS-Excel sheets. The data was entered in sheets patient wise and then analyzed with the help of graphs and charts.

DATA ANALYSIS AND INTERPRETATIONS (4th – 13th April 2017)

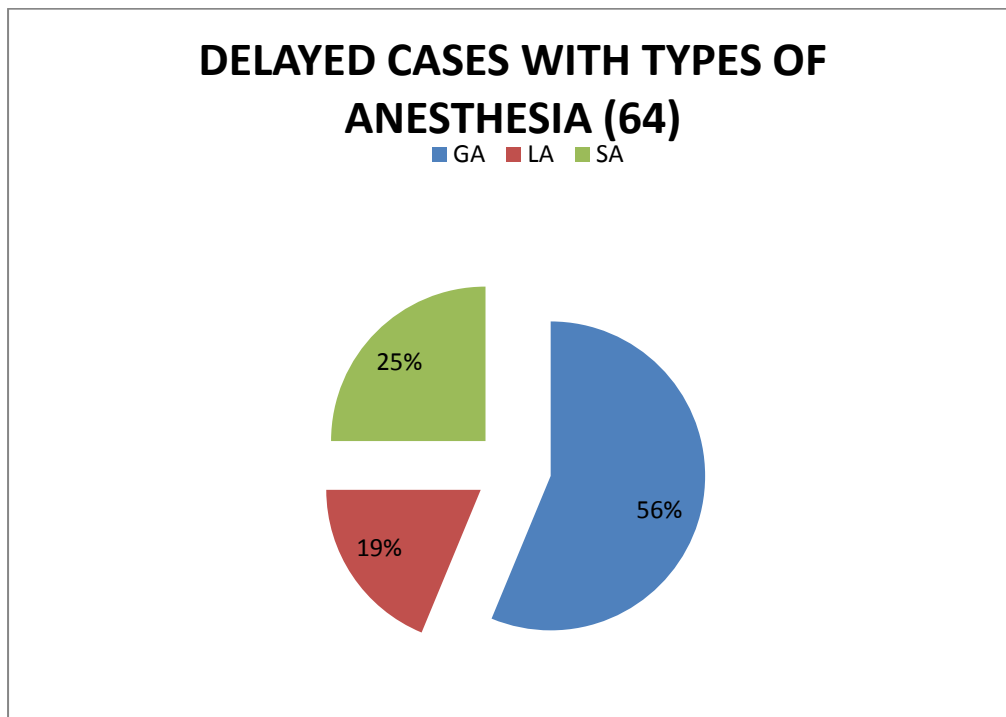
1. Total Number Of Surgeries Conducted and Its Average Per Day In Relation With Types Of Anesthesia.

Types Of Anesthesia	Total Cases	Average Per Day
GA	126	14
LA	39	4
SA	32	4
GRAND TOTAL	197	22



2. Total Number of Delays And Its Average Number Of Delays Per Day In Relation With Types Of Anesthesia.

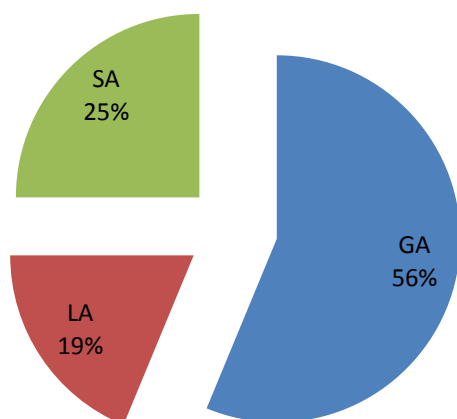
Types Of Anesthesia	Delayed Cases	Average Of Delayed Cases
GA	36	4
LA	12	1
SA	16	2
GRAND TOTAL	64	7



3. Ratio Of Causes Of Delay In Relation With Types Of Anesthesia.

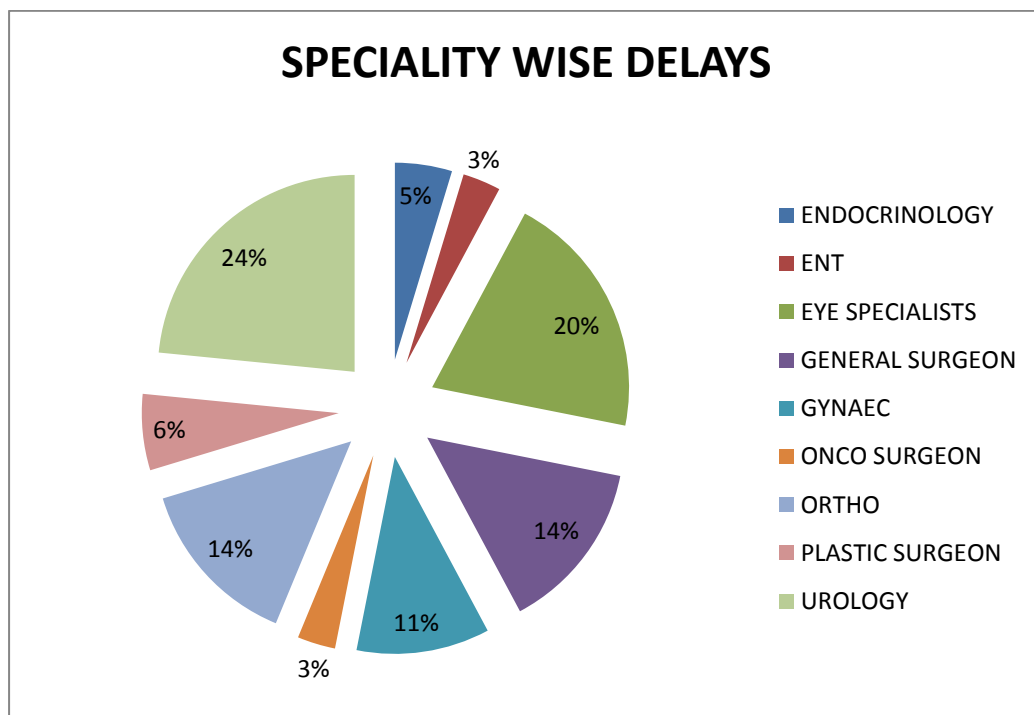
Types Of Anesthesia	Count Of Delayed Cases	No. Of Delayed Cases
GA	56.25%	36
LA	18.75%	12
SA	25.00%	16
GRAND TOTAL	100.00%	64

Count of DELAYED CAUSES



4. Percentage of Delay for Each Doctor (Specialty Wise) In Relation with Types Of Anesthesia and Causes Of Delay.

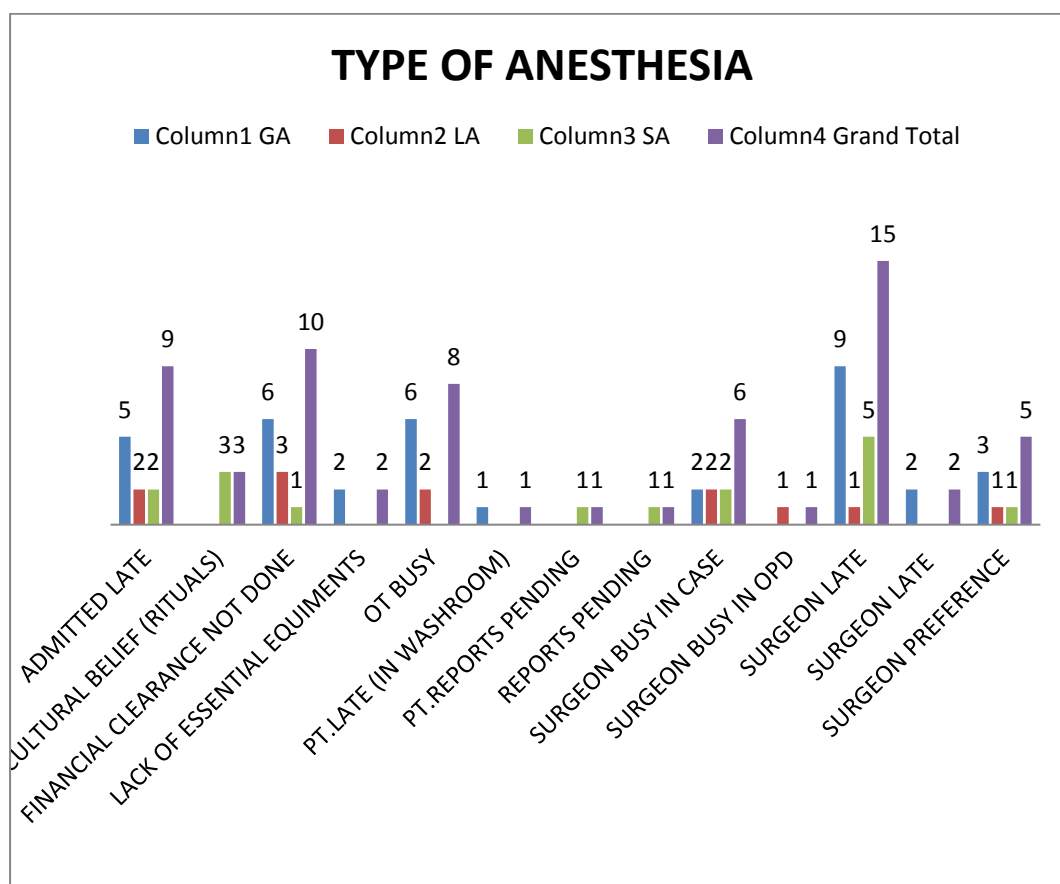
SPECIALITIES	TOTAL DELAYS
ENDOCRINOLOGY	3
ENT	2
EYE SPECIALISTS	13
GENERAL SURGEON	9
GYNAEC	7
ONCO SURGEON	2
ORTHO	9
PLASTIC SURGEON	4
UROLOGY	15
Grand Total	64



5. Relation of Delays with –

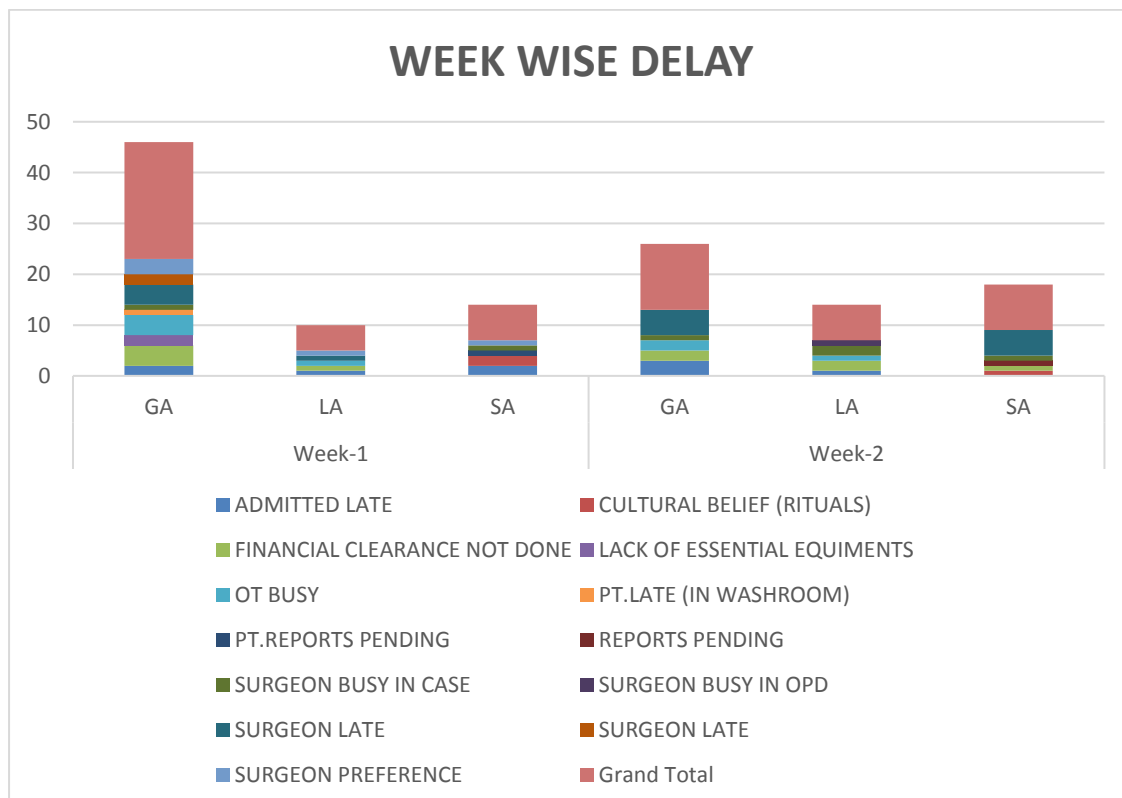
a. Type of Anesthesia

Count of TYPE OF ANESTHESIA	Column1	Column2	Column3	Column4
Row Labels	GA	LA	SA	Grand Total
ADMITTED LATE	5	2	2	9
CULTURAL BELIEF (RITUALS)			3	3
FINANCIAL CLEARANCE NOT DONE	6	3	1	10
LACK OF ESSENTIAL EQUIMENTS	2			2
OT BUSY	6	2		8
PT.LATE (IN WASHROOM)	1			1
PT.REPORTS PENDING			1	1
REPORTS PENDING			1	1
SURGEON BUSY IN CASE	2	2	2	6
SURGEON BUSY IN OPD		1		1
SURGEON LATE	9	1	5	15
SURGEON LATE	2			2
SURGEON PREFERENCE	3	1	1	5
	36	12	16	64



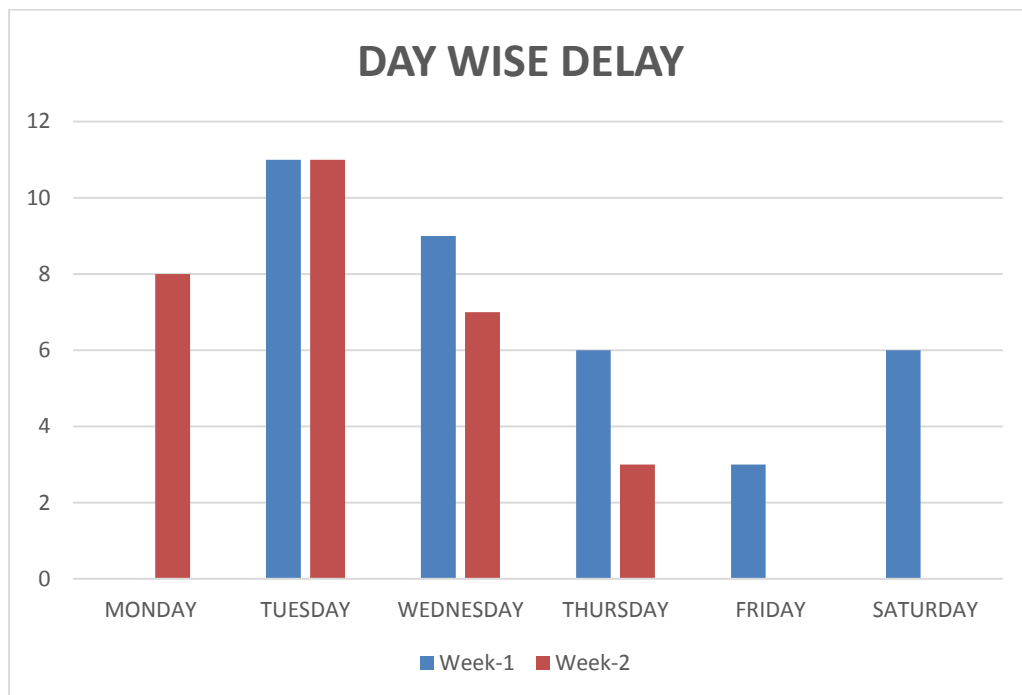
b. Week Wise

Week wise	Week-1			Week-2		
TYPE OF ANESTHESIA	GA	LA	SA	GA	LA	SA
ADMITTED LATE	2	1	2	3	1	0
CULTURAL BELIEF (RITUALS)	0	0	2	0	0	1
FINANCIAL CLEARANCE NOT DONE	4	1	0	2	2	1
LACK OF ESSENTIAL EQUIMENTS	2	0	0	0	0	0
OT BUSY	4	1	0	2	1	0
PT. LATE (IN WASHROOM)	1	0	0	0	0	0
PT. REPORTS PENDING	0	0	1	0	0	0
REPORTS PENDING	0	0	0	0	0	1
SURGEON BUSY IN CASE	1	0	1	1	2	1
SURGEON BUSY IN OPD	0	0	0	0	1	0
SURGEON LATE	4	1	0	5	0	5
SURGEON LATE	2	0	0	0	0	0
SURGEON PREFERENCE	3	1	1	0	0	0
Grand Total	23	5	7	13	7	9



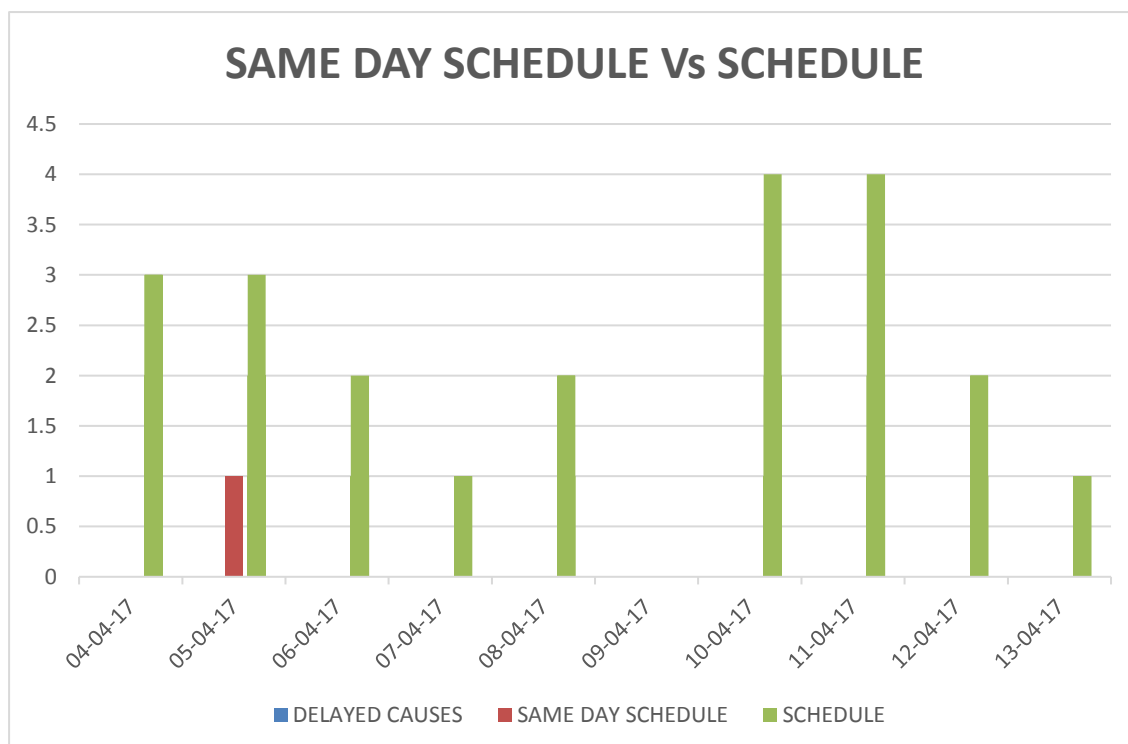
c. With Day Of The Week

Count of DELAYED CAUSES	Column Labels		
Row Labels	Week-1	Week-2	Grand Total
MONDAY		8	8
TUESDAY	11	11	22
WEDNESDAY	9	7	16
THURSDAY	6	3	9
FRIDAY	3		3
SATURDAY	6		6
Grand Total	35	29	64



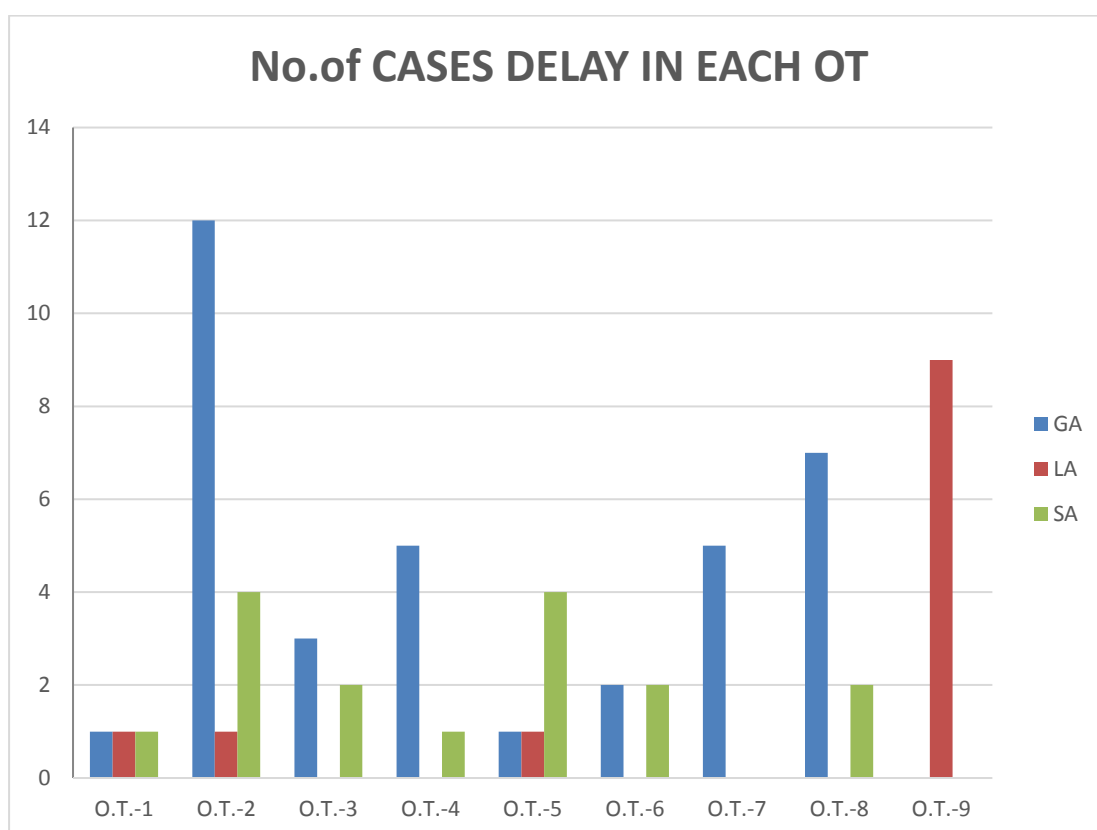
d. Schedule And Same Day Schedule

Week wise	Week-1			Week-2		
TYPE OF ANESTHESIA	GA	LA	SA	GA	LA	SA
ADMITTED LATE	2	1	2	3	1	0
CULTURAL BELIEF (RITUALS)	0	0	2	0	0	1
FINANCIAL CLEARANCE NOT DONE	4	1	0	2	2	1
LACK OF ESSENTIAL EQUIMENTS	2	0	0	0	0	0
OT BUSY	4	1	0	2	1	0
PT.LATE (IN WASHROOM)	1	0	0	0	0	0
PT.REPORTS PENDING	0	0	1	0	0	0
REPORTS PENDING	0	0	0	0	0	1
SURGEON BUSY IN CASE	1	0	1	1	2	1
SURGEON BUSY IN OPD	0	0	0	0	1	0
SURGEON LATE	4	1	0	5	0	5
SURGEON LATE	2	0	0	0	0	0
SURGEON PREFERENCE	3	1	1	0	0	0
Grand Total	23	5	7	13	7	9



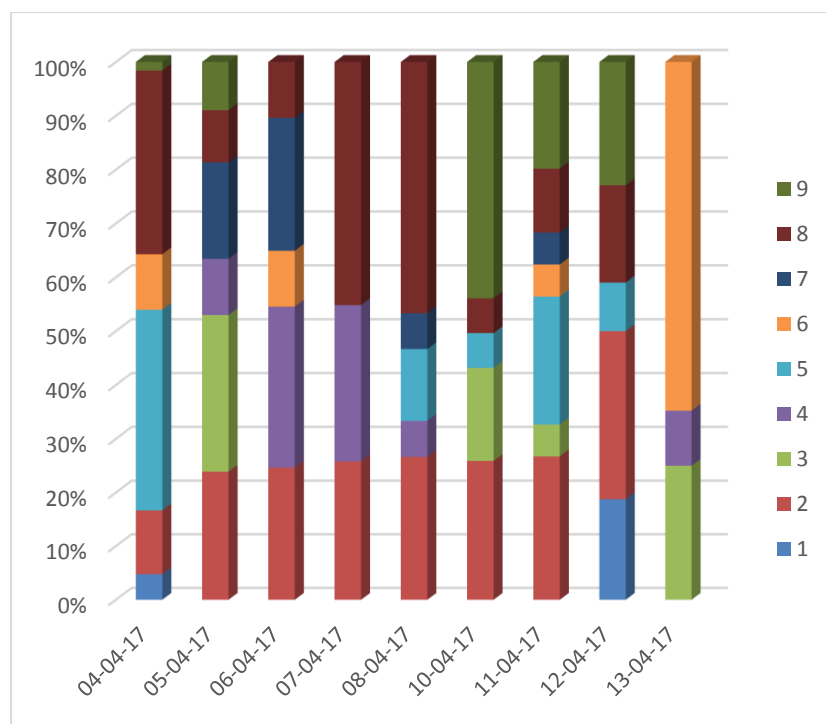
e. No. of Cases Delayed in Each OT

OTs	Type Of Anesthesia	Column1	Column2	GRAND TOTAL
	GA	LA	SA	
OT.1	1	1	1	3
OT.2	12	1	4	17
OT.3	3	0	2	5
OT.4	5	0	1	6
OT.5	1	1	4	6
OT.6	2	0	2	4
OT.7	5	0	0	5
OT.8	7	0	2	9
OT.9	0	9	0	9
GRAND	36	12	16	64
TOTAL				



f. Average Delay (Median Time) in Each OT in Starting the First Case in the Morning

DIFFERENCE B/W SCHED. TIME & WHEEL IN TIME	OT NO.									
	1	2	3	4	5	6	7	8	9	Grand Total
04-04-17	0.50	1.25	-	-	3.92	1.08		3.58	0.17	10.50
05-04-17		2.67	3.25	1.17			2.00	1.08	1.00	11.17
06-04-17		1.58		1.92		0.67	1.58	0.67		6.42
07-04-17		0.67		0.75				1.17		2.58
08-04-17		2.00		0.50	1.00		0.50	3.50		7.50
10-04-17		3.00	2.00		0.75			0.75	5.08	11.58
11-04-17		2.25	0.50		2.00	0.50	0.50	1.00	1.67	8.42
12-04-17	2.25	3.75			1.08			2.17	2.75	12.00
13-04-17			1.83	0.75		4.75				7.33
Grand Total	2.75	17.17	7.58	5.08	8.75	7.00	4.58	13.92	10.67	77.50



FINDINGS (4th – 13th April 2017)

1. Total OT hours = 8:30 AM to 5:00 PM
= 8.5 hours
= 510 minutes
2. Total number of surgeries = 197
3. Average number of surgeries per day = 22
4. Total number of delays = 64
5. Average number of delays per day = 7
6. GA cases were delayed more than SA and LA cases i.e. (36)
7. Urology and Eye Cases were highly delayed.
8. Week 1st has highest delays = 35
Week 2nd = 29
9. Days with highest delays – TUESDAY
Monday =8 Tuesday =22
Wednesday=16 Thursday=9
Friday=3 Saturday=6
10. Scheduled cases were delayed more = 64
11. Highest cases were delayed in OT 2 = 17. (OT1-3, OT3-5, OT4-6, OT5-6, OT6-4, OT7-5, OT8-9, OT9-9)
12. Average delay time i.e Median Time maximum in OT 2 (17.17 HRS)
and OT 8 (13.92 HRS)

OBSERVATIONS

- ✓ Availability of a Sterile Zone and Dirty Utility Room in Operation Department.

OT BOOKING -

- Booking register is filled properly at the time of OT booking.
 - Surgeon book the OT for a specific date, with the name of surgery and the rest of the details. Sometimes the surgeons book the OT on a phone call from their respective cabins or sometimes the assistants of the surgeons come to the OT to fill the OT register.
 - Tentative duration of Surgery is filled and defined, in case if it's not given then the timings are set by the OT coordinators as per the case and OT availability.
 - Information is given beforehand if there is any special requirement for any case/surgery.
 - Column for 'Infected' or 'Non-Infected' cases in booking register.
- ✓ Availability of a Doctor's lounge and Staff lounge in the department.

CLEARANCES, INVESTIGATION AND CONSENT –

At TPA end

- Admission of Elective cases with/without approval.
- Lack of communication from doctor's end.
- Delay in receiving reports.

BARREIRS

- Cancellation of cases.
- Same day scheduling.
- Postponement of cases.
- Delay /preponemnet of Scheduled cases.
- Late start of OT for the day.

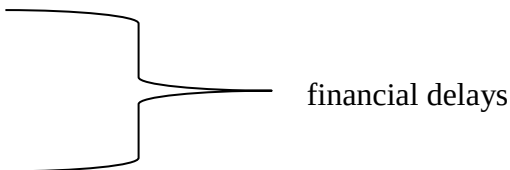
Reasons of cancellation -

- Cardiac clearance; patient not fit for surgery.
- Consent not signed by the interpreter.
- Funds not deposited. (life threatening cases are taken into consideration)
- Change of care plan.

Same day scheduling –

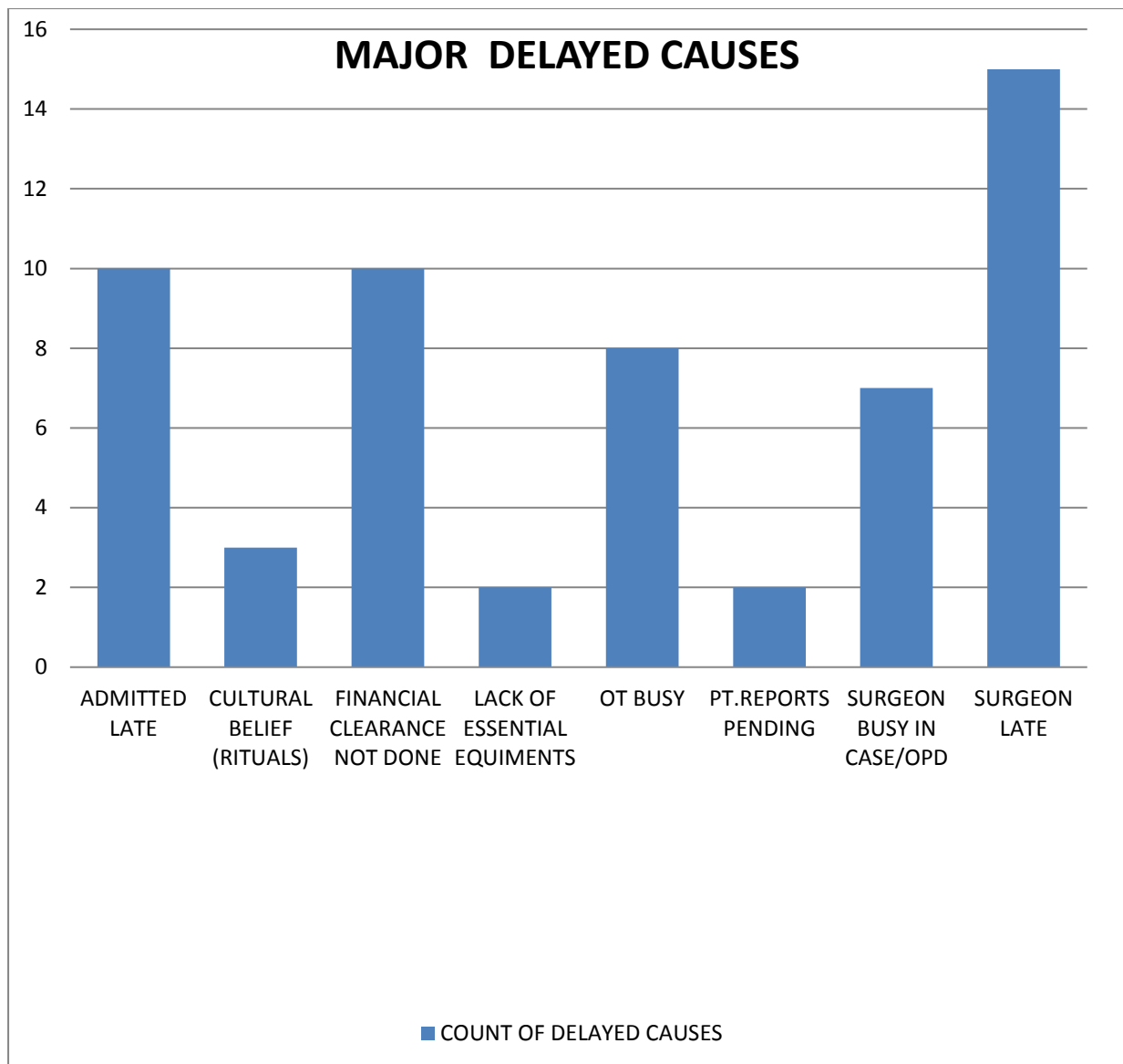
- Emergency cases.
- Surgeon's preference according to their own convenience.
- If the coordinator forgets/skips to mention in the list.

Postponement of the cases-

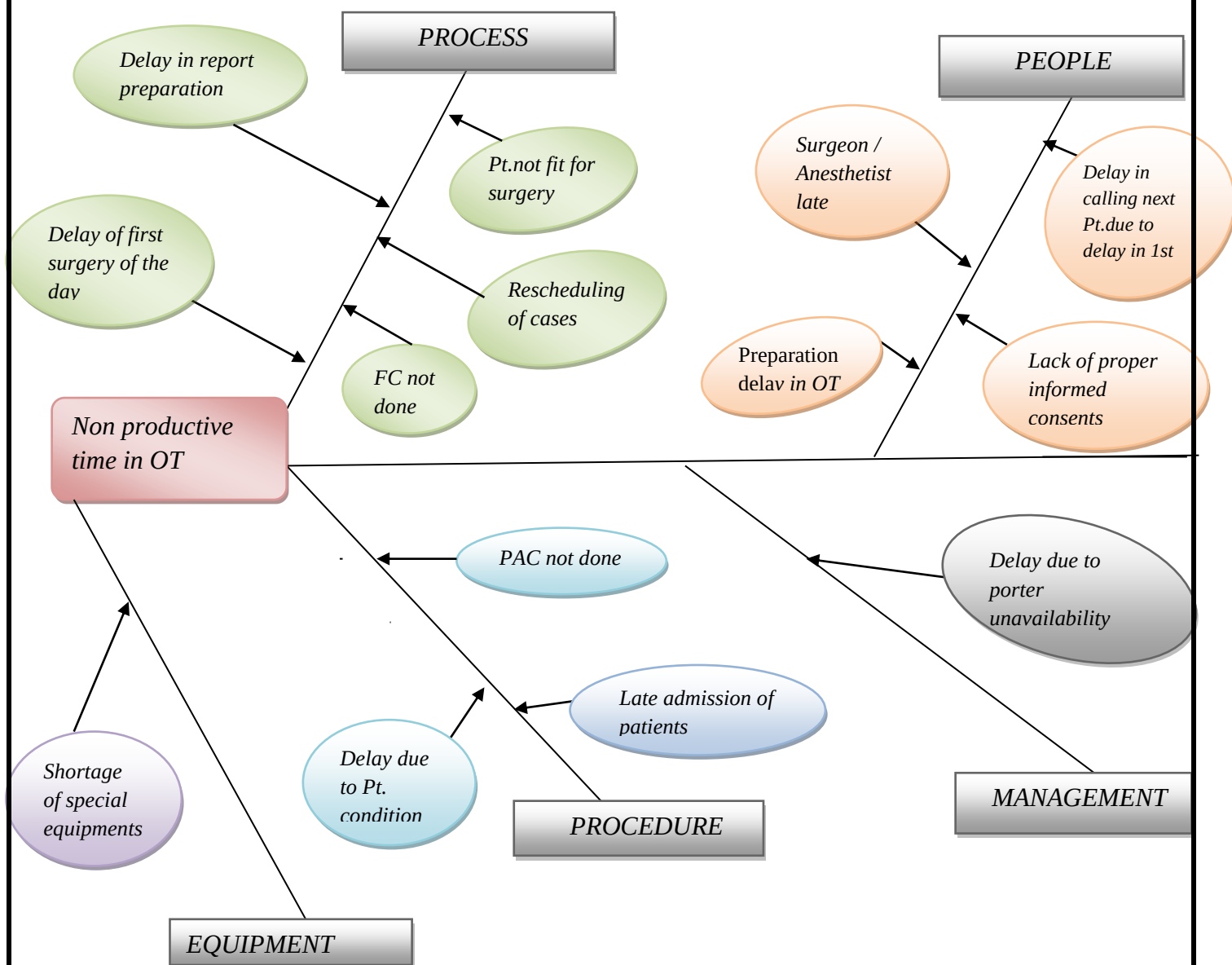
- TPA approval pending.
 - CGHS approval pending.
 - ESI approval pending.
 - Consent not signed.
 - Investigation reports pending.
 - Patient late admission; - due to the late arrival of patient from home or sometimes the reason being the non-availability of rooms according to their preference.
(Cabins/Semi-Cabins)
- 
- financial delays

MAJOR CAUSES OF DELAY

1. 23.43% cases were delayed as the surgeons did not arrive on time that became the cause for the most common problems, 'investigations, clearances, consent not complete'. A few more of the top 10 included surgeons running two rooms, surgeon unavailable.
2. Other 15.62% cases were delayed as financial clearance not done. (reasons as mentioned above); other than that there may be slow registration process/slow admission process which may lead to late financial approval.
3. 15.62% delays due to late admission of the patients due to the late arrival or non-availability of rooms of their choice. (Cabin/Semi-Cabin)
4. 12.05% of time OT is occupied with other cases.
5. 10.93% cases delay due to Surgeons busy in OPDs.
6. 4.68% delays due to Cultural beliefs and family rituals of the patients. (especially in the Cesarean cases)
7. 4.68% of delays as patient reports were pending.
8. 3.12% delays occurred due to lack of essential equipment's. (e.g., HD camera, C-Arm, Microscope, CUSA Machine etc.
9. Sometimes there may be error on the part of the nurse; nurse's workload has increased over recent years and patients in hospital beds are more acutely ill; nurses get occupied with lots of other tasks causes delay in sending of reports and shifting of patients in the OT.



FISHBONE STRUCTURE OF CAUSES OF DELAY



RECOMMENDATIONS

1. The surgeons should arrive on time and be strictly available at the time of scheduled surgery, by managing their OPD timings accordingly.
2. Two surgeries of particular surgeons should be scheduled with a minimum gap of 2 hours or as per the type of surgery and condition of the patient.
3. Patient clearance should be done prior to one day before the surgery. (CONSENT, TPA, HHH REPORT, 2D ECHO REPORT etc....)
4. OT booking should be done after getting the TPA approval only.
5. Reducing the number of cancellation by reducing the delay time that takes place in handovering of patient's clearance.
6. Currently, the hospital has 3 HD CAMERA which is very less in number. The hospital must provide with the necessary and sufficient equipments to avoid the delay and inconvenience.
7. To address late patient arrivals/admissions, a phone call could be made to inform the financial counsellor by the surgeon or the assistant of the surgeon or the OT manager and then a reminder call could be made to each patient the day before his or her surgery via financial counsellor to decrease the chance of the patient arriving late on the day of surgery.
8. Limiting the number of non-admission cases that eventually falls into cancellation and that leads to rescheduling of the surgeries.
9. PAC should be done one day prior to surgery so that no further delay occurs at the time of surgery.
10. Patient's investigation reports should be send on time to TPA for timely approval; nurses should send X-Ray back to lab for getting reports on time.

CONCLUSIONS

- ❖ Delays most frequently occur in the operating room and have a huge effect on patient flow and resource utilization. Thorough study of pan operative delays provides a basis for the development of solutions for improving operative room efficiencies and illustrates the principles underlying the causes of operating room delays across surgical disciplines.
- ❖ Pan operative delays include delays getting to the operating room and delays during the operation that are scheduled.
- ❖ This study demonstrates that delays are mostly in **Urology Operating Room** that lessons from the data analyses.
- ❖ Furthermore, an initial delay is associated with additional subsequent delays, propagating a vicious cycle.
- ❖ The most common types of delays were, “untimely arrival of the surgeons, financial clearance due, late admission of the patients, lack of essential equipment’s, patient investigation reports pending,” measures devised to combat inefficiency in the operating room will have to primarily target these areas.
- ❖ Such system improvements will require a dedicated collaborative effort at multiple levels, including imaging departments, porter systems, patient registration processes and others.
- ❖ Thorough study and documentation of pan and peri operative delays and their causes in different surgical subspecialties may be a useful way to start designing solutions to improve operating room efficiency.
- ❖ This could improve quality assurance in the operating room, patient satisfaction and flow and decrease frustration and anxiety on the part of the surgical team.

PROJECT REPORT NO.2

ANALYSIS OF CONSUMABLE **CONSUMPTION IN LSCS TO INCREASE THEIR** **OPTIMAL UTILIZATION**

INTRODUCTION

As there is increase in demand, with the high care costs and limited resources, health organizations need to be efficient in increasing their productivity and minimizing their expenditure. In order to achieve these goals they need to study their assistential and managerial processes in depth, so as to adjust the available resources and activities and also get rid of waste.

Waste is something that is directly linked to carrying out actions which do not benefit or add value to neither products nor services, but that create an un-necessary costs and expenditures, without effectively meeting the customer's or patient's needs. Nonetheless, identifying waste is an activity which requires thorough and complete analysis by all those steps involved in the processes, as what is valuable to one may be a waste to another.

In this regard, merely identifying waste and encouraging its reduction cannot change behavior in the organizations; both of these require regular investment in education and training of the staff and employees, as well as knowledge of managerial tools so as to restructure the administrative, operational and clinical processes in the healthcare sector.

The studies and the concerns regarding the consumable resources in surgeries have given rise to uniform reflections and discussions, as these represent the health organization's second-highest cost, consuming between 15% and 42% of the hospital budget.

It is in consideration that this cost is related with the complication of the actions and activities as well as with the different procedures which increasingly incorporate technology into the advancement, with greater variety and consumption of consumable resources.

Information on cost of surgical services can be used for monitoring the efficiency of service delivery, making resource allocation decisions involving surgery and setting reimbursement rates to providers and avoiding wastage.

In this study we estimated the cost of LSCS surgery of 30 patients to identify the areas of factors which need to be looked into to ensure the optimal utilization of recourses for the organization and thus decreasing the wastage.

BACKGROUND

Effective management of resources and consumables is an essential task for healthcare organizations that are managing different fields. It is important for them to efficiently organize and allocate personal protection measures as well as equipment for different surgeries at the same time avoiding idle materials. Having the information about the availability of the resource and have them available at the right time for the activities plays a vital role in managing the costs and smoothly executing the activities and thereby decreasing waste for optimal utilization.

RATIONALE

Good and effective optimal utilization of resources plays a very important role in the success of a hospital and can take the hospital to a next level. Hence, exploring the factors affecting the utilization of hospitals is a key area of concern. Therefore, this study aims at finding the valuable measure for improving the utilization flow and therefore decreasing the unnecessary wastage via focusing on factors involved.

RESEARCH QUESTION

- What can be done to reduce the wastage of consumables in LSCS Surgery in OT?

AIM AND OBJECTIVE OF PROJECT

AIM-

- To help the organization to prepare a standardized consumable kit to be used in LSCS in order to increase the efficiency of OT stores.

OBJECTIVE-

- To identify the areas of factors where the organization can work towards decreasing the wastage.

RESEARCH METHODOLOGY

STUDY DESIGN - Retrospective Study. LSCS data was collected from the month of March and April 2017 by simple random method.

LOCATION – OT Department in Asian Hospital, Faridabad.

RESEARCH TYPE- **Descriptive Quantitative Research.**

DATA COLLECTION

- **Secondary Data** collected by visiting the department from OT No.3 and OT No.2 Nursing and Technician registers.
- The sample size taken for the study is **30** patients; data was analyzed and standard LSCS kit was suggested accordingly followed with the conclusion.
- Sampling technique used is **Simple Random Sampling.**

PARAMETRES USED

- Consumables used in OT that are chargeable to Patients.
- Patients name.
- Costing list from the store.

DATA ANALYSIS

The list of consumables in LSCS for 30 patients from the nursing and technician register was written down including the quantity of items for each case and the cost of each consumable was noted down from store. Total procedure cost calculated with respect to each patient. Data interpretation done in ECXEL SHEETS; the template for the same is formed and is attached in the annexure.

As per the information; total consumable items used in reference to each patient and average number of particular consumable to be kept in LSCS was calculated from this study.

SR.NO.	CONSUMABLES	TOTAL CONSUMABLES USED WITH REFERENCE TO EACH PT.	AVERAGE QTY. TO BE KEPT IN LSCS KIT
1	DISPOSABLE GLOVES 6	36	1
2	DISPOSABLE GLOVES 6.5	96	3
3	DISPOSABLE GLOVES 7	35	2
4	DISPOSABLE GLOVES 7.5	13	1
5	EXAMINATION GLOVES	300	10
6	SHOE COVER	73	3
7	TROLLEY SHEET	33	1
8	PLASTIC APRON	80	3
9	SURGICAL BLADE 11	1	1
10	SURGICAL BLADE 22	38	1
11	YANKUR SUCTION	30	1
12	NS 100	35	1
13	NS 500	42	2
14	NS 1000	31	1
15	SUTURING MATERIAL-SN1326	30	1
16	SUTURING MATERIAL-SN2347	60	2
17	SUTURING MATERIAL-SN4259	2	1
18	DISPOSABLE SYRINGE-2ML	67	2
19	DISPOSABLE SYRINGE-5ML	54	2
20	DISPOSABLE SYRINGE-10ML	53	2
21	UROBAG	7	1
22	SPINAL NEEDLE -25	8	1
23	SPINAL NEEDLE -26	22	1
24	I.V. SET	30	1
25	I.V. CANULA 20	30	1
26	R.L 500	70	3
27	ECG ELECTRODE	90	3
28	SUCTION CATHETER 14	3	1
29	FOLYES CATHETER TWO WAY 14	8	1
30	CAUTRY PLATE	30	1
31	10 CC SYRINGE	7	1
32	MINI SPIKE	3	1
33	RBS STRIP	1	1
34	ROMO VAC 14	1	1
35	GAUZE BANDAGE	3	1

FINDINGS

1. The consumables which are wasted more are Disposable Gloves No.6, 6.5, Trolley sheet, R.L.500.
2. Surgical blade 11, Suturing material 4259, RBS Strip, Romo Vac 14 were used in less than 3 patients.
3. Out of total cases; 25 cases charged above Rs.4000 to the patients for the consumables used.
4. The maximum cost in this case is Rs.4766.93/- while the minimum cost is Rs.3638.74/- which has a huge difference. This gap can be minimized if a proper managerial action is taken and wastage can be prevented.

CAUSING FACTORS

1. In some of the cases; the nurses move out of the OT to get the sutures or the other unavailable material while the surgery is in progress; therefore, it may help them saving the time if the standard kit is prepared accordingly.
2. In some of the cases it was also observed from the study that the surgeons did not used the necessary protective measures like shoe cover, plastic apron that may be a major issue in both the aspects i.e. safety as well as cost purpose.

❖ NOTE - These factors must be taken into consideration which may help the organization decreasing waste.

RECOMMENDATIONS

A standard **LSCS KIT** is recommended with those consumables which are to be necessarily used during the surgery with the average of every item as mentioned in the above table.

As including all those items in proper quantity not only lead the organization towards decreasing the wastage but also save the time and cost of the surgery procedure.

CONCLUSION

The study evidenced that the productive and successful management of material resources reduces the costs of the processes, and reduces waste. It focuses on the importance of the knowledge of the management of hospital consumable materials and also of evidencing the importance of the thorough analysis of its processes and costs and of defining the aggregated value for minimizing or eliminating waste.

In the situations of waste analyzed, the avoidable waste refers to the relationship between the health team's behavior and the culture and management of the organizations, which are therefore modifiable.

This study intends to reflect on the issue of waste and in this way, make it possible to look into the various factors to work upon to save the time for the establishment of rates and indicators in the area of health.

In this way, we hope that health institutions and professionals through study evidence, may be sensitized to, and made aware of the importance of the necessary resources for safe, quality care for the patients.

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ANNEXURE

[IMPORTANT OT DATA 1.xlsx](#)

[IMPORTANT OT DATA 2.xlsx](#)

[IMPORTANT OT DATA 3.xlsx](#)

[LSCS COSTING.xlsx](#)