

**Summer Training at
Eternal Heart Care Centre & Research Institute, Jaipur
(April 1–May 31, 2014)**

- **Audit of Medical Records for Documentation Compliance as per the Hospital Standard Operating Procedures**
- **Gap Analysis of the Hospital Central Sterile & Supply Department as per the Hospital Standard Operating Procedures**

**By
Shweta Sharma**

**Under the guidance of
Dr. Barun Kanjilal**

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



**The IIHMR University, Jaipur
2014**

**INSTITUTE OF HEALTH
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CERTIFICATE

This is to certify that **Dr. Shweta Sharma** has undergone her summer training at **Eternal Heart Care Centre & Research Institute, Jaipur** from 14st April, 2014 to 14th June, 2014.

The candidate has successfully carried out the projects on-

- 1) **Audit of Medical Records for Documentation compliance as per the Hospital Standard Operating Procedures**
- 2) **Gap analysis of the hospital Central Sterile & Supply Department as per the hospital Standard Operating Procedures**

which was assigned to her during summer training and her approach to the study has been scientific and analytical.

This summer training is partial fulfilment of the course requirement..

I wish her success in all her future endeavours.



Prof. Barun Kanjilal
Professor
IIHMR Jaipur



Col.(Dr.)Ashok Kaushik
Dean(Academic & Student Affairs)
IIHMR,Jaipur

EHCC&RI/HR/Office/2014/227

Date: - July 05th, 2014

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Dr. Shweta Sharma, student of Institute of Health Management Research (IIHMR), Jaipur has successfully completed her internship from 14 April 2014 to 14 June 2014 Eternal Heart Care Center (EHCC), Jaipur, under the able guidance of Dr. Vikram Singh Chouhan (Head-Medical Operations) & Dr. Swati Guglani (Deputy Medical Superintendent).

Apart from the general understanding of the hospital, she has worked on the following aspects of the hospital:

1. Audit of Medical Records for documentation compliance as per the Hospital SOPs.
2. Gap Analysis of CSSD.

During this period, she was found to be a hardworking, pleasant, & sincere student. She has completed her project entirely to the satisfaction of the hospital's management.

We wish her all the best for her future endeavors.

Amitav Naresh
Head-HR



Acknowledgement

I am extremely indebted to all the professionals at Eternal Heart Care Centre & Research Institute ,Jaipur for generously sharing their knowledge and precious time which inspired me to do the best during summer training. I would like to express my gratitude to Dr. Vikram Singh Chauhan (Head Medical Operation), Dr. Andley (Medical Superintendent) for their valuable inputs, able guidance, encouragement and whole hearted co-operation throughout the duration. I would like to thank Dr. Swati Guglani (Dy. Medical Superintendent) my mentor for the summer training at Eternal Heart Care Centre & Research Institute ,Jaipur, without whose help, it would not have been possible to understand the hospital to the extent as I have now. It has been my privilege to work under their dynamic supervision in the hospital.

I am highly grateful to all the departmental heads and staff for giving me time in spite of their hectic schedule. Without their active co-operation and participation it would not have been possible to accomplish the task assigned.

I am indebted to my mentor at IIHMR, Mr. BarunKanjilal, who offered valuable guidance and support whenever required.

Dr. Shweta Sharma.

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Abbreviations

MRI- Magnetic resonance Imaging

CT Scan- Computerized Tomography scan

CCU- Critical Care Unit

EHCC- Eternal Heart Care Centre & Research Institute

NABH- National Accreditation Board for Hospitals and Health Care Providers.

ECG- Electro Cardiogram

ECHO- Echo Cardiogram

TMT- Tread Mill Test

TEE- Trans Oesophageal Echo

OPD- Out Patient Department

IPD- Inpatient Department

IT- information Technology

TPA- Third Party Administration

ICU- Intensive Care Unit

CSSD- Central Sterile and Supply Department

MRD- Medical Record Department

USG- Ultrasonography

UHID No.- Unique Hospital Identification Number

TAT- Turn Around Time

OT- Operation Theatre

GDA- General Duty Assistant

LAMA- Leave Against Medical Advice

MLC- Medico Legal cases

OMD- Operational Medical Director

HMO- Head of Medical Operation

BME- Biomedical engineering

MS- Medical superintendent

HR- Human Resources

AGM- Assistant General Manager

ACLS- Advanced cardiac Life support

BLS- Basic Life support

MICU- Medical Intensive Care Unit

SICU- Surgical Intensive Care Unit

HOD- Head of Department

BARC-Bhaba Atomic research Centre

PCPNDT authority- Preconception, Prenatal diagnostic technique authority

SDM- Sub-divisional Magistrate

IDSP- Integrated Disease surveillance programme

INTRODUCTION TO HOSPITAL

ETERNAL HEART CARE HOSPITAL & REASEARCH CENTRE (EHCC)

EHCC hospital is a state-of-the-art super speciality tertiary care hospital in Jaipur city in the majestic state of Rajasthan. The Institute is a brainchild of Dr. Samin K. Sharma, world renowned Interventional Cardiologist based at Mount Sinai Hospital, New York, USA. EHCC is 225 bedded hospital focusing on the Cardiology, Cardiac Surgery, Orthopaedic, Joint Replacement, Spine Surgery and Critical Care with support of departments Pathology, Radiology, Transfusion medicine, Physiotherapy & Molecular imaging. EHCC is an affiliate of Mount Sinai Hospital, New York, USA, which has been internationally recognized for its top-performing physicians and revolutionary research centres.

EHCC Chairman and Chief interventional cardiologist

Dr.Samin K. Sharma is a US based interventional cardiologist holding the American record for the highest number of complex coronary interventions performed annually, along with the highest angioplasty success rate in New York State.

Address:

Eternal heart care & Research centre

3A –Jagatpura Road

Near Jawahar Circle

Jaipur, Rajasthan, 302020

EHCC Toll Free No. 1800-121-3422

Contact Details:+0141 – 5174000, +917665022224-6

HOSPITAL PROFILE



Vision: A centre of excellence in area of medicine with highest international standards at affordable cost for the community around the globe.

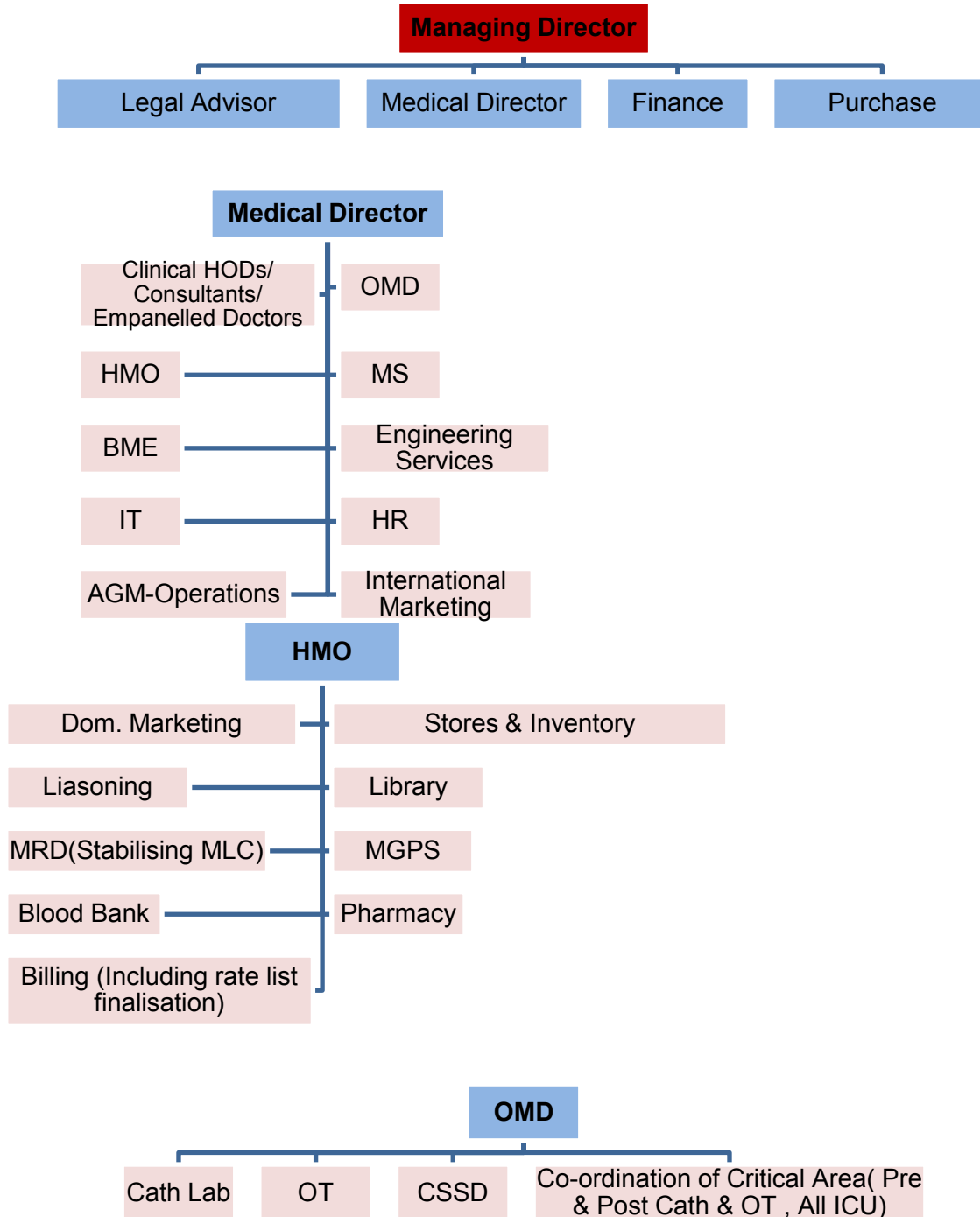
Mission: To redefine healthcare by improving outcomes and experience of patients through cutting edge research and personalized clinical care including innovative, preventive, diagnostic, therapeutic and rehabilitation services.

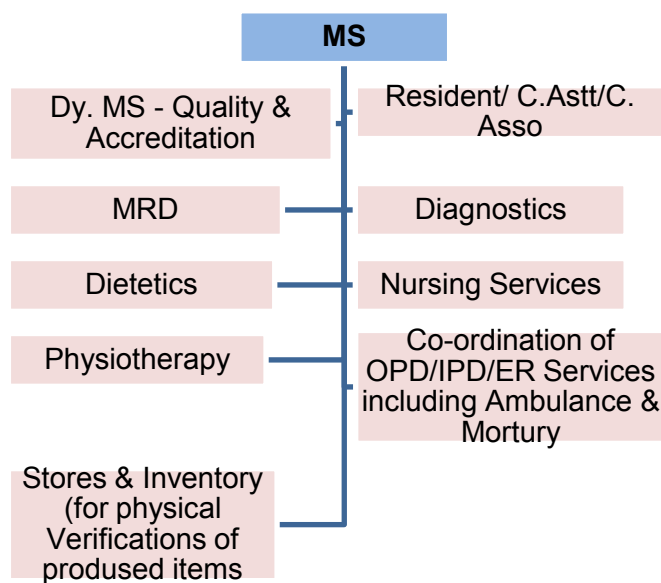
Core Values:

- **INTEGRITY:** We adhere to an uncompromising code of ethics that emphasizes complete honesty, transparency & sincerity.
- **PATIENT CENTRIC:** Caring for the individual patient and his family is at the heart of our mission.
- **EXCELLENCE:** we strive to make everything we do world class & strive for excellence in terms of skill, state-of-the art technology, programs & services. We will strive to have leadership in our field.
- **HOSPITALITY:** We will welcome people with kindness and do all that we can to assist their health and wellbeing.
- **ACCOUNTABILITY:** Is about ownership of work and being answerable for the services we provide.
- **RESPECT FOR ALL:** We carry the respect for the dignity of each individual.

- **TEAM WORK:** Our system effectiveness is based on the collective strength & cultural diversity of our people with effective communication.

Organogram:





Facilities: Total environmental control with proper treatment of air and water, well provided waiting space, sophisticated and well stocked pharmacy and facilities for communication and refreshment enhances the patient comfort. EHCC is supported by state-of-the art medical gas system, central sterile supply, laundry and full backup power generation.

Salient features:

- ❖ EHCC consists of 2 state-of-the-art Cath Labs that house the most advanced technology including bi-plane flat panel imaging, which allows for more images with less contrast

dye usage, and magnetic catheterization. We have facility to show the live cases at our auditorium for medical fraternity.

- ❖ Modular/Laminar Flow “Class 100” Operation theatres with HEPA filter and near zero infection levels.
- ❖ Availability of Gama Imaging, Nuclear medicine for cardiac treatment
- ❖ Pneumatic Chutes –introducing Pneumatic Chutes in Rajasthan. It is a suction operated system for easy carriage of collected samples to laboratory directly from the nursing station. The system reduces man power and possibilities of errors.
- ❖ EHCC has established a Research Department to evaluate effectiveness of the services provided by the hospital for a continuous quality improvement.

EHCC Hospital offers following Specialties:

- ❖ Cardiology(Interventional & Preventive Cardiology)
- ❖ Cardio thoracic and Vascular Surgery
- ❖ Critical Care
- ❖ Neuro Sciences(Neurology, Neurosurgery, Stroke Clinic)
- ❖ General Anaesthesia
- ❖ Cardiac Anaesthesia
- ❖ Pulmonology& Sleep Medicine
- ❖ Endocrinology
- ❖ Orthopaedics
- ❖ Internal Medicine
- ❖ Radiology& Imaging
- ❖ Nuclear Medicine(Diagnostics & Therapy)
- ❖ Pathology /Microbiology/ Blood Bank
- ❖ Physiotherapy/ Rehabilitation Centre
- ❖ Dietician

24 Hours Services:

- ❖ 24x7 Emergency Services
- ❖ 24x7 Ambulance Services (ACLS & BLS)
- ❖ 24x7 Operating Facilities for Emergency Cases
- ❖ 24x7 Pharmacy Services
- ❖ Blood Bank

Value Added Services:

- ❖ Comfort Lounge for Attendants or Visitors/ Well provided waiting space
- ❖ Cafeteria
- ❖ Multilevel Parking
- ❖ Communication facilities
- ❖ All Online appointment booking for Doctor/Preventive health check-up
- ❖ Diabetic Clinics

SUPPORT SERVICES

Nursing care

The staff nurses are responsible for daily care during your entire stay at hospital. Every single room's bed is equipped with the call button directly to the nursing station. If patient need nursing assistant at any time, patient will press the button and nurse will be there to assist patient.

Housekeeping

To ensure patient's room is kept neat and tidy during stay, the housekeeping personnel will clean room twice a day, if patient want any additional cleaning in the room, can contact housekeeping supervisor. Ward lady will provide clean bed linen every day, hot water is supplied in all bathrooms and waste bins are provided with each bed for patient's requirement.

Dietary Service

While patient is in hospital, doctor may place them on special diet. After the initial investigations, dietician will visit the patient & in consultation with their doctor, look in to nutritional needs. After going through patient's medical history, dietician will plan a diet chart, ensuring that patient's meals are nutritionally balanced.

Servings	Timing
Bed Tea	6:00AM-6:30AM
Break fast	7:30AM-8:30AM
Lunch	12:30PM-1:30PM
Evening Tea	4:00-4:30PM
Soup	6:00-6:30PM
Dinner	7:30-8:30PM
Health Beverages	9:00-9:30PM

It is hospital policy that no outside food is permitted in the patient care areas.
Counselling for home follow up will be given by the dietician before discharge .

Emergency & Ambulance

The hospital is fully equipped with round the clock emergency services supported by 24 hour available ambulance services.

Parking

For convenience and comfort parking space is available for vehicles .The security personnel on duty address safety and security.

Support service	In-house	Out sourced
Bio- Medical engineering	Yes	
Catering & kitchen services		Yes
CSSD	Yes	
General Administration	Yes	
Housekeeping		Yes
Human Resources	Yes	
Information Technology	Yes	
Laundry	Yes	
Maintenance/ Facility Management	Yes	
Management of Bio-Medical Waste	Yes	
Mortuary Services	Yes	
Pharmacy	Yes	
Security		Yes
Supply chain Management & material Management	Yes	

Staff

- 1) Consultants: 26
- 2) Resident (Non PG)/Medical Officer: 21
- 3) Nurses: 137
- 4) Technicians: 30
- 5) Housekeeping staff: Outsourced

DEPARTMENTS VISITED

OPD

OPD is the first place where the sick come in direct contact with the Hospital and its staff. It is defined as an establishment, which is the first point of contact and provides primary and comprehensive health care for ambulatory patients who come for diagnosis, treatment or follow up care. Patients may directly or be referred from other dispensaries, clinics or hospitals. It is the main link between hospital and community.

OPD Timings: General OPD (9:00 am – 5:00 pm)

Evening OPD (5:00pm - 8:00pm)

Sign & Postings: are prominent and well displayed.

There is adequate space which serves as waiting area for the patients.

The average number of patients seen in OPD per day is 90-100.

Objectives:

- ❖ Present correct information/ Inquiry Handling.
- ❖ Perform Registration, OPD Cash and Credit billing within the target time.
- ❖ Scheduling appointment for doctors
- ❖ To drive satisfaction and delightful experience.

Functions:

Function of OPD Registration and Billing are as follows:

- ❖ Registration has done by the Front office assistant and they generate one UHID Number for the new patient.
- ❖ Billing has been done either for the consultation/ Investigation/ Preventive Health Check-up
- ❖ They provide Information/ enquiry to the patient and their attendant.
- ❖ OPD daily collection has been deposit to the cashier by the front office assistant, after completion of the shift.
- ❖ Telephonic query handling
- ❖ Counselling regarding packages or any details.
- ❖ Cash handling.

Consultation Charges:

- ❖ 300-400 Rupees.
- ❖ Registration charges are 100 rupees which is for one time.
- ❖ Follow up within a month, half consultation charges will be taken.
- ❖ Consultation may vary according to consultants.

PREVENTIVE HEALTH CHECK-UP

Preventive Health Packages:

- ❖ Cardiac Package (Premium & International Package)
- ❖ Comprehensive Check-up Male/ Female
- ❖ Diabetic Health Check
- ❖ Wellness Packages

IPD

Inpatient services is the most important and single largest component of hospital services. The patients are admitted when referred from outside or from OPD or from casualty.

Objectives:

Prime Focus is customer delight and Patient/Attendant satisfaction.

Being Patient centric and develop patient's loyalty by surpassing their expectations.

Functions of the Department:

General Information & Enquiry:

- ❖ Registration: To register the non-registered Inpatients.
- ❖ Admission: To admit the patient for further treatment
- ❖ Counselling: To give detailed information on the financial aspects and Packages.
- ❖ Room Bookings: To facilitate timely room allocation
- ❖ Cash Handling: To receive cash and give receipts, refunds to the inpatients. This is done in Billing department.
- ❖ Handling Discharges: Follow up, receiving and handling the final bills for the Inpatients. Also done in Billing Department.
- ❖ Visitor/ Attendant Passes: Handing out various passes throughout the day for inpatients.
- ❖ Telephonic query handling
- ❖ Running Bills: Handed over to the patients for their daily outstanding. Also done by billing department.
- ❖ Clearances: clearances issued for procedures and final discharges. Also done on billing department.

EMERGENCY/CASUALTY/TRIAGE ROOM

It is place where critical patients are given initial treatment to stabilize the patient by the help of emergency medical officer and staff.

Triaging is done as per the patient's condition and treatment is given in consultation with the respective departments. After making sure that the patient's condition has stabilized he is either sent home or if further care is required he might be sent to ward/ICU.

It is well connected with the Radiology department, Cath Lab, and ICU.

Records of patients are maintained in a register.

Triage assessment form is filled separately by the Doctor and Nurses.

For Immediate care of the patients following instruments are available:

- Defibrillator
- ECG recorder
- Intubation tubes
- Emergency medicines
- Ventilator etc.

Triage:

- Emergency care shall be provided in the emergency department on 24 X 7 basis.
- Resident doctor on duty shall then direct the patient / relative to registration counter for registration
- The patient comes to emergency, vitals shall be recorded and necessary treatment shall be initiated to stabilize the patient.
- On confirmation of admission by the consultant, the patient will be shifted to ICU / MICU / respective ward after stabilization
- Patient requiring any urgent radiology / pathology investigations , the same shall be done before shifting the patient to ward.
- Any such investigation done at emergency shall be recorded in the in-patient file and information passed to the ward to avoid duplication.
- All patient complaints & vital signs be recorded and based on that emergency investigations, resuscitation / treatment shall be started by the Duty Doctor and which shall be recorded.
- Subsequently consultants shall be informed about the condition of the patient and details of the management conveyed.
- After stabilizing the patient shall be shifted to ICU / ward / room or admission.

Total Number of Beds that have been sanctioned: 225

Total Number of Beds currently in operation: 116

Name of Unit/Ward	Number of Beds
CCU	11
Post Cath ICU	11
SICU	11
Emergency	5
General ward	18
Semi Deluxe	34
Deluxe	8
Super Deluxe	2
Suite	1
Isolation Room	3
Pre-Operative	12
Post-Operative	17

- OT (Operation Theatre): Super-speciality 3

VISITORS POLICY

Visiting hours

For in patient rooms visitors collect the passes from the IPD counter .

The visiting hours are:

Morning - 11 AM-12noon

Evening - 5PM to 6PM

Beside one attendant, only one visitor pass issues.

Attendants are not allowed in critical care unit. Visitor's policy for children: Children below age of 12 yrs. as visitors are not allowed in patient areas because they are prone to infection.

NURSE PATIENT RATIO:

TYPE OF WARD

Room categories:

All beds in the hospital are equipped with best medical support facilities regardless of their categories.

General Ward: The ward is air-conditioned and equipped with routine medical equipment's. Each bed is separated by the curtain.

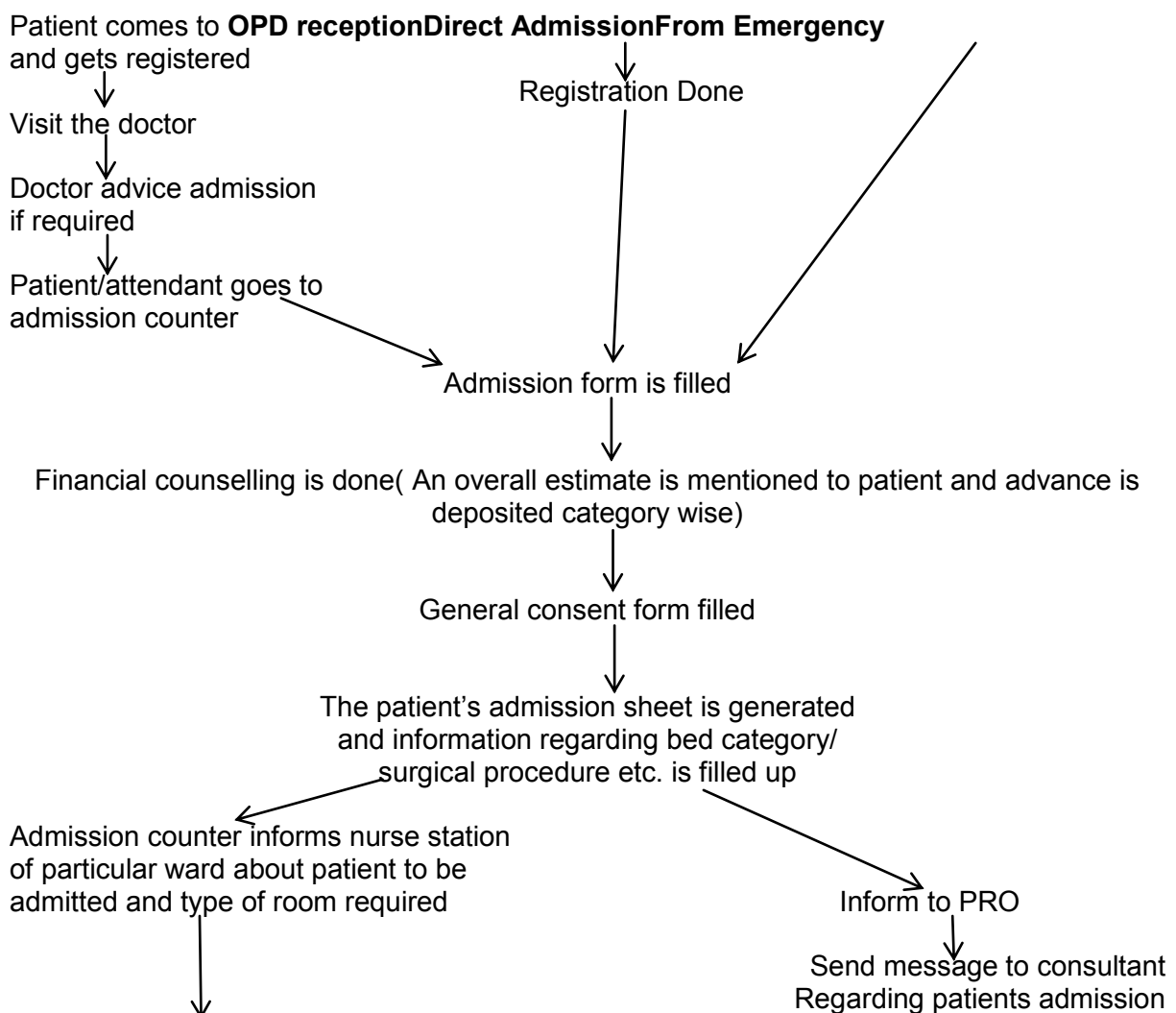
Semi- Deluxe (Twin sharing Rooms): Each room is air conditioned and accommodates two patients, partitioned by curtains.

Deluxe Room (s): These are spacious, air conditioned single rooms.

Super Deluxe Room(s): These are the best where hospital additionally offering fruit basket, cookies and tea-coffee maker.

Every bed is equipped with necessary medical equipment's and has a couch for attendants along with other amenities like television, wardrobe, intercom telephone and nurse call system and well-furnished washroom along with the toiletries.

PROCEDURE OF ADMISSION



The GDA takes the patient to ward along with File.

GDA hands over the patient to the nurse patient who allots the room to patient and informs patient regarding all facilities available

The nurse informs doctor on Duty

Duty doctor checks the patient, writes notes and hands file to nurse at nursing station

Consultant will see the patient and will plan the treatment

The Investigation and treatment procedure as mentioned in IPD file are started, consultant informed about reports and updated about patient's condition round the clock by duty doctor and instructions by the consultant will be followed.

Consultant will take round daily and as & when required

GENERAL CARE OF PATIENT

On daily basis morning and evening rounds are carried out by consultants.

There is cardiac emergency help line available in case of any cardiac emergency.(cardiac help line Number- 09549659139)

INVESTIGATIONS

1) BLOOD INVESTIGATIONS :

Blood investigations are carried out in following manner:

Sample taken for OPD patients in Phlebotomy room/IPD

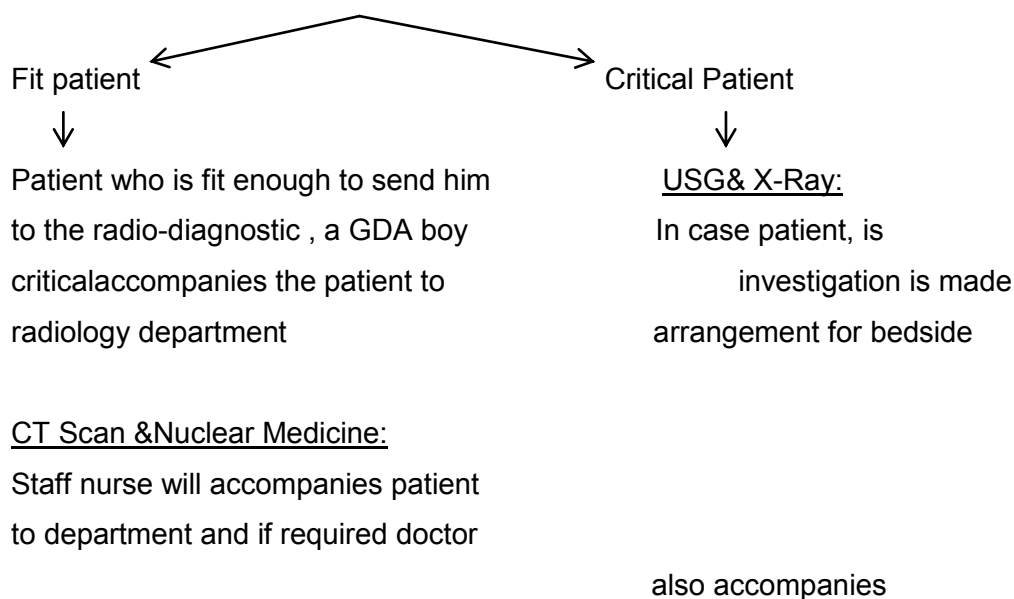


Sample sent to pathology lab via Pneumatic chutes



Reports are dispatched back to the wards or may be conveyed on phone if urgent or some abnormality requiring immediate action found/ Reports are also displayed on HIS (Penesia.net)

2) RADIOLOGICAL INVESTIGATIONS:



RADIOLOGY

HOD

Radiologist

It offers 24 hrs service and provides diagnostics service. Average number of X-rays done 40-50. 20-30 ultrasonography. 10-15 CT scans. All equipment and set up are BARC approved.

Imaging done are: 1) X-ray

2) ultrasonography

3) CT scan (Dual source)

TAT register is maintained here to get average time required for the Imaging and for improving services in future.

NUCLEAR MEDICINE:

HOD

It is organ function testing.

Hot lab: In this area there is isotope storage room which is high radiation area.

L-bench is for labelling and measurement. Mix will be prepared here (pharmaceutical & radiological), labelling, levelling, dose calibration will be done here.

Dose calibration machine in hot lab- to measure the quantity (quantity measures in micro curry, milli curry)

Pharmaceutical & radio-nuclear drug mix (labelling)

Specific measures for prevention of spillage.

Dose admin room: Dose which is prepared in Hot lab will be administered to the patient here.

Gamma camera room: It is dual hit gamma camera, it show anterior-posterior view particular organ.

Scan done like (thyroid scan to view thyroid gland structure & functioning, HIDA scan to view structure & functionality of Liver, DMSA scan to view kidney structure, DTPA scan to view kidney functioning, Thallium scan for looking myocardial perfusion, Pyrophosphate Tc-99m scan to view cardiac functioning, Parathyroid scan, Bone scan)

Survey meter: Survey meter is TLT thermo-protection leak meter is available to see the radiation effect in that particular area. (normally it shows 46 or 48)

Separate consent form is for cardiac and other organ scans.

TAT register is maintained.

OTHER DIAGNOSTICS :

- ECG(12-Lead ,Computerised)
- Digital X-Ray
- Colour Doppler & Ultrasound (USG)
- TMT (computerised TMT)
- Echo-Cardiography(Colour Doppler, trans-oesophageal and 3D)
- Stress echo
- Holter monitor
- Ambulatory blood pressure monitoring
- Tilt-table test
- CT-(Coronary angiography) 64 slice cardiac CT scan
- Nuclear stress test (stress/rest MPI)
- MUGA Scan

LABORATORY

The laboratory at EHCC hospital is advanced and fully equipped laboratory.

There is separate collection area for OPD samples, record of which are maintained in computer as well register. To reduce time for process pneumatic chutes are used to receive samples from OPD and other departments like ICU, OT, wards etc.

The functional components are as follows:

- Histopathology
- Clinical pathology
- Biochemistry

- Microbiology
- Haematology
- Biochemistry

Biosafety cabinet is used for preparing culture media & to look out bacteria grown and to see sensitivity. It is basically used avoid contamination.

Staff- HOD of Pathology

HOD of Microbiology

6 technicians

1 GDA common to Micro and pathology lab

Duty timings- 9am – 5 pm (general duty)

8 am – 2 pm (Morning)

2 pm – 8 pm (Evening)

8pm – 8 am (Night)

BLOOD BANK:

Hospital has only blood storage licence at present. Whenever blood is required to the patient, blood is then arranged from SDM hospital, blood product will be brought from SDMH and stored in the EHCC hospital blood bank and will be issued to the patient as an when required.

Cross matching of the component will be done before issuing of the blood product. Issue register, Cross match register , Blood stock register are maintained in the department.

HOD of Blood bank

PHARMACY

It functions 24 hours a day and provides all medicines prescribed by the doctors in the Hospital and also to the prescriptions outside patients.

There is separate OPD & IPD pharmacy.

All the medicines are arranged alphabetically to ensure easy access.

The transaction and record is maintained on HIS in case of IPD patients.

MAIN STORE

Working hour is from 9:00 am to 6:00 pm

Process for purchase of items is as follows:

Indent for Patients' Medicine/Consumables

Nursing Staff on duty enters in Purchase module of HMS



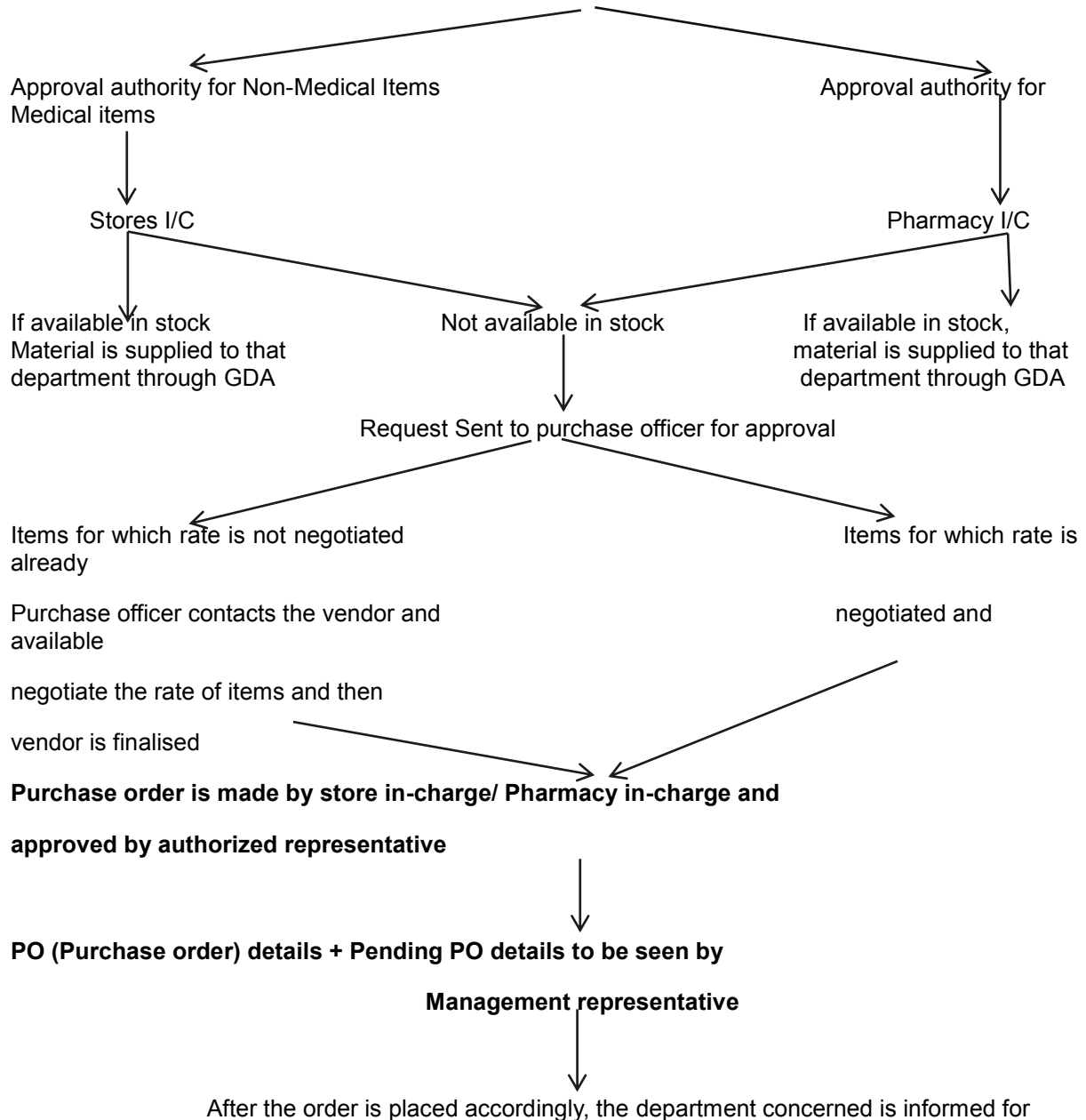
IPD Pharmacy



Sends the Medicine through GDA

INDENTS FOR ITEMS REQUIRED IN WARDS/ ANY OTHER AREA

Indent is raised by staff of that area in Purchase module of HMS



its availability as per discussed terms



HIS (HOSPITAL INFORMATION SYSTEM):

IT Manger

Separate IT department for HIS.

Software used (Panasia.Net)

Provide services as follows:

- Patient registration
- OPD billing
- Admission
- Wards (All movements, indent, medicines, packages),all ward functions
- IPD billing
- Discharges
- Discharge summaries
- LIS (Lab information system)- sample collection, work list generation, reporting.
- Stores- transfer of goods, stocking, transfer deliverables.
- Pharmacy- purchase, making of purchase order, purchase requisitions, receiving of goods
- Separate categorization for narcotics.
- OPD pharmacy- retail sale
- IPD pharmacy- Inpatient issues
- HRL Pay roll- In process (Employee muster, leaves management, duty roster, payroll processing)

- Finance- Account receivables, account payables, trial balance, PNL account, Balance sheet.
- Blood bank- Under process (component separation, component matching, component grouping)
- Radiology.
- Imaging in separate packs (in process)
- Admin system – user ID & password to the employees
- User creation, assigning roles, profile creation, user rights, security management.
- Training scheduling- presently only for nurses.

Staff- IT manager, 2 executive IT manager

OPERATION THEATER

There are three super-specialty OT, all are Modular/Laminar Flow “Class 100” Operation theatres with HEPA filter and near zero infection levels. One OT is nominated specifically for cardiac surgery, one is for Orthopedic surgeries.

Pre-fumigation and post fumigation swab are sent regularly to microbiology department to check for bacterial growth and records of the same are maintained.

Pre-op & Post-op care unit is attached to the operation theater.

All sterile material is directly come to the OT with the sterile dumb waiter from CSSD for prevention from infection.

Total staff-

- 1 OT manager
- 8 Cardiac nurses
- 4 Cardiac technicians
- 3 Ortho Nurses
- 2 GDA

Duty shifts-

- 8am – 4pm (Morning)
- 10am - 6pm(General)
- 12noon – 8 pm (Evening)
- OT manager 8:30 am- 6pm

CATH LAB SERVICES

EHCC consists of 2 state-of-the-art Cath Labs that house the most advanced technology including bi-plane flat panel imaging, which allows for more images with less contrast dye usage, and magnetic catheterization. We have facility to show the live cases at our auditorium for medical fraternity.

Procedure done in Cath lab are:

- Coronary angiography (femoral & radial)
- Coronary angioplasty/stenting
- Intravascular ultrasound ,FFR Rot ablation
- Carotid & cerebral (angiography/angioplasty)
- Peripheral /renal (angiography/angioplasty)
- Cardiac catheterization & hemodynamic study
- Mitral pulmonary & aortic
- Electrophysiology study & Radiofrequency, Ablation for arrhythmia
- Complex arrhythmia ablation by 3D Mapping
- Pacemaker implantation (single/double)
- ICD, CRT, CRT-D implantation for heart failure patients.

MEDICAL RECORD DEPARTMENT

Medical record department is the mouthpiece of the hospital activities and serves as the barometer of the hospital. It is department where the clinical, scientific and administrative data is accurately and completely compiled and stored. This data later helps in generating various efficiency and activity ratios that are used in retrospection. The medical records department is functioning since the hospital was commissioned.

Objectives:

- To maintain complete, accurate, comprehensive, economical, well planned and timely medical records. So that they can be used by the patients, medical professionals, hospital authorities, researchers, legal bodies etc.
- To submit required reports on time to higher authorities and whomsoever authorized applies or requests for it.

Functions of the MRD:

- Maintain records of the entire hospital.
- Maintain indoor and OPD papers of the patients
- Retrieve papers when required
- Handle court summons and inform the concerned doctor
- Make statistical reports for the authorities.
- Monthly/quarterly/ annually reporting of the communicable disease statistics to the local district hospital or municipal corporation.
- All documents are arranged month wise on the racks.

Colour Coding for Files:

Black- Death

MLC- Red

Normal- Blue

LAMA- Yellow

Policy on Record storage & Retention period:

Routine Case- 6yrs

Death Case- 10 years

MLC- Till case ends + 3 years or 10 years

REPORTING TO REGULATORY BODIES/EXTERNAL AGENCIES:

Sr. No.	Reports	Regulatory Bodies/External Agency	Interval	Media
1	Communicable Diseases	IDSP & CM & HO	Daily/ weekly	Mail
2	Death Report	Nagar Nigam	Weekly	Hard Copy
3	USG report for foetal well being	SDM/PCPNDT authority	Daily/Monthly	Online and Hard copy
4	ECHO report for foetalwell being SDM	SDM (Hard copy) /PCPNDT (Soft copy)	SDM (Monthly) PCPNDT (Daily)	Online & Hard copy

CSSD

It is an organized department where surgical equipment and allied materials including dressings and linen are sterilized centrally under specific condition strict quality control and then issued to various wards and departments of the hospital.

There are two types of sterilization process performed in CSSD. One is Gas sterilization and other is steam sterilisation. Sterilisation of instruments, operating packs, trays etc. is performed by steam or gas sterilisation. Steam sterilization is also called as Autoclaving. However, certain items such as rubber, plastic and delicate instruments cannot be autoclaved and so have to be sterilized by using ethylene oxide or similar gases. Gas sterilization requires certain safety precautions such as aeration prior to use and special exhaust ventilation. Under both the systems, sterilization is performed on cleaned instruments wrapped in special linen.

The decontamination process implies proper workflow between 3 areas:

- 1) Dirty Area
- 2) Clean Area
- 3) Sterile Area

Project on

- 1) Audit of Medical Records for Documentation compliance as per the Hospital Standard Operating Procedures**
- 2) Gap analysis of the hospital Central Sterile & Supply Department as per the Hospital Standard Operating Procedures**

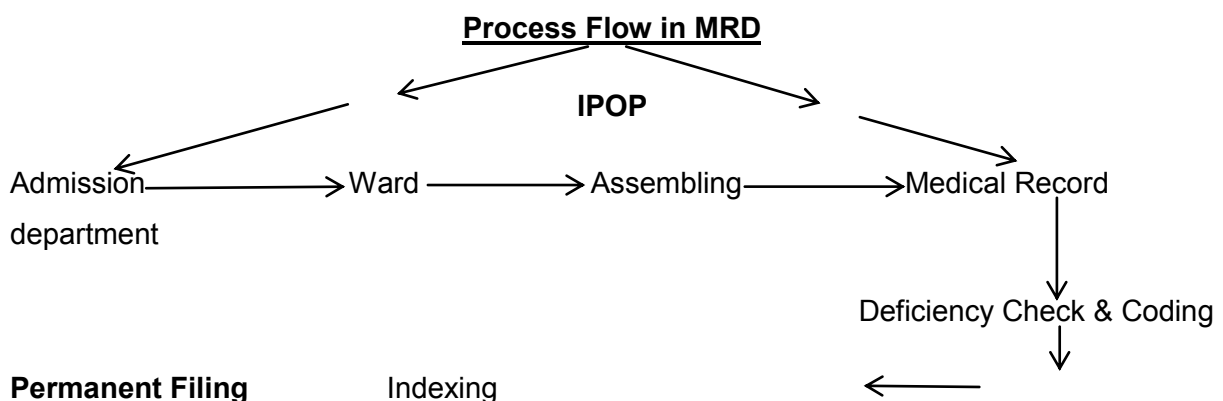
1)

Introduction

Medical record is a clinical, scientific, and legal document relating to patient care in which are recorded sufficient data written in the sequence of events to justify diagnosis and warrant treatment and end result. Medical record is a systematic documentation of a patient's personal and social data, history of his or her ailment, clinical findings, investigations, diagnosis, treatment given, and an account of follow-up and final outcome. The medical record includes a variety of types of "notes" entered over time by health care professionals, recording observations and administration of drugs and therapies, orders for the administration of drugs and therapies, test results, x-rays, reports, etc. The medical record serves as the central repository for planning patient care and documenting communication among patient and health care provider and professionals contributing to the patient's care. The quality of a patient record depends largely on the individuals making record entries. All healthcare practitioners and others who enter information into patient records must understand the importance of creating complete and accurate records, as well as the legal and medical implications of failing to do so. The quality of care a patient receives depends directly on the accuracy and legibility of the information the medical record contains. Maintaining a complete record is important not only to comply with licensing and accreditation requirements, but also to enable a healthcare provider to establish that a patient received adequate care.

As per Joint Commission International standards of accreditation for hospitals, data collected in a timely, economic, and efficient manner using the degree of accuracy and completeness necessary for the data's required use. Joint Commission standards require health records to be periodically reviewed for completeness, accuracy, and timeliness of the information they contain.

Good Medical Record: Are Accurate, Timely, Contents, Chronology, Continuity, Promptness, Authentication, Legible, Readable, Acceptable, Timely, Consent Recorded, Error free.



The Project

Aim:

To assess whether existing documentation in medical records is in accordance with the standard operating procedure established by the hospital.

Objectives:

- To assess whether the documentation is being done as per the SOPs of the hospital.
- To recommend effective solutions wherever required.

Research Methodology:

Study Design: It is non-interventional descriptive study as I have only observed and analysed the situation but have not intervened in the process.

Study Area: Medical Record Department

Sample Size: Took all files of IPD discharged patient in month May 2014 (01/May/2014 to 31/May/2014)

Total Number of discharges in IPD (May 2014) - 259.

List of variables used:

Table No.- 1.a

Sr. No.	Variables	
1	All documents in sequence	
2	Signature of consultant	On Admission Form On Initial Assessment Form On Daily Progress Notes
3	Admission form complete	
4	Discharge handover form complete	
5	Triage assessment form	Date & Time of Arrival Mode of Arrival Triage code Disposition Present History Past/Medical History Physical Examination Vital Signs Systemic Examination Provisional Diagnosis Treatment Advised

		Signature of Doctor Name & Employee ID of doctor Date & Time
6	Triage Nursing Assessment Form	Date & Time of Arrival Mode of Arrival Triage code Disposition Present Complaint Past/Medical History Physical Examination Vital Signs Systemic Examination Current Medications Medication given/ Intervention Done Signature of Duty Nurse Name of duty Nurse Date & Time
7	Discharge Summary	Present Signature of Consultant
8	Initial Assessment Form	Date Patient Details Provisional Diagnosis Present complaints Past History Personal History Family History Examination(BP, Pulse) Psychological Nutritional Gen Physical Examination Systemic Examination Treatment Planned Admission Instructions Signature of Doctor Name & EID of Doctor Date & Time

9	Progress Notes	Patient Details Date Time Name of Doctor Signature of Duty Doctor
10	Nutritional Assessment Form complete	
11	Patient Diet Card complete	
12	Pre-Cath Instruction Form	
13	Post Procedural Order Form	
14	Cardiac Anaesthesia Record	
15	Pre-operative Instruction Form	
16	Procedural Notes	
17	Initial Nursing assessment Form	Patient Details Time Received Vital Signs Signature of Nurse with Date & time
18	Nursing Daily Assessment Form	
19	Intra-procedural Nursing Notes	
20	Vital Record Chart	
21	Fluid Intake & Output Chart	
22	Diabetes chart	
23	Consent Form	Name of Consultant Diagnosis of Patient Patient Details Signature Name of Person signing Date & Time
24	In-house transfer Form	
25	Patient Valuables Handover Form	
26	Treatment Record	Patient Details Drug Name in Capital Drug Details(Dose, frequency, rout, time) Day/Date Allergy Documentation

Data Collection:

The type of data collection was primary and the source was the discharge files of the month of May 2014 in the MRD. The approach used for the data collection was quantitative. Data was collected by reviewing of the discharged inpatient's medical records using the checklist. A structured audit tool was prepared in computer.

Data Analysis:

I did an overall analysis of the collected data of complete month. A tool was prepared in excel sheet and data was then processed with the help of computer.

Table No.- 2.a

Sr.. No.	Name of Variables	Total Compliance(%)	Total Non-Compliance (%)	Number of Missing Document
1	All Documents in sequence	94	6	
2	Signature of Consultant on Admission Form	99	1	
3	Signature of Consultant on Initial Assessment Form	100	0	
4	Signature of Consultant on Progress Notes	57	43	
5	Admission Form Complete	100	0	29
6	Discharge Handover Form Complete	99.6	0.4	
7	Triage assessment Form	89.5	10.5	4
8	Triage Nursing assessment Form	86	14	
9	Discharge Summary	100	0	
10	Initial assessment Form	95	5	
11	Progress Notes	93.5	6.5	
12	Nutritional assessment Form Complete	99.5	0.5	
13	Patient Diet Card Complete	99.6	0.4	6
14	Pre-Cath Instruction Form	100	0	1
15	Post Procedural Order Form	99.4	0.6	31
16	Cardiac Anaesthesia Record	100	0	

17	Pre-operative Instruction Form	100	0	
18	Procedural Notes	100	0	6
19	Initial Nursing assessment Form	94.5	5.5	4
20	Nurses daily assessment Form	100	0	
21	Intra-procedural Nurses Notes	100	0	30
22	Vital Record Chart	95	5	
23	Fluid Intake & Output Chart	99.4	0.6	
24	Diabetes Chart	100	0	
25	Consent Form	98	2	
26	In-house Transfer Form	99.5	0.5	
27	Patient Valuables Handover Form	100	0	
28	Treatment Record	74.6	25.4	
29	Critical Care Flow Chart	100	0	
30	Cardio-pulmonary Resuscitation Record	100	0	

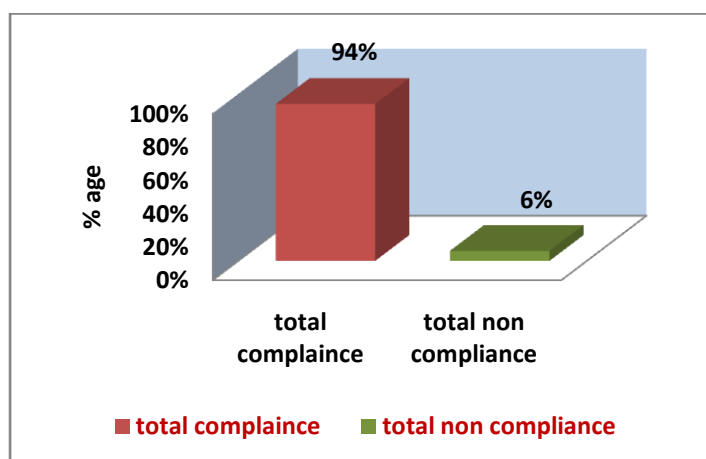
Observations:

As per given in (table No. 2.a) performance is very good in case of documentation compliance, however improvement is still required in few parameters like which are as follows:

1. All documents in sequence:

All the documents in medical records should be as per the assembling order, so that sequential event of the patient during hospital stay can get and there will not be any document missing in the file. As in Figure- (1) documents in 6% files was not arranged as per the assembling order.

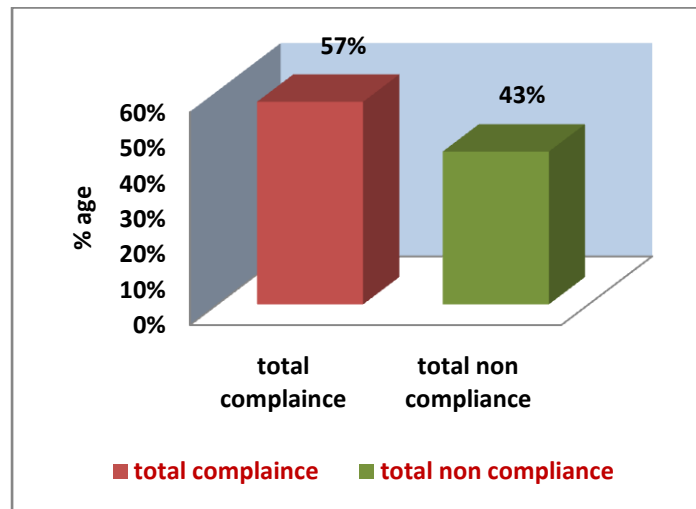
Fig-1: All documents in sequence



2. Signature of consultant on progress Notes:

This is very important variable which suggests that consultant has seen patient in ward or critical care daily.

Fig-2: Signature of consultant on progress Notes



As shown in the (Figure-2) There is 43% non-compliance which is highest in all other variables. As per my observation the reason for this is busy schedule of the consultants and most of the times resident doctors do signatures on the behalf of the consultants.

Suggestion: To give instruction to the doctor on duty, that whenever consultant take round they will make sure consultant has signed on progress notes.

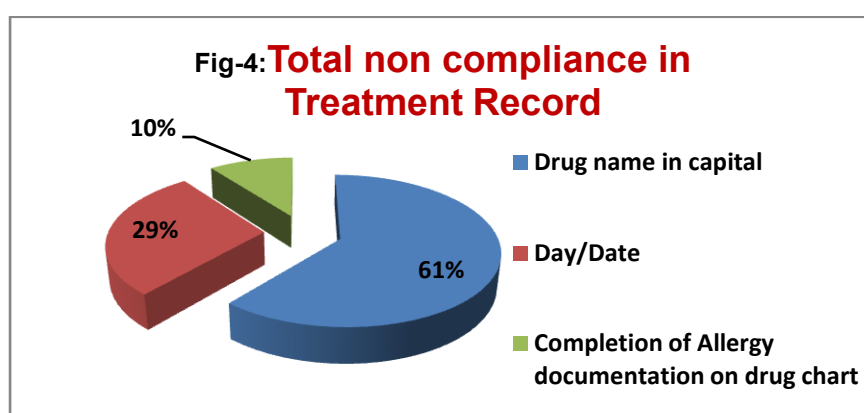
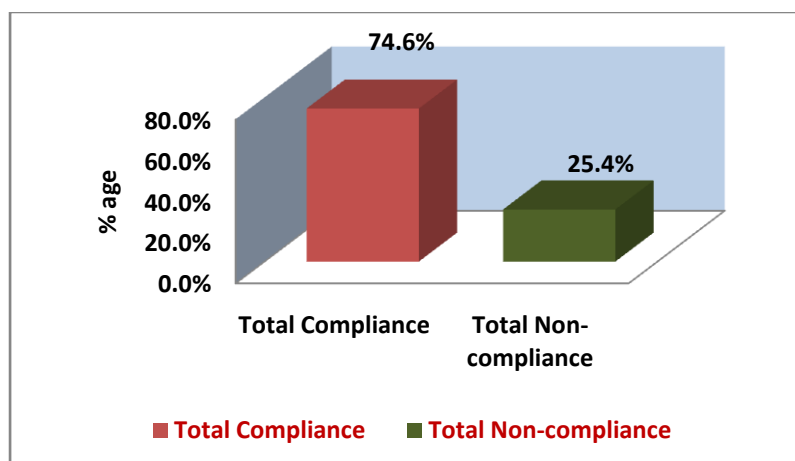
Consultant's Signature should be printed on each progress notes.

3. Treatment record

Treatment record is also one of the important variable, as it is related to the patient care and treatment given during hospital stay. Any medication error in this treatment record may be life threatening to the patient. Hence orders written on treatment record should be proper and cross-checked. To avoid any medication error drug name should be in Capital, write down the days or date of the medicines, all drug details (dose, frequency, time, rout), allergy documentation.

Documentation compliance in the treatment record is very low 74.6% as shown in (Figure-3). The maximum non-compliance is in writing drug name in capital which is about 61%, writing day/date of the drug 29% and allergy documentation which is 10% as shown in (Figure-3).

Fig-3: Treatment Record



Suggestions: Training to the doctors regarding proper documentation of treatment record & allergy documentation and sensitising them regarding its importance so that in future medication errors can be avoided completely.

4. Triage Nursing Assessment Form:

In emergency department an interview with Triage doctor or nurse is common first step to receiving care. They generally take a brief medical history or complaint and measure vital signs in order to identify seriously ill persons who must receive immediate care. Every patient who came to the triage should be seen by duty doctor as early as possible to provide immediate care for the patients who require emergency care. The triage system involves a colour coding scheme using red, yellow, green, white, and black tags.

Red Tags: (Immediate) to those patients who can't survive without immediate treatment but who have change of survival.

Yellow Tags: (Observation) for those who require observation. They are not in immediate danger of death. Their condition is stable for the moment.

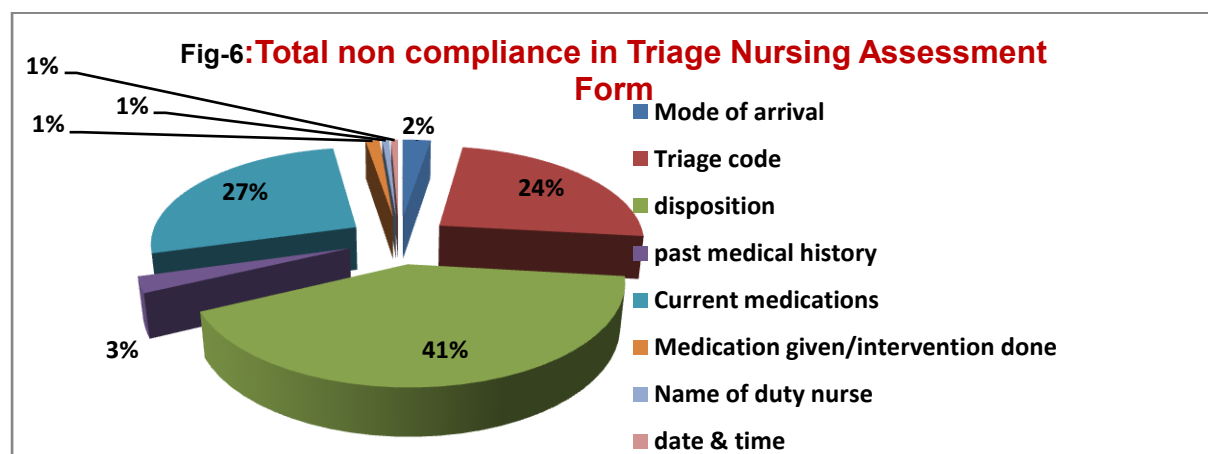
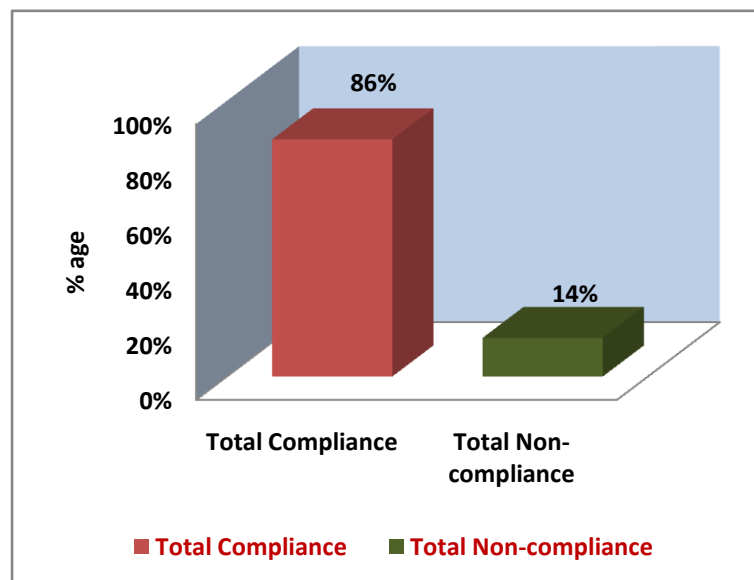
Green tags: (Wait) are reserved for the “walking wounded” who will need medical care at some point, after more critical injuries have been treated.

White tags: (dismiss) are given to those with minor injuries for whom a doctor’s care is not required.

Black tags: (expectant) are used for the deceased and for those injuries are so extensive that they will not be able to survive given the care that is available.

As per shown in (figure-4) there is 14% non-compliance in filling triage nursing assessment . The maximum non-compliance was in writing disposition (Ward/ICU/CCU), current medication and triage code.

Fig-5:Triage Nursing Assessment Form



Suggestion: Training to the nurses regarding proper documentation of Triage nursing assessment form and its each variable and sensitising them regarding its importance.

5. Triage Assessment Form

As shown in (Figure-5) there is 10.5% non-compliance in filling triage assessment form by the doctors in triage room. Out of this maximum non-compliance is in Triage code, disposition and mode of arrival.

Fig-7: Triage Assessment Form

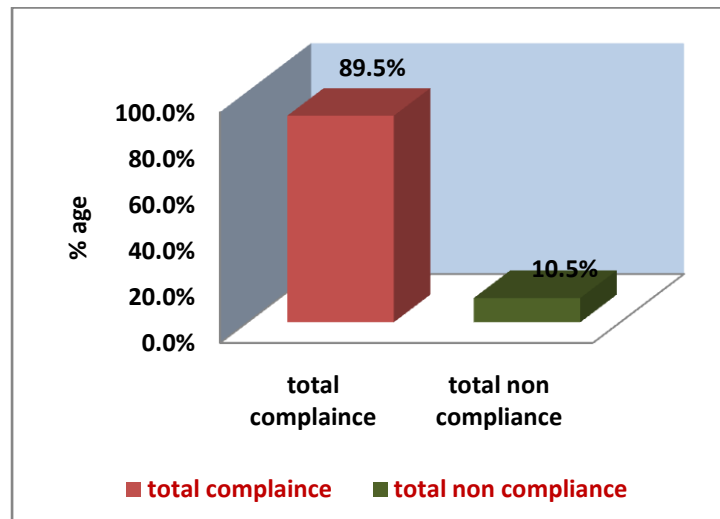
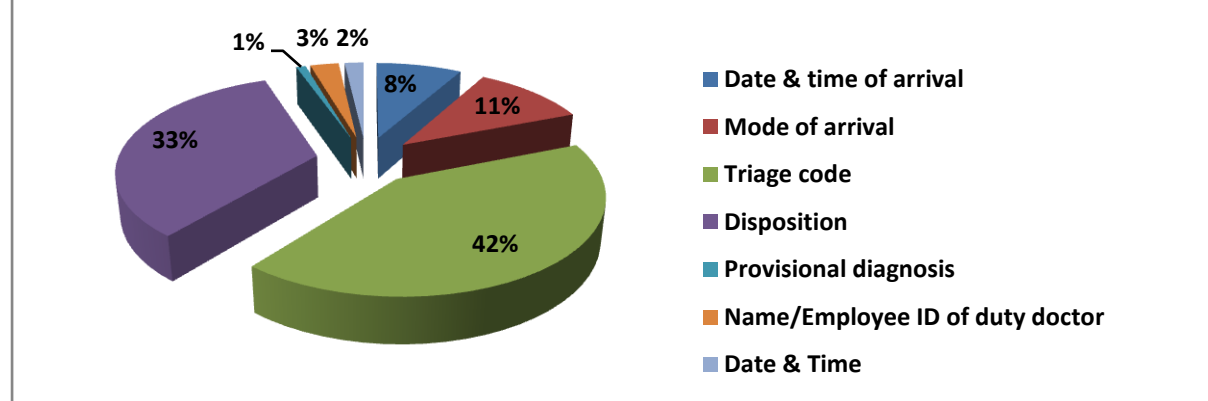


Fig-8: Total non compliance in Triage Assessment Form



Suggestion: Training to the doctors regarding proper documentation of Triage assessment form and its each variable and sensitising them regarding its importance.

6. Initial Assessment form

This form is filled by the doctors in the ward, ICU or CCU. This form contains all the information of patient like present complaint, past/family/personal history, vital signs, psychological, nutritional status, general and systemic examination, plan of care.

As shown in (Figure-9) 5% non-compliance. Maximum non-compliance is in examining BP and Pulse which is vitals of the patient. It should be recorded strictly.

Fig-9:Initial Assessment Form

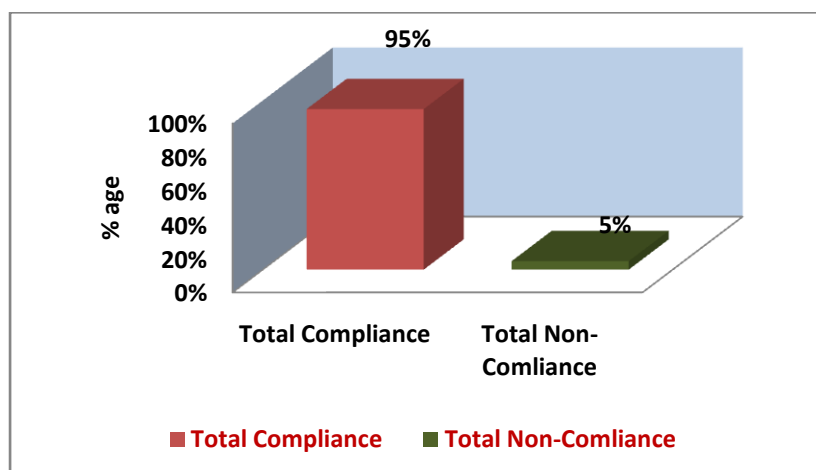
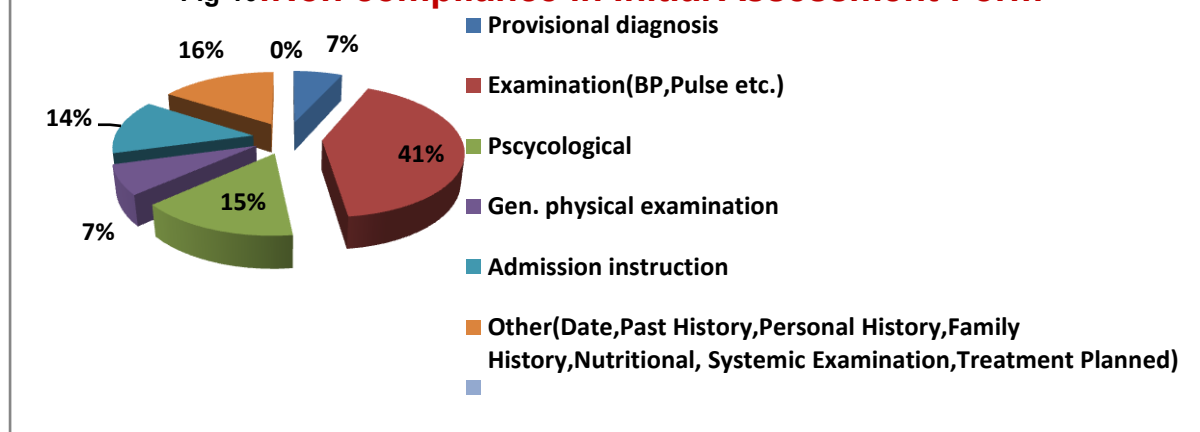


Fig-10:Non compliance in Initial Assessment Form



Suggestions: Sensitising doctors regarding its importance of all the variables in Initial assessment form specifically BP and Pulse.

7. Progress Notes

This is daily record of patient's condition and further plan of care which is written by duty doctor and consultants. Also any procedure notes, communication with consultants regarding patient's condition, other important notes.

Name of doctor, Date and time, signature of the doctor is important variable in progress notes. As per my observation doctors instead of writing their name they write down duty doctor, even their signature also don't suggest their name.

As shown in (Figure-11) 6.5% non-compliance is seen in progress notes. (Figure-12) shows maximum non-compliance is in Name of a Doctor, Signature of duty doctor and time.

Fig-11: Progress Sheet

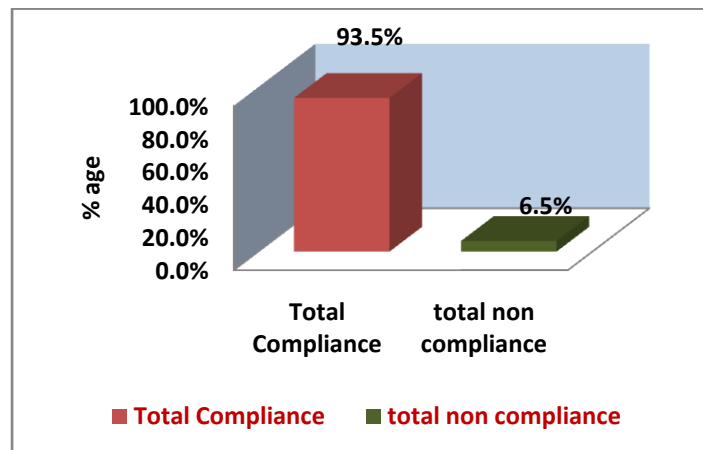
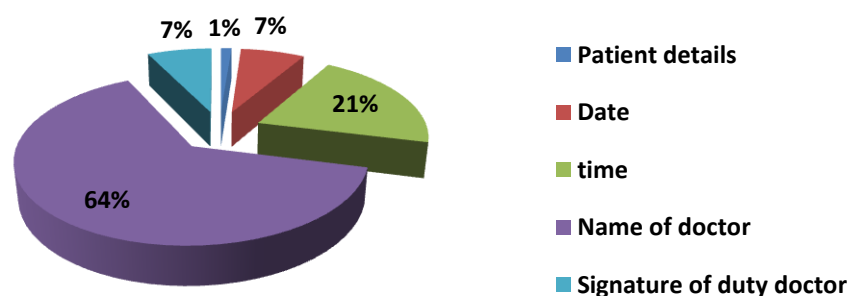


Fig-12: Total non compliance in Progress Notes



8. Initial Nursing Assessment Form

Non-compliance shown in initial nursing assessment form is only in Time of arrival of patient in ward and vital signs (Figure-14), which may be due to sheer negligence of the duty nurse. As Vital signs very important variable in patient care and should be recorded strictly. Training & sensitisation of nursing staff regarding its importance may help to improve compliance with these two variables.

Fig-13: Initial Nursing Assessment Form

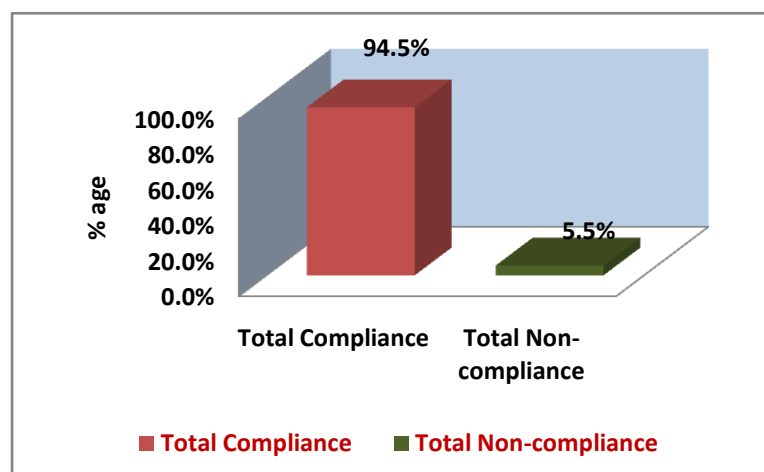
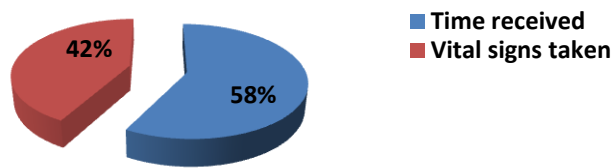


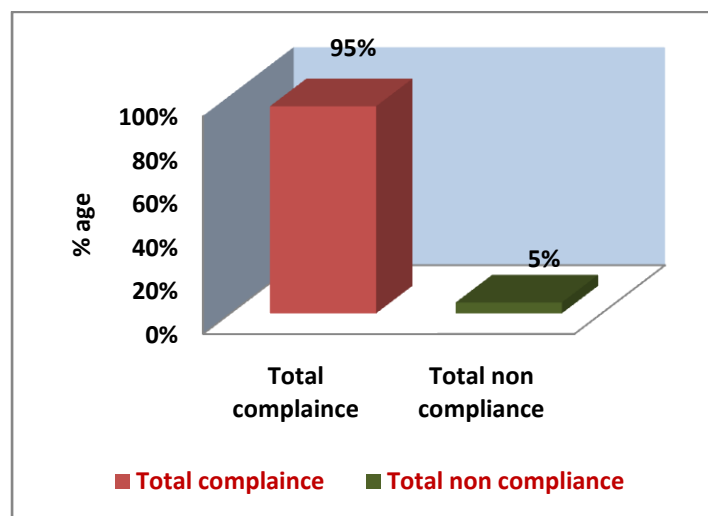
Fig-14: Total non compliance in Initial Nursing assessment Form



9. Vital Record Chart

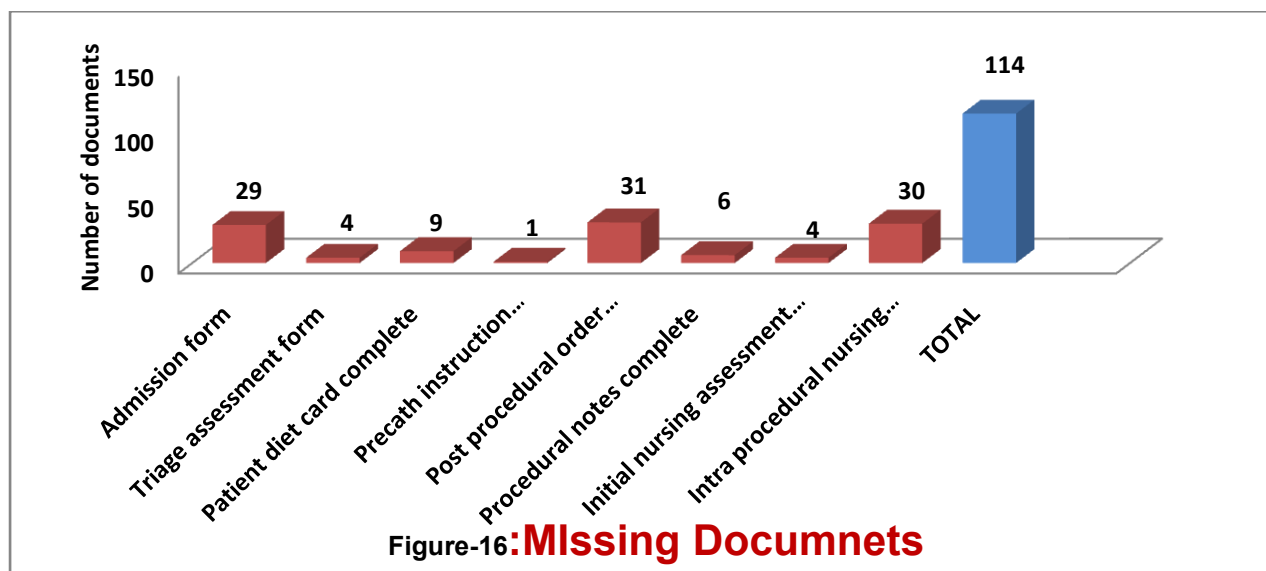
As shown in (Figure-15) there is 5% IPD files in which vital record chart is not filled.

Fig-15: Vital Record Chart



Justification: Reason for this, maximum number out of this patients were discharged immediately after the procedure and few patients were discharged on the same day in 2-3 hours of admission.

Apart from the documentation compliance overall 114 documents (records) were missing in the files. (as shown in Figure-16)

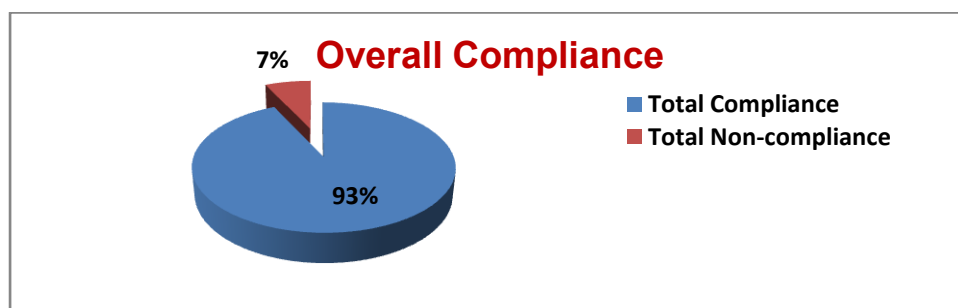


Maximum records missing were Post procedural order and Intra-procedural nursing record. For which instruction to be given to the operation theatre and Cath Lab staff for future compliance and sensitising them about its importance through training.

Also there were 29 admission forms missing in files, which were due to direct admissions from the triage room.

Overall Compliance of all Files of month of May14:

Fig-17: Overall Compliance



Recommendations:

- 1) Sensitising the clinical staff regarding the importance of medical records and proper documentation of each form.
- 2) Training to the doctors regarding proper documentation of treatment record & allergy documentation and sensitising them regarding its importance so that in future medication errors can be avoided.
- 3) Hospital wise standardisation of each form & discharge summary.
- 4) Educating & training on SOPs for documentation in medical records.
- 5) Monthly Audit of documentation procedures.

6) Rewarding the best performing department/unit for documentation.

Conclusion:

All medical records for which should be maintained in systemic and orderly manner.

Periodic audits of medical records will help to determine the deficiency in keeping records which can be improved and worked upon by the hospital.

References:

- Hospital SOPs
- Forms used in the Hospital:
 1. Admission Form
 2. Discharge Handover Form
 3. Triage assessment Form
 4. Triage Nursing Assessment Form
 5. Initial Assessment Form
 6. Progress Notes
 7. Nutritional assessment Form
 8. Diet Card
 9. Pre-Cath Instruction Form
 10. Post Procedural Order Form
 11. Cardiac anaesthesia Record
 12. Pre-operative Instruction Form
 13. Procedural Notes
 14. Initial Nursing Assessment Form
 15. Nurses Daily assessment Form
 16. Intra-procedural Nurses Notes
 17. Vital Record
 18. Fluid intake & output chart
 19. Diabetes chart
 20. Consent forms
 21. In-house Transfer Form
 22. Patient's Valuables Handover Form
 23. Treatment Record
 24. Critical Care Flow Chart
 25. Cardio-pulmonary Resuscitation Record

Project on: Gap analysis of the hospital Central Sterile & Supply Department as per the hospital Standard Operating Procedures

Introduction:

Despite the unprecedented advances made in the medical field, hospital-acquired infection remains the hospital's single most serious concern that negates some of its otherwise good work. It is acknowledged that even in advanced countries, approximately five per cent of all hospital patients develop infection after being admitted. Given the poor standards in our hospitals, this figure is likely to be much higher in India. Hospital acquired infection causes patients unnecessary sufferings, extra hospitalization and loss of working days will be high.

To combat this infections caused by pathogenic micro-organisms, hospitals have over the years developed a scientific method commonly referred to as the central sterile and supply system. The method basically involves cleaning, disinfecting and sterilizing before use all instruments, materials and equipment utilized in patient care. For various parts of the hospital like operating room, wards, outpatients clinics, Cath lab and other departments. All soiled items are collected in the CSSD for processing and then transported back to the end users. In the CSSD, the process of cleaning, disinfecting, packing, sterilizing, storing and distributing is carried out by specially trained personnel. This ensures better control and reliable result and consequently reduced risk of infection.

Overview of Central Sterile Supply Department (CSSD):

There are two types of sterilization process performed in CSSD. One is Gas sterilization and other is steam sterilisation. Sterilisation of instruments, operating packs, trays etc. is performed by steam or gas sterilisation. Steam sterilization is also called as Autoclaving. However, certain items such as rubber, plastic and delicate instruments cannot be autoclaved and so have to be sterilized by using ethylene oxide or similar gases. Gas sterilization requires certain safety precautions such as aeration prior to use and special exhaust ventilation. Under both the systems, sterilization is performed on cleaned instruments wrapped in special linen.

Disposable sterile supplies are being increasingly used in hospitals. These need only to be stored and not processed for reuse. Since these disposable items are expensive, their use in Indian hospitals has not significantly affected the workload of the CSSD.

CSSD is an independent department. It is dedicated to the decontamination and sterilization of sterile supplies. It is a controlled area. It should be designed and constructed in a way that will provide effective segregation of clean and dirty areas.

The decontamination process implies proper workflow between 3 areas:

- 4) Dirty Area
- 5) Clean Area
- 6) Sterile Area

Functions of CSSD:

The primary function of the CSSD is to provide an efficient, economic, continuous and quality supply of sterilized items, when needed, to all patient care service points in the hospital, and to receive returned contaminated items for cleaning.

Design:

The workflow pattern should be planned in such a manner that the personnel traffic and the movement of supplies and equipment is accomplished in an efficient manner, the flow of work is continuous from receiving to issuing without retracing steps, and the receiving and clean up areas are physically separated from the rest of the department. Workflow must be planned as to allow a separate entrance to receive soiled and contaminated materials from departments, and another for issuing clean and sterile supplies and instruments.

Soiled items from the various user departments of the hospital are received at the solid reception area. Most of them are loaded straight onto the pass-through washer-disinfectors. Trolleys and some instruments are cleaned and disinfected manually. Steam and hot water are most common disinfection agents used in hospitals.

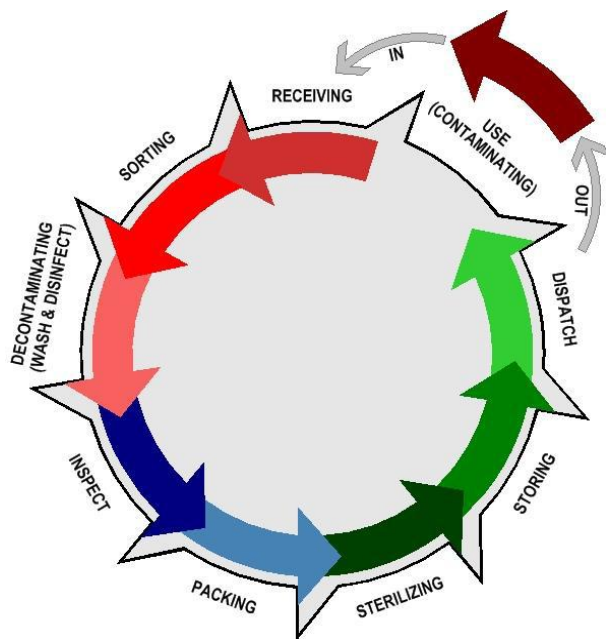
In the clean area, clean disinfected materials are sorted, inspected and packed. The double door pass through autoclaves of the required size are built into the wall between the clean and sterile areas. Materials are loaded on the clean side and unloaded on the sterile side. After sterilization, the autoclaves are unloaded in the sterile area and the materials stored there. The storage area should be dry and free of dust.

Flash sterilization is performed in the user departments, particularly the operating rooms, to resterilize the instruments needed immediately or those that have been dropped accidentally. Flash sterilization is autoclaving an instrument when it is unwrapped.

1) Decontamination Process workflow:



2) **Process Flow** (Unidirectional with no backtracking):



(Source: IUSS health facility guides development draft 3, March 2013)

Work Flow:



Backtracking should not be possible.

Air Flow:



Pressure flow :

Positive to Negative

The Project

Aim:

To Identify the gaps in the processes and practices followed in the Central Sterile Supply Department with reference to the hospital standard operating procedures and to discuss the possible solutions.

Objectives:

To study the functioning in CSSD in general (Process mapping)

To review existing standard operating procedures of the department.

To identify the gaps between the practices followed in the department and the Standard Operating Procedures.

To discuss possible solutions that would help reduce the lacunae and variations.

Research Methodology:

Study Design: It is non- interventional descriptive study.

Study area: The Central Sterile Supply Department (CSSD) of the hospital

Data collection method: Primary data was collected from the observations in the CSSD of the hospital. Also by conducting unstructured interview with CSSD manager, technicians and class 4 employees of the CSSD of the hospital.

Secondary data was collected from the records and registers maintained in the CSSD, OT, and Microbiology lab.

The primary and secondary data was collected based on the checklist prepared with reference to the departmental SOPs.

Sample size: Convenient sampling of the observations of the process flow of the CSSD

Analysis:

Table No-1b

CHECKLIST FOR ASSESSMENT OF CSSD FOR ASEPSIS			
Sr. No.	Standard Operating Procedure	Compliance	Non-compliance
1	One way traffic for aseptic & septic items		✓
2	Standardized method for disinfecting and cleaning instruments	✓	
3	Ultrasonic cleaner Available	✓	
4	Washer disinfector available		✓
5	R.O water supply/ Soft Water supply	✓	
6	ETO machine present	✓	
7	Flash & steam sterilizer present	✓	
8	Biological and chemical indicator used	✓	
9	Water culture from sterilizer taken every week		✓
10	Steam/ETO cycle graph print record maintained	✓	
11	Storage racks are cleaned	✓	
12	Tables, counter, sink & cupboard are cleaned	✓	
13	Floor dry mopped followed by wet mop	✓	
14	Separate mop used for cleaning sterile area	✓	
15	Details of cleaning schedule with the checklist maintained	✓	
16	Fumigation done every week		✓
17	Culture from sterile room & packaging area are taken and sent to the microbiology department and report is maintained./ Swab test taken every month		✓
18	Daily cleaning and checking of ETO/Steam sterilizer	✓	
19	Daily Bowie & Dick test	✓	
20	Air gun is used for drying of rubber, Plastic wire tube	✓	
21	Water Gun available		✓
22	Separate PPE used for Dirty Zone (Cap ,Mask, Gown, Shoes/sleeper, goggles)		✓
23	Separate PPE used for Clean area/ Packaging room (Cap ,Mask, Gown, Shoes/sleeper)		✓

24	Separate PPE used for Sterile Area (Cap ,Mask, Gown, Shoes/sleeper)		✓
			✓

ASSESSMENT OF STAFF IN CSSD FOR HYGIENE

Sr. No.	Standard Operating Procedure	Compliance	Total Observations
1	Finger nails short and clean	2	3
2	Nail polish/wristwatches/ Jewellery absent	1	3
3	Hand washing/ Use of hand-rub	3	3

ASSESSMENT OF WASTE MANAGEMENT IN CSSD

Sr. No.	Standard Operating Procedure	Compliance	Non-compliance
1	Infectious plastics are disposed in Blue Bag	✓	
2	Other Infectious materials are disposed in Yellow Bag	✓	
3	Dry, Non-infectious materials disposed in Black bag	✓	
4	Broken & Unbroken glass bottles are disposed in Blue Bucket	✓	
5	No Waste bins are visibly overflowing	✓	
6	Waste bags are emptied at least two time a day	✓	

COMPLIANCE WITH RECEIVING OF USED INSTRUMENTS

Sr. No.	Standard Operating Procedure	Compliance	Non-compliance
1	CSSD personnel who is receiving used instruments must wear appropriate personal protective equipment (PPE)	✓	
2	Soiled items received in the decontamination room only/ receiving counter	✓	
3	The instruments are received after checking the list accompanying the same	✓	
4	If instrument found damaged at the time of receiving, the same is informed to the end users and mentioned in instrument condemn register	✓	
5	In case of missing items, inform to CSSD in charge and details of missing item mentioned in a register	✓	
6	In case of missing items, details of missing items in		✓

	sterile tray should be mentioned in register in OT (In particular tray)		
COMPLIANCE WITH WASHING AND DISINFECTION OF INSTRUMENTS IN CSSD			
Sr. No.	Standard Operating Procedure	Compliance	Non-compliance
1	Wear separate cap, mask, apron, goggles and gloves in Dirty area		✓
2	Wear separate gum boots/CSSD foot wear in Dirty zone		✓
3	Segregate sharp instruments, blunt instruments & plastic items.	✓	
4	Any gauze piece or cotton found with the instrument should be discarded in the yellow dust bin.	✓	
5	Any needle found in the trays should be discarded carefully in the puncher proof Can	✓	
6	Record if any needle found in the trays	✓	
7	Pre wash done in R.O water/ Soft water	✓	
8	Wash the instrument in the ultrasonic cleaner machine for 5 to 10 min. to remove the blood stain in to which multi enzyme cleaner is added.(10% Liquienzyme)	✓	
9	Items are dried thoroughly with clean cloth or in the drier	✓	
10	Ultrasonic cleaner aluminium foil paper test done every day		✓
COMPLIANCE IN PACKAGING OF INSTRUMENTS			
Sr. No.	Standard Operating Procedure	Compliance	Non-compliance
1	Instruments are inspected for any defects/ Malfunctioning	✓	
2	Defective items are sent for repair or kept aside	✓	
3	Defective items are immediately replaced with well functioning items	✓	
4	Inspect all instruments for absence of soiled residue	✓	
5	Inspect all instruments for presence of water droplets or moisture	✓	
6	Sequential steps of envelop fold wrapping technique is followed	✓	

7	A checklist is cross checked and signed by the person responsible for the packaging	✓	
8	Linen wrappers are checked for cleanliness and damage	✓	
9	Wrapped trays are sealed with sticking tape	✓	
10	All ETO items packed in appropriate size of polypropylene package	✓	
11	Labelling with name of set, batch No., Expiry date and a process indicator is done	✓	

COMPLIANCE IN LOADING AND UNLOADING IN GAS (ETO) STERILIZATION

Sr. No.	Standard operating procedure	Compliance	Non-compliance
1	ETO machine should be cleaned with soap and water in each cycle (outer & inner chamber).	✓	
2	Basket should be cleaned before loading the items, then it should be kept in clean area . (Not in the floor) while loading the item.	✓	
3	Follow all the standard precautions (Cap, Mask, Gown, Sleeper)	✓	
4	Checking of the ETO packing properly , (sealing ,indicator, and, layer of packing.)	✓	
5	Loading of items as per the instructions	✓	
6	Biological indicator placed in between the items	✓	
7	Recording the time of starting the cycle (Graph)	✓	
8	After unloading the items check the indicator colour changed or not (Record Maintained)	✓	
9	Biological indicator sent to the pathology to check the quality of sterilization (Record Maintained)	✓	
10	All sterile items are received in the sterile room only		✓
11	Arrange the items in sterile room and proper labelling	✓	
12	Document closure time	✓	

COMPLIANCE IN LOADING AND UNLOADING IN STEAM (AUTOCLAVE) STERILIZATION

Sr. No.	Standard operating procedure	Compliance	Non-compliance
1	Follow all the standard precautions (Cap, Mask, Gown, Sleeper)	✓	
2	A detailed list of loads in each sterilizer is maintained	✓	

	along with its indicator cart (Record is maintained)		
3	The water level & steam pressure gauge checked before loading	✓	
4	After the cycle is completed, the graph is checked and recorded	✓	
5	Trays are visually checked for dryness	✓	
6	All trays & packs are checked for change in colour of the indicator	✓	
7	No sterile packs are placed on the floor	✓	
8	All sterile items are received in the sterile room only	✓	
9	Total Number of Expiry items are reloaded for sterilisation and record is maintained.	✓	
10	Leak Test is performed daily and record is maintained.	✓	

COMPLIANCE FOR STORAGE AND DISPATCH OF STERILE ITEMS

Sr. No.	Standard Operating Procedure	Compliance	Total Observations
1	Immediately after the sterilization the load are shifted to the designated sterile area for storage .	✓	
2	Loads are stored in the racks on the basis of the sterilization date.	✓	
3	The loads will be stored for a maximum period of 10 days for steam sterilized items and 6 months for E.T.O. sterilized items.	✓	
4	The load will be dispatched FIFO basis via sterile dumb waiter/ Dispatch window.	✓	
5	Person entering the room wears separate sterile gown, footwear & fresh disposable cap		✓
6	Daily checking of stock for monitoring outdated stock	✓	
7	Filing of daily stock document	✓	

Quality Indicators Used to Check Sterility:

Class 1: Process Indicator (3 line level documentation)

Class 2: Indicators for specific tests (PCD i.e. process challenging device, batch monitoring system, Bowie Dick test)

Class 4: Multivariable Indicators (ethylene oxide packaging indicators)

Class 5: Integrating Indicators (Emulating Biological Indicators)

Class 6: Emulating Indicators (For steam sterilization)

Observations:

The hospital set up is new and CSSD infrastructure is not yet complete, it is under process, hence there is no one way traffic in the CSSD maintained till date. No separate PPE used for Dirty, Clean & Sterile zone. Same foot wear, Gown, Cap, mask are used in all the three zones which is major gap in the CSSD, Due to all these reason the Swab test is not taken, instead of that sterilised items or instruments sent for the culture every month. Fumigation should be done to make the CSSD area sterile but this is not been started yet. Water culture sent only once in a month which should be sent every week. The reason behind this was very low workload, hardly 3-4 loads are processing in steam sterilizer daily. While interacting with the working staff in the CSSD it was observed that there was non-compliance in keeping finger nails short & clean and not to wear any ornament or nail polish while working in CSSD which should be followed very strictly.

Biomedical Waste management showed a very good performance in complying the standard operating procedure in CSSD. Also There is very good compliance in receiving used instruments in CSSD. Record of received instruments, expired trays or items, damaged items, record of missing items are maintained in the CSSD and the same is conveyed to the CSSD manager and to the respective department.

Ultrasonic cleaner aluminium foil paper test is not being performed regularly which should be done every day so that the proper functioning of ultrasonic cleaner can be confirmed. Also there was no any record maintained for the damaged instruments/items in OT and also there is no any record of its replacement as well. The record of damaged instruments in CSSD is maintained but there is no record of its replacement or sent for the repair. Also there was no any incidence was reported regarding damage of the instrument. A one major gap found that sterile items after ETO are not received directly in sterile room, because of infrastructure of CSSD. All sterile items from ETO pass through the packaging area. The water level & steam pressure gauge checked before loading in case of steam sterilization but no such record is maintained.

There is 100% compliance in loading and unloading in the steam sterilization also in Storage & supply of the sterile items.

All the above chemical and biological indicators which are mentioned above are regularly used in CSSD as per the SOPs and all resulted positive for sterility.

Recommendation:

1. A major gap in the CSSD is that, there is no one way traffic of the material which is very important for asepsis. Also There should be separate provision of PPE in sterile and other two zones.
2. Weekly fumigation of the CSSD may help to keep the area sterile.
3. Water culture sent only once in a month which should be sent every week as per the SOPs.
4. Sensitising staff regarding importance of keeping fingernails short and not to wear any ornaments like jewellery, wristwatch etc.
5. In receiving the sterile items or while opening the sterile trays in operation theatre/ Cath Lab a list of missing items in particular tray should be recorded for the smooth functioning in operation theatre/ Cath Lab.
6. Use of aluminium foil paper test will assure the proper functioning of the ultrasonic cleaner.
7. Also to check the efficacy of the multi enzyme cleaner a separate chemical indicator can be used. The use of this chemical indicator will help to assess how many times the same preparation of 10% multi enzyme can be used in the ultrasonic cleaner for the process of disinfection
8. All the sterile items from ETO can be shifted to the Storage room by the Air-proof trolley.

References:

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4. Sakharkar B.M- Principles of Hospital administration and Planning, Edition- First Publishers-Jaypee brothers
5. <http://www.ncbi.nlm.nih.gov/pmc/articles/pmc2098045/pdf/brmedj03041-0058.pdf>
6. http://www.healthdesign.com.au/haad.hfg/full_index/haad_b_sterile_supply_unit.pdf
7. <http://jphmr.com/wp-content/uploads/2013/11/Article-14.pdf>

Annexure-1

LIST OF COMMITTEE OF EHCC HOSPITAL:

Sr. No.	Name of Committee	Scope
	A Hospital Management Committee	To develop and ensure implementation of various policies for smooth function of the hospital. To prepare provisional annual budget. To recommend broad plans and action related to quality improvements in various areas.
	A Drug Formulary Committee	Develop guidelines for procurement, storage, distribution, & prescribing of drug formulations & narcotics required for hospital use in a cost effective manner. To serve in an evaluative, educational & advisory capacity to pharmacy and administration staff. Develop hospital formulary and recommend drug formulations to be added / deleted on a periodical basis depending on their merits and safety. Develop guidelines for hospital antibiotics policy and review the use and misuse on periodical basis. Establish procedure to promote rational prescribing practice and cost effective drug therapy. Develop policy for monitoring adverse drug reactions or incidences and make appropriate recommendations. Recommend policies and procedures for drug evaluation and clinical trials.
	A Grievance redressal Committee	To develop and execute policies related to grievance redressal and handle all the employee grievances.
	Sexual harassment Committee	Committee shall nominate the person to hold the enquiry and shall review the case for
	A Disciplinary Action Committee	To develop and executed policies related to any disciplinary action and take disciplinary action for any employee.
	A Credential and Privilege Committee	To provide guidelines and implement the process to obtain, verify and assess the qualification of Medical Professional.

		To suggest names of on role & visiting consultants and review their work on quarterly basis. Interview of Consultants, Clinical Assistant, Clinical Associates, Senior Medical Officer, Resident Medical Officer.
	A Condemnation committee	To provide and implement guidelines for Condemnation of any Medical or Non- Medical items in the hospital.
	Blood Transfusion Committee	Establish broad policies and developing guidelines for Blood transfusion therapy in regards use of blood, blood components & blood products in the hospital & promote their adequacy,safety & effective Use. Monitor the source and supply of Blood, Blood components & Blood products. Audit blood use with relevance of blood request, cross matched/ transfused ration, Blood wasted, statistics on transfusion reaction & any other adverse event. Establishing maximum blood ordering schedules for surgical procedures
	A Core Committee for initiating Accreditation process	To develop and guide and monitoring the systems for preparing the hospital for NABH.
	The departmental coordination Committee	To discuss the issues in relation to smooth functioning of the hospital.
	Infection Control Committee	Infection Control Programme provide & Maintain a continuous systematic monitoring of all identified/suspected health care associated infections .Reduce infection risk to patients HCW, visitors, provide infection control education to health care workers & create a clean & safe environment. It is a hospital wide Programme which co-ordinates & collaborates with all hospital departments & services dealing with the delivery of patient care or the support of patient care
	Ethics Committee	

Annexure-2:

Activities at different area

Level	Area/Activity
5	Semi Deluxe/Deluxe/Super Deluxe/Suite
4	Semi Deluxe/Deluxe/Super Deluxe/Suite
3	General ward/Semi Deluxe/Deluxe/Super Deluxe/Suite
S	CSSD
2	Surgical Intensive Care Unit /Medical Intensive Care Unit – II/OT Complex
1	Cardiac Care Unit/ Medical Intensive Care Unit – I/Department of Interventional Cardiology
MZ	IT/ Department of Transfusion Medicine Department of Pathology/Centre for movement/ Administration Auditorium
G	Emergency/ Central Reception/ Registration/ Admission & Billing/ Department of Radio-diagnosis/ Department of Nuclear Medicine/ OPD & Diagnostics/ OPD Pharmacy/ Book Store/ Prayer Room
UB	Comfort Station/ Car Parking Level 1/ Fine Dining/ Mortuary/ Laundry
LB	Car Parking Level 2/ Department of Human Resources/ Department of Marketing(Domestic & International)/ Department of Medical Records/ Housekeeping/ Security Office/ Engineering department