Summer Training at
Apollo Indraprastha Hospitals, New Delhi
(April 3 to June 2, 2017)

Study on Standard Operating Procedures

By
Barkha Gupta

Under the guidance of
Ms. Geetika Goswami

MBA Hospital & Health Management
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The IIHMR University, Jaipur
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INSTITUTE OF HEALTH MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Dr. Barkha Gupta** has undergone summer training in **Indraprastha Apollo Hospitals, Delhi** from 3rd April to 2nd June 2017.

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

I wish her success in all her future endeavors.

Col. (Dr.) Ashok Kaushik
Dean (Academic & Student Affair)
The IIHMR University, Jaipur

Geetika Goswami
Professor
The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

Indraprastha Medical Corporation Limited

(Indraprastha Apollo Hospitals, New Delhi - A Joint Sector Venture of Govt. of Delhi)
Regd. Office : Sarita Vihar, Delhi-Mathura Road, New Delhi-110 076 (India)
Corporate Identity Number : L24232DL1988PLC030958
Phones : 91-11-26925858, 26925801, Fax : 91-11-26823629
E-mail : imcl@apollohospitals.com, Website : apollohospdelhi.com

Date: June 3, 2017

To Whom So Ever It May Concern

This is to certify that Dr. Barkha Gupta, student of **Indian Institute of Health Management Research (IIHMR)**, has successfully completed two months summer training program, w. e. f. April 4, 2017, which is a part of her course curriculum in MBA (Hospital & Health Management).

During this period she was posted in M. S. Office and has been instrumental in **assisting and coordinating** following assignments / projects:

- Maintaining the data of Code Blue cases
- Reviewing the Standard Operating Procedures (SOPs) of various Paramedical Departments
- Primary Source Verification of newly recruited Junior Medical Staff
- Study of training needs identification for the Executive Cadre
- Reviewing various records during JCI Survey

Her association with us was found to be punctual, hardworking and inquisitive.

We wish her every success in life.

for **Indraprastha Medical Corporation Limited,**
(Indraprastha Apollo Hospitals)

Anupam Srivastava

Anupam Srivastava
Manager – T&D

Acknowledgement

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I am using this opportunity to express my gratitude to everyone who supported me throughout the course of my summer internship at Apollo Indraprastha Hospitals, New Delhi.

I am highly thankful to **Mrs. Ritu Rawat** (Deputy Director Medical Services) for her aspiring guidance, invaluably constructive suggestions and friendly advices during my tenure at Apollo. I am sincerely grateful to her for giving me incredible opportunities to gain knowledge about management of a healthcare organization. I am also indebted to her for sharing her valuable experiences and giving her truthful and illuminating views on several issues related to management.

I express my warm thanks to **Mr. Anupam Srivastav** (Training & Development) for his constant support and guidance throughout my conduct at Apollo.

Also, my successful completion of the projects would not have been possible without the helping deeds of **Dr. Ranu Khan, Dr. Priti Bansal, Mrs. Beena Joseph, Ms. Snehil Tiwari and the entire MS Office.**

I would also like to thank my project internal guide **Mrs. Geetika Goswami** (Asst. Professor IIHMR University) for her constant supervision and support in completing the projects.

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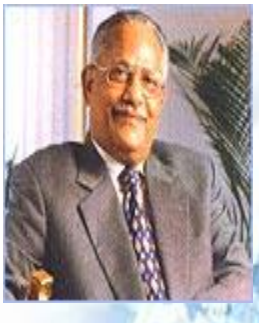
HOSPITAL PROFILE

MISSION STATEMENT



"Our Mission is to bring healthcare of international standards within the reach of every individual. We are committed to the achievement and maintenance of excellence in education, research and healthcare for the benefit of humanity"

Dr. Prathap C Reddy
Founder Chairman
Apollo Hospitals Group - India

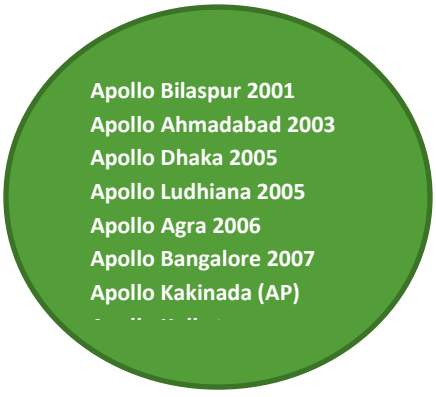
OVERVIEW

In 1971, Dr. Reddy (Father of Apollo Group) left his successful clinical practice in Boston and came back to India. On his return from Boston, he founded that the medical horizon in India was full of loopholes in organization structure, services, delivery of the services and affordability to the patients. Situation took a turn when his undeveloped patient died who did not have enough money to go abroad for his own treatment. This occurrence manifest impact in his life and enhanced his willpower to get best quality healthcare to India. He made design to build India's first tertiary care hospital.

Unconcerned and unfazed about the hurdles he has to face, Apollo Hospitals unlocked its ways in 1983 and ever since encouraged a goal which read as "Our mission is to bring healthcare of international standards within the reach of every individual. We are committed to the achievement and maintenance of excellence in education, research and healthcare for the benefit of humanity". In these 30 years, it has been stated as one of the most glorious stories of success that India has never seen. Not only is the Apollo Group being one of the major cohesive healthcare groups in the whole country, it also catalyzed the private healthcare uprising in the India. Apollo has made every characteristic of their patronizing assignment into a reality. The journey has affected and supplemented 42 million patiets who came from 120 different countries.

THE JOURNEY OF APOLLO HOSPITALS

- The Apollo Hospitals Group was started by Dr. Prathap C. Reddy in 1979.
- The Group started its first hospital at Chennai in 1983 with the initial bed strength of 150.
- The bed strength today stands at over 9000.
- With over 54 owned hospitals, Apollo today is Asia's largest Corporate Hospitals Group.



Apollo Bhubaneswar 2010
Apollo Aragonda 2000
Apollo Vishakhapatnam 1999
Apollo Madurai 1997
Apollo specialty Chennai 1993
Indraprastha Apollo Delhi 1996
Apollo Chennai 1983
Apollo Hyderabad 1988

ACCREDITATIONS

NABL

JCI

NABL - National Accreditation Board for Testing and Celebrations Laboratories.

JCI - Joint Commission International

COMMITEES AT APOLLO

The Committees that guide the smooth functioning of the hospital and help building the painstaking attitude in the employees:

- Quality Steering Committee
- Infection Control Committee
- Safety Committee
- Credentialing Committee
- Authorization Committee
- Appraisal Committee
- Medical Audit Committee
- Ethical Committee for Clinical Trials
- Ethics Committee
- Code Blue Committee
- Drug Committee
- Transfusion Committee
- Death Review Committee
- OT Committee

CODES

Blue:	Individual disaster	Call 66
Grey:	Internal disaster	Call 5555, 1926, 1983
Pink:	Baby disaster	Call 5555, 1926, 1983
Purple:	Fight likely	Call 5555, 1926, 1983
Black:	Bomb Threat	Call 5555, 1926, 1983
Red:	External Disaster	CMO to Activate
Orange:	Indication of deterioration in patient's condition	Call 66

FIRE SAFETY

Upon determining a fire, Noise out the code word - Code Grey

In case of fire, first inform 5555 and then remember the pneumonic: **RACE**

R **:** Rescue

A **:** Alarm

C **:** Confine the fire

E **:** Extinguish (if trained) and evacuate

Type of Extinguishers:

1. **WATER CO_2 TYPE –**

   Used for 'A' CLASS FIRE – Used for general fire by wood, Cloth & Paper**.**

2. **CO_2 TYPE –**

   Used for 'BCE' CLASS FIRE – Used for fire by Flammable Liquid, Burnable Gas, Metals & Electrical appliances.

3. **Dry Chemical Powder (DCP) Type –**

   Used in any type of fire including gaseous / electrical /fire.

OBSERVATIONAL LEARNINGS

CLINICAL SERVICES

✓ OPD DEPARTMENT

Apollo has 7 central OPD wings.

Functions

Offers a complete healthcare facility to the individual of all ages.

Shortcoming's observed

- Maintenance of Flow of Patients
- Waiting Time

✓ EMERGENCY DEPARTMENT

The EMR department is located on the Ground floor fronting the main road and has Distinct Entering. It has Waiting Lounge at its Arrival Gate and EMR reception.

EMR is on condition that it has its own Drugs and Stores.

✓ OT DEPARTMENT

Apollo hospital has 20 OT's scattered in 3 settings namely OT Complex-1 and OT Complex-2 on the First floor, Robotic OT complex on the Fourth floor and Ortho OT complex positioned on the Ground floor.

Functions

OT is devoted to deliver the maximum standards of surgical care to the patients.

Scope and Complexity of Services are:

- Cardiac Surgery
- Neuro Surgery
- Ophthalmology Surgery
- ENT Surgery
- Gynecology
- Plastic Surgery
- Ortho Surgery
- Laparoscopy
- Transplant Surgery
- Oncological and other General Surgeries

✓ INTENSIVE CARE UNIT

An intensive care unit is a subject staffed and prepared separate and independent achievement of the hospital for the administration of patients with life intimidating or hypothetically life intimidating clinical conditions.

Apollo has following ICU'S

- Surgical ICU
- Medical ICU
- Neuro ICU
- Pediatric ICU
- Stroke ICU
- Coronary care unit
- Gastro care unit
- Organ transplant ICU
- Neonatal ICU
- CTVS ICU

SUPPORT SERVICES:

✓ RADIOLOGY DEPARTMENT

Functions:

- Provides comprehensive investigative and imaging amenities of high quality and minutest error.
- Has recognized goal line, purposes and standards of presentation that are consistent with both the hospitals viewpoint of patient care and practice of specialized service distribution and match international standards.

Services provided:

1. Common X-rays
2. Fluoroscopy
3. Ultrasound
4. Color Doppler
5. Fatal Medicine Unit
6. CT Unit
7. CT single disc
8. CT 64 Slice

9. MRI 3 Tesla
10. Ultrasound and CT guided invasive procedures
11. Nuclear Medicine

✓ BLOOD BANK

Goal-

- To have acceptable blood of all types for sustenance of emergency, IPD, OPD, OT
- To preserve advanced standards in all products and happenings following GLP (Good Laboratory Practices) and GMP (Good Manufacturing Practices)
- To reconstruct ready reachable records of intramural suitable contributors per their blood group.

✓ MEDICAL RECORDS DEPARTMENT

It is to deliver well-organized storage, upholding, coding and confirmation of medical records

Services Provided:

- For storing of all medical records
- Verification of all records
- Issue of duplicate records
- Receipts and reply of mails
- Preparation and coordination in providing records for court cases and consumer cases
- Maintenance of MTP (Medical Termination of Pregnancy) records
- Maintenance of MLC (Medico Legal Case), Birth and Death registers
- Coordination with IT department for Backup of scanned records
- Required timely reporting of data to Government

UTILITY SERVICES:

✓ CENTRAL STERILE SUPPLY DEPARTMENT (CSSD):

It provides stable and operative amount of disinfected linen and apparatuses of numerous departments in the hospital.

The Department fumigates linen and blunt instruments using:

1. Autoclave
2. 36SR
3. BTO Machine

Operations of the Department

- Sterile supplies are dispatched to the wards as when required and Used instruments are collected for cleaning and autoclaving by CSSD staff.

✓ FOOD & BEVERAGES:

The Food and dietary services of IPD Patients as well as the staff is managed by Food and Beverages department.

This department is divided into 4 sub departments:

1. Food Production
2. Patient food services
3. Non-patient food services
4. Kitchen stewards

The department proficiently delivers to 8000-9000 meals daily. To provide well-organized, appropriate and disinfected environment, the department has a team which includes:

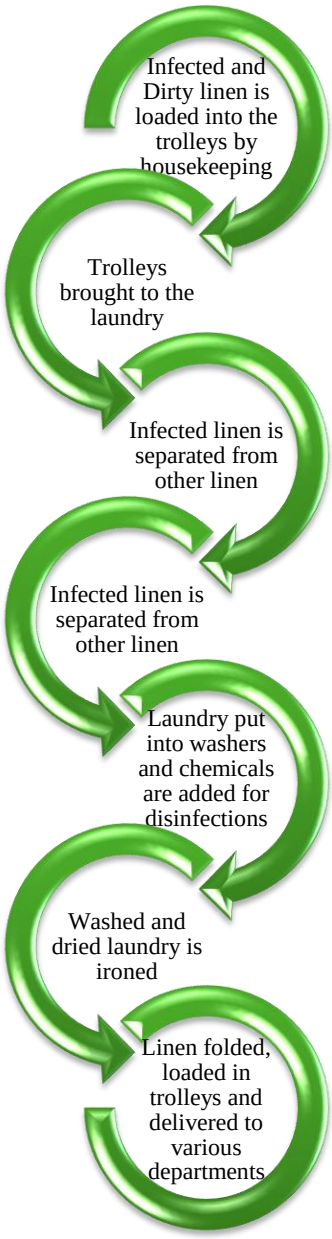
1. Deputy In charge

2. Assistant Manager
3. Chief operations in charge
4. Executive officer
5. Administrative officer

✓ LAUNDRY:

It provides renewed linen to all hospital departments. It has a major role keeping disinfected environment and in contamination control. The staff of laundry are a mix of Agreement labor and IMCL workers.

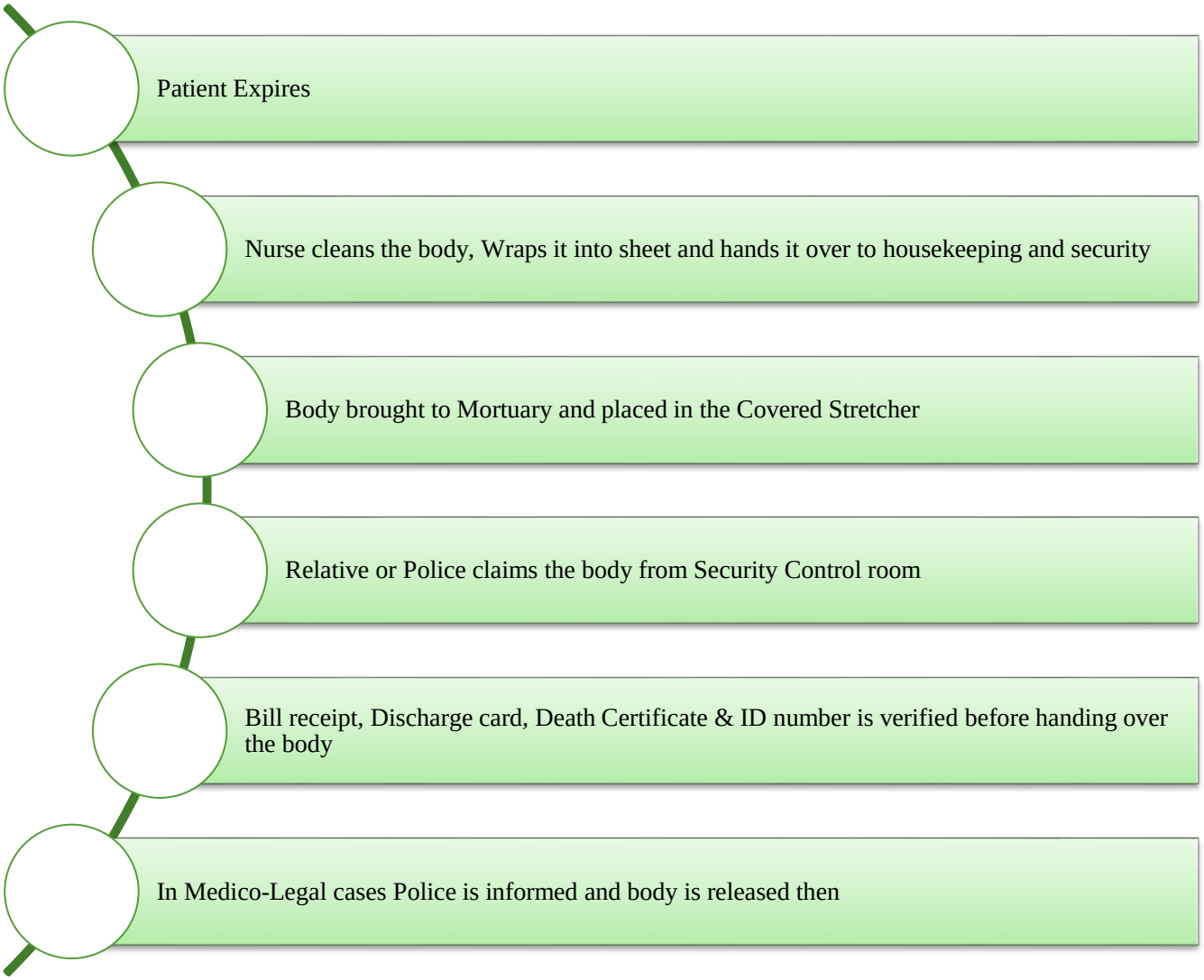
WORK FLOW


Infected and Dirty linen is loaded into the trolleys by housekeeping
Trolleys brought to the laundry
Infected linen is separated from other linen
Infected linen is separated from other linen
Laundry put into washers and chemicals are added for disinfections
Washed and dried laundry is ironed
Linen folded, loaded in trolleys and delivered to various departments

✓ MORTUARY

It is a room where deceased bodies are reserved before they are requested by the comparative of the patients or additional over to the police department in Medico-Legal cases. It is in the underground room with measurements of keeping 6 deceased bodies at a given period. The security guards airmailed are in authority for emancipating the body to the concerned person.

WORK FLOW



A STUDY ON THE STANDARD OPERATING PROCEDURES (SOPs)

1. INTRODUCTION

A Standard procedure (SOP) could be a set of written directions that document a routine or repetitive activity followed by a corporation. The SOPs ar the essential a part of a corporation because it provides people with the knowledge to perform employment properly and facilitates consistency within the quality of labor. SOPs ar policies, procedures and standards that ar required within the operations, selling and administration disciplines inside the business to make sure success. These will produce Competences, and thus cost-effectiveness; Uniformity and untrustiness in manufacture and service; Smaller quantity errors all told areas; how to determination struggles between partners; A healthy and safe environment; Fortification of employers in areas of probable answerableness and staff matters.

PURPOSE

The purpose of SOPs is to produce the regular continual work processes that square measure done or followed at intervals a company. They document the approach activities square measure to be completed to change consistent correspondence to technical and quality system needs and to support knowledge quality. SOPs square measure supposed to be specific to the organization or facility whose activities square measure selected and assist that organization to take care of their internal control and quality assurance processes. If not written properly, SOPs square measure of restricted worth. Therefore, the utilization of SOPs must be reviewed and re-enforced.

BENEFITS

The use of SOPs diminishes discrepancy and promotes quality through consistent application of a method or procedure among the organization, even though there square measure temporary or permanent personnel changes. SOPs will indicate compliance with structure needs and might be used as a region of a personnel educational program, since they ought to offer elaborated work directions. It minimizes possibilities for miscommunication and might report safety issues. the advantages of a legitimate SOP square measure reduced work effort, along side improved comparison, trustiness, and permissible defensibility.

WRITING STYLES

SOPs ought to be written in a very crisp, stepwise, easy-to-read format. data bestowed ought to be definite and not be sophisticated. The voice and gift verb tense ought to be used. The term "you" mustn't be used, however oblique. The document should not be rambling, terminated, or over intensive. It ought to be easy and short. data bestowed ought to be clear and versatile to clear any doubt on what's needed. Flow charts are often accustomed demonstrate the method being represented. additionally, vogue guide are often utilized by organization, e.g., font size and margins.

SOP METHOD

SOP PREPARATION

The organization ought to have a procedure for outlining what procedures or processes ought to be standardized. The SOPs ought to then be written by high knowledgeable people and therefore the organization's internal structure. These people ar necessary specialists United Nations agency perform the work or use the method. A team technique can even be followed, particularly for multi-tasked processes wherever the experiences of diverse people ar unsafe. SOPs ought to be written with satisfactory detail, so somebody with restricted expertise with or data of the procedure, however with a basic sympathetic, will effectively imitate the procedure once unsupported. The expertise requirement for execution of associate degree activity ought to be noted within the section on personnel experiences.

SOP REVIEW AND ENDORSEMENT

SOPs ought to be reviewed by one or additional persons with applicable coaching and skill with the method. it's particularly useful, if draft SOPs ar tested by entities apart from the innovative author before the SOPs ar long-established. The confirmed SOPs ought to be allowable as delineated within the organization's Quality Administration arrange or its own SOP for groundwork of SOPs. The fast supervisor and therefore the organization's quality declaration officer review and support every SOP. Autograph approval indicates that associate degree SOP has been each reviewed and approved by management.

FREQUENCY OF REVISIONS AND REVIEWS

Whenever procedures ar modified, SOPs ought to be modernised and re-approved. If desired, modify solely the suitable section of associate degree SOP and indicate the modification date/revision range for that section within the Table of Contents and therefore the document system. SOPs ought to be conjointly totally reviewed on a periodic basis, e.g. each 1-2 year, to verify that the policies and procedures stay current and applicable, or to work out whether or not the SOPs ar even needed. The review date ought to be further to every SOP that has been reviewed. If associate degree SOP describes a method that's now not followed, it ought to dummy up from this file and archived. The review method mustn't be too large to encourage timely review. The frequency of review ought to be indicated by management within the organization's Quality Management arrange. That arrange ought to conjointly indicate the individual(s) accountable for certifying that SOPs ar current.

CHECKLISTS

Several of the procedures, use checklists to make sure that steps ar followed so as. Checklists are accustomed document accomplished actions. Any checklists or forms enclosed as a part of associate degree activity ought to be documented at the points within the procedure wherever there to be used and so connected to the SOP. In some cases, elaborated checklists ar ready exactly for a given activity. In those cases, the SOP ought to outline, at least, however the listing is to be organized, or on what it's to be based mostly. Copies of specific checklists ought to be then preserved within the file with the activity results and/or with the SOP. bear in mind that the listing isn't the SOP, however a vicinity of the SOP.

DOCUMENT MANAGEMENT

Organization ought to develop a listing system to analytically establish and label their SOPs, and therefore the document management ought to be labeled in its Quality Management arrange. every page of associate degree SOP ought to have management certification notation. a brief title and identification (ID) range will function a reference designation. The revision range and date ar terribly helpful in distinguishing the historical information of SOP. once the quantity of pages ar indicated, the handler will quickly check if the SOP is complete. this kind of document management notation is within the higher right-hand corner of every document page succeeding the page.

SOP DOCUMENT TRAILING AND DEPOSIT

The organization ought to maintain a master list of all SOPs. This file ought to designate the SOP range, version range, date of issue, title, writer, status, department, branch, and any historical info concerning past varieties. The QA Manager is usually the individual in authority for maintaining a file listing all current quality-related SOPs used at intervals the organization. Electronic storage and liberation mechanisms ar sometimes informal to permission than a hard-copy document preparation. For the user, electronic access will be restricted to a read-only format, thereby defensive against contraband changes created to the document. [1]

PROCESS FLOW OF REVIEWING/ AMENDMENT TO SOP:

FORMAT OF SOPs:

I. Procedures – The following are topics that may be appropriate for inclusion in administrative SOPs:
   i. Purpose
   ii. Scope/ Applicability
   iii. Summary of Procedure
   iv. Definitions
   v. Personnel Qualifications/ Responsibilities
   vi. Pre-Care
   vii. Procedure
   viii. After-Care
   ix. Criteria/ Checklist/ Standards that are to be checked during procedure
   x. Records Management

II. Quality Control and Quality Assurance

III. References [1]

REQUEST FOR CONSTRUCTION OF NEW SOP / AMENDMENT OF SOP

This form is accomplished by any member whenever a problem or a shortage in an SOP is acknowledged and continued with the SOP until sanctioned auxiliary is in dwelling.

SOP No.
Title:
Details of complications or shortage in the existing SOP
Need to verbalize completely new SOP (i.e. SOP not prevailing beforehand)
Acknowledged by:
Date (DD/MM/YYYY):
Discussed in HEC Meeting held on: -
SOP revision required: Yes No
New SOP to be formulated: Yes No
If yes, to be approved out by whom?
If no, why not?
Date SOP reviewed:
Date SOP permitted:
Date SOP becomes operative:

2. RATIONALE

Most of the reviews establish the positive insights of the personals owning to various factors such as efficiency, quality, safety, consistency etc. The aim of the project is to analyze the gaps and to device or improve the standard operating procedures for the respective departments of Indraprastha Apollo Hospitals, New Delhi. The following evidence may support the management to understand the downsides and advance the departmental insufficiencies.

3. LITERATURE REVIEW

The backgrounds of the term SOP area unit incomprehensible. The reference book Britannica indicates that the condensation came into use regarding the mid-1900s [2] and was already in use throughout warfare II. Today, SOPs exist in contexts starting from military operations to business routines, and from producing processes to medical activities.''

In armed circles, the term normal process or standing process is employed to pronounce a way or set of procedures for the presentation of a given accomplishment or for a response to a given event. there's a prevailing mistake that SOPs area unit homogenized transversally the creation of apply. However, the terribly rural area of associate SOP is that it's not conjointly useful, like across an excellent armed element (e.g. a corps or division), however somewhat defines the exceptional process of a shorter unit (e.g. a battalion or company) inside that superior element. That the process in interrogation is meant to be standing designates that it's in consequence till further notice, which it's going to advance be changed or dissolved.

In the background of clinical prosecutions, the International Conference on Harmonization (ICH), born in 1990 getable of a determination to enhance restrictive needs for healthful product, defines SOPs as careful, written directions to realize uniformness of the presentation of a particular perform. this can be conjointly in possession with the line of fine Clinical Preparation. [3]

In modern day drugs, clinician's area unit accustomed with SOPs in unnatural circumstances, like those selected at the commencement of this piece. Clinicians are responsive to the employment of SOPs within the background of clinical prosecutions, either with esteem to the operational integrities committees or regarding screening, accepting, evaluating, and giving patients transversally the course of the clinical experimental. a sway whose time has currently come back is that the summary of SOPs into monotonous clinical preparation; that's, not for uncommon patients (e.g. people who area unit cataleptic) or for special environments (e.g. clinical trials), except for each patient in ordinary clinical maintenance.

To comprehend why such SOPs area unit obligatory, allow us to initial stance associate interrogation to the reader: however usually in monotonous coaching will we raise feminine patients of generative age regarding the date of their previous expelling dated, or regarding contraceptive protections that they will have implemented? will we record these particulars. chances area unit that such proof isn't oftentimes attained; nevertheless, it ought to be intelligible that this proof ought to be pursued associated documented at each discussion (whether initial or follow-up) with each feminine patient in whom gestation is even an inaccessible chance. If SOPs area unit established in situ, it's inconceivable that such data would be abandoned.

Divagating quickly, however area unit SOPs dissimilar from preparation procedures? The terms SOPs, procedures and lanes area unit well-defined by dissimilar medical bodies. [4-8] in addition, whereas clinical apply methods area unit methodically industrialised declarations that support conclusions regarding appropriate health take care of precise surroundings, [10,11] SOPs area unit a lot of careful than tips and area unit well-defined in superior feature. they create offered a wide-ranging set of rigid standards demarcation the organization stepladders for a solitary experimental disorder or aspects of organization. [12]

Guiding principle area unit meticulously advanced exploitation proof-based drugs standards and comprise of 2 totally different mechanisms: the evidence instant and also the comprehensive commands for the submission of that indication to patient care.[9] For the communal health care good person, tips need

autochthonous remodeling to ensemble native environments and to accomplish a sensitivity of proprietary, each of that area unit imperative factors in recommendation commitment and use.[13] SOPs, hence, profit affiliation the gap between evidence-based drugs, clinical apply procedures, and also the native authenticities at the point-of-care.

It is intelligible that SOPs guarantee a complicated normal of medical thought in thoughtful things, instances of that comprise atomic number 3 toxicity and also the major tranquillizer malignant syndrome. in an exceedingly study of the behavior of infection, Kortgen et al. (2006) found that the employment of SOPs smoothened the appliance of recent useful approaches, preponderantly as packets or packages, thereby enlightening the quality of care. SOPs conjointly decrease the measure between the journal of randomized meticulous trials and also the uniting of the conclusions of those prosecutions into clinical apply. Also, yet of their contented, SOPs hasten the commencement of medical care for distinct patients by snowballing the consciousness of the necessity to energetically and rapidly extravagance such patients. [14]

‘’We these days returning to our disagreement that SOPs have to be compelled to be oriented into the clinical monotonous and not be earmarked for superior patients or special environments. to leap with the wide-ranging meeting, SOPs regarding the development of patient discussions area unit obligatory for each patient to ensure that the patient and/or his family area unit responsive to the rural area of the judgement, the prediction, the rural area ’‘and extent of treatment, the amount development of treatment rejoinder, doable opposing possessions of treatment, and connected matters; a number of such enlightenment can have to be compelled to be continual at continuation appointments as a result of no client can remember all that has been transported at the primary ‘’conference. Such SOPs will be created by constructing the extent and constituent components of the discussion. analysis shows that in longer discussions doctors advocate a smaller quantity,[15,16] listen in improved to their patients, acknowledge supplementary complications, scout a lot of psychosocial complications, and supply a lot of health advancement.[17,18] If these procedures area unit considered a commission for quality, lengthier discussions seem better-quality.[19,20] In extended consultations, the patient elasticities a lot of data, significantly regarding life style and social performances.[21] The consultation will be organized as associate SOP with element components that embody the extent of consultation, social behavior, agreement, rapport building, partnership building, giving directions, giving data, asking queries and counsel.[21]

4. PROBLEM JUSTIFICATION

Regardless of the presence of the standards of operating procedures and measures, there are certain ambiguities which effects the distribution of healthcare services to the patrons and deters the image of health services facilitators in terms of their sustainability and growth. The emphasis should not only be in terms of upgrading of technology or cost-effective services but the detector should also

extend its range towards the applicability of systematic and consecutively arranged processes to have a rationalized flow of work.

The major slabs acquiesced in the study are absence or inadequate standard set of protocols to perform the departmental functions leading to uncertain understanding of the general and specific standards of services.

5. OBJECTIVE

- To study and find out the gaps in Standard Operating Procedures in the Hospital Departments.
- To formulate Standard Operating Procedures for Departments.

6. METHODOLOGY

- **Research Design:** Qualitative Descriptive Study
- **Method of Data Collection**: General observations and Interviews with stakeholders.
- **Study Setting**: The study was conducted amongst the several department in-charges of Indraprastha Apollo Hospitals, New Delhi.
- **Study Design**: There were total 161 SOPs relating to medical procedures, patient handling, equipment, instruments, staff training etc. were reviewed. For data collection, Interviews of selected participants were conducted, which were followed up by discussions regarding the process flow in their respective departments. These discussions were documented and critically analyzed as to how the absence or inadequate standards affected over all functioning of the department and the employees conduct.

7. FINDINGS

The study revealed the following findings:

AVAILABLITY OF STANDARD OPERATING PROCEDURES

- Study showed that there were no proper existing operating procedures in the departments or even if they were present, they have not been designed as per the best practice.
- It has brought up the issue that concerned department persons were not aware about their specific responsibilities of what part of the job they need to perform.
- Staff known to standards either have modified the procedures as per their feasibility or are handling multiple work roles due to ambiguity in segregation of task.

- The staff had been provided training related to the process but no manual was provided and the only ideology behind learning the process is on job.

STANDARD OPERATING PROCEDURES OF THE FOLLOWING DEPARTMENTS WERE REVIEWED:

1. IVF
2. Dental
3. Cardiology
4. Sleep Lab
5. Respiratory Medicine
6. Urology
7. Operation Theatre
8. Hyperbaric Medicine
9. CSSD
10. Ophthalmology
11. Endoscopy & Gastroenterology
12. Nuclear Medicine
13. Physiotherapy

S.NO.	DEPARTMENT	NO. OF SOPs	SOPs REVIEWED	NEW SOPs PREPARED
1.	**IVF**	8	8	0
2.	**DENTAL**	7	4	3
3.	**CARDIOLOGY**	14	13	1
4.	**SLEEP LAB**	11	5	6
5.	**RESPIRATORY MEDICINE**	10	10	4
6.	**UROLOGY**	9	7	2
7.	**OPERATION THEATRE**	21	21	0
8.	**HYPERBARIC MEDICINE**	1	1	0
9.	**CSSD**	16	16	0
10.	**OPHTHALMOLOGY**	26	26	0
11.	**ENDOSCOPY & GASTROENTEROLOGY**	19	10	9
12.	**NUCLEAR MEDICINE**	2	2	0
13.	**PHYSIOTHERAPY**	17	17	0

1. **IVF**

SOPs	GAPS
1. Semen Analysis	1. Summary of the procedure is not present.
2. Semen Preparation	2. Definitions and Responsibilities are not present.
3. Semen Cryopreservation	3. Checklists, Records and References are need to be mention.
4. IU Insemination	
5. IVF- ICSI	
6. Embryo Cryo Preservation	
7. Liquid Nitrogen maintenance	
8. Oocyte Freezing	

2. **DENTAL**

SOPs	GAPS
1. Instruments	1. Summary of the procedure is not present.
2. Training of Dental technicians	2. Definitions and Responsibilities of the staff is not present.
3. Sterilization	3. Checklists, Records and References also need to be mention.
4. Orientation	4. SOP of Tooth Bonding, RCT and Teeth Whitening are not available.
5. Tooth Bonding	
6. RCT	
7. Teeth Whitening	

3. **CARDIOLOGY**

SOPs	GAPS
1. Dobutamine Stress Echo	1. Summary of the procedure is not mention.
2. Hotler Monitoring	2. Definitions and Responsibilities are not present.
3. ECG	3. Checklists, Records are also need to be mention.
4. TEE (SOP made)	4. SOP of TEE is not available.
5. TMT	
6. Investigations and Procedures	
7. Stress Test	
8. Department of Non-invasive Cardiology	
9. Cleaning 7 Disinfection of Equipment	

10. patient Identification	
11. Reducing risk of patient harm due to fall	
12. Improving Effective Communication	
13. CPR	
14. Rapid Response Team	

4. SLEEP LAB

SOPs	GAPS
1. Polysomnography	1. Summary of the procedure is not mention.
2. All Night Sleep Study	2. Definitions and Responsibilities are not present.
3. CPAP Titration	3. Checklists, Records are also need to be mention.
4. Split Study	4. SOPs not available are: 1. Polysomnography 2. All Night Sleep Study 3. CPAP Titration 4. Split Study 5. Multiple sleep latency test 6. Test in Sleep lab
5. Multiple sleep latency test	
6. Test in Sleep lab	
7. Maintenance of Equipment	
8. Departmental Training	
9. Management of IT	
10. Equipment Cleaning	
11. Integration of Records in Sleep Lab	

5. RESPIRATORY MEDICINE

SOPs	GAPS
1. Fibreoptic Bronchoscopy	1. Summary of the procedure is not present.
2. Spirometry	2. Definitions are not present.
3. EBUS TBNA	3. Checklists, Records are also need to be mention.
4. Radial EBUS	4. SOPs need improvements are: I. Fibreoptic Bronchoscopy II. Spirometry III. EBUS TBNA IV. Radial EBUS
5. Thoracoscopy	5. No explanation about the procedure, duration and expenses to the patients is mention in the SOPs.
6. Emergency Eye wash	6. No care after procedure are mention in the SOPs.
7. Maintaining and Cleaning of Equipments	
8. Cleaning Protocol of Lab	

9. Imparting Training of Paramedical Staff	
10. Maintenance of Consumables	

6. UROLOGY

SOPs	GAPS
1. Lithotripsy	1. SOPs of following procedures are not available: 1. Uroflowmetry 2. Voiding Cystometry
2. Departmental Training	2. Summary of the procedure is not mention.
3. Maintenance of Equipment	4. Definitions and Responsibilities are not present.
4. IT	5. Checklists, Records are also need to be mention.
5. Employee Safety	
6. Sterilization	
7. Cleaning of Equipment	
8. Uroflowmetry	
9.Voiding Cystometry	

7. OPERATION THEATRE

SOPs	GAPS
1. Booking and Scheduling of Cases	1. References are missing from the SOPs.
2. OT Cancellation	
3.handling Emergencies	
4. Billing	
5. Receiving of patient in pre-operative room	
6. Receiving of patient in post-operative room	
7. Shifting of patient to ward or ICU from OT	
8. Circulating Nurse (Responsibility)	
9. Scrub Nurse	
10. Counting of Sponges, swabs, instruments & needles	
11. Scrubbing, gowning and gloving procedures	
12. transporting the patinet from ward to OT	
13. Dispatching specimen to the lab	
14. Handling medico legal cases	
15. Preservation of Skin Graft	
16. Deep freezer maintenance	
17. Discharge Criteria for OT recovery	

18. Implants	
19. Cleaning of instruments	
20. Storage of cadaveric venous grafts	
21. Storage of liver/tissue specimen for research purposes only	

8. HYPER BARIC MEDICINE

SOPs	GAPS
1. Oxygen Therapy	No gaps are found

9. CSSD

SOPs	GAPS
CLEANING OF USED INSTRUMENTS BY PARAMEDICAL STAFF	No gaps are found.
1. Handling	
2. Sorting	
3. Initial Treatment	
4. Manual Cleaning	
5. Ultrasonic Treatment	
6. Monitoring	
7. Suspection	
8. Packaging and Wrapping	
STERILIZATION OF USED INSTRUMENTS BY PARAMEDICAL STAFF	
1. Monitoring of Packed Items	
2. Storage of sterilized Items	
3. Distribution of Sterilized items	
4. Recall Procedure	
5. Maintenance of Equipments	
6. Training of Staff	
7. Education of Staff	
8. Process flow	

10. OPTHALMOLOGY

SOPs	GAPS
1. Investigation Procedure	No gaps are found.
2. Departmental Training	
3. Equipment	
4. IT	
5. Applanation Tonometry	
6. Auto Refractory	
7. B Scan	
8. OCT	
9. Perimeter	
10. Slit Lamp	
11. Visucam Digital Fundus Camera	
12. Contact Lenses	
13. Medicine Ophthalmology department	
14. A Scan	
15. Direct Ophthalmoscope	
16. Green Laser	
17. Indirect Ophthalmoscope	
18. Keratometer	
19. Laser Lens	
20. Auto Lensometer	
21. ND-YAG Laser	
22. Retinoscopy	
23. Schiotz Tonometer	
24. Synoptophore	
25. Gonioscopy	
26. Lenses for Fundus Examination	

11. ENDOSCOPY AND GASTROENTEROLOGY

SOPs	GAPS
1. Lower GI endoscopy	1. Summary of the procedure is not available.
2. Upper GI Endoscopy	2. Definitions and Responsibilities are not present.
3. APC	3. Checklists, Records and References are need to be there.
4. Capsule Endoscopy	4. No explanation about the procedure, duration and expenses to the patients is mention in the SOPs.
5. EVL	
6. ERCP	
7. Peg Placement	

8. Polypectomy 9. FB Retrieval 10. Therapeutic and Diagnostic Procedures 11. Endoscopic Ultrasound 12. Cleaning and Maintenance of Fibroscan 13. Maintenance of Equipments 14. Machine Disinfection 15. Eye wash Station 16. Departmental Training 17. Patient Identification 18. Integration of Records 19. SOP on CPR (RRT)	5. No care after procedure are mention in the SOPs. SOPs not available are: 1. Lower GI 2. Upper GI 3. APC 4. Capsule Endoscopy 5. EVL 6. ERCP 7. Peg Placement 8. Polypectomy 9. FB Retrieval

12. <u>NUCLEAR MEDICINE</u>

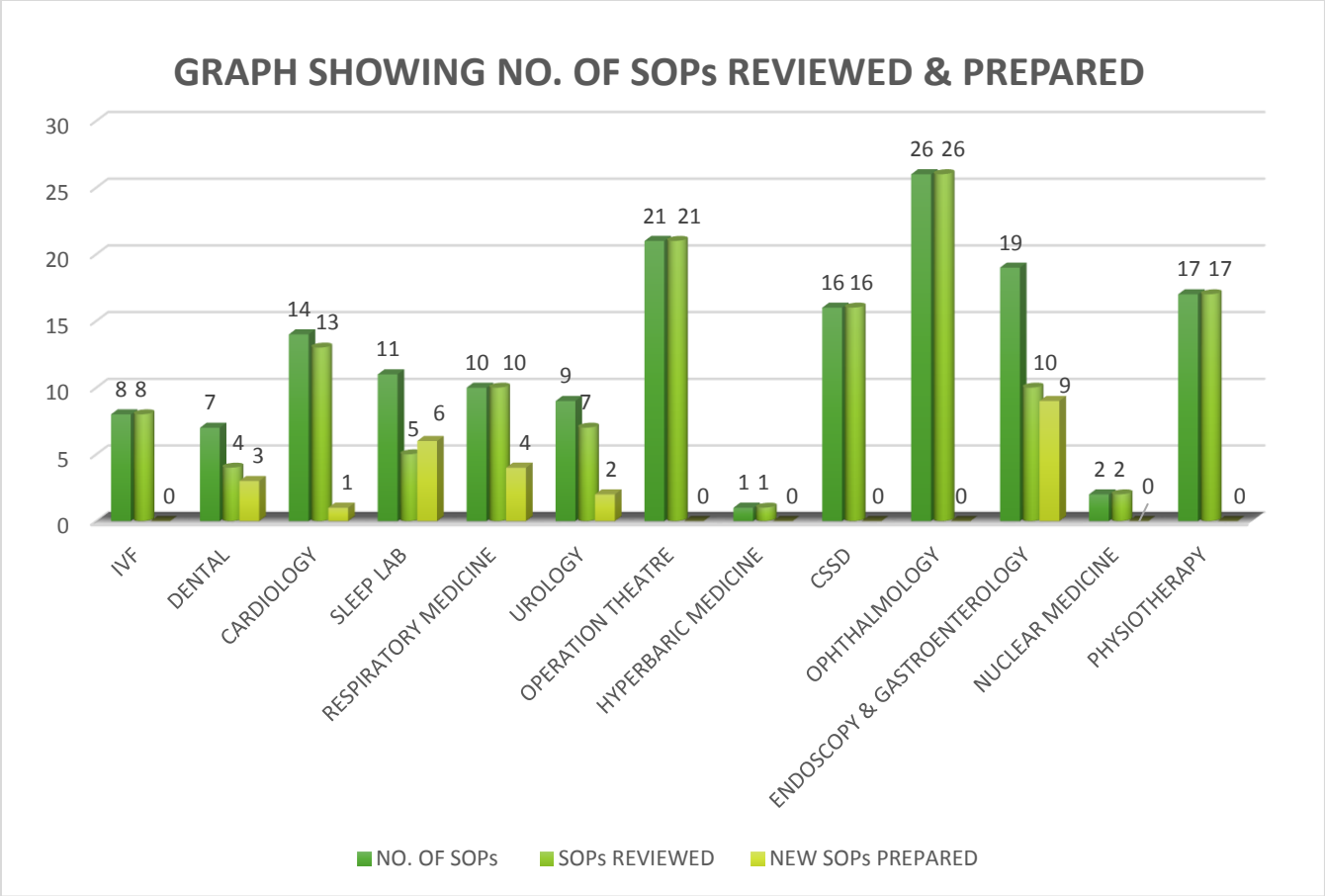
SOPs	**GAPS**
1. PET CT 2. PET MRI	No gaps are found.

13. <u>PHYSIOTHERAPY</u>

SOPs	**GAPS**
1. Critical Care	1. Summary of the procedure is not mention.
2. recruitment of Physiotherapist	2. Definitions and Responsibilities are not present.
3. Departmental Training 4. Services offered for Ambulatory Patients 5. Services offered in IPD 6. Emergency Situations 7. Home Physiotherapy 8. Discontinuation of Patients 9. Integration of Records 10. Pain management 11. Maintenance of Equipment 12. Vaccum Compressor 13. TENS 14. Ultrasonic therapy 15. Stimulation Exercises 16. Tilt Table 17. Cleaning of the lab	3. Checklists, Records and References are also need to be there.

TABLE SHOWING NO. OF SOPs PRESENT, AMENDMENTS MADE, AND NEW SOPs MADE

\DEPARTMENT	NO. OF EXISTING SOPs	AMENDMENTS MADE	NEW SOPs
IVF	8	NIL	0
DENTAL	7	2	3
CARDIOLOGY	14	3	1
SLEEP LAB	11	5	6
RESPIRATORY MEDICINE	10	4	4
UROLOGY	9	7	2
OPERATION THEATRE	21	9	0
HYPERBARIC MEDICINE	1	NIL	0
CSSD	16	4	0
OPHTHALMOLOGY	26	5	0
ENDOSCOPY & GASTROENTEROLOGY	19	8	9
NUCLEAR MEDICINE	2	NIL	0
PHYSIOTHERAPY	17	2	0



PROCESS OF REVIEWING

GAPS

- ✓ Summary of the procedure was not available in some of the SOPs of Cardiology, Respiratory Medicine, Urology,
  Endoscopy Lab and Physiotherapy.
- ✓ Definitions were missing from the SOPs of Cardiology, Respiratory Medicine, Urology, Endoscopy lab and Physiotherapy.
- ✓ Responsibilities were not mentioned in Dental, Cardiology, Sleep Lab, Respiratory Medicine, Urology, Endoscopy Lab and Physiotherapy.
- ✓ Pre-Care, Procedure and Post Care was not defined in Respiratory Medicine and Endoscopy Lab.
- ✓ Records of last review, and Name of the Reviewer were not present in most of the Departments.
- ✓ References were missing in most SOPs of the Departments in the Hospital.
- ✓ Some of the SOPs were unavailable in Dental, Cardiology, Sleep lab, Urology and Endoscopy Lab.

14. SUGGESTIONS

- Training can be given to introduce the proper written format of the Standard Operating Procedure to the Staff.
- Improvements in the SOPs of various departments can be done.
- New Standard Operating Procedures can be made to increase the efficiency in the department.

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