

**A Study to Improve the Utilization of Operation Theatre in a
Multispecialty Hospital**

**Internship Training
at
Soni Manipal Hospital, Jaipur
(February–April 2014)**

**By
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**Post Graduate Diploma in Hospital & Health Management
2012–14**


**Institute of Health Management Research
Jaipur
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To Whomsoever It May Concern

This is to certify that Ms. Akshita Shah, student of Post Graduate Diploma in Hospital Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone Internship training at Soni Manipal Hospital, Jaipur, from February 18, 2014 to April 30, 2014.

The candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical. The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.



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To whomsoever it may concern

This is to certify that **Ms. Akshita Shah** pursuing her Post Graduate Diploma in Hospital Management at IIHMR, Jaipur has completed her Dissertation on "A study to Improve utilization of Operation Theater at Soni Manipal Hospital Jaipur" from 18th February 2014 to 30th April 2014.

During this period we found her sincere and hard working.

We wish her all success in future.

For Soni Manipal Hospital
(A Unit of Manipal Hospitals (Jaipur) Private Limited)



D S Krishnamurthy
General Manager & Unit Head

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled A study to improve utilization of operation theatre in a multispecialty hospital and submitted by Ms. Akshita Shah Enrolment No. IIHMR/PGDHM/2012-14/17-1288 under the supervision of Dr. Barun Kanjilal for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from February, 18- 2014 to April, 30-2014 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature: 

Date : 22/5/14

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The success of any task would be incomplete without the expression of appreciation of gratitude to the people who made it possible .Though words fall short to express the sincere gratitude towards everyone who helped directly or indirectly in my endeavor. It is a pleasant aspect that I now have the opportunity to express my gratitude for all of them. This is a humble attempt in this regard. I would like to render my sincere thanks to Soni Manipal Hospital, Jaipur for providing me with such unique learning experience.

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Akshita Shah

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ABBREVIATIONS

OT	Operation Theatre
HMIS	Hospital Management Information system
NABH	National accreditation Board for hospital and Healthcare Providers
MRD	Medical Record Department
UHID	Unique Hospital Identification number
PAC	Pre- Anesthetic Check-up
TPA	Third party Administrator
NOT	Neuro Operation Theatre
MOT	Modular Operation Theatre

1. DISSERTATION REPORT

A STUDY TO IMPROVE THE UTILIZATION OF OPERATION THEATRE IN MULTISPECIALITY HOSPITAL

1.0 EXECUTIVE SUMMARY:

The importance of dissertation was such that it was the second interface with any hospital after the summer training and it was altogether a different experience because this time there was an idea about the hospital atmosphere and it's working.

In Quality Assurance Meeting, the problem of OT scheduling with the problem of cancellation, postponement/delays and problem of same day scheduling. I took the responsibility with two motives of improvising the efficiency /utilization of Operation Theatre and taking it as dissertation topic.

As a hospital management student all the required information as per knowledge was collected to start the work. The study started with the literature review & understanding of its process. Data collection was started to see the trend of problematic areas. Along with this, probable reasons for problematic areas were being tracked on daily basis.

Moreover, training in a reputed and corporate hospital having high standard quality of Medicare is not an easy task to get through in which we can expose and gain knowledge and skill to be a hospital administrator. The study on this subject gave a great exposure and helped to obtain a vast knowledge of ideas and information about the hospital administrative system.

1.1 INTRODUCTION

An operation theatre is the room in the hospital whose function is the carrying of the major surgical procedures, operations. Such operation theatres are mainly used for surgical procedures and not for other medical interventions. In other words the operation theatre suit of the hospital is a complex workshop and the most important facility of the surgical department.

Operation theatre represents significant amount of expenditure in the hospital budget considering the cost incurred in the operation theatre, the hospital administrator should more concern about the efficient utilization of operation theatre.

The managerial aspect of providing health services to patients in hospitals is becoming increasingly important. Hospitals want to reduce costs and improve their financial assets, on the one hand, while they want to maximize the level of patient satisfaction, on the other hand. One unit that is of particular interest is the operating theater. Since this facility is the hospital's largest cost and revenue center, it has a major impact on the performance of the hospital as a whole.

Enhancing the efficiency of operating theatre has been always a challenging process especially in a quick changing healthcare sector with increased patient care complexity.

“Management of operating theatres requires the coordination of human and material resources in such a way that surgery can be performed efficiently, cost effectively, and safely (Plasters 2003) within the rules of clinical governance of standards.”

Managing the operating theater, however, is hard due to the conflicting priorities and the preferences of its stakeholders. Moreover, health managers have to anticipate the increasing demand for surgical services caused by the aging population. These factors clearly stress the need for efficiency and necessitate the development of adequate planning and scheduling procedures.

1.2 LITERATURE REVIEW

Operating Theatre scheduling is a major contributing factor to enhance the efficiency of operating theatres. Accurate and real time scheduling assist in predicting staffing needs, ensuring availability of required equipment and supplies and thus contribute to a smooth running operating theatre. ^[1]

Magerlein and Martin review the literature on surgical demand scheduling and distinguish between advance scheduling and allocation scheduling. Advance scheduling is the process of fixing a surgery date for a patient, whereas allocation scheduling determines the operating room and the starting time of the procedure on the specific day of surgery. ^[2]

An accurate schedule must list realistically the starting and ending time of each surgery. In addition, conflicts of schedules shall be resolved by the operating theatre manager. Schedules need to be rearranged according to agreed-on principles among all surgeons, on condition that guidelines are developed to define elective versus non-elective cases. ^[3]

Accordingly literature does not question or challenge the level of urgency however recommend classifying surgeries as elective, where patient condition will not be affected as a result of delaying the surgery for a minimum of forty-eight hours, and non elective . Under the concept of creating a realistic operating schedule, reflected on the importance of having a real time based schedule which is essential to predict human and resource needs.

The real time schedule requires accurately specifying the starting and ending time of surgeries with as much as possible accurate surgery duration. This real time requires timely updating as the day goes on. In addition, literature reflected the importance of defining the start time of each surgery and the impact of providing a precise duration to avoid confusion, allow proper allocation and distribution of surgeries and standardize data collection. ^[4] Moreover, the importance of developing policies to streamline scheduling procedures was highly stressed.

The procedure requires setting certain guidelines of what cases are to be scheduled as first day case, what is an elective case versus non elective.^[5]

Listed four important steps to assist in scheduling urgent cases and the related process to follow. Of these steps he included patient medical condition, evaluating patient waiting time, impact on OT efficiency and patient safety. Within 13 these definitions it is essential to secure the surgeons agreement and commitment to abide by these guidelines and accordingly to abide by the scheduling process. This will reflect caring for all the surgeons similarly.^[6] This is important from the surgeons' perspective, their surgery is the ultimate goal and the most important to perform.

An approach to decrease the first case delay along with an accurate recording and booking time with no "to-follow" schedule should be put in place. It was categorically rejected, as per literature, to have a "To Follow" designation of surgery. Managing all these factors besides decreasing staff scheduling variation and ensuring adequate housekeeping services contributed in many studies to decrease the prolonged operating theatre turn-over time.^[7]

The turn over time describes the time delay between the first and the second surgery and measured by calculating the time the first case leaves an operating theatre on that day schedule to the time the second patient enters that same theatre and the impact of this delay on the suspension of all consecutive surgeries which will result in stretching the schedule time and extending the operating theatre working hour scored the value of turn over time in his study so that it reflects poor performance if it is more than forty minutes and for good performance it shall be less than twenty five minutes.^[8]

Blake and Carter elaborate on this taxonomy in their literature review and add the domain of external resource scheduling, which they define as the process of identifying and reserving all resources external to the surgical suite necessary to ensure appropriate care for a patient before and after an instance of surgery. They furthermore divide each domain in a strategic, administrative and operational level, although these boundaries may be vague and interrelated.^[9]

Przasnyski structures the literature on operating room scheduling based on general areas of concern, such as cost containment or scheduling of specific resources. ^[10]

1.3 JUSTIFICATION OF STUDY

Managing the operation theater in multispecialty Soni Manipal hospital is a difficult task due to conflicting priorities. Staffs that were looking for the scheduling of cases in Operation Theatre were facing many problems. Normal OT timings are from 8:00 A.M to 4:00 PM. However percentage of on-time starts is very less and that leads to wastage of resources and mismanagement of OT and hence less utilization of OT. Surgeons were scheduling their patients without confirming to the readiness of patient, leading to increase number of cancellation of cases. They even do not provide sufficient information regarding cases.

Staff raised many criticisms reflecting lack of communication among the different groups. All this reflected a non-coherent and poor workflow within the theatres. It was essential to address this area seriously. Trying to understand the operating theatre status and the contributing factors to this ailment I decided to start with Process mapping.

Service Description

The kinds of procedures in our hospital are emergency procedures, referred procedures or one day prior scheduled. The 3 procedures can be categorized into different service types: General, Gynecology, Neurology, Neonatal (NSU), Head and Neck Surgery (OHNS), Ophthalmology, Oral, Orthopedics, Plastic, Podiatry, Thoracic, Urology, oncology and Vascular.

The focus of thesis is on problem arising in OT scheduling as Cancellation, delays in Surgery cases and mainly same day scheduling. Late Start of OT is another main area of concern, which all together decreases the efficiency of OT and hence OT utilization

1.4 AIM

“To improve the Operation Theatre utilization in Soni Manipal Hospital, Jaipur.”

1.5 OBJECTIVES

The study had the following objectives:

1. To find out OT utilization rate at Soni Manipal Hospital, Jaipur.
2. To identify the bottle necks in the system, for proper and efficient utilization of Operation Theatre
3. To suggest remedial measures for improving the Operation Theatre Utilization.

1.6 METHODOLOGY AND DATA COLLECTION

The study was conducted prospectively from February 2014 to April 2014 in the operation theatre department of Soni Manipal Hospital, Jaipur. This hospital is a tertiary care hospital with 250 operational beds. The hospital runs 7 OT's including the high technology modular OT's. During the study period all inpatient and outpatient surgery cases were taken. Surgery cases were categorized into major and minor cases; major cases were those requiring the general anaesthesia while the minor cases were those requiring the local anaesthesia.

The descriptive study is done over in the operation theatres. Operation theatre utilization is studied with respect to working hours of the operation theatres, turnaround time and time taken for the procedures. Time taken for the surgery was studied by final case paper of individual patient which is maintained in the OT as final OT list. Two operation theatre lists were prepared daily one was named as pre OT list while the other was final OT list. All the patients who were listed for the elective surgery on previous day were listed in the pre OT list. While the final OT list was prepared when cases in pre OT list were fit to undergo the surgery, who had the financial clearance and who had signed the consent for the risk coverage when all these criteria were fulfilled and the surgery was performed these cases

were entered into the final list. So for identify the cancelled or rescheduled cases data from both the list were studied.

Primary data was collected to estimate operation theatre utilization from records and registers available and maintained in the OT on daily basis. For estimation of OT utilization rate total available time was taken as total working hours of the OT. To estimate time taken for the surgery and cleaning I have collected data of all seven OT on daily basis.

Total 259 patient data was taken from Feb2014 to March 2014 to study OT utilization rate. The data was collected from all seven OTs as follows.

Modular OT 1	23 Patients in each month
Modular OT 2	15 Patients in each month
Cardio thoracic OT	11 Patients in each month
Neuro OT	12 Patients in each month
Emergency OT	21 Patients in each month
Eye OT	06 Patients in each month
Genesis OT	13 Patients in each month

Number of patient in each OT was taken as total surgeries performed during Feb 2014 and then the same number of surgeries taken for the March 2014 in each OT.

To identify the bottlenecks in the system both the OT list studied on daily basis to estimate the number of cancelled cases and also rescheduled cases. Pre OT list was prepared one day prior to the surgery in which all the cases were entered without the financial clearance, consent and pre anesthetic checkup where as the final OT list was prepared at the end of the day when all surgeries were performed. Final OT list also included the surgery time as one of the heads, thus the necessary information for the purpose of calculating the theatre utilization.

To find the bottlenecks in the system whole process mapping was done and studied. The entire process starting from booking till wheel in of patient in OT was mapped form February

to March. Moreover, the cases in scheduled list and the updated list were observed to analyze the number of problematic cases. The cases were individually studied and mapped to identify the causes for the same.

1.6.1 PROCESS MAPPING

Process mapping began with, manpower available for efficient and optimum utilization of OT. Total manpower of OT department is 37 (Table 1).

Table 1: Total manpower available in OT

S. NO.	Category	Number of staff
1	OT Technician	10
2	Chief Per fusionist	2
3	Nursing staff	17
4	OT Assistant	1
5	OT Coordinator	1
6	Sweeper	2
7	Housekeeping	4
	Total	37

The manpower in OT department is sufficient as per standard to provide efficient utilization of operation theatre. However one more OT assistant can be hired.

The operating theatre (OT) complex is composed of seven operating theatres for high standard clinical care. The theatre receives multiple varieties of surgical cases extending from minor to major ones.

There are 7 OTs in the hospital. The standard operating hours are Monday to Saturday from 8:00am to 4:00pm for all the OT's. Moreover emergency cases are also conducted if need arises at any point of day.

Different OT's are individually designated for different Surgeries.

Table 2: Classification of OT by type of surgery in Soni Manipal Hospital

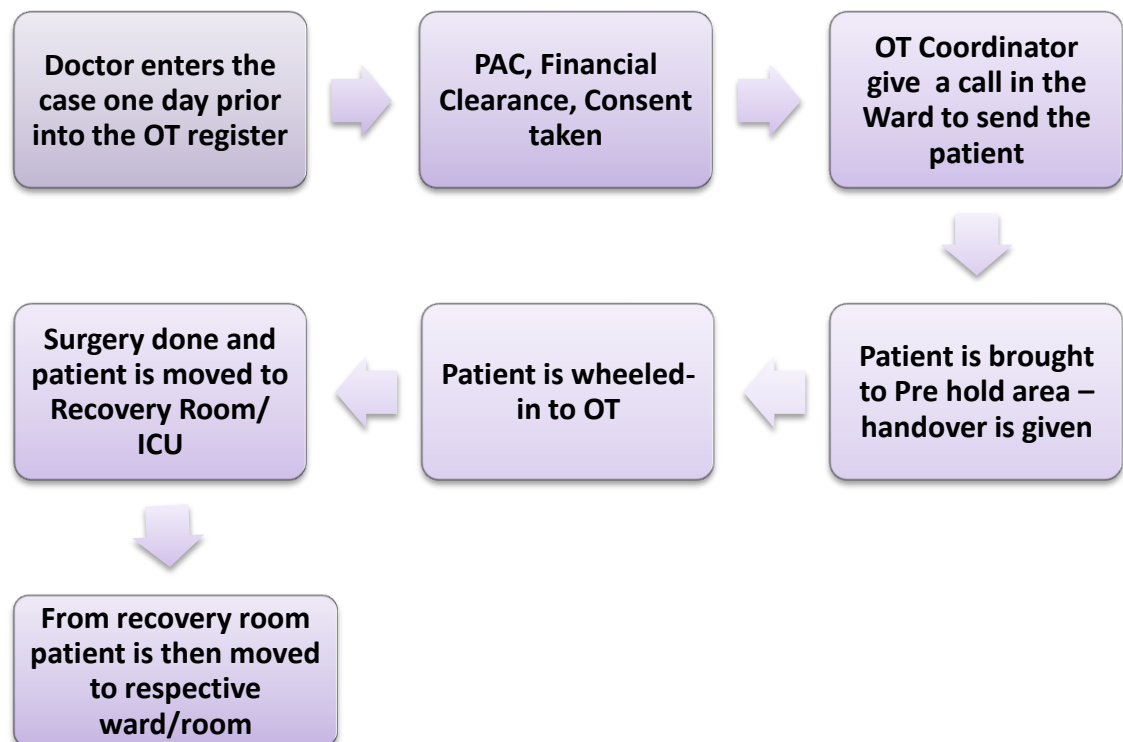
OT NUMBER	TYPE OF SURGERY
Modular OT 1	General surgery related to the removal of cyst, implantation were carried out in this OT.
Modular OT 2	General surgeries related to the abdomen, foot were carried out in this OT.
Emergency OT	All the emergency cases were operated in this OT.
CTOT	All surgeries related to the cardio and thoracic region.
Eye OT	Cataract surgeries
GENESIS	Embryo transfer, egg collection, intrauterine insemination
Neuro/ Replacement/Ortho	Neuro surgeries, total knee replacement, total hip replacement, surgery relating to bones were conducted.

1.6.2 PROCESS FLOW:

Operation theatre is booked one day prior to the surgery by the respected surgeon into the pre OT list after the proper counseling of the patient by the doctor telling him the risks associated

with not having the surgery done. Once the surgery is entered into the pre OT list the patient is asked to get admitted to the hospital one day prior to the surgery, if the patient is ECHS/CGHS (ex-servicemen contributory health scheme/central government health scheme) then he is asked to get the surgery referred and if the patient is the cash patient he is asked to deposit the surgery amount. After all this procedure is done the OT- coordinator asks the staff in the respective wards to send the patient to pre anesthetic room wherein the PAC (Pre anesthetic checkup) of the patient is done, if the patient is fit for the surgery his consent is taken and if the patient is not fit the then the patient is not counted for the surgery. After all this is done, the patient is shifted to the surgery room for the surgery. After the surgery the patient is shifted to the recovery room, from the recovery room the patient is shifted to respective ward for where he is discharged.

Figure 1: Process Flow of a surgery performed in the OT of hospital



1.6.3 OT BOOKING

After taking decision for surgery of a patient, Surgeon /doctor inform the OT co-coordinator for OT booking. OT booking register is to be filled by OT co-coordinator at the time of booking.

OT booking register contains the following head:

1. Booking date and time
2. Name of patient
3. Age/sex
4. CR. No.
5. Ward
6. Diagnosis
7. Procedure/Surgery
8. Name of the Surgeon
9. Anesthetist
10. Time of procedure
11. OT name
12. Staff name

1.6.4 CLEARANCES, INVESTIGATION AND CONSENT:

A typical surgical patient undergoes several preoperative activities that varies from physical examination, investigations, and consent taking to different clearances as PAC (Pre Anesthetic check-up), financial clearances etc. Once all these activities are completed the surgical procedure is performed.

At each activity, different stake holders are involved who contribute in the efficient scheduling of cases in Operation Theatre.

1.6.4.1 Clearances:

Mainly two clearances are needed before a patient undergoes a surgery in OT

- a) PAC (Pre-Anesthetic check-up) clearance
- b) Financial Clearance

a) PAC (Pre-Anesthetic check-up):

Prior to administration of any type of anesthesia, the patient has to be checked up by a doctor specialist-anesthesiologist who gets information on the physical and mental condition of the patient. Apart from the detailed examination, the checkup also includes getting information on all prior examination made and respective results thereof.

This is rather helpful when making the decision whether the administration of certain type of anesthesia will be contraindicated or possible after appropriate preparation made in order to optimize the patient's condition for the purpose of carrying out the surgery and administering the anesthesia. PAC is done on prior day of surgery and in case of emergency; PAC is done in the O.T.

b) Financial clearance:

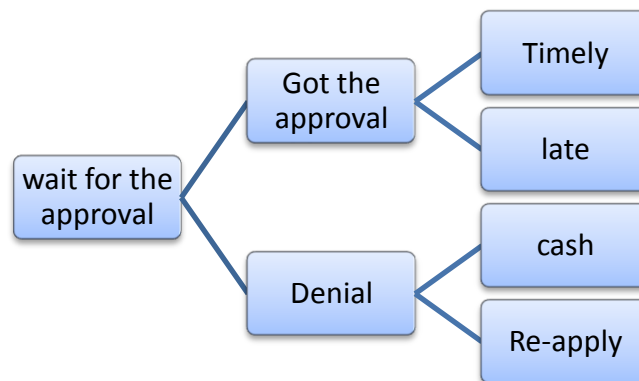
There are three categories, under which financial clearances are done.

- i. TPA patients,
- ii. CGHS/ESI patients, and
- iii. Cash patients

TPA patients:

TPA patients have to wait for their approval for getting the financial clearance. TPA cases can be preplanned or emergency cases. Ideally, surgery should be scheduled and patient should be admitted after the approval has come. In normal cases, the usual time for the approval is 15min to 6 hrs. Delayed approval can take 3 days.

Figure 2: Process flow for the TPA patients:



CGHS/ESI patients:

CGHS /ESI patients also have to bring the approval.

Cash patients:

Cash patients have to deposit the surgery amount before the admission for surgery.

1.6.4.2 Investigations:

Patients have to go undergo certain investigations before undergoing any surgery. Surgeons have to plan the surgery based upon the results of investigation report.

1.6.4.3 Consent

Prior to the surgery, consents have to be taken by the patient after explaining the need of the procedure and the risk and the complication associated with the procedure. It has to be duly signed and dated by the patient/relative and surgeon. It should be taken a day before the surgery.

1.7 DATA ANALYSIS:

1.7.1 Data analysis for estimation of OT utilization rate:

OT utilization is the quality parameter of the operation theatre which indicates that how much time the OT is being utilized for actual procedure (time taken for the procedure and the time taken for cleaning of the OT) against the total available time. For measuring the OT utilization we use one indicator that is OT utilization rate that depicts the hours for which actual OT is being utilized. It is defined as total time taken for the surgery and cleaning of OT in hours against available time in hours.

OT utilization can be calculated by the following formula:

$$\text{OT utilization rate} = \frac{\text{Total time for surgery (time out-time in) in hrs} + \text{Cleaning time in hrs}}{\text{Total time available in hrs}} \times 100$$

For the month of February,

Total available hours= 1344

Total time taken for surgery and cleaning of OT= 464

$$\text{OT utilization rate for Feb month} = \frac{464}{1344} \times 100 = 34.52\%$$

For the month of March,

Total available hours= 1456

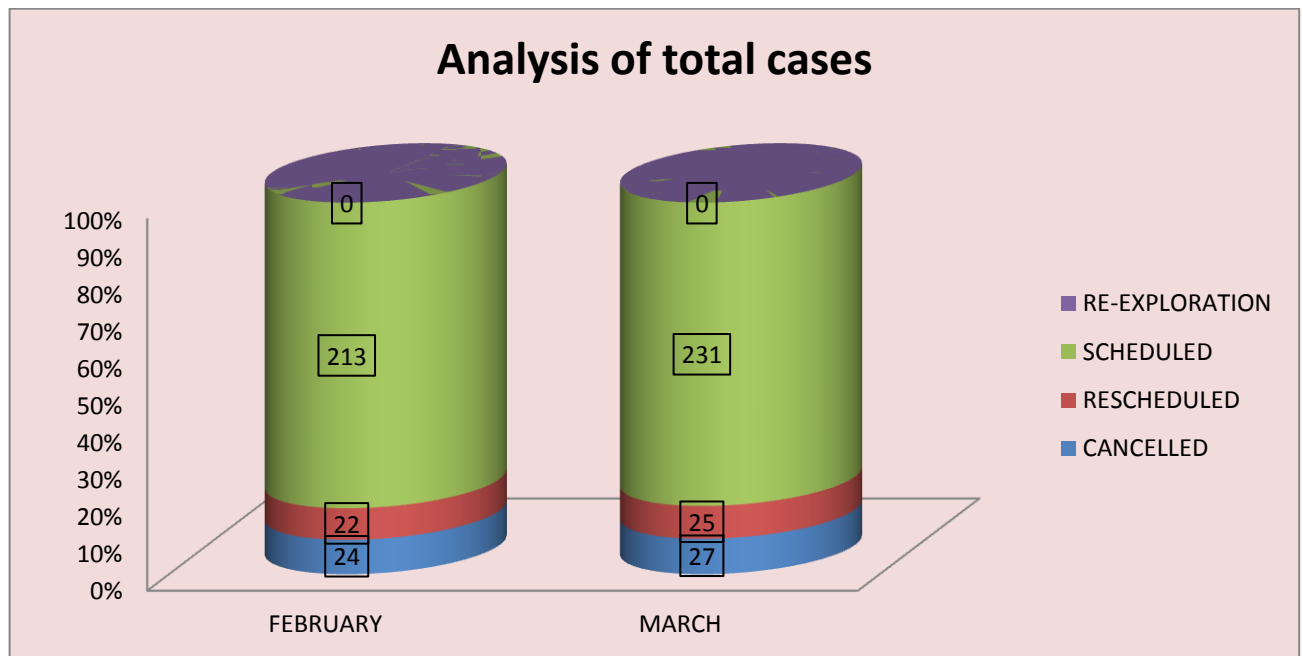
Total time taken for surgery and cleaning of OT= 473

$$\text{OT utilization rate for March month} = \frac{473}{1456} \times 100 = 32.55\%$$

1.7.2 Number of cases cancelled, re-scheduled, scheduled and re-exploration:

Figure 3 Analysis of total cases to know the pattern of cancellation and scheduling

Figure depicts that out of total 259 cases around 11% cases were cancelled who were scheduled for the procedure and around 10% were rescheduled in the month of February



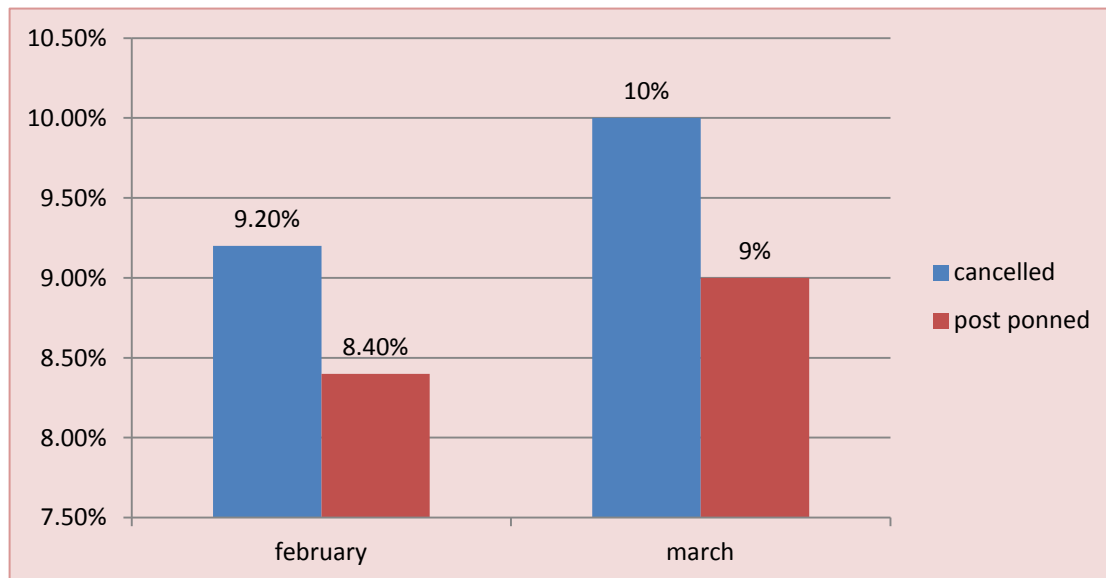
While out of 283 cases 12% cases were cancelled and approximately 11% cases were rescheduled in the month of March. After Comparison of the data for these two months states that the scheduled and cancelled cases have increased in the month of March which should rather decrease. In the analysis of data it was also found that no cases were re-explored which is major factor that contributes in enhancing the operation theatre utilization.

1.7.3 Problematic areas:

I had identified all surgery cases from the month of February and March which shows that the mostly cancellations and the re-scheduling of the cases was a major problem contributing to the operation theatre utilization. It becomes necessary to know the percentage distribution of these two areas in order to find the actual reason for the under utilization of the operation theatre.

Figure 4 : % of Surgery cases cancelled and postponed

Figure shows that there is not a much difference between February and March for the cases cancelled and postponed.



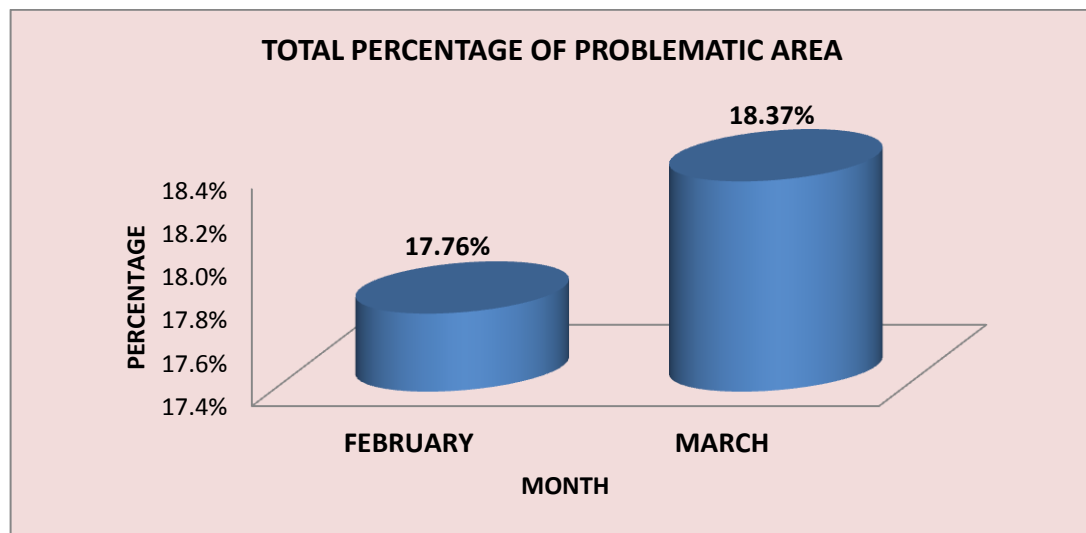
But the total cases cancelled and postponed are in significant number. In both the months it was found that numbers of cases cancelled were on higher side than the number of cases postponed.

1.7.4 Total percentage of cases being cancelled and postponed out of the total cases:

After analyzing the cancelled, postponed, scheduled and re-explored cases in the month of February and March, the total percentage of the cancelled and postponed cases was calculated this can be useful in getting the information about the operation theatre utilization.

Figure 5: Total percentage of cases being cancelled and postponed during the month

Figure Shows that number of cases cancelled and postponed in month of February was found to be 17.76% and 18.37% in the month of March.



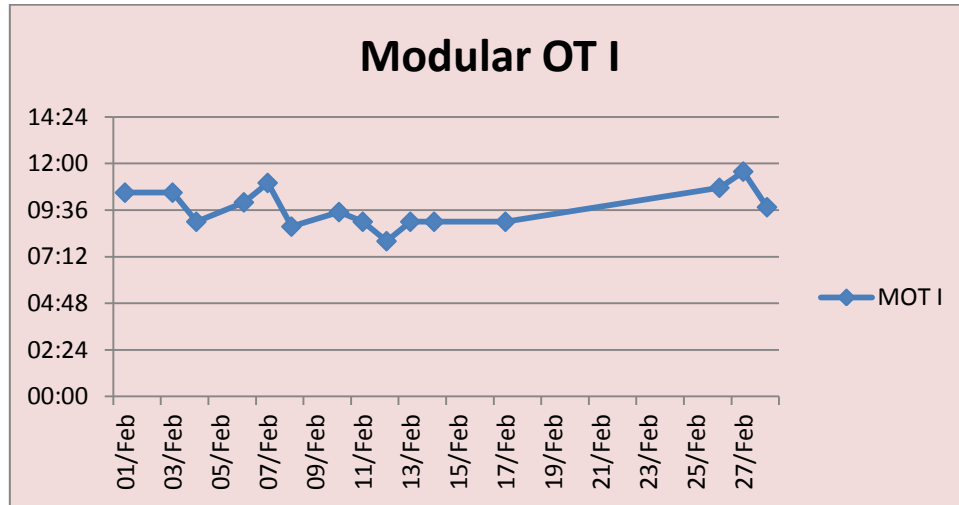
Average of these two months that is 18% is of higher concern. This shows that 18% of the cases in every month do not take place, which is a major contributing factor for under utilization of the operation theatre.

1.7.5 Data to show the time of first case (start of OT day) of different OT's for the month of February:

Data of all the cases was collected in the month of February, the start timings of the OT's were plotted on graphs to identify whether the delay in timings of OT was one of the factor contributing to the under utilization of the operation theatre.

Figure 6: Time of start of day for Modular OT-1

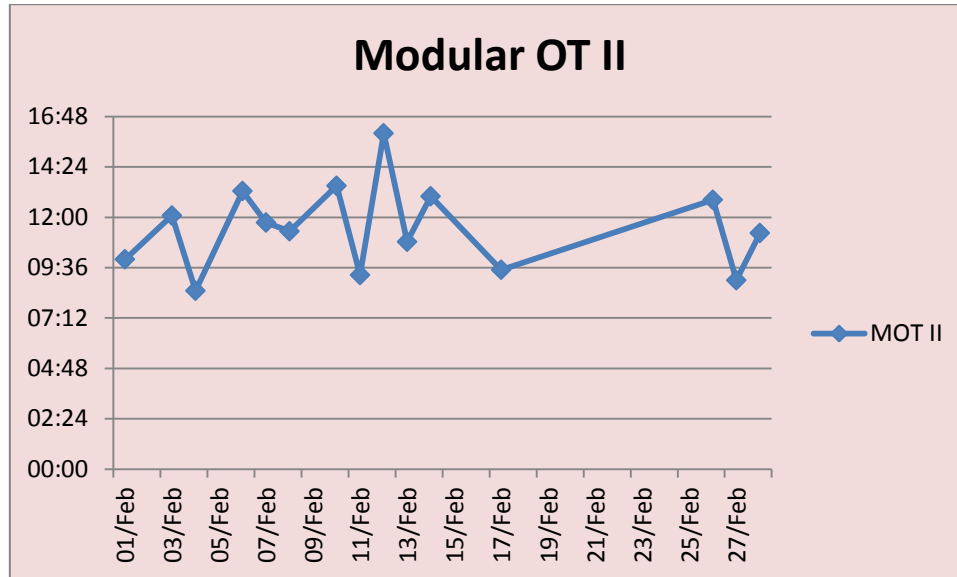
Figure depicts about the modular OT 1 that shows time of start on each working day of hospital. Time of start for each day varies drastically from 8AM to 12AM which is quite an unusual. In majority of the cases it was found that the OT starts after 8AM. Delay in the OT



cases is the major factor that contributes to the under utilization of the operation theatre. As staff timings are from 8 AM to 4PM, the OT should be used to fullest during these hours as it also caters for the under utilization of the manpower.

Figure 7: Time of start of day for Modular OT 2

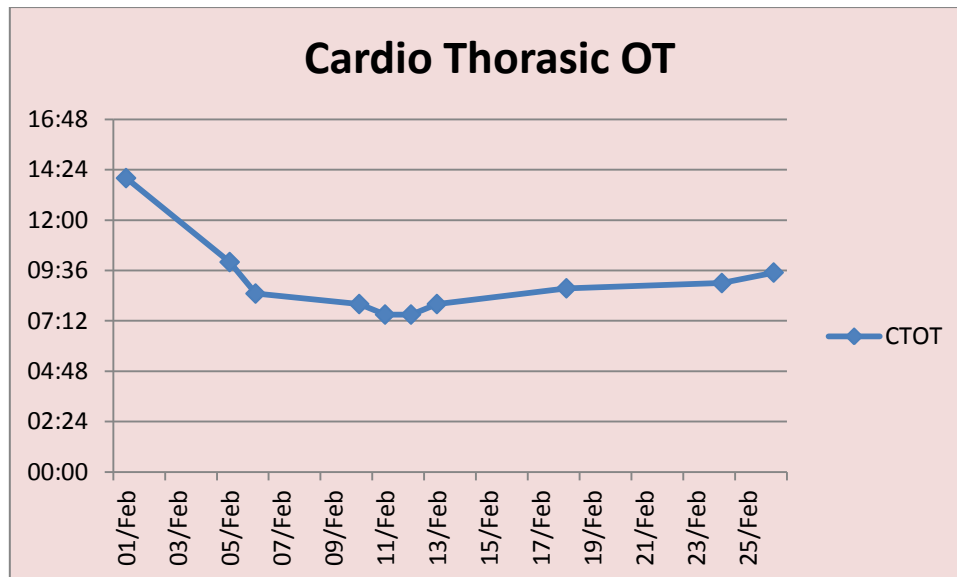
Figure shows data about Modular OT 2 and again time of start on each day varies from 8 AM to 4 PM. In Major OT II, None of the cases started on 8AM, this shows that utilization can't



be achieved to the fullest, thus the timings of the OT either have to be changed or the scheduling of the cases has to be corrected.

Figure 8: Time for start of day for Cardio Thorasic OT

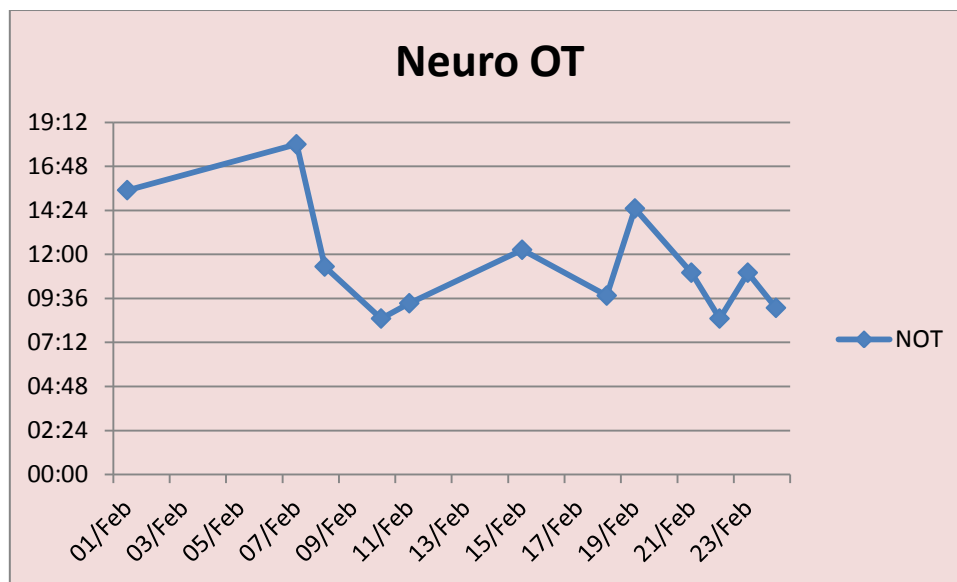
Figure 8 it shows the data for cardio thoracic OT and also in this OT time of start for each



day in February varies from 7 AM to 2.30 PM. Cardiac and thoracic region surgeries usually take longer time than any other surgery, thus scheduling of the cases at appropriate time is necessary

Figure 9: For Neuro OT

Figure 9 depicts about Neuro OT and this is also very unusual that time of start varies from 8 AM to 4 PM. Neuro surgery are usually of long duration, thus either the OT timings are to be



changed or the OT scheduling has to be corrected otherwise there would be under utilization of the resources.

Figure 10: Time of start of the day for Emergency OT

Figure 10 depicts about Emergency OT which is quite consistent in comparison to other OT

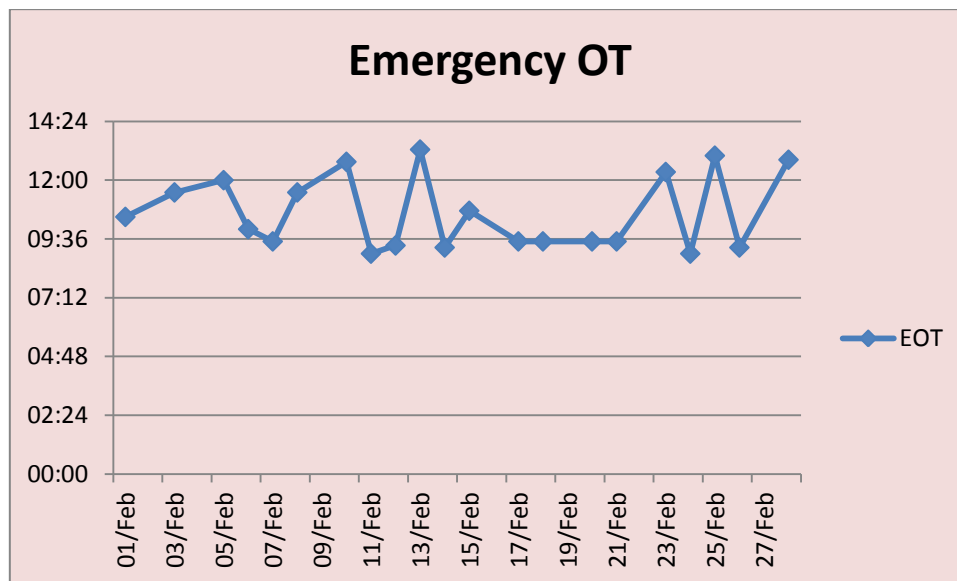
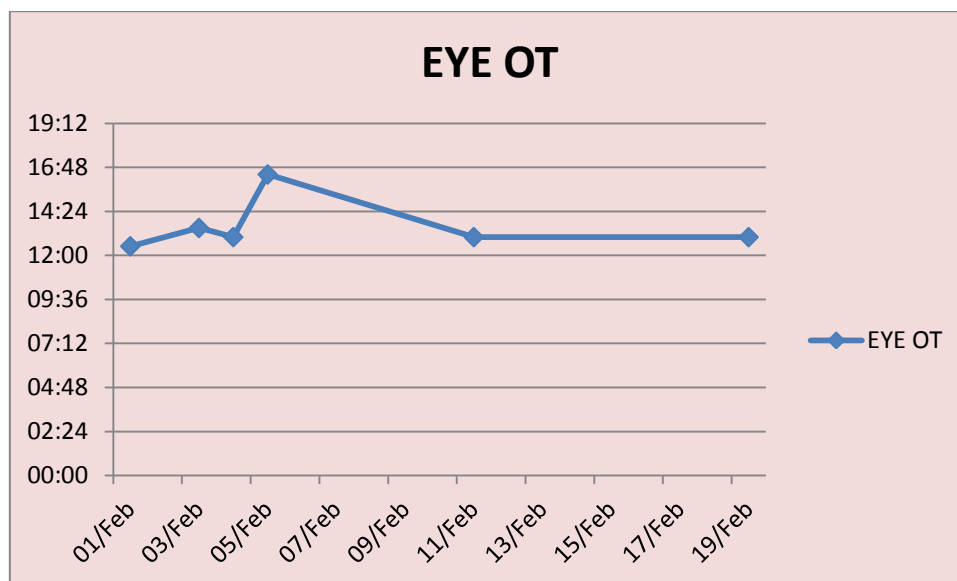


Figure but the start time varies from 9 AM to 1 PM.

Figure 11: Time of start of the day for Eye OT

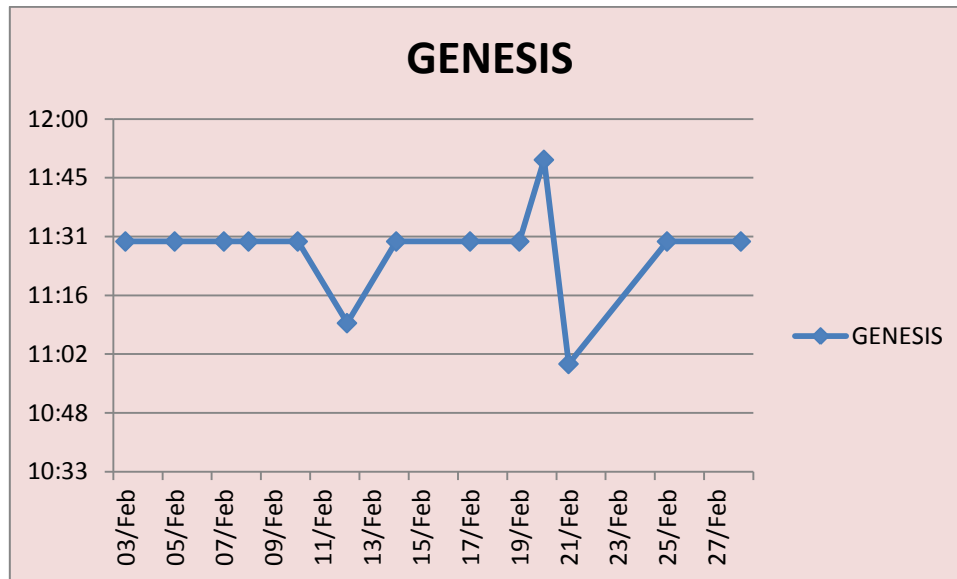
Figure 11 depicts about the eye OT which shows that all cases start after 12 noon and varies



Drastically till 4 Pm. This OT is not utilized to the fullest as there were no cases on majority of the days which shows the wastage of the resources.

Figure 12: Time for the start of the day for Genesis

Figure 12 depicts about genesis and it also shows time of start varies from 11 AM to 12 PM.



In this OT none of the cases start at 8AM, although consistency among the cases was seen as majority of them started at 11:30AM.

1.7.6 Gaps identified and analyzed:

1. In OT booking:

When a patient comes for the surgery, the doctor enters his/her name into the OT booking register. Booking register is not filled properly by some of the doctors at the time of OT booking. Surgeon book the OT for a specific date, with the name of surgery only. In most of the Bookings, rests of the details of booking register are not filled. An approximate time required for the surgery should be mentioned in the register that gives an idea to the OT coordinator for the booking of other cases.

Thus for all cases the tentative duration of Surgery is not filled and not defined, hence next case start time could not be defined for booking. No option for slot booking is available. In

some of the cases, no information is given beforehand if there is any special requirement for any case/surgery. No column for 'Infected' or 'Non Infected' cases in booking register.

2. In Clearances, Investigation and Consent:

Delay in clearances or investigation report lead to either delay or postponement of cases. This delay will alter the OT scheduled and which can affect the OT utilization rate.

PAC: After the decision of Surgery, Surgeon does not counsel the patient properly so that patient can come on time a day before for PAC and thus delays, postponement or cancellation occurs. Availability of Anesthetist and nurses on time also contribute in the process.

Financial Clearance Delay in financial clearance disturbs the whole OT Scheduling process. Various stakeholders are involved in financial clearance as patient, Relatives, Surgeon, Nurses, TPA and Insurance Companies. Delay at one end delays the whole process.

At third party administration end:

In the hospital two types of patients walk in, first type are the private patients or the cash patients who pay the cash directly at billing desk others are the TPA (Third party administration) which are the insurance companies that are empanelled with the hospital, patients have to bring their referral approved by the insurance companies one day prior to the surgery. Problems arise in the following steps which are as follows:

3. Admission of cases without approval:

In some of the cases surgeons book the OT for a patient even knowing that there are chances of late approval with the fact that patient can opt out of Surgery. Patient gets admitted without the approval and thus there is delay or postponement of cases, because of not getting the approval on time.

4. Lack of communication from doctor's end

There are delays in TPA approval due to change in the care plan. After deciding the care plan, request is sent to TPA, which they forward to Insurance Company for approval.

Doctors do not inform on time if there is change in care plan. Therefore the whole process is repeated again, which causes inconvenience to all the stakeholders and thus delay in getting the approval. Hence, there is delay / postponement of cases leading to rescheduling of cases.

5. Delay in receiving reports:

There is delay in getting TPA approval because TPA doesn't get reports on time either from the nursing station, lab or from the patients.

6. Scheduled cases are cancelled, delayed/ postponed if after reviewing the investigation report, surgeon finds the patient unfit for surgery.

7. Presold Area

There is delay in transportation of patient from ward to OT. Because of non availability of staff in wards.

1.8 CONCLUSION:

As healthcare workers we have to believe that our main responsibility is to maintain our accountability and to deal with issues with a professional point of view. This project enriched my portfolio with a success story based on a determination, understanding and implementing change where change is needed.

Describing my project it is very important to conclude its significance for me as a manager in a new role, understanding all contributing factors, exchanging ideas with people, learning new strategies, failing at times. Tackling such an important area as the operating theatre was an important decision and a challenging job since it is well known that operating theatres are the money generating areas in any private healthcare institution. Recommendations given into this area will not only improve the OT efficiency, but quality of care in general will be improved by raising the bar for better practice and enhanced communications.

Bottlenecks can be summarized as follows:

1. Cancellation of cases
2. Same day scheduling
3. Postponement of cases
4. Delay / postponement of Scheduled cases.
5. Late start of OT for the day

1.8.1 Cancellation

In majority of cases, the reason for cancellation was mainly due to high tariffs. Other reasons were cardiac clearance, patient not fit for surgery, Change of care plan as in one of the cases after MRI, cancer was not found and some cases were LAMA.

1.8.2 Same day scheduling:

Some of the Surgeons have the habit of not booking the OT before hand and thus scheduled their surgeries on the same day or according to their own convenience .

1.8.3 Postponement of cases:

Following are the reasons that were found for postponement of cases:

- TPA approval pending
- ESI approval pending
- Investigation reports pending
- Chemoport was not available
- Patient late admission
- Implant was not available

1.8.4 Delays:

Following reasons were found for the delay of cases.

- Patient late admission/delay in arrival of patient
- TPA clearance
- Same day scheduling
- Surgeon coming late
- Interpreter's availability for international patients: Interpreter's are not available at the time of PAC before surgery, which causes delays in surgery.

1.8.5 OT committee Meet:

Frequency of OT Committee meet is not defined in the OT department of Soni Manipal hospital.

1.9 RECOMMENDATIONS:

1. *OT booking*

- a. HMIS should be used to book the cases for surgery.
- b. OT should be booked one day prior to surgery till 4:00PM only.

2. *Clearances, Investigation and Consent*

- a. PAC: Once the OT booking is done till 4:00 PM, Anesthetist should make sure that the PAC is done one day prior to surgery of all the booked cases. Moreover surgeon should make sure one day prior to Surgery that PAC is done.
- b. Financial clearance
 - i. OT booking should be done after getting the TPA approval only.
 - ii. In case there is change in care plan, Surgeon is supposed to inform the patient, so that TPA could be informed for the change in care plan on time otherwise, strict action should be taken from management for the defaulters
 - iii. For timely TPA approval, investigation report should be sent to TPA on time. Nurses should send X-ray back to lab, for getting reports on time.

3. *Presold Area:* Ward boys from OT complex should be responsible for transfer of patients from wards

- 4. To avoid cancellation of case there can be charge some booking amount at the time of booking and also can give some discount on high value surgeries.
- 5. Branding of the hospital is required to increase the number of patient load of the hospital.

1.10 LIMITATIONS

1. From patient's end

There are many factors from the patient's end that cannot be controlled for avoiding the problem as delays, cancellation or postponements.

1. Late arrival of patient despite patient education and counseling.
2. Non submission of documents on time leading to late approval
3. Change in decision for having surgery

2. Resistance to Change

1. As the Surgeon's are not very much tech-savvy , It will be difficult for surgeons to acclimatize to OT- HMIS module
2. The surgeons are habitual to work according to their own convenience, therefore, adherence to protocol such as booking OT on time, on time starts, being punctual would be difficult.

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1.12 ANNEXURES:

Annexure 1

For the month of February:

PATIENT'S NAME	OT	TIME - IN(1)	TIME- OUT(2)	SURGE RY TIME(3) - (2-1)	CLEANING TIME(4)	TOTAL TIME(4+3)
1-Feb-14						
1	MOT I	10:30	11:30	1:00	0:05	1:05
2	MOT I	11:35	12:30	0:55	0:05	1:00
3	MOT I	12:35	13:45	1:10	0:05	1:15
4	CTOT	14:00	14:30	0:30	0:30	1:00
5	MOT II	10:00	11:30	1:30	0:20	1:50
6	NOT	15:30	16:10	0:40	0:20	1:00
7	EOT	10:30	12:30	2:00	0:05	2:05
8	EOT	12:35	14:30	1:55	0:20	2:15
9	EYE OT	12:30	13:30	1:00	0:15	1:15
10	EYE OT	13:45	14:45	1:00	0:20	1:20
11	MOT I	14:30	16:15	1:45	0:20	2:05
3-Feb-14						
1	MOT I	10:30	13:00	2:30	0:20	2:50
2	MOT II	12:05	13:45	1:40	0:30	2:10
3	EOT	11:30	13:30	2:00	0:20	2:20
4	EOT	14:30	18:00	3:30	0:30	4:00
5	EYE OT	13:30	14:20	0:50	0:20	1:10
6	GENESIS	11:30	11:55	0:25	0:05	0:30
7	GENESIS	12:00	12:25	0:25	0:05	0:30
8	GENESIS	12:30	12:55	0:25	0:05	0:30
9	GENESIS	13:00	13:25	0:25	0:05	0:30

4-Feb-14						
1	MOT I	11:00	13:00	2:00	0:20	2:20
2	MOT I	14:10	14:40	0:30	0:20	0:50
3	MOT II	8:30	11:45	3:15	0:30	3:45
4	MOT II	13:00	14:00	1:00	0:20	1:20
5	EYE OT	13:00	14:15	1:15	0:10	1:25
6	MOT I	9:00	10:40	1:40	0:20	2:00
5-Feb-14						
1	CTOT	10:00	13:00	3:00	0:10	3:10
2	MOT I	10:00	13:40	3:40	0:20	4:00
3	EOT	12:00	13:15	1:15	0:30	1:45
4	EYE OT	13:00	14:00	1:00	0:10	1:10
5	EYE OT	14:10	15:00	0:50	0:20	1:10
6	GENESIS	11:30	11:55	0:25	0:05	0:30
7	GENESIS	12:00	12:25	0:25	0:05	0:30
6-Feb-14						
1	CTOT	8:30	12:00	3:30	0:30	4:00
2	MOT I	11:00	13:45	2:45	0:05	2:50
3	MOT I	13:50	14:30	0:40	0:05	0:45
4	MOT I	14:50	16:45	1:55	0:30	2:25
5	MOT II	13:15	14:45	1:30	0:10	1:40
6	MOT II	15:15	15:45	0:30	0:20	0:50
7	EOT	10:00	11:00	1:00	0:20	1:20
8	EOT	14:40	17:00	2:20	0:30	2:50
7-Feb-14						
1	MOT I	8:45	13:00	4:15	0:30	4:45
2	MOT II	11:45	13:10	1:25	0:20	1:45
3	MOT II	13:50	16:00	2:10	0:30	2:40
4	EOT	9:30	11:20	1:50	0:10	2:00
5	EOT	11:30	14:00	2:30	0:30	3:00
6	EOT	14:30	16:00	1:30	0:20	1:50
7	GENESIS	11:30	12:00	0:30	0:05	0:35
8-Feb-14						

1	MOT I	9:30	11:15	1:45	0:10	1:55
2	MOT I	11:25	14:45	3:20	0:20	3:40
3	MOT II	11:20	13:35	2:15	0:10	2:25
4	EOT	11:30	13:15	1:45	0:05	1:50
5	EOT	13:20	14:30	1:10	0:10	1:20
6	GENESIS	11:30	12:00	0:30	0:10	0:40
7	NOT	18:00	22:30	4:30	0:20	4:50
10-Feb-14						
1	EOT	12:45	14:30	1:45	0:10	1:55
2	EOT	14:40	15:40	1:00	0:05	1:05
3	EOT	15:45	16:00	0:15	0:10	0:25
4	EOT	16:10	16:30	0:20	0:05	0:25
5	EYE OT	16:25	17:30	1:05	0:15	1:20
6	MOT I	9:00	11:30	2:30	0:05	2:35
7	MOT I	11:35	14:30	2:55	0:20	3:15
8	MOT II	13:30	15:00	1:30	0:30	2:00
9	NOT	11:20	16:30	5:10	0:20	5:30
10	GENESIS	11:30	11:55	0:25	0:05	0:30
11	GENESIS	12:00	12:25	0:25	0:05	0:30
12	GENESIS	12:30	12:55	0:25	0:05	0:30
13	CTOT	8:00	14:00	6:00	0:35	6:35
11-Feb-14						
1	MOT I	8:00	10:00	2:00	0:10	2:10
2	MOT I	10:10	13:00	2:50	0:20	3:10
3	MOT I	13:50	15:25	1:35	0:30	2:05
4	MOT II	9:15	11:30	2:15	0:10	2:25
5	MOT II	11:40	14:00	2:20	0:20	2:40
6	MOT II	14:45	15:50	1:05	0:10	1:15
7	EOT	9:00	13:00	4:00	0:10	4:10
8	EOT	13:15	14:15	1:00	0:05	1:05
9	EOT	14:20	15:50	1:30	0:20	1:50
10	CTOT	7:30	13:00	5:30	0:10	5:40
11	CTOT	13:10	14:00	0:50	0:20	1:10

12-Feb-14						
1	MOT I	9:00	11:50	2:50	0:10	3:00
2	MOT I	12:00	14:10	2:10	0:30	2:40
3	MOT II	16:00	20:00	4:00	0:30	4:30
4	NOT	8:30	11:30	3:00	0:20	3:20
5	GENESIS	11:10	11:40	0:30	0:10	0:40
6	GENESIS	12:00	12:30	0:30	0:05	0:35
7	EOT	9:20	12:45	3:25	0:15	3:40
8	EOT	13:00	14:00	1:00	0:20	1:20
9	CTOT	7:30	14:00	6:30	0:30	7:00
13-Feb-14						
1	MOT I	9:00	12:00	3:00	0:20	3:20
2	MOT I	12:25	14:00	1:35	0:30	2:05
3	MOT II	13:30	15:15	1:45	0:30	2:15
4	MOT II	10:50	12:00	1:10	0:30	1:40
5	EOT	13:15	14:45	1:30	0:30	2:00
6	EOT	16:00	16:30	0:30	0:10	0:40
7	NOT	9:20	15:00	5:40	0:20	6:00
8	CTOT	8:00	14:30	6:30	0:15	6:45
9	CTOT	14:45	17:30	2:45	0:30	3:15
14-Feb-14						
1	MOT I	9:00	14:30	5:30	0:30	6:00
2	EOT	15:00	17:00	2:00	0:30	2:30
3	MOT II	13:00	13:20	0:20	0:30	0:50
4	EOT	9:15	11:40	2:25	0:05	2:30
5	EOT	11:45	12:45	1:00	0:05	1:05
6	EOT	12:50	13:30	0:40	0:20	1:00
7	EOT	13:00	13:50	0:50	0:10	1:00
8	EOT	14:00	14:45	0:45	0:10	0:55
9	GENESIS	11:30	11:55	0:25	0:05	0:30
10	GENESIS	12:00	12:25	0:25	0:05	0:30
11	GENESIS	12:30	12:55	0:25	0:05	0:30
12	GENESIS	13:00	13:25	0:25	0:05	0:30

13	GENESIS	13:30	13:55	0:25	0:05	0:30
15-Feb-14						
1	EOT	12:40	14:50	2:10	0:10	2:20
2	EYE OT	13:40	14:30	0:50	0:20	1:10
3	MOT I	10:45	12:00	1:15	0:10	1:25
4	MOT I	12:10	13:40	1:30	0:10	1:40
5	MOT I	13:50	15:25	1:35	0:30	2:05
6	NOT	15:15	15:45	0:30	0:20	0:50
7	EOT	10:45	12:30	1:45	0:30	2:15
17-Feb-14						
1	EOT	9:30	12:45	3:15	0:05	3:20
2	EOT	12:50	15:45	2:55	0:30	3:25
3	MOT I	11:35	13:45	2:10	0:30	2:40
4	MOT II	9:30	12:15	2:45	0:40	3:25
5	MOT II	13:30	15:30	2:00	0:30	2:30
6	GENESIS	11:30	11:55	0:25	0:05	0:30
7	GENESIS	12:00	12:25	0:25	0:05	0:30
8	GENESIS	12:30	12:55	0:25	0:05	0:30
9	GENESIS	13:00	13:25	0:25	0:05	0:30
10	GENESIS	13:30	13:55	0:25	0:05	0:30
11	GENESIS	14:00	14:25	0:25	0:05	0:30
18-Feb-14						
1	MOT I	9:45	14:45	5:00	0:30	5:30
2	NOT	12:15	14:10	1:55	0:30	2:25
3	EOT	9:30	13:50	4:20	0:10	4:30
4	EOT	14:00	16:00	2:00	0:05	2:05
5	EOT	16:05	17:15	1:10	0:30	1:40
6	EYE OT	13:00	14:00	1:00	0:20	1:20
7	CTOT	8:45	14:00	5:15	0:40	5:55
19-Feb-14						
1	GENESIS	11:00	11:25	0:25	0:05	0:30
2	GENESIS	11:30	11:55	0:25	0:05	0:30
3	GENESIS	12:00	12:25	0:25	0:05	0:30

4	GENESIS	12:30	12:55	0:25	0:05	0:30
20-Feb-14						
1	EOT	9:30	11:15	1:45	0:25	2:10
2	EOT	11:30	15:30	4:00	0:30	4:30
3	EOT	15:45	17:00	1:15	0:30	1:45
4	GOT	9:00	10:35	1:35	0:25	2:00
5	GOT I	10:45	13:30	2:45	0:25	3:10
6	GOT I	14:00	15:30	1:30	0:30	2:00
7	GOT I	15:40	16:30	0:50	0:25	1:15
8	NOT	9:00	11:15	2:15	0:30	2:45
9	GENESIS	11:50	12:00	0:10	0:05	0:15
21-Feb-14						
1	eye OT	13:00	14:30	1:30	0:25	1:55
2	EOT	11:32	12:00	0:28	0:30	0:58
3	EOT	12:00	13:00	1:00	0:27	1:27
4	EOT	9:30	11:20	1:50	0:25	2:15
5	MOT I	13:00	14:00	1:00	0:30	1:30
6	CTOT	9:30	12:45	3:15	0:30	3:45
7	MOT I	12:45	15:10	2:25	0:26	2:51
8	NOT	9:45	14:00	4:15	0:30	4:45
9	GENESIS	11:00	11:25	0:25	0:05	0:30
10	GENESIS	11:30	11:55	0:25	0:05	0:30
11	GENESIS	12:00	12:25	0:25	0:05	0:30
12	GENESIS	12:30	12:55	0:25	0:05	0:30
13	GENESIS	13:00	13:25	0:25	0:05	0:30
14	GENESIS	13:30	13:55	0:25	0:05	0:30
15	GENESIS	14:00	14:25	0:25	0:05	0:30
16	GENESIS	14:30	14:55	0:25	0:05	0:30
22 -Feb -14						
1	MOT I	12:10	14:30	2:20	0:25	2:45
2	NOT	14:30	16:00	1:30	0:30	2:00
3	MOT I	9:30	11:30	2:00	0:20	2:20
23-Feb-14						

1	GOT I	7:00	9:15	2:15	0:25	2:40
2	EOT	12:20	14:40	2:20	0:30	2:50
3	EOT	14:45	16:30	1:45	0:25	2:10
24-Feb-14						
1	EOT	14:50	15:50	1:00	0:25	1:25
2	EOT	9:00	12:30	3:30	0:10	3:40
3	EOT	12:40	14:50	2:10	0:25	2:35
4	EOT	15:00	16:50	1:50	0:30	2:20
5	MOT I	9:00	10:30	1:30	0:30	2:00
6	MOT I	11:20	14:30	3:10	0:25	3:35
7	MOT I	14:50	16:30	1:40	0:27	2:07
8	CTOT	9:00	11:10	2:10	0:25	2:35
9	NOT	11:00	15:45	4:45	0:30	5:15
25-Feb-14						
1	EOT	13:00	14:00	1:00	0:25	1:25
2	NOT	8:30	12:30	4:00	0:30	4:30
3	NOT	1:19	17:00	15:41	0:30	16:11
4	GENESIS	11:30	11:55	0:25	0:05	0:30
5	GENESIS	12:00	12:25	0:25	0:05	0:30
6	GENESIS	12:30	12:55	0:25	0:05	0:30
7	GENESIS	13:00	13:30	0:30	0:05	0:35
26-Feb-14						
1	CTOT	9:30	10:30	1:00	0:25	1:25
2	NOT	11:00	14:00	3:00	0:32	3:32
3	EOT	9:15	13:10	3:55	0:25	4:20
4	EOT	13:15	13:45	0:30	0:27	0:57
5	MOT I	10:35	13:15	2:40	0:30	3:10
6	MOT I	13:45	15:10	1:25	0:26	1:51
7	MOT II	12:50	13:20	0:30	0:32	1:02
8	MOT I	9:35	10:30	0:55	0:35	1:30
27-Feb-14						
1	NOT	9:05	12:00	2:55	0:35	3:30
2	MOT I	9:00	12:15	3:15	0:25	3:40

3	MOT II	12:45	13:40	0:55	0:30	1:25
4	EOT	13:00	15:15	2:15	0:25	2:40
5	EOT	12:00	14:30	2:30	0:30	3:00
6	EOT	2:40	16:30	13:50	0:30	14:20
7	MOT II	9:00	12:15	3:15	0:30	3:45
8	NOT	14:15	18:00	3:45	0:25	4:10
28-Feb-14						
1	MOT I	9:30	13:00	3:30	0:30	4:00
2	MOT I	15:15	16:45	1:30	0:30	2:00
3	EOT	13:00	14:15	1:15	0:25	1:40
4	EOT	12:50	14:30	1:40	0:25	2:05
5	GENESIS	11:30	11:55	0:25	0:05	0:30
6	GENESIS	12:00	12:20	0:20	0:05	0:25
7	GENESIS	13:00	13:20	0:20	0:05	0:25
8	GENESIS	13:30	13:55	0:25	0:05	0:30
9	GENESIS	14:00	14:25	0:25	0:05	0:30
10	MOT II	11:15	13:10	1:55	0:05	2:00
11	MOT II	13:15	13:45	0:30	0:27	0:57

For the month of March:

PATIENT'S NAME	OT	TIME - IN(1)	TIME- OUT(2)	SURGE RY TIME(3) - (2-1)	CLEANING TIME(4)	TOTAL TIME(4+3)
1-Mar-14						
1	MOT I	13:00:00	15:00	2:00	0:30	2:30
2	EOT	11:30:00	13:30	2:00	0:20	2:20
3	MOT II	12:40:00	13:00	0:20	0:25	0:45
4	EOT	18:45:00	21:00	2:15	0:30	2:45
3-Mar-14						
1	CTOT	8:30:00	10:30	2:00	0:30	2:30
2	EOT	9:00:00	11:30	2:30	0:25	2:55
3	MOT II	9:00:00	9:45	0:45	0:27	1:12
4	MOT I	9:45:00	11:15	1:30	0:32	2:02
5	MOT I	12:00:00	14:00	2:00	0:20	2:20
6	MOT I	14:30:00	15:00:00	0:30	0:32	1:02
7	NOT	8:30:00	11:30:00	3:00	0:30	3:30
4-Mar-14						
1	NOT	8:30:00 AM	13:00	4:30	0:20	4:50
2	NOT	1:10:00 PM	15:00	1:50	0:18	2:08
3	MOT I	9:00:00 AM	10:35	1:35	0:16	1:51
4	MOT I	11:10:00 AM	14:30	3:20	0:21	3:41
5-Mar-14						
1	MOT I	8:45:00 AM	11:00	2:15	0:15	2:30
2	MOT I	11:30:00 AM	16:00	4:30	0:20	4:50
3	NOT	9:40:00 AM	13:30	3:50	0:20	4:10
4	MOT II	9:10:00	11:50	2:40	0:21	3:01

		AM				
5	MOT II	2:05:00 PM	14:20	0:15	0:21	0:36
6	MOT II	1:00:00 PM	14:30	1:30	0:23	1:53
7	EOT	2:30:00 PM	15:45	1:15	0:16	1:31
8	EOT	4:00:00 PM	17:10	1:10	0:16	1:26
9	Genesis	2:15 AM	2:40	0:25	0:05	0:30
6-Mar-14						
1	NOT	8:30:00 AM	11:45	3:15	0:20	3:35
2	MOT I	9:00:00 AM	11:00	2:00	0:23	2:23
3	MOT II	11:50:00 AM	12:20	0:30	0:17	0:47
4	MOT II	11:10:00 AM	13:45	2:35	0:28	3:03
5	MOT II	1:00:00 PM	14:00	1:00	0:40	1:40
6	MOT II	2:15:00 PM	15:00	0:45	0:23	1:08
7	MOT II	10:00:00 AM	12:00	2:00	0:17	2:17
8		4:00:00 PM	17:30	1:30	0:15	1:45
9		6:45:00 AM	8:25	1:40	0:15	1:55
10		12:10	1:00:00 PM	0:50	0:18	1:08
7-Mar-14						
1	NOT	9:00	11:50	2:50	0:20	3:10
2	NOT	12:00	15:28	3:28	0:21	3:49
3	MOT 2	13:10	15:20	2:10	0:23	2:33
4	MOT 2	3:40	4:50	1:10	0:23	1:33
5	EOT	5:00	6:15	1:15	0:15	1:30
6	EYE OT	1:50	2:40	0:50	0:15	1:05
7	GENESIS	10:30	11:00	0:30	0:40	1:10
8	GENESIS	13:00	13:30	0:30	0:15	0:45
9	GENESIS	13:30	14:00	0:30	0:22	0:52
10	NOT	8:20	13:00	4:40	0:25	5:05
11	GENESIS	11:30	11:30	0:00	0:31	0:31

12	GENESIS	11:30	12:00	0:30	0:20	0:50
13	DLX	14:30	16:30	2:00	0:10	2:10
14		8:30	11:30	3:00	0:05	3:05
15	PSW	13:00	14:10	1:10	0:17	1:27
16	GENESIS	12:00	12:30	0:30	0:14	0:44
17	GENESIS	12:30	13:00	0:30	0:31	1:01
18	GENESIS	10:00	10:30	0:30	0:23	0:53
19		4:15	4:40	0:25	0:22	0:47
20	EOT	3:00	4:50	1:50	0:15	2:05
8-Mar-14						
1		9:00	13:38	4:38	0:23	5:01
2		9:10	13:00	3:50	0:12	4:02
3		9:30	13:15	3:45	0:18	4:03
4		12:30	13:50	1:20	0:23	1:43
5		1:50	2:30	0:40	0:18	0:58
6		4:37	4:57	0:20	0:17	0:37
7		11:30	12:00	0:30	0:17	0:47
8		12:10	12:30	0:20	0:17	0:37
9		12:30	13:00	0:30	0:14	0:44
10		8:30	14:00	5:30	0:12	5:42
11		1:50	2:40	0:50	0:12	1:02
12		13:00	13:30	0:30	0:12	0:42
10-Mar-14						
1	CTOT	8:30:00 AM	14:00	5:30	0:16	5:46
2		1:15	2:20	1:05	0:18	1:23
3	NOT	8:45:00 AM	13:25	4:40	0:00	4:40
4	NOT	7:40:00 AM	11:30	3:50	0:00	3:50
5	NOT	2:00:00 AM	6:00	4:00	0:25	4:25
6	MOT I	9:20:00 AM	11:30	2:10	0:19	2:29
7	MOT I	11:45:00	14:00	2:15	0:15	2:30

		AM				
8	EOT	10:00:00 AM	14:20	4:20	0:16	4:36
9	EOT	2:35:00 AM	4:45	2:10	0:14	2:24
11-Mar-14						
1	Cathlab	9:00:00 AM	13:00	4:00	0:22	4:22
2	NOT	9:45:00 AM	15:30	5:45	0:14	5:59
3	MOT I	11:30:00 AM	12:30	1:00	0:16	1:16
4	EOT	9:30:00 AM	11:15	1:45	0:16	2:01
5	EOT	11:30:00 AM	13:15	1:45	0:17	2:02
6	EOT	3:00:00 PM	16:45	1:45	0:22	2:07
7	EOT	1:40:00 PM	15:00	1:20	0:13	1:33
8	Genesis	11:30:00 AM	12:00	0:30	0:22	0:52
9	Genesis	12:15:00 PM	12:45	0:30	0:22	0:52
12-Mar-14						
1	MOT I	9:15:00 AM	12:30	3:15	0:22	3:37
2	MOT I	1:00:00 PM	16:00	3:00	0:21	3:21
3	NOT	11:45:00 AM	14:54	3:09	0:19	3:28
4	MOT II	9:15:00 AM	11:15	2:00	0:22	2:22
5	MOT II	12:00:00 PM	14:24	2:24	0:21	2:45
6	EOT	10:00:00 AM	12:15	2:15	0:21	2:36
7	EOT	12:35:00 PM	14:15	1:40	0:23	2:03
8	Genesis	11:30:00 AM	12:15	0:45	0:05	0:50
9		11:20:00	12:25	1:05	0:00	1:05

		AM				
13-Mar-14						
1	MOT I	9:45:00 AM	13:00	3:15	0:20	3:35
2	MOT II	9:00:00 AM	10:20	1:20	0:14	1:34
3	MOT II	12:50:00 PM	13:15	0:25	0:16	0:41
4	MOT II	1:45:00 PM	14:30	0:45	0:14	0:59
5	EOT	10:00:00 AM	13:30	3:30	0:16	3:46
6	Genesis	11:30:00 AM	12:00	0:30	0:14	0:44
7	Genesis	12:15:00 PM	12:45	0:30	0:17	0:47
14-Mar-14						
1	NOT	9:45:00 AM	11:45:00	2:00	0:20	2:20
2	MOT I	11:30:00 AM	12:30:00	1:00	0:30	1:30
3	EOT	9:30:00 AM	11:15:00	1:45	0:20	2:05
4	EOT	11:30:00 AM	13:15:00	1:45	0:18	2:03
5	EOT	3:00:00 AM	4:45:00	1:45	0:25	2:10
6	EOT	1:40:00 AM	3:00:00	1:20	0:15	1:35
7	Genesis	11:30:00 AM	12:00:00	0:30	0:21	0:51
8	Genesis	12:15:00 PM	12:45	0:30	0:21	0:51
15-Mar-14						
1	GOT-1	9:00	9:45	0:45	0:19	1:04
2	GOT-1	10:00	11:20	1:20	0:20	1:40
3	GOT-1	11:50	13:20	1:30	0:25	1:55
4	GOT-1	14:00	16:00	2:00	0:30	2:30
5	NOT	11:00	16:00	5:00	0:17	5:17

6	GOT-2	9:00	12:00	3:00	0:15	3:15
7	GOT-2	12:00	13:00	1:00	0:28	1:28
8	EOT	9:00	10:00	1:00	0:32	1:32
9	EOT	10:30	11:50	1:20	0:23	1:43
10	genesis	11:30	12:00	0:30		0:30
17-Mar-14						
1	MOT I	9:45:00 AM	13:00:00	3:15	0:18	3:33
2	MOT II	9:00:00 AM	10:20:00	1:20	0:15	1:35
3	MOT II	12:50:00 PM	13:15:00	0:25	0:20	0:45
4	MOT II	1:45:00 AM	2:30:00	0:45	0:18	1:03
5	EOT	10:00:00 AM	13:30:00	3:30	0:13	3:43
6	MOT II	10:40:00 AM	12:15:00	1:35	0:17	1:52
7	Genesis	11:30:00 AM	11:55:00	0:25	0:16	0:41
8		1:20:00 AM	1:40:00	0:20	0:16	0:36
9	Genesis	12:15:00 PM	12:45:00	0:30	0:26	0:56
18-Mar-14						
1	MOT I	9:20:00 AM	16:25	7:05	0:19	7:24
2	MOT II	9:10:00 AM	10:30	1:20	0:22	1:42
3	MOT II	12:10:00 PM	14:25	2:15	0:12	2:27
4	EOT	10:00:00 AM	12:30	2:30	0:17	2:47
5	EOT	2:00:00 PM	16:40	2:40	0:15	2:55
6	Genesis	11:30:00 AM	12:00	0:30	0:16	0:46
19-Mar-14						
1	NOT	9:20:00	12:00	2:40	0:22	3:02

		AM				
2	NOT	2:30:00 PM	17:45	3:15	0:23	3:38
3	MOT I	9:30:00 AM	14:00	4:30	0:10	4:40
4	MOT II	2:40:00 PM	16:30	1:50	0:21	2:11
5	EOT	9:00:00 AM	11:15	2:15	0:22	2:37
6	EOT	11:45:00 AM	15:00	3:15	0:22	3:37
7	Genesis	11:30:00 AM	12:00	0:30	0:23	0:53
8	Eye OT	2:00:00 PM	15:00	1:00	0:20	1:20
9		12:30:00 PM	14:30	2:00	0:21	2:21
10		3:15:00 PM	16:10	0:55	0:23	1:18
11		4:30:00 AM	17:00	12:30	0:25	12:55
20-Mar-14						
1	MOT 1	12:00:00 PM	14:00	2:00	0:23	2:23
2		9:45:00 AM	18:00	8:15	0:12	8:27
21-Mar-14						
1	MOT I	9:00:00 AM	10:30	1:30	0:21	1:51
2	MOT I	11:00:00 AM	12:15	1:15	0:24	1:39
3	MOT I	2:00:00 PM	15:28	1:28	0:15	1:43
4	MOT II	1:00:00 PM	16:00	3:00	0:16	3:16
22-Mar-14						
1	NOT	10:20:00 AM	14:30	4:10	0:20	4:30
2	MOT I	9:25:00 AM	12:30	3:05	0:21	3:26
3	MOT II	12:15:00 PM	15:45	3:30	0:22	3:52
4	MOT II	1:15:00 PM	15:15	2:00	0:19	2:19
5	Genesis	11:30:00	12:00	0:30	0:13	0:43

		AM				
6	Genesis	12:15:00 PM	12:45	0:30	0:15	0:45
7	Genesis	1:00:00 PM	13:30	0:30	0:10	0:40
8	Genesis	1:45:00 PM	14:15	0:30	0:05	0:35
9	Genesis	2:15:00 PM	14:45	0:30	0:05	0:35
24-Mar-14						
1	CTOT	10:00:00 AM	12:50	2:50	0:20	3:10
2	NOT	10:30:00 AM	14:00	3:30	0:22	3:52
3	MOT I	9:25:00 AM	11:00	1:35	0:15	1:50
4	EOT	9:00:00 AM	12:30	3:30	0:12	3:42
5	EOT	12:50:00 PM	13:30	0:40	0:12	0:52
6	EOT	1:45:00 PM	14:30	0:45	0:20	1:05
7	MOT II	11:30:00 AM	13:30	2:00	0:20	2:20
8	MOT II	2:00:00 PM	16:00	2:00	0:11	2:11
9	Genesis	11:30:00 AM	12:00	0:30	0:06	0:36
10	Genesis	12:05:00 PM	12:30	0:25	0:05	0:30
11	Genesis	12:45:00 PM	13:15	0:30	0:08	0:38
12	Genesis	1:28:00 PM	14:00	0:32	0:04	0:36
13	Genesis	2:00:00 PM	14:30	0:30	0:05	0:35
25-Mar-14						
1	PSW	8:50:00 AM	13:10	4:20	0:10	4:30
2	PSW	2:30:00 PM	16:10	1:40	0:10	1:50
3	PSW	9:30:00 AM	10:50	1:20	0:10	1:30
4	***	3:20:00 PM	16:00	0:40	0:14	0:54
5	PSW	1:45:00 PM	16:00	2:15	0:15	2:30

6	PSW	11:40:00 AM	13:00	1:20	0:12	1:32
7	Eye OT	1:20:00 PM	13:55	0:35	0:05	0:40
8	Eye OT	2:00:00 PM	15:00	1:00	0:15	1:15
9	Genesis	11:30:00 AM	11:55	0:25	0:05	0:30
10	Genesis	12:00:00 PM	12:28	0:28	0:02	0:30
11	Genesis	12:30:00 PM	12:54	0:24	0:05	0:29
12	Genesis	1:00:00 PM	13:30	0:30	0:15	0:45
26-Mar-14						
1	PSW	9:15:00 AM	11:00	1:45	0:15	2:00
2	*****	9:15:00 AM	11:55	2:40	0:10	2:50
3	PSW	2:10:00 PM	15:38	1:28	0:09	1:37
4	PSW	12:10:00 PM	15:00	2:50	0:08	2:58
5	MG/W	9:00:00 AM	12:15	3:15	0:10	3:25
6		12:30:00 PM	13:50	1:20	0:05	1:25
7	OW	1:50:00 PM	14:30	0:40	0:07	0:47
8		2:30:00 PM	15:55	1:25	0:06	1:31
9	PSW	3:30:00 PM	15:40	0:10	0:16	0:26
10	Genesis	11:30:00 AM	11:55	0:25	0:05	0:30
11	Genesis	12:00:00 PM	12:30	0:30	0:05	0:35
12	Genesis	12:35:00 PM	12:57	0:22	0:03	0:25
13	Genesis	1:00:00 PM	13:30	0:30	0:20	0:50
27-Mar-14						
1	NOT	3:50:00 PM	16:50	1:00	0:12	1:12
2	MOT II	3:40:00 PM	16:50	1:10	0:15	1:25
3	MOT 1	3:00:00 PM	16:00	1:00	0:30	1:30

4	EOT	3:50:00 PM	17:00	1:10	0:21	1:31
5	MOT II	2:30:00 PM	15:10	0:40	0:20	1:00
6	NOT	9:50:00 AM	11:20	1:30	0:21	1:51
7	NOT	11:55:00 AM	14:40	2:45	0:19	3:04
8	MOTI	1:20:00 PM	15:35	2:15	0:15	2:30
9	EOT	1:00:00 PM	15:40	2:40	0:25	3:05
28-Mar-14						
1	NOT	9:15	11:30	2:15	0:15	2:30
2	MOT I	10:30	10:45	0:15	0:10	0:25
3	MOT I	11:00	11:30	0:30	0:10	0:40
4	GENESIS	11:30	12:00	0:30	0:05	0:35
5	GENESIS	12:05	12:35	0:30	0:05	0:35
6	GENESIS	12:40	13:15	0:35	0:05	0:40
7	GENESIS	13:25	13:57	0:32	0:03	0:35
8	ICU 2	15:00	15:30	0:30	0:20	0:50
29-Mar-14						
1	MOT I	9:30	11:30	2:00	0:10	2:10
2	MOT I	13:00	13:45	0:45	0:12	0:57
3	MOT II	12:00	13:30	1:30	0:15	1:45
4	EOT	5:00	5:40	0:40	0:17	0:57
5	EOT	9:45	11:30	1:45	0:19	2:04
6	EOT	12:40	15:45	3:05	0:12	3:17
31-Mar-14						
1	MOT I	10:00	12:15	2:15	0:05	2:20
2	MOT I	13:00	14:45	1:45	0:10	1:55
3	EOT	10:30	13:30	3:00	0:20	3:20
4	Genesis	11:30	12:00	0:30	0:05	0:35
5	Genesis	12:05	12:35	0:30	0:10	0:40

