EVALUATING THE EFFECTIVENESS OF INTERNATIONAL PATIENT SAFETY GOAL 4: ENSURING SAFE SURGERY AT ARTEMIS HOSPITAL

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The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

By

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Under the Supervision and Guidance of

Dr J. P. Singh

2024

Dated: 26th June, 2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Reena Roy Sharma** has successfully completed her internship in the Department of Quality & Systems, Gurugram from 27th March, 2024 till 26th June, 2024.

During this internship, she was found to be sincere and hardworking.

We wish her all the best for future.

For Artemis Medicare Services Ltd,

Flt. Lt. Saras Malik

(Chief People Officer)

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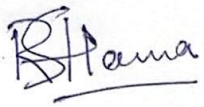
DECLERATION BY STUDENT

I hereby declare that this dissertation titled **"Evaluating the Effectiveness of International Patient Safety Goal 4: Ensuring Safe Surgery at Artemis Hospital."** bonafide record of my original research work. I declare that it has not been submitted to any other university or institute for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



(Signature)
Dr. Reena Roy Sharma
Date: 4-07-2024

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that the dissertation titled **"Evaluating the Effectiveness of International Patient Safety Goal 4: Ensuring Safe Surgery at Artemis Hospital."** is a record of the research work undertaken by Dr. Reena Roy Sharma in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

Jagjeet Pramd Singh

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IIHMR University, Jaipur
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Dr.Sanjay Gupta
School Dean
IIHMR University , Jaipur
Date

ABSTRACT

Background

The main objective of this study is to "ENSURE SAFE SURGERY" of the International Patient Safety Goals during surgical procedure in Operation Theatre with WHO surgical checklist and to identify the gaps.

OBJECTIVE

1. To study the existing compliance of International *Patient Safety Goal 4 (**Ensure Safe Surgery**)* in Artemis multi-specialty hospital.
2. To identify the gaps in IPSG-4 compliance with the help of audits.
3. To suggest improvement measures for the gaps that has been identified on IPSG 4.

METHODOLOGY

The study area was the Artemis Hospital, Gurgaon. Study was done from 1st April to 31st May, 2024. The data was collected from 1st April 2024 to 31st May, 2024. The study samples size from April to May is 150. About 100 sample size is of healthcare professionals which include 30 Surgeons, 30 Nurses, and 30 Anesthesiologist's, **5** physicians and 5 hospital administrators, for conducting the assessment of staff knowledge were collected and 50 sample size is collected on IPSG-4 effectiveness during surgical procedure in ARTEMIS Hospitals using surgical checklist.

This study will make use of Quantitative methodologies to evaluate the effectiveness of IPSG 4 at Artemis Hospital

Simple Random sampling techniques will be used to select participants.

The study type was observational study. The Primary Data was collected through

- Review of patient medical records (**Pre-Operative check list, Surgical Safety checklist and Intra-Operative Nursing record**)
- Observation of Sign In, Time Out, Signout and protocols during surgical

procedure in Operation Theatre**.**

- Staff interview to assess awareness on surgical safety protocols.

The study covered areas: Cardiac OT, Neuro OT, Ortho OT, General OT, Major OT (Gynae surgery), and the procedures performed outside the OT the area includes: Endoscopy, ICU and Dental

The study approach takes to ensuring correct-site, correct-procedure, and correct-patient surgery applies to the areas in which surgical and invasive procedures occur because these areas are designated for surgeries and invasive operations. Some of the practiced approach is outlined according to The (US) Joint Commission's Universal Protocol for Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery.

- "WHO Surgical Safety Checklist is instrumented by the World Alliance for Patient Safety and included nations with tens of millions of people having access to surgical care out of the overall global population." The checklist has three parts: These are i) Sign In, ii) Time Out, and Sign Out. The following are defined with the aspects of checklist with regards to vital or essential processes;
- marking the surgical site and a preoperative verification process done during Sign In;
- a Time-Out that is performed shortly before the begining a procedure, before incision
- Sign Out which is held before suture of the surgical procedure.

RESULTS

During the study, Currently, Artemis Multi-Specialty Hospital achieves at 90% and above compliance rate for "Sign In", 80% compliance rate for "Time Out" and 10% for "Sign Out" with IPSG 4 (Ensure Safe Surgery). It is hence noted that, frequent audits be conducted to identify compliance gaps, and specific improvement initiatives be proposed to address these issues.

Conclusion

Safety of patients is one of the cardinal values in the delivery of health care services., and the execution of IPSG 4 plays a critical role in protecting patients throughout surgical procedures. By focusing on the correct site, correct method, and correct patient surgery, IPSG 4 seeks to reduce serious surgical errors, strengthen communication and teamwork, and foster a culture of safety inside healthcare organizations. Adherence to IPSG 4 is crucial for ensuring that surgical care is safe, effective, and aligned with the highest standards of patient safety.

KEYWORDS:

Patient Safety, Surgical Procedures, Healthcare Compliance, WHO Surgical Checklist, International Patient Safety Goal 4 (IPSG 4), Quality Healthcare, Healthcare Audits, SIGN IN , TIME OUT , SIGN OUT , IPSG4

ACKNOWLEDGEMENT

I want to start by sincerely thanking my mentor, Dr. Jagjeet Prasad Singh, for his advice, knowledge, and vital support throughout the entire study process. Their advice, criticism, and support have been crucial in helping me refine this dissertation and push myself to do my best.

I express my deepest appreciation to Dr. Avik Sharma (Divisional Manager of Quality Department), at The Artemis Hospital, Gurgaon for the unwavering support, invaluable guidance and advice. Their expertise and dedication have instrumental in shaping the direction and quality of this dissertation.

Also I would like to express my gratitude to the doctors, nurses and staffs whose cooperation was invaluable during the data collection phase.

I am appreciative of the academics, personnel, and corporate project team at Artemis Hospital for giving me access to the required materials and a favorable research atmosphere. Their commitment to academic excellence is incredibly motivating.

I owe a debt of gratitude to my family and friends for their unflagging support, compassion, and encouragement during this trying path. They have been a constant source of inspiration because of their love, tolerance, and faith in me.

Additionally, I would like to express my gratitude for the support and assistance I have gotten from my colleagues and fellow researchers, who have offered insightful conversations, ideas, and chances for collaboration. Their advice has helped me see things more broadly and improved the quality of this job.

I want to thank Dr. PR Sodhani Sir (President of Indian Institute of Health Management Research, IIHMR University-Jaipur) for providing me with this wonderful opportunity.

Finally, I would like to express my sincere gratitude to everyone who has helped me progress personally and academically. Your advice, counsel, and encouragement have made a big difference in my journey.

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ABBREVIATIONS

WHO	World Health Organization
IPSG	International Patient Safety Goals
JCI	Joint Commission International (JCI)
OT	Operation Theatre
ICU	Intensive Care Unit
IP	In Patients
OPD	Out Patients Department

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ABOUT ARTEMIS HOSPITAL GURGAON.

Established in 2007 with 550+beds, Artemis Health Institute stands as a hallmark of pioneering healthcare excellence, initiated by the visionaries behind the Apollo Tyres Group. Since its inception, Artemis has redefined healthcare paradigms, setting unprecedented milestones that resonate with unwavering commitment and groundbreaking achievements.

A trailblazer in the healthcare landscape of Gurgaon, Artemis Health Institute scripted history by becoming the first hospital in the region to receive accreditation from the prestigious Joint Commission International (JCI) in 2013. This remarkable feat underscored Artemis's unwavering dedication to global standards of quality, patient safety, and exceptional healthcare delivery.

Moreover, Artemis Health Institute emerged as the first hospital in Haryana to achieve accreditation from the National Accreditation Board for Hospitals & Healthcare Providers (NABH) within a mere three years of its inception. This remarkable achievement showcased Artemis's relentless pursuit of excellence, setting a new benchmark for quality healthcare in the region.

At Artemis the journey spans have been marked by a dogged determination to incubate one of the kind healthcare organization which in essence is an institution for patient care, technology and medical research that is avant-garde. Artemis has indeed carved out a niche for itself as a vision in transformed health care solutions based on the hospital’s infrastructure, Satellite technology and its team of superior order health care professionals.

Beyond accolades, Artemis Health Institute is renowned for its comprehensive range of specialized medical services spanning cardiology, oncology, orthopedics, neurology, and more. The institution's legacy of excellence is grounded in a culture deeply rooted in patient well-being, comfort, and swift recovery, ensuring a holistic approach to healthcare.

Artemis Hospital's legacy is not merely a story of accreditations but an odyssey marked by a relentless pursuit of pioneering healthcare, compassionate healing, and preventive wellness.

Every achievement, every milestone, underscores the institution's unwavering dedication to ensuring the high standards of patient care, technological innovation, and compassionate healing.

CENTRE OF EXCELLENCE AT ARTEMIS HOSPITAL GURGAON.

- Artemis Emergency & Trauma Centre
- Artemis Heart Centre
- Artemis Cancer Centre
- Artemis Neurosciences Centre
- Artemis Joint Replacement & Orthopaedics Centre
- Artemis Minimally Invasive & Bariatric Surgery Centre
- Artemis Transplant Centre (Liver, Kidney, Cornea & Bone Marrow Transplant)
- Artemis Women & Child Centre
- Artemis Pulmonology & Critical Care Centre
- Artemis Gastro sciences Centre
- Artemis Cosmetology & Plastic Surgery Centre
- Artemis Pain Medicine & Palliative care.

VISION

To create an Integrated World Class Healthcare System, Fostering, Protecting, Sustaining and Restoring Health through Best in Class Medical Practices and Cutting Edge Technology developed through in depth Research carried out by the World's Best Scientific Minds.

Core Values:

The corporate value system at Artemis is founded on three pillars – Service, Compassion and Integrity.

- Respect for Associates
- Care for Customers

- Excellence through Teamwork
- Always Learning
- Trust Mutually
- Ethical Practices
- Mission
- Deliver world class patient care services
- Excel in the delivery of specialized medical care supported by comprehensive research and education
- Be the preferred choice for the world ' s leading medical professionals and scientific minds
- Develop, apply, evaluate and share new technology
- Be an active partner in local community initiatives and contribute to its well-being and development.

Artemis Hospital has other branches too in Gurgaon:

- Daffodils by Artemis Hospitals.
- Artemis Lite - 82A.

CODE OF CONDUCT IS STRICTLY MAINTAINED IN ARTEMIS HOSPITAL.

RESEARCH TOPIC

"Evaluating the Effectiveness of International Patient Safety Goal 4: Ensuring Safe Surgery at Artemis Hospital."

Chapter- 1

INTRODUCTION

Introduction to Patient Safety and IPSG 4

Patient Safety: A Fundamental Aspect of Healthcare

- Quality is not negotiable in any medical practicing facility and is accentuated on the protection of patients from harm when receiving their healthcare. The World Health Organization (WHO) defines patient safety as "the prevention of errors and adverse effects to patients associated with health care." Ensuring patient safety involves a systematic strategy that includes efficient communication, adherence to best practices, ongoing monitoring, and the application of safety regulations. (World Health Organization. 2019) [1].

International Patient Safety Goals (IPSGs)

- In response to the need for improved patient safety, the JCI developed the IPSGs. These goals are aimed at the specific concerns in patient safety since they act as a guideline to be followed by the hospitals and other healthcare facilities. The IPSGs aim to promote specific improvements in patient safety and provide evidence-based solutions to common safety issues. (Joint Commission International. (2020) [2]

Figure 1 IPSG

IPSG 4: Ensure Correct-Site, Correct-Procedure, Correct-Patient Surgery

- Among the various IPSGs, specific emphasis is placed on the IPSG 4 that applies to surgeries by firstly, checking that the right site is operated on; secondly, that the right operation is conducted; and thirdly, that the correct patient is operated on. Surgical mistakes, segregating them into wrong-site surgery, wrong procedure on a correct site, or wrong-patient surgery, are preventable adverse events that, if they happen, may cause the patient irreversible harm, or even death.
- These errors are entirely preventable with proper protocols and checks in place.(Joint Commission International. (2020) [3] .

Importance of IPSG 4

Preventing Serious Surgical Errors

IPSG 4 aims to eliminate wrong-site, wrong-procedure, and wrong-patient surgeries through systematic verification processes. These errors can have catastrophic consequences for patients, causing unnecessary suffering, prolonged recovery, and additional surgical interventions. Preventing these errors is paramount to ensuring patient safety.

Enhancing Overall Patient Safety

Implementing IPSG 4 directly contributes to improving patient safety by minimizing the risk of surgical errors. This goal requires healthcare providers to adhere to rigorous verification and documentation processes, ensuring that every surgical procedure is conducted safely and accurately.

Promoting Standardized Procedures

IPSG 4 encourages the standardization of preoperative verification, site marking, and time-out procedures across all surgical teams. Standardization reduces variability and ensures that all healthcare providers follow the same high standards, leading to consistent and safe surgical practices.

Building Patient Trust

Patients who are aware of and involved in the safety protocols surrounding their care are more likely to trust their healthcare providers. By implementing IPSG 4, healthcare institutions demonstrate their commitment to patient safety, fostering trust and satisfaction among patients.

Enhancing Communication and Teamwork

The time-out procedure mandated by IPSG 4 ensures that the entire surgical team communicates effectively before commencing surgery. This collaborative approach helps prevent misunderstandings, ensures that all team members are informed, and reinforces a culture of safety and accountability.

Supporting Legal and Ethical Standards

Adhering to IPSG 4 helps healthcare providers fulfil their legal and ethical obligations to avoid causing harm to patients. Compliance with these safety protocols not only protects patients but also reduces the risk of legal action and enhances the institution's reputation.

On surgical safety checklist

On the surgical safety checklist On June 25, 2008, the World Health Organization (WHO) disclosed the Second Global safety of patient safety Challenge: Systematic continuing education and a start

were made to implement the “Safe Surgery Saves Lives” initiative and announced the “WHO Surgical Safety Checklist. ” The problems that the checklist aims to identify are those occurring in the actions that are done to support a surgery patient and leads to an injury. The ‘‘WHO Surgical Safety Checklist’’ was designed by the World Alliance for Patient Safety. It was trail tested in 8 hospitals on four continents including university of Washington. This creates awareness that the endorsements have covered nations that offer surgical care to 75 percent of the global population. The checklist contains three parts: The operations can be divided into three basic categories; (1) Sign In, (2) Time Out, and (3) Sign Out. In this case, each component consists of five to seven items that the operating team requires to look at. On this it was focused and mentioned that globally 234 million surgeries are performed each year – one for every twenty-five people. Out of these, about 7 million end up being complicated. It has been found that concerning half of the cases are potentially avoidable. The surgical safety checklist is to prevent or minimize the aforementioned potential outcomes.[10]

WHO SURGICAL CHECKLIST

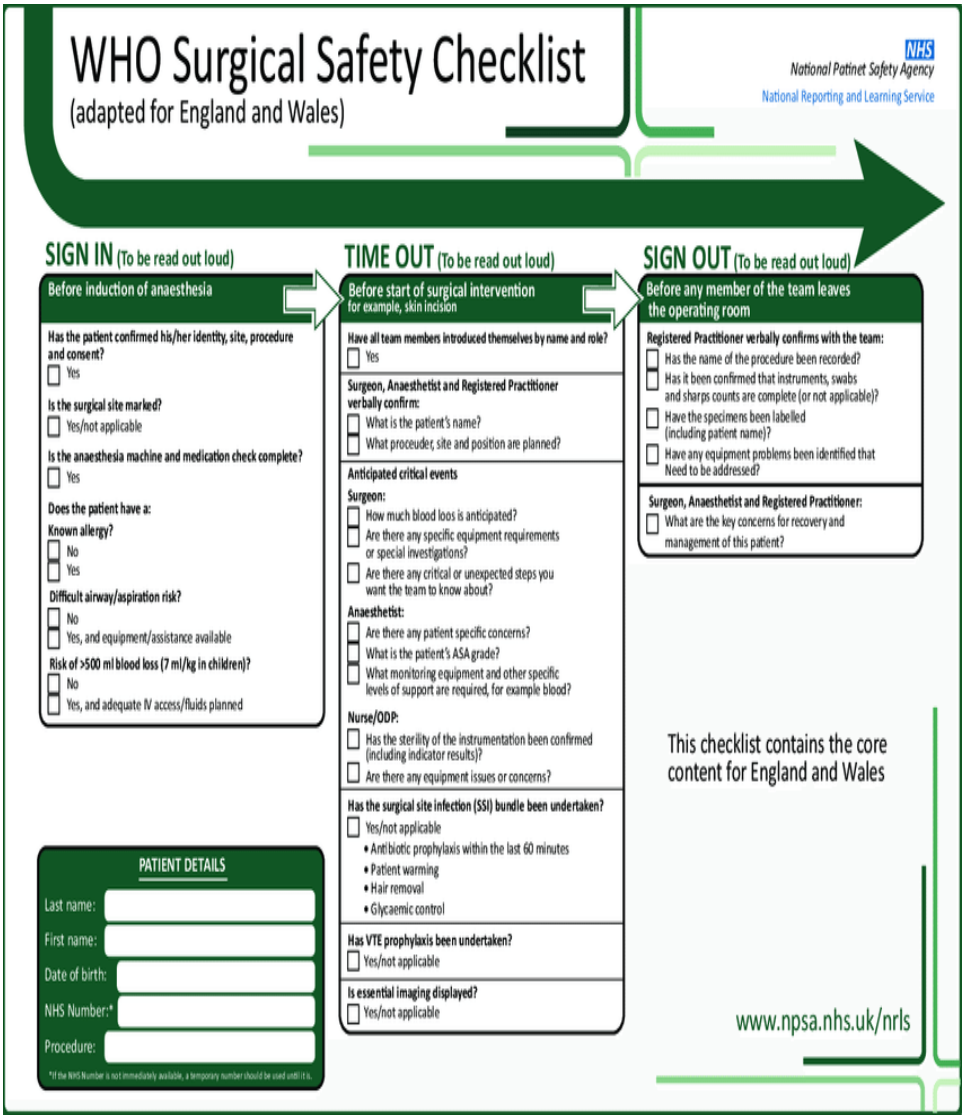

Figure 2 Surgical safety checklist

The following data showed that before using the checklist the 8 pilot hospitals had the complication rate of 11%, and 64% of patients did not receive one or more of six safe surgical practices. It was found that after the postoperative use of the surgical safety checklist in the first thousand patients, the proportion of patients who did not receive one or several of six safe surgeries decreased by half and amounted to 32%.

AIM

The main aim of this study is to evaluate the current adherence to IPSG 4 (Ensure Safe Surgery) at Artemis Multi-Specialty Hospital and to identify any gaps in compliance by using the WHO surgical checklist.

Research Gap

Even though IPSG 4 is extremely important, not much research has been done to assess how well it performs in particular healthcare settings like Artemis Hospital. For surgical operations to improve safety of patient, it is essential to recognize the current levels of compliance, identify any gaps, and design measures to strengthen adherence to IPSG 4.

Rationale

The main objective of International Patient Safety Goal (IPSG) 4, "Ensure Safe Surgery," is to improve overall patient outcomes by lowering the risks related to surgical procedures.

The goal is to prevent surgical errors, which are serious problems that include wrong-site, wrong-procedure, and wrong-patient procedures. Implementing guidelines such as the WHO Surgical Safety Checklist can dramatically lower these mistakes by guaranteeing that surgical teams confirm vital information prior to, during, and following surgery [4]

Research Question:

1. What is compliance percentage for the sign in, time out and sign out process?
2. What are the Gaps during related to surgical procedures?
3. How the errors can be mitigated through improved safety protocols?
4. What strategies can be employed to enhance compliance with surgical safety protocols among surgical team members, including Surgeons, Nurses, and Anaesthesiologists?

OBJECTIVE

1. To study the existing compliance of IPSG 4 ***(Ensure Safe Surgery)*** in Artemis multi-specialty hospital.
2. To identify the gaps in IPSG-4 compliance with the help of audits.
3. To suggest improvement measures for the gaps that has been identified on IPSG 4

POLICY REFERENCE: "To establish uniform process to ensure correct site, correct procedure & correct patient, thereby to prevent errors and to improve patient safety."

Chapter-2

REVIEW OF LITERATURE

Author	Title	Study Location	Sample Size And Technique	Salient Features
R. Ananya , Sagarika Kamath , Ashalata Pati , Amrita Sharma , Aswathi Raj , Biju Soman, Rajesh Kamath	A Study on Adherence to International Patient Safety Goals in a Tertiary Care Cardiac Centre in India	Tertiary Care Cardiac Centre in India	Total sample size of 306. Cross-sectional study, stratified sampling method was used	The information was primarily sourced. The data was collected through audits and interviews with hospital staff directly involved in patient care. Doctors included in the sample were surgeons, anesthesiologists, consultants, junior doctors, nurses (shift in charge, floor in charge, cath lab, OT, radiology, ward, and OPD nurses), and paramedical staff like physiotherapists, radiologists, ECG and TMT technicians, and technicians in the procedure and the blood bank. Goal 4: Ensuring Correct-patient, Correct-procedure, and Correct-site of Surgery Staff was assessed for their adherence toward

				this goal, which looked at how a time-out process was conducted before any surgical procedures. This time-out procedure will make sure that the right patient, procedure, and site are documented before entering the operating theatre and catheterization labs. Full compliance was seen in doctors and nurses in these settings; the goal does not apply to paramedical staff..[5]
Dr. Vijayarajakumar, Vice Principal, Chithirai College of Nursing, Madurai; Abraham Sumi P., OT Nurse, Apollo Hospitals, Madurai	Perspectives on Surgical Patient Safety at Operation Theatre	The research involved collaboration between academic and healthcare professionals from Chithirai College of Nursing and Apollo Hospitals in Madurai, Tamil Nadu	Sample size is not mentioned in article	The research article "Perspectives on Surgical Patient Safety at Operation Theatre" by Dr. Vijayarajakumar and Abraham Sumi P. focuses on the critical aspects of enhancing patient safety in surgical environments within Madurai's medical facilities. The study underscores the necessity of stringent safety protocols to mitigate risks and improve outcomes in surgical procedures, providing insights from professionals in the field. The conclusion emphasizes the

				importance of continuous improvement and adherence to safety standards to ensure the welfare of patients during surgeries.[6]
Clarke, John R. MD*†; Johnston, Janet MSN, JD†; Finley, Edward D. BS†	Getting Surgery Right	hospitals and ambulatory surgical centers		Wrong-site surgeries, especially wrong-side surgeries, occurring regularly with the presence of formal site verification.. A large number of errors happen prior to the time-out; others continue even after the verification process. Surgeons' strongest allies are patients and nurses. Verification must take place several times before to the incision, beginning with the consent.Common errors were patient positioning, anesthetic interventions prior to any scheduled time-out process, failure to confirm consents or site markings, and improper time-out procedure, which led to the beginning of wrong-site surgery 20, 29, 22, 16, and 17 times, respectively. The surgical surgeons' actions were a factor in 92.

				Notably, patients, circulating nurses, and confirming consents were useful sources in preventing wrong-site surgery. This report showed a surprising fact that "wrong" operation was not stopped by 31 official time-out procedures.[7]
Amer Kamal Hussain, Muhammad Maaz Kakakhel, Muhammad Farhan Ashraf, Muhammad Shahab, Fahad Ahmad,corresponding author Faizan Luqman, Mahmood Ahmad, Ayman Mohammed Nour, Giustino Varrassi, and Satish Kinger	Innovative Approaches to Safe Surgery: A Narrative Synthesis of Best Practices	(Article)	Sample size is not mentioned in article.	The article describe a comprehensive review of best practices for safe surgery in the modern, ever-changing environment. It examines a wide range of new approaches, including technology, patient-centered care, and global perspectives. The review analyzes how these methods work together to create a culture of safety, improve surgical accuracy, and reduce complications. It emphasizes the importance of various factors like patient involvement, cutting-edge technology, and quality improvement programs.[8]

Annika Sandelin and Birgitta A Gustafsson	Operating theatre nurses' experiences of teamwork for safe surgery	Sweden Hospital	Total sample size 16. Qualitative descriptive design using narrative interviews	The study explored how operating room nurses in Sweden view teamwork's role in safe surgery. Nurses highlighted the importance of collaboration, clear communication, and familiarity with colleagues' skills for successful surgery. Conversely, factors like short briefings, unfamiliarity with team members, and unprofessional behavior were seen as threats to patient safety. The nurses also mentioned using various strategies to address challenging situations and ensure a safe environment.[9]

Chapter – 3
METHODOLOGY

Purpose: To lay out the method for proper identification and verification of the correct patient, operation, site and side.

Scope of study:

The study seeks to review current surgical safety protocols, procedures, and practices to determine their alignment with IPSG-4 standards by assuring right-site, right-procedure, and right-patient, refers to the location in which surgical and invasive operations performed.

For Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery at Artemis Hospital.

Research Question:

1. What is compliance percentage for the sign in, time out and sign out process?
2. What are the Gaps during related to surgical procedures?
3. How the errors can be mitigated through improved safety protocols?
4. What strategies can be employed to enhance compliance with surgical safety protocols among surgical team members, including Surgeons, Nurses, and Anaesthesiologists?

STUDY DESIGN:

This study will utilize quantitative approaches to identify the gaps in compliance of IPSG 4 at Artemis Hospital.

SAMPLING TECHNIQUE

Sampling Technique used is Simple Random sampling techniques.

STUDY TYPE

The research study type was observational study. The Primary Data was collected through

- Review of patient medical records (**Pre-Operative check list, Surgical Safety checklist and Intra-Operative Nursing record**)

- Observation of Sign In, Time Out, Sign out and protocols in surgical procedure inside Operation Theatre**.**
- Staff interview to assess awareness on surgical safety protocols.

SETTING OF THE STUDY :

This survey was conducted at Artemis Hospital, Gurugram which is Established in 2007 with 550+beds, tertiary care multispecialty hospital, Artemis Health Institute stands as a hallmark of pioneering healthcare excellence, initiated by the visionaries behind the Apollo Tyres Group. The study was conducted under the guidance of the Head of the quality department of the hospital spanned from March 01 to April 31.

Inclusion criteria : All areas in which surgical and invasive procedures occur Cardiac OT, Neuro OT, Ortho OT, General OT, Major OT (Gynae surgery), and the procedures performed outside the OT the area includes: Endoscopy, ICU, Dental,

Exclusion criteria: Bone marrow aspiration, knee Aspiration, wards (area where IPSG4 isn't applicable).

Study population:

The study population will consist of healthcare professionals, including surgeons, nurses, anesthesiologists, physicians, and hospital administrators, who are involved in surgical and invasive procedures.

Study tool:

The "WHO Surgical Safety Checklist" was invented by the World Alliance for Patient Safety and included nations giving surgical care to 75% of the total population. The Surgical Safety checklist comprises three parts: (1) Sign In, (2) Time Out, and (3) Sign Out

Sample size:

About 100 sample size is of healthcare professionals, including 30 Surgeons, 30 Nurses, and 30 Anesthesiologist's, 5 physicians , and 5 administrators for conducting the assessment of staff knowledge were collected and 50 sample size is collected on IPSG-4 effectiveness during surgical procedure in by using surgical checklist at ARTEMIS Hospitals.

OPERATIONAL DEFINATIONS

Surgery

"Those procedures that investigate and/or treat diseases and disorders of the human body through cutting, removing, altering or insertion of diagnostic/therapeutic scopes."

Interventional procedure

"A procedure involving any invasive contact with a patient. Examples include all surgical procedures, endoscopy, dentistry "

Person Performing the site marking

"This is either the surgeon/proceduralist or his/her delegate who is performing or assisting in the surgery or procedure."

Procedure Team "The procedure team includes all health professionals participating in the delivery of care during the surgery/procedure."

Sign in

"Before the patient undergoes anesthesia, the anesthetist along with the nurse must confirm identity, the site and side of operation, what procedure is to be carried out and that the patient has consented for the procedure."

Time Out

"A pause, just prior to performing a surgical or other procedure, during which any unanswered questions or confusion about patient, procedure, or site are resolved by the entire surgical or procedural team."

Time Out involves checking:

- Right Patient
- Right side and site (Marked)
- Agreement to the procedure (Consent)
- Right patient position for procedure
- Availability of implants and/or special equipment
- Documents and reports availability

Sign Out

- Before skin closure, the nursing staff, surgeon and the anaesthetist will further check.

DATA COLLECTION PROCEDURE:

Data collection procedure involved three steps; firstly it begins in the recovery area of OT where "SIGN IN" was performed on the patient which involves: **Correct Site**

Surgical Site Marking:

site marking is essential for situations involving laterality, paired organs, numerous structures, various spine levels, and dental operations. The markers should be placed at or near the desired incision location.

Specific Marking Details : In bilateral operations, each side is labeled. During hand and foot procedures, the incision is made precisely on the relevant digit. Prior to marking the surgical site, it is essential to verify the imaging and indicate the exact location with an arrow.

Step -1: Surgical Site Marking Process

- Surgical site is marked in recovery
- The patient participates in site marking process, using active communication techniques.
- The question is asked in a manner that requires the patient to state the site with the patient awake and aware.
- For patients less than 18 years old, parental or guardian assistance in the process is necessary unless the minor can give legal consent for the treatment or is mature enough to engage in the site marking.

  • Marker should be sufficiently permanent to stay visible after the patient is prepped and draped (Indelible marking pen is utilized).

  • The mark should be an arrow that reaches to, or near to, the incision site and be The mark must be visible after skin preparation; it must also, preferably, remain visible even after the patient is prepped or draped.
- **Verification prior to site marking**
- Patient's identity (using two identifiers)

- By asking the patient to tell his/her name and GNID. Verify this is appropriate with the patient's ID band

• **Do not use patient's room number or location for identification.**

Pre-operative verification

- In the ward/ICU, before transferring the patient to OT, the pre-operative nursing checklist is filled verifying the side and site, surgery and procedure.

Sign in

- Before the patient undergoes anesthesia, the anesthetist along with the nurse will establish identify, the site as well as side of operation, what surgery is to be performed out and that the patient has signed for the procedure. This is documented in the Surgical safety
- checklist and is called sign-in and is documented along with the time and signed by anesthetist.
- Before the patient is wheeled in the OT, the recovery nurse verifies the patient details. This is documented in the Surgical safety checklist.

Step -2: Time out

- Time out is performed just before incision involving the entire operative group. The Surgical Safety Checklist that is used for all procedures done in the OT Complex, based on WHO Surgical Safety Checklist. The time of time out is documented in the checklist and signed by the team.
- Time Out Process
- In the OT, the circulating nurse is designated to start the time out prior to incision or instrumentation in the presence of anesthetist, the surgeon and the technician.
- The circulating nurse states a loud the patient name, GNID, procedure, side and site, consent, anticipated critical events, antibiotic prophylaxis, essential imaging, equipment and implants
- The time out is documented in the surgical safety checklist in the OT that includes date and time.
- In case of two surgeries are being performed by different surgeons in the same sitting, two different timeouts need to be done

Step-3: Sign Out

Before skin closure, the nursing staff, surgeon and the anesthetist futher checke and the following points are verified:

a) Surgical/ invasive procedure is to be recorded.

b) Instrument, sponge and needle counts should be complete.

c) Specimens are to be labelled.

- The procedure conducted is noted.
- The surgeon, anesthetist, and nursing staff gather to address any significant issues regarding the patient's postoperative care.

  .

  (Refer Annexure 1 and 2).

For Procedures Done Outside the Operating Room

With all invasive operations conducted outside of the operating theater, a Time Out and Sign Out process is carried out and recorded in the Procedure form, with sedation or without sedation.
The whole team participates in the Time out process and verifies its correct patient, procedure, and site.

Procedures which require TIMEOUT & SIGN OUT and are carried out outside OT

• ICU

All venous access device

Central venous access

Hemodialysis catheters

Arterial catheterization

Percutaneous/ surgical Tracheostomy

All Endoscopic / Bronchoscopic procedures

ENT Invasive Procedures in OPD

• Nasal endoscopy

• Video Laryngoscopy

• Oral Biopsy

- **In the case of a wrong marking situation**, the most senior member will quickly develop a plan to repair the mistake. The affected individuals will receive their therapy at another time.
- The patient and their family must get complete information.
- Relevant information will be included in the patients' care record.
- The adverse event will be discussed in patient safety or clinical audit/review meetings.

Site marking is not required in these reasons:
Procedures conducted through a normal internal incision without any specific side preference. The eyes, ears, and nostrils are NOT excluded.
In cases with a single organ or body part, the incision is selected according to the anatomical position of that structure. Examples include the heart and appendix.
• Dental procedures need to be marked of the name(s) of the surgical tooth on documentation or the marking of the operative tooth (teeth) on a radiograph or image.

NOTE: If the individual performing the surgery temporarily departs from the patient's area at any point during that period, the location is noted before before their leave from the patient.

Situations in which marking the site is impossible or technically impractical, the following alternative process is performed:

In cases where marking the surgical site is not possible, alternatives such as marking the dressing, using permanent ink on a band for infants or patients who decline, and removing the checklist during life-threatening emergencies are carried out. The hospital outlines important pre-operative evaluation content, ensures all necessary records and imaging are present in the OT before anesthesia, and conducts verbal communication with the patient.

Incident Reporting

If an error is found between the consent, medical record, and marked operative site, an investigating team member will immediately stop the process, saying "THIS IS A PATIENT SAFETY ISSUE, STOP!" The discrepancy must be reported to the operating surgeon, and the case will not continue until it is resolved. The unfortunate incident should be recorded using the Incident Reporting Form.
.

Monitoring & Evaluation

To ensure compliance to policy, the hospital will conduct regular internal audits. Any variation to the policy will be captured and documented. Corrective and Preventive actions will be initiated and implemented.

CHAPTER- 4

DATA ANALYSIS

The following parameters were observed for 8 weeks:

INTERNATIONAL PATIENTS SAFETY GOAL - 4 ENSURE SAFE SURGERY

PATIENT ID	PATIENT NAME	PROCEDURE	SIGN IN	TIME OUT	SIGN OUT	REMARK
928474	Baby Dakshita yadav	Adenoidectomy +Turbinoplasty	Done (in recovery area)	Done before procedure in OT	Done After suture and dressing	Nursing Staff was not confident and was unable to do time out properly
926788	Mrs. Lalmuni kumari	Exploratory laparotomy	Done (in recovery area of OT)	Done before procedure in OT	Done after suture and dressing	
927964	Mr. Mohammad Ammar Ibra	Deformity correction	Done (in recovery area of OT)	Time out was not performed	Done immediately after time out	Sign out was performed with time out during procedure
928330	Mr. Pratham	Left knee arthroscopic surgery + harvest ha	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
929084	Mr. Muzafar vokhidov	Laproscopic cholecystectomy	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
735635	Mr.Paras Ram	B/L Hydrocelectomy	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
508073	Mr. Tarun Bhardwaj	Implant Removal Bilateral Distal Femur + R	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
769510	Mr. Daya Ram Yadav	Nasopharyngeal Mass excellon fess +Naso	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
922323	Mr. Ramesh chand	Laproscopic cholecystectomy	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
926664	Ms. Sudha Shukla	Right breast conservative surgery+SLNB+ Fr	Done (in recovery area of OT)	Unable to perform properly	NOT PERFORMED	Nursing Staff was not confident and Dr. was noncooperative
909357	Mr.Tahseen Ali Obaid	Right knee artheroscopic Surgery	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	staff was not aware of performing timeout and signout
928709	Mrs. Neelam Gupta	left total knee replacement	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
463274	Mr. Roshan lal	right femur stem replacement done under	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
924073	Baby Lakshita	Oncoport Insertion	Done (in recovery area of OT)	Done before procedure in OT	Done Before suture	staff has performed confidently
928077	Mr. Priyank Yadav	Right Inguinal hernia	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
927885	Mr. Braham Dutt	phonomicro surgery + DLC Scopy + exasion	Done (in recovery area of OT)	NOT PERFORMED BUT MARKED	Sign out was performed with Time out	careless ness
527129	Mrs. Chitra	hysteroscopy+ fractional curettage+insertio	Done (in recovery area of OT)	Done before procedure in OT	Sign out was performed with Time out	
720529	Mr. Sunil Kumar	Right VATS Segmentectomy	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
929599	Mr.Wasik Hilal	Right Elbow Cubitus Varus Deformity Corre	Done (in recovery area of OT)	Unable to perform properly	Sign out was performed with Time out	Lack of knowledge
921223	Mrs. Munni Devi	Right total knee replacement	Done (in recovery area of OT)	Done before procedure in OT	Done After suture and dressing	
833359	Mr. Saksham	Ross Operation	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
925769	Ms. Nidhi Upadhyay	Laproscopic / open left donor nephrectom	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
928545	Mast. Satvik Kumbhakar	Closed reduction hip	Done (in recovery area of OT)	NOT PERFORMED BUT MARKED	NOT PERFORMED	Not performed but marked in the form
927947	Mr. Yuvraj	Adenoidectomy	Done (in recovery area of OT)	NOT PERFORMED BUT MARKED	NOT PERFORMED	Not performed but marked in the form middle of surgery
519913	Mr. Saurav	Adenoidectomy + Myrincotomy	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
929286	Mr. Sunil Kumar	CABG on IABP	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
697570	Ms. Mayuri jain	EUA + Endometrial biopsy + Hyseoscopy+ C	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
925769	Ms. Nidhi Upadhyay	KTP Donar	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
924570	Mr. Arun Kumar Sharma	Laparoscopil left TEP	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
911444	Mrs. Sunita Mehta	Right Distal End Radius Closed Reductions	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
894199	Ms. Shubham Tomar	Right knee artheroscopic Surgery	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
925475	Mrs. Anguari Devi	Lap. Cholecyctectomy + TLH	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	During time out no body was taking it seriously and not replied properly
920604	Mr. Muhammad Yaaseen Has	Right Internal Jugular Vein Chemoport Inse	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
928849	Mr. Aprajit Singh	FESS + Septoplasty + Turbinoplasty	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	PERFOMED BY Dr. SHASHIDHAR
929783	Ms. Aradhana Verma	Elective LSCS +/- stepwise devascularisation	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	DUE TO CRITICAL AND EMERGENCY CASE
926628	Mr. Alamirew Tadesse Shife	Laproscopic / open right donor nephrecton	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
926629	Ms. Sidona Alamirew Tadesse	kidney transplant	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
644837	Mr Roshan Lal Chandna	Cystoscopy + TURBT	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
825273	Mr. Balraj Singh	Left total knee replacement	Done (in recovery area of OT)	NOT PERFORMED BUT MARKED	NOT PERFORMED	careless ness
865491	Mrs. Sudha Malik	Right Eye PHACO	Done (in recovery area of OT)	Done before procedure in OT	NOT APPLICABLE	
385247	baby Diksha	FESS + Septoplasty + Turbinoplasty +Adeno	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	
421569	Mr. Ram Kishore Singh	Robotic Simple Prostatectomy	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
922345	Ms. Sheetal Channana	laparoscopic cholecyctectomy	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	Nursing staff just filled the form for formality and took it casually
921546	Ms. Apurva Chauhan	FESS+ Septoplasty +Turbinoplasty+ Nasal re	Done (in recovery area of OT)	Done before procedure in OT	PARTIALLY PERFORMED	
910074	Mr. Nishant	INJ. Polidoconol Right Distal End Fibula	Done (in recovery area of OT)	Done before procedure in OT	NOT APPLICABLE	
496008	Mr. Smruti Ranjan Biswal	FESS+ Septoplasty +Turbinoplasty	Done (in recovery area of OT)	Done before procedure in OT	PERTIALY PERFORMED	
929619	Mrs. AL Toona Rustu Ali	Left PCNL + Left Ds Stenting	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
802452	Mrs. Nirmala Devi	Red. DVR +/- aortic root enarlagement	Done (in recovery area of OT)	NOT PERFORMED BUT MARKED	NOT PERFORMED	Not Performed but form was filled
467344	Dr. Hansa kandu	laproscopic ovarion	Done (in recovery area of OT)	Time out was not performed	NOT PERFORMED	
926024	Mrs. Ruchi Saxena	Right Sleeve Pneunectomy	Done (in recovery area of OT)	Done before procedure in OT	NOT PERFORMED	

Figure 3 Sample size

NOT PERFORMED	
PARTIALY PERFORMED	

- This section provides the finding of the study conducted to ensure consistency - ensure right site, right procedure and right patients, by using WHO audit checklist thereby to prevent errors and to improve patient safety by regular audits at Artemis Multi-Specialty Hospital. main goal was to outline the process for compliance . (refer annexure 3).

Description of the Data

The data analyzed were obtained from 150 surgical procedures conducted at Artemis Multi-Specialty Hospital throughout a two-month duration. The dataset includes surgical safety checklists, and direct observations of sign-in, time-out, and sign-out procedures.
About 100 sample size of healthcare professionals for conducting the assessment of staff knowledge were collected and 50 sample size is collected on IPSG-4 effectiveness during surgical procedure in OT by using surgical checklist at ARTEMIS Hospitals.

Data Analysis Plan:

Quantitative data is collected through primary survey by using IPSG audit checklist and data will be analysed to evaluate the gaps in IPSG practices.

Formula used: $Compliance\ Percentage = \left(\frac{Total\ Number\ of\ Observations}{Total\ Number\ of\ Opportunities}\right) \times 100$

Descriptive Statistics

The overall compliance rates for the surgical safety protocols were as follows:

Table 1- comparison of IPSG-4 parameters for different type of surgeries

Surgical safety checlist	SIZE OF THE SAMPLE	FULLY MET	PARTIALY MET	UN MET
SIGN IN	50	50	0	0
SIGN OUT	50	2	11	37
TIME OUT	50	32	7	11

Interpretation: The table 1 shows Comparison of IPSG-4 parameters and compliance in OT on several patients having different types of surgeries with sample size 50, out of which shows Sign-In is fully met 50 compliance rate, Sign-out fully met is 2 partially met is 11 and 37

unmet compliance, Time Out got 32 fully met, 7 partially met 11unmet compliance out of 50 sample size during audit and further more as we did analysis ;

COMPLIANCE RATE IN PERCENTAGE

Table 2 Showing complaince gap in percentage

TYPE OF THE PATIENTS	Fully Met %	partially met %	unmet%
SIGN IN	100	0	0
TIME OUT	64	14	22
SIGN OUT	2	21	77

Interpretation: The above table shows analysis of compliance gap showing Sign In 100% compliance , Time Out showing 64% total compliance , 14% partially met and 22% unmet compliance rate and Sign Out showing total 2% compliance fully met , 21% partially met and 77% unmet compliance rate in IPSG 4 audit by using surgical safety checklist.

FOR SIGN IN

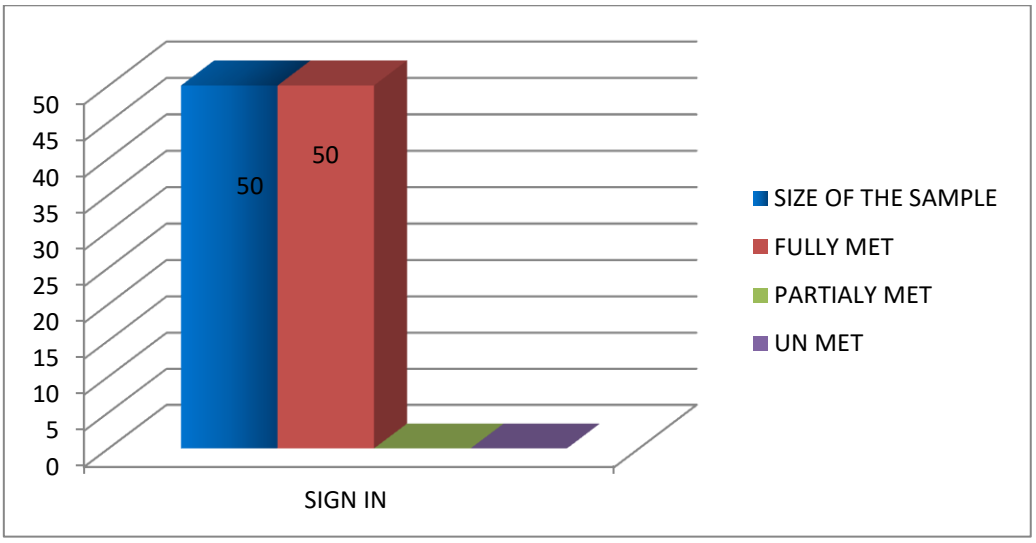

Figure 4 Analysis of SIGN - IN parameter with total sample size

Interpretation: This figure showing analysis of Sign In fully compliance with total sample size

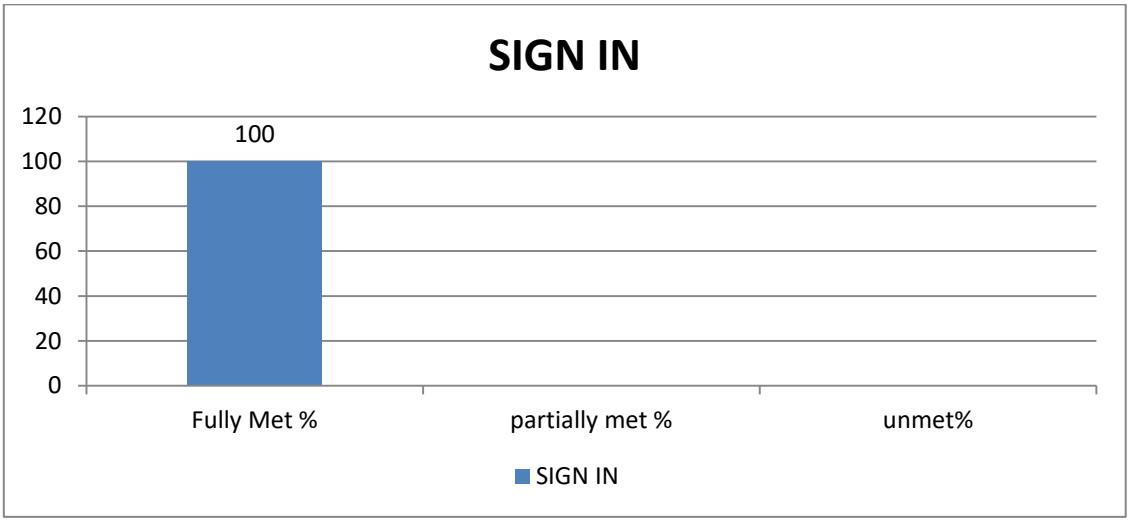

Figure 5 Analysis of SIGN - IN parameter

INTERPRETATION: Figure 5 showing 100 % compliance rate for sign in parameter of IPSG 4 before approaching OT.

FOR TIME OUT :

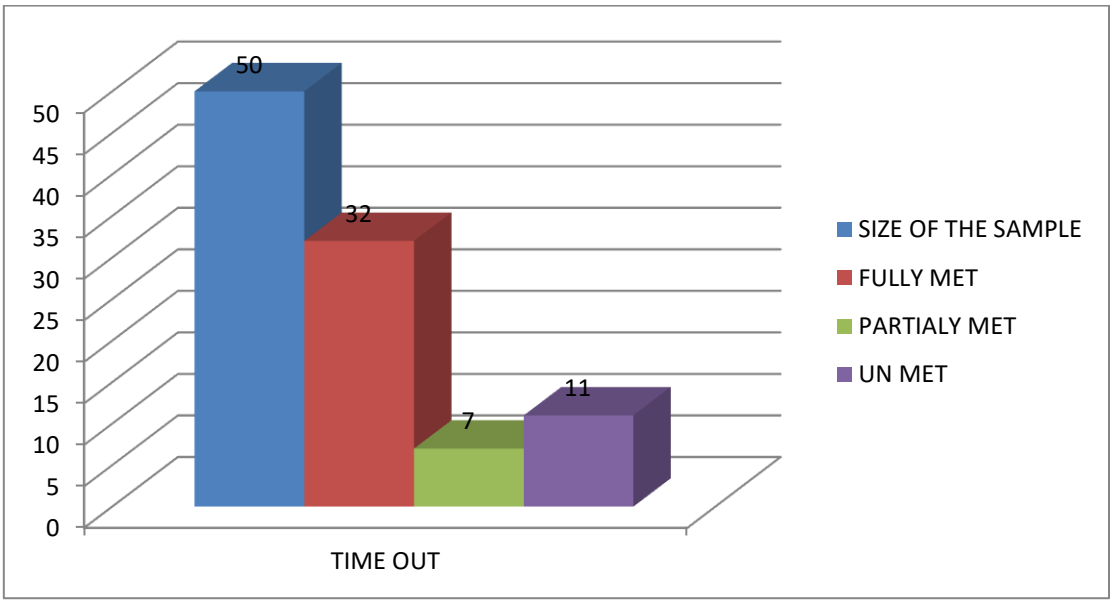

Figure 6 Showing analysis of time out parameter

Interpretation: This figure showing analysis of Time Out which is not fully compliance that is 32 fully met, 7 partially met and 11 unmet with total sample size 50 .

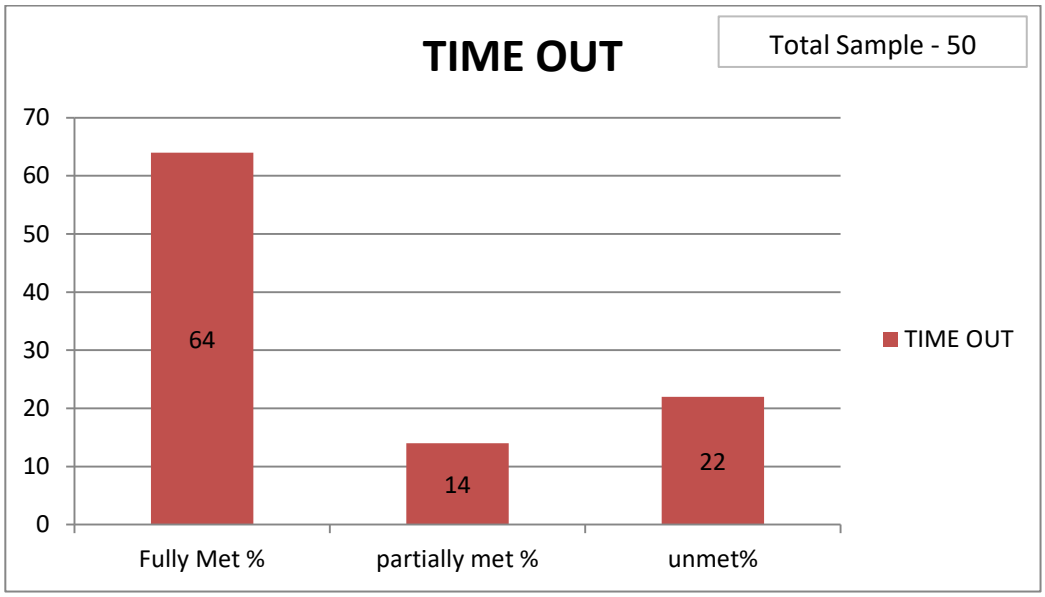

Figure 7 ANALYSIS OF TIME OUT IN PERCENTAGE

Interpretation: And In this figure 8 and 9, analysis of time out showing 64% fully met compliance, 14% partially met compliance and 22% unmet compliance performed before Incision in OT while starting surgical procedure for IPSG 4 audit by using surgical safety checklist.

SIGN OUT :

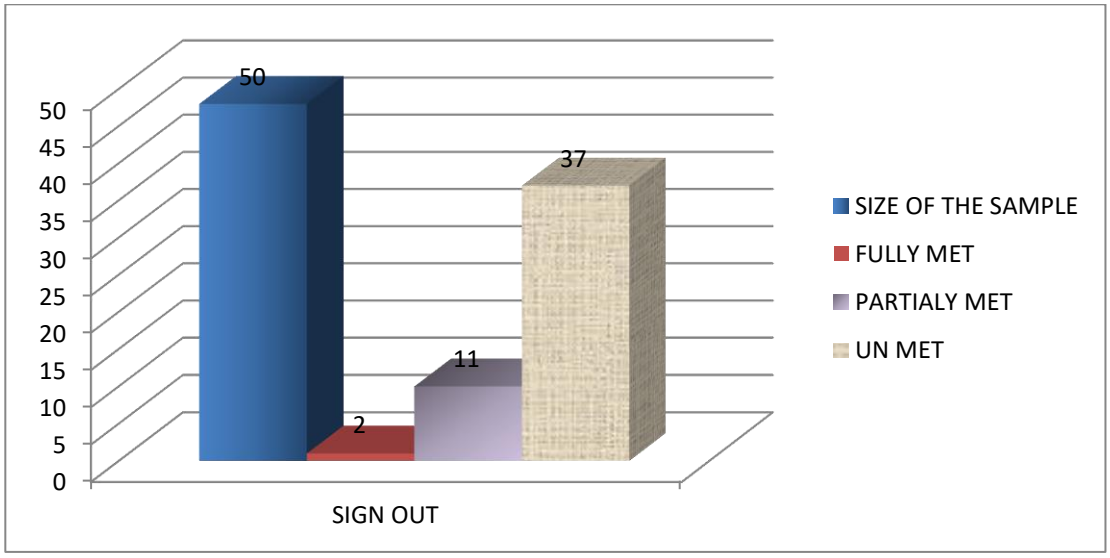

Figure 8 ANALYSIS OF SIGN OUT PARAMETER

Interpretation: This figure showing analysis of Sign Out which is not fully compliance which got 2 fully met, 11 partially met and 37 unmet with total sample size 50 after performing surgery before suture or closure in OT during audits.

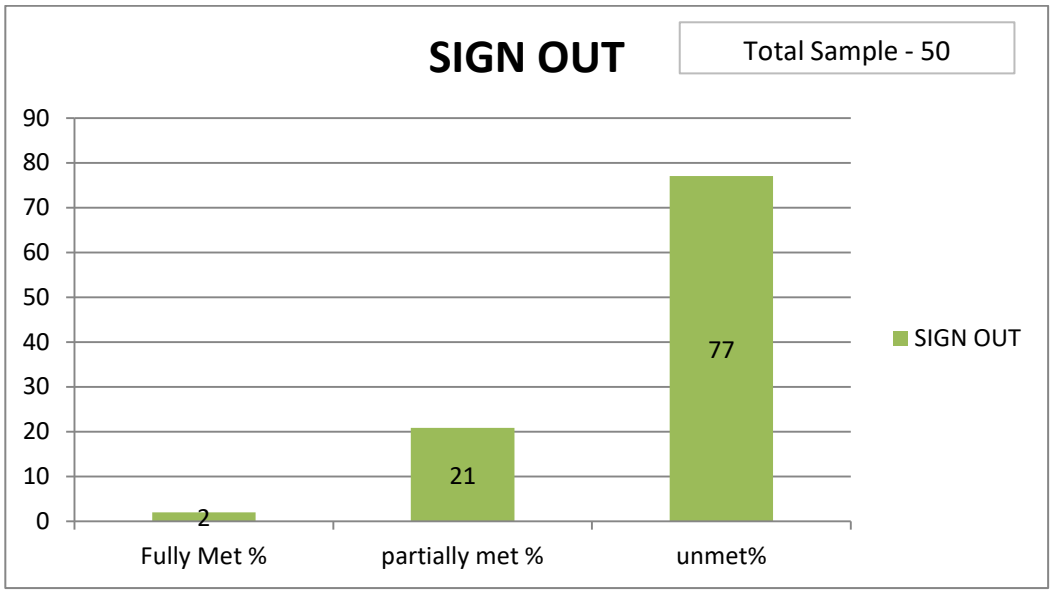

Figure 9 ANALYSIS OF SIGN OUT PARAMETERS IN PERCENTAGE

Interpretation: In this static chart , analysis of SIGN OUT showing 2% fully met compliance , 21% partially met compliance and 77% unmet compliance performed after surgery before suture/closure for IPSG 4 audit by using surgical safety checklist.

Analysis of Compliance Rates for Sign In, Time Out, and Sign Out (Percentage)

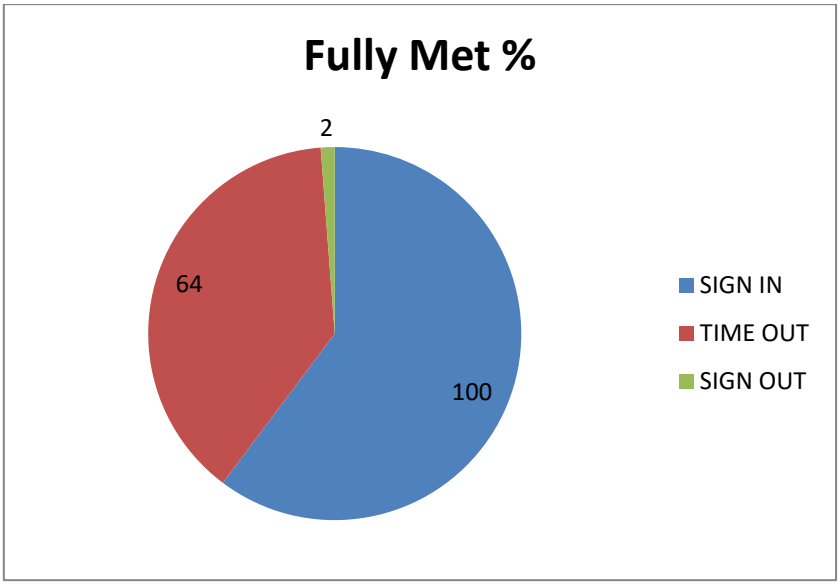

Chart 1

Interpretation: This pie chart showing complete analysis of compliance rate of all parameters of IPSG 4 - Sign In , Time Out, and Sign Out analysis shown in single chart .

DATA ANALYSIS FOR STAFF KNOWLEDGE

About 100 sample size of healthcare professionals for conducting the assessment of staff knowledge were collected

INTERNATIONAL PATIENT SAFETY GOAL 4 AUDIT DATA ANALYSIS

Table 3 INTERNATIONAL PATIENT SAFETY GOAL 4 AUDIT DATA ANALYSIS

IPSG Audit checklist	compliance %	Partial complaince%	Non-complaince%	Total
pre-operative checklist	100	0	0	100
Intraoperative Nursing Record	100	0	0	100
staff awareness	76	8	16	100

Interpretation: Table 3 is showing data analysis for pre-operative checklist 100% compliance, intra operative nursing record 100 % compliance and overall staff awareness show 76 % compliance rate for IPSG 4 during research study.

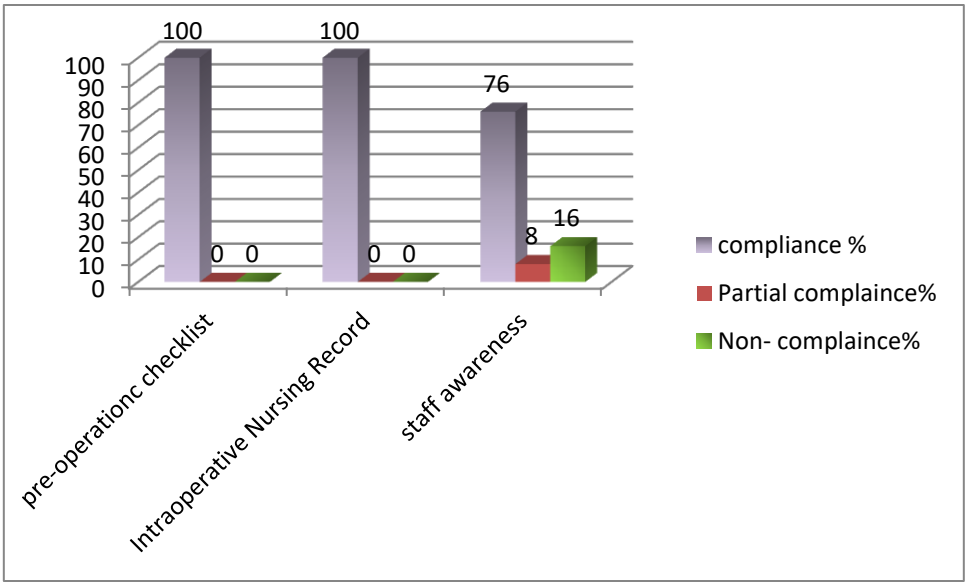

Figure 10 Analysis of staff awareness

INTERPRETATION: This figure showing the analysis of pre-operative checklist, intra-operative nursing records and staff awareness the parameters of IPSG **which shows data**

analysis for pre-operative checklist 100% compliance, intra operative nursing record 100 % compliance and overall staff awareness show 76 % compliance rate for IPSG 4 during research study

Table 4 Distribution of staff knowledge study

STAFF KNOWLEDGE	COMPLIANCE %	NON COMPLIANCE %	PARTIALL COMPLIANCE %	TOTAL
Surgeons	23	2	5	30
Nurses	15	10	5	30
Anesthesiologist's	30	0	0	30
physicians	5	0	0	5
hospital administrators	5	0	0	5
Total staff knowledge	78	12	10	100

Interpretation: The Table shows distribution of staff awareness study which comprises of is 23 compliance surgeons knowledge, 15 nurses, 30 anesthesiologist's out of 30 sample size,and 5 physician, and 5 hospital administration compliance rate out of 5 sample size during IPSG 4 staff awareness research audit.

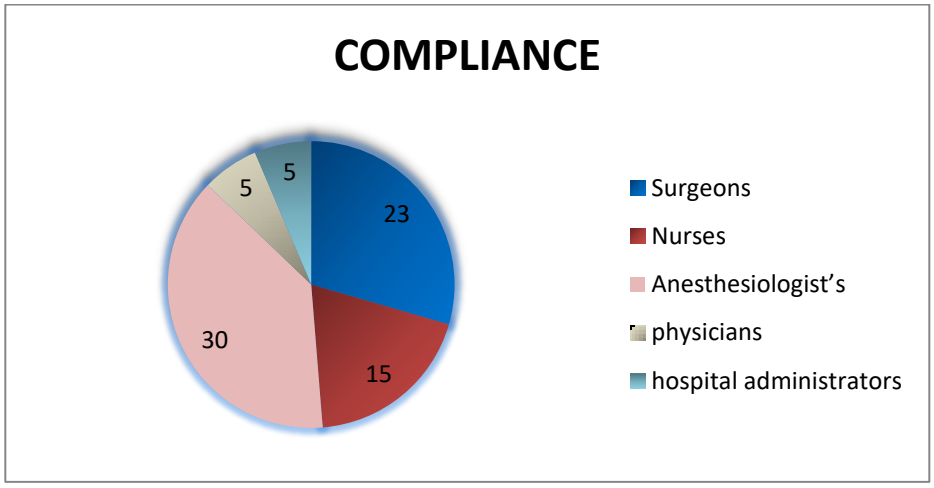

Chart 2

Interpretation: This chart shows distribution of staff awareness study which comprises of is 23 compliance surgeons knowledge, 15 nurses, 30 anesthesiologist's out of 30 sample size,and 5 physician, and 5 hospital administration compliance rate out of 5 sample size during IPSG 4 staff awareness research audit.

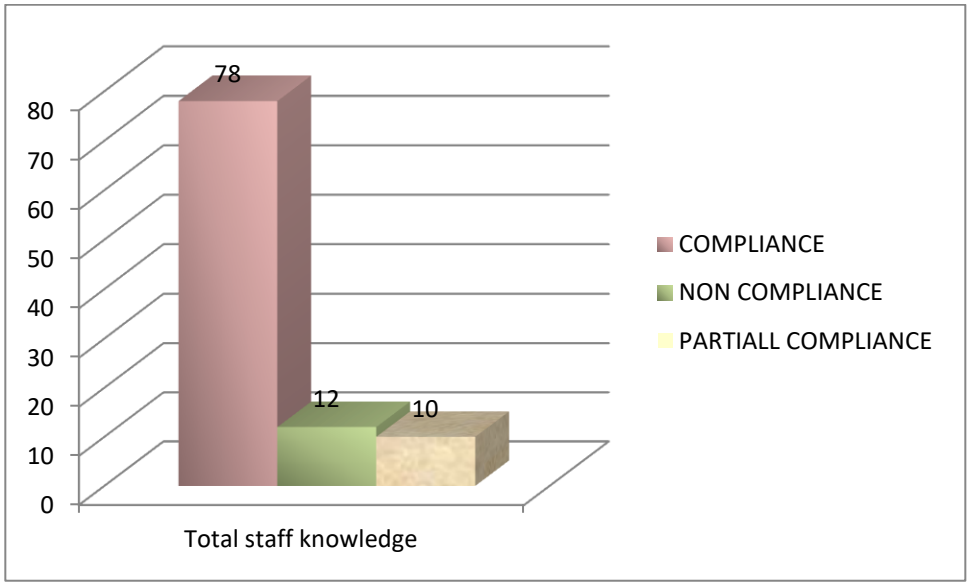

Figure 11 compliance rate of staff knowledge

Interpretation: This figure shows distribution total staff awareness study which comprises of compliance rate of all surgeons knowledge, nurses, anesthesiologist's , physician, and hospital administration compliance rate . the total staff awareness is 78% compliance , 12% non compliance and 10 % partial compliancerate during IPSG 4 staff awareness research audit.

Chapter 5
DISCUSSION

This study investigates the extent to which Artemis Multi-Specialty Hospital adheres to International Patient Safety Goal (IPSG) 4. It specifically focuses on the compliance rates of the "Sign In," "Time Out," and "Sign Out" processes, as well as the overall level of staff awareness of IPSG4. The hospital has attained a compliance rate of 90% or higher for the "Sign In" procedure, 80% for the "Time Out" procedure, and a notably lower compliance rate of 10% for the "Sign Out" method. In addition, the hospital has successfully attained a 100% adherence rate for both the pre-operative and intra-operative checklists. Furthermore, the staff's level of awareness on IPSG4 is at 76%.

In order to address these gaps, it is suggested that regular and frequent audits be conducted as a means to pinpoint and comprehend the exact differences in compliance to these protocols. The objective of these audits is to collect extensive data on the precise locations and reasons for non-compliance incidents. Through the analysis of this data, specific improvement projects can be identified and put into action.

The research seeks to utilize the information obtained from the audits to strategize and execute targeted enhancements, specifically concentrating on improving the "Sign Out" process and raising staff consciousness and compliance with IPSG4. These focused measures will aim to enhance the overall compliance rates, therefore fostering patient safety and improving surgical outcomes at the institution.

The primary objective of this research is to enhance the adherence of Artemis Multi-Specialty Hospital to international patient safety standards, consequently enhancing the quality of treatment and assuring superior surgical outcomes for patients.

Chapter-6

CONCLUSION

Patient safety is an corner stone of quality healthcare, with the prevention of errors and adverse outcomes being paramount. The execution of IPSG 4, focuses on assuring correct-site, correct-procedure, and correct-patient surgeries, is vital for safeguarding patients during surgical procedures. IPSG 4 strives to prevent serious surgical errors by rigorous verification processes, strengthening communication and teamwork, and establishing a culture of safety inside healthcare organizations.

Despite its importance, there is a lack of study on the effectiveness of IPSG 4 in specific healthcare settings such as Artemis Hospital. This study intends to address that gap by evaluating the compliance with IPSG 4 at Artemis Hospital, identifying gaps in adherence, and offering improvement approaches.

The findings of this research will provide useful insights into the hospital's compliance to safe surgery protocols, the success of the WHO surgical safety checklist, and the general staff awareness of surgical safety protocols. By addressing these areas, the study intends to promote surgical safety, optimize healthcare quality, lower healthcare costs, guide policy creation, and improve professional education in surgical settings. Ultimately, establishing compliance with IPSG 4 is crucial for delivering safe and effective surgical treatment, aligned with the highest standards of patient safety.

RECOMMENDATION

- By conducting and Implement regular training sessions for all surgical team members, including surgeons, nurses, and anesthesiologists, focusing on the importance and protocols of IPSG 4.
- Staff awareness is vital.
- Before suturing the surgical part, checking the list of all surgical equipments should be made compulsory for enhancing sign out.
- Staff should participate more actively for reducing surgical errors.
- Use simulation-based training to practice following to surgical safety measures, including sign-in, time-out, and sign-out processes.

Enhance Compliance Monitoring:

- Conduct frequent audits using the IPSG audit checklist to monitor compliance with IPSG 4 protocols.
- Conduct periodic audits using the IPSG audit checklist to monitor compliance.
- Establish a strong feedback system where surgical teams receive immediate feedback on compliance, recognizing areas for improvement.
- Foster a culture of transparent communication and teamwork, encouraging all team members to speak out if they observe any gaps or potential problems.

By implementing these recommendations, Artemis Hospital may considerably increase compliance with IPSG 4, therefore improving patient safety, reducing surgical errors, and establishing a culture of continuous improvement and accountability.

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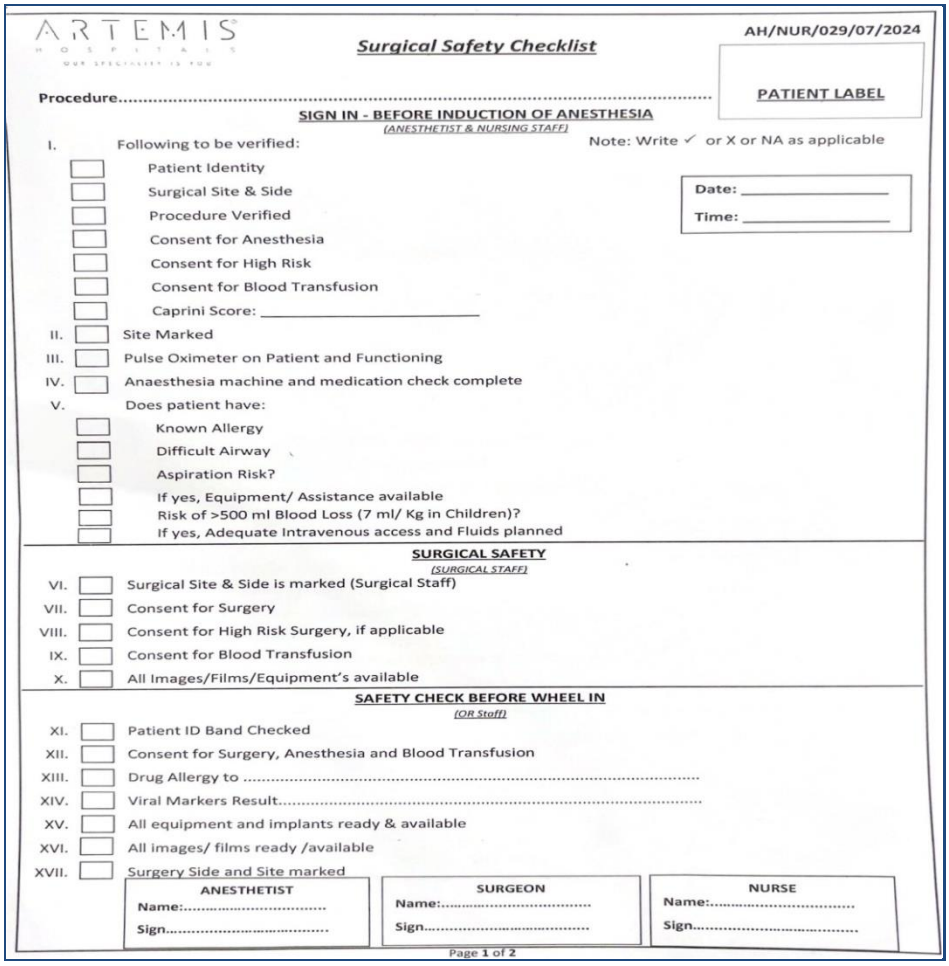
ANNEXURE - 1

WHO SURGICAL CHECKLIST DOCUMENTATION TOOL USED IN ARTEMIS HOSPITAL



ARTEMIS HOSPITALS
OUR SPECIALITY IS YOU

Surgical Safety Checklist

AH/NUR/029/07/2024

PATIENT LABEL

Procedure.....

SIGN IN - BEFORE INDUCTION OF ANESTHESIA
(ANESTHETIST & NURSING STAFF)

I. Following to be verified:

Note: Write ✓ or X or NA as applicable

- ☐ Patient Identity
- ☐ Surgical Site & Side
- ☐ Procedure Verified
- ☐ Consent for Anesthesia
- ☐ Consent for High Risk
- ☐ Consent for Blood Transfusion
- ☐ Caprini Score: _____

Date: _____
Time: _____

II. ☐ Site Marked

III. ☐ Pulse Oximeter on Patient and Functioning

IV. ☐ Anaesthesia machine and medication check complete

V. Does patient have:

- ☐ Known Allergy
- ☐ Difficult Airway
- ☐ Aspiration Risk?
- ☐ If yes, Equipment/ Assistance available
- ☐ Risk of >500 ml Blood Loss (7 ml/ Kg in Children)?
- ☐ If yes, Adequate Intravenous access and Fluids planned

SURGICAL SAFETY
(SURGICAL STAFF)

VI. ☐ Surgical Site & Side is marked (Surgical Staff)

VII. ☐ Consent for Surgery

VIII. ☐ Consent for High Risk Surgery, if applicable

IX. ☐ Consent for Blood Transfusion

X. ☐ All Images/Films/Equipment's available

SAFETY CHECK BEFORE WHEEL IN
(OR Staff)

XI. ☐ Patient ID Band Checked

XII. ☐ Consent for Surgery, Anesthesia and Blood Transfusion

XIII. ☐ Drug Allergy to .....

XIV. ☐ Viral Markers Result.....

XV. ☐ All equipment and implants ready & available

XVI. ☐ All images/ films ready /available

XVII. ☐ Surgery Side and Site marked

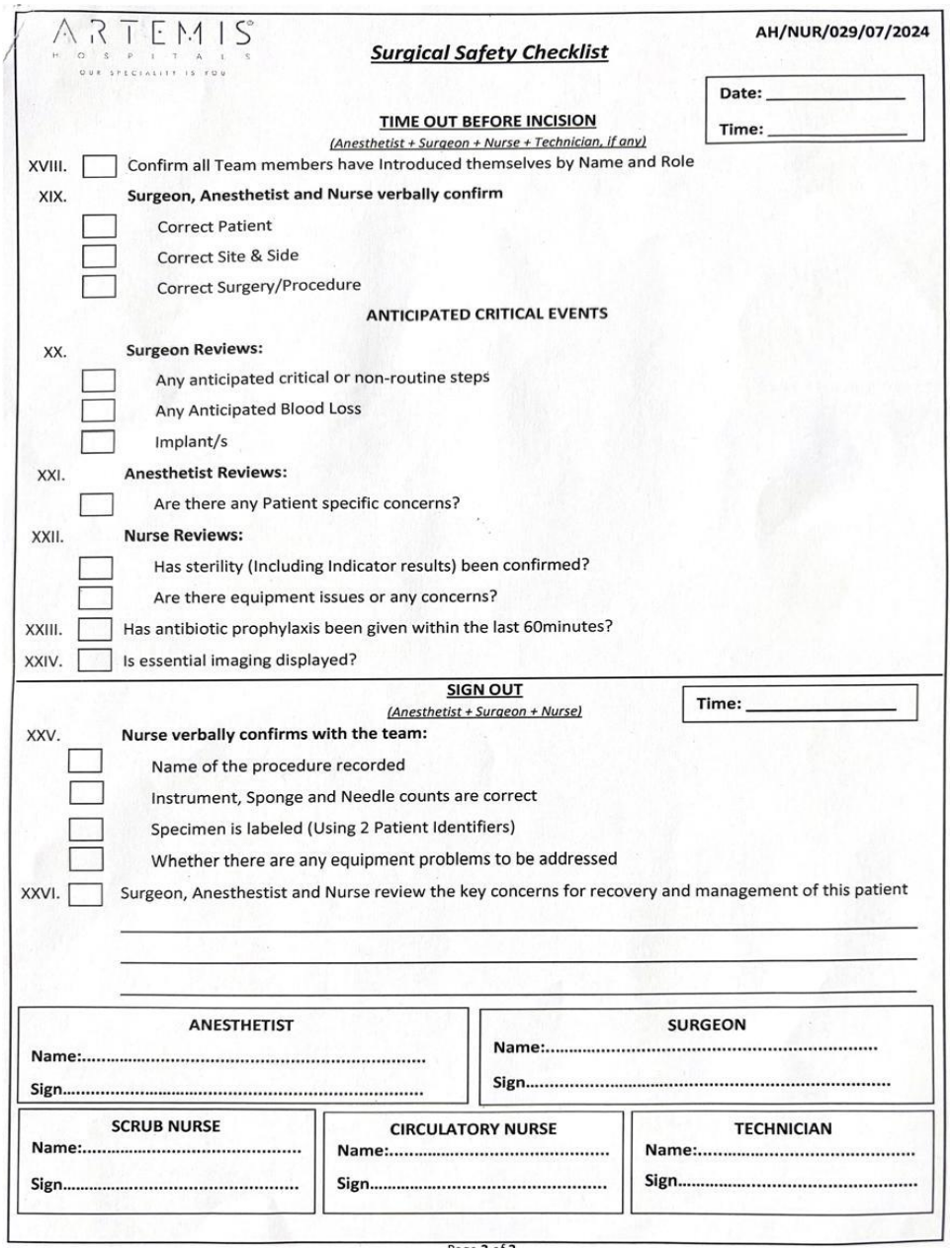
ANESTHETIST	SURGEON	NURSE
Name:.....	Name:.....	Name:.....
Sign.....	Sign.....	Sign.....

Page 1 of 2

Surgical checklist documentation

ANNEXURE - 2

Audit tool : WHO surgical safety checklist



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AH/NUR/029/07/2024

Surgical Safety Checklist

Date: _____
Time: _____

TIME OUT BEFORE INCISION
(Anesthetist + Surgeon + Nurse + Technician, if any)

XVIII. ☐ Confirm all Team members have Introduced themselves by Name and Role

XIX. **Surgeon, Anesthetist and Nurse verbally confirm**

- ☐ Correct Patient
- ☐ Correct Site & Side
- ☐ Correct Surgery/Procedure

ANTICIPATED CRITICAL EVENTS

XX. **Surgeon Reviews:**

- ☐ Any anticipated critical or non-routine steps
- ☐ Any Anticipated Blood Loss
- ☐ Implant/s

XXI. **Anesthetist Reviews:**

- ☐ Are there any Patient specific concerns?

XXII. **Nurse Reviews:**

- ☐ Has sterility (Including Indicator results) been confirmed?
- ☐ Are there equipment issues or any concerns?

XXIII. ☐ Has antibiotic prophylaxis been given within the last 60minutes?

XXIV. ☐ Is essential imaging displayed?

SIGN OUT
(Anesthetist + Surgeon + Nurse)

Time: _____

XXV. **Nurse verbally confirms with the team:**

- ☐ Name of the procedure recorded
- ☐ Instrument, Sponge and Needle counts are correct
- ☐ Specimen is labeled (Using 2 Patient Identifiers)
- ☐ Whether there are any equipment problems to be addressed

XXVI. ☐ Surgeon, Anesthestist and Nurse review the key concerns for recovery and management of this patient

_____
_____
_____

ANESTHETIST	SURGEON
Name:.....	Name:.....
Sign.....	Sign.....

SCRUB NURSE	CIRCULATORY NURSE	TECHNICIAN
Name:.....	Name:.....	Name:.....
Sign.....	Sign.....	Sign.....

TOOLS TO AUDIT THE GAPS IN COMPLAINCE TO ENSURE SAFE SURGERYOF INTERNATIONAL PATIENT SAFETY GOAL 4 IN OT

ANNEXURE – 3

THE TOOL USED TO AUDIT STAFF KNOWLEDGE AND IPSG-4

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IPSG Audit Checklist # 4 (Ensure correct site,correct Patient,Correct procedure/Surgery)

S. No.	ELEMENTS	Sample 1(Y/N)	Sample 2(Y/N)	Sample 3(Y/N)	Sample 4(Y/N)	Sample 5(Y/N)
	OBSERVATION					
1	Surgical site is distinctly marked and visible					
2	Does an OT/Cath lab/Dental/Endoscopy Nurse perform Time out check list?					
3	Does a Nurse check with the Patient for site of Operation(where possible)?					
4	Does the Nurse check for Patients identity before Performing any Procedure?					
	Documentation					
	Pre Operative checklist					
5	Complete					
6	Signed by the transferring nurse					
7	Signed by the receiving nurse					
	Surgical Safety/Time out (check documentation)					
8	Sign In					
9	Time Out section completed					
10	Sign Out(filled and signed)					
	Intraoperative Nursing Record					
11	Complete					
12	Signed by the scrub nurse					
13	Signed by the circulating nurse					
14	Signed by the surgeon					
	Staff awareness					
15	What is sign in protocol? (time, components & importance)					
16	What is time out protocol? (time, components & importance)					
17	What is sign out protocol? (time, components & importance)					
18	Who marks the surgical site before a surgery?					
19	Do we involve patient in site marking?					
20	Do we involve patient in time out?					
21	Which sign is used to mark surgical site?					
Audited by:						
Date:						
Time:						
Area:						