EMPOWER SURGICAL SITE MARKING

Improving the Correct Site Surgery Process for Site Marking Cases in KPJ Johor Specialist Hospital

DR M R Ahmad Lofti, Head of Anesthetics (Advisor), S H LEE (Deputy Chief Nursing Officer), H Hamidah (Improvement Project Lead & Data Analyst),
A Thilagavathy (Unit Manager, General Ward), N Noraziah (Unit Manager, OT), M S Noran Sazlyn (Unit Manager, Surgical Ward), Y Yusnida (Unit Manager, Medical Ward)
KPJ JOHOR SPECIALIST HOSPITAL, 39B JALAN ABDUL SAMAD, 81100 JOHOR BAHRU, JOHOR

ABSTRACT

Correct Site Surgery means that the correct procedure has been performed on the correct patient anatomical site and, when applicable, using the correct implant.

According to JCI, sentinel event statistics released for 2020, wrong-site surgery is the third highest-ranking sentinel event in the USA. A Sentinel Event is an unexpected occurrence involving death or serious physical or psychological.

Patients who undergo surgery on the wrong site must deal with the costly results physically, mentally, and emotionally. In the worst-case scenarios, fatalities occur.

The most frequent cause of wrong-site surgery is a lack of preventative measures during the preoperative phase.

The objectives of the project are to ensure the correct patient and surgery to mitigate the wrong site surgery, to have a good understanding and knowledge in preparation for the surgery, and to prevent patients from suffering unnecessary surgery and complications.

If the surgeon in the ward does NOT perform site marking, it will delay start time, poor exposure, and lead to wrong site surgery. Starting late means considerable wait time for staff and patients and a waste of resources.

The ward must complete the preoperative checklist before sending a patient to Operation Theatre. Problems of highly incompliant preoperative checklist gaps were due to too many preoperative forms to fill out by the Ward Nurse from the Ward to Operation Theatre. Among these can be miscommunication between the staff when completing the forms.

The Team identified possible KAIZEN to improve patient safety by improving the works processes of site marking.

OT displayed System was used to monitor patients who needed site marking. The system will alert you of the site marking status.

A revised preoperative checklist has improved the preoperative process.

Patient education videos help patients visualize the pre-operative process for better understanding and recovery.

CONTACT

HAMIDAH HAMIDON
KPJ JOHOR SPECIALIST HOSPITAL
Email: hamidah@kpjjohor.com
Tel: (+607) 2253099 / 012 705 2832
Website: : www.kpjjohor.com

INTRODUCTION

Surgical Site marking is one of the important elements in providing perioperative care to patients, as stated in the JCI International Patient Safety Goal: Ensure Safe Surgery.
Numerous research studies reflect the presence of wrong-site surgery in numerous settings, referred to as Sentinel Events.

According to the study, A Sentinel Event is an unexpected occurrence involving 47% that led to a patient's death, 24% led to unexpected additional care, 11% led to severe, temporary harm, 6% led to permanent loss of function, 2% led to permanent harm, and 2% led to a psychological impact.

In the United States, 25 to 52 wrong site-surgery cases a week. 2.7% of patients who involved in wrong-site surgeries died, 41% experienced some type of permanent injury and malpractice payment was USD 1.42 million.

Per best available evidence, 1-2 wrong-site surgery cases occur per 1,000,000 procedures.

The most frequent cause of wrong-site surgery is a lack of preventative measures during the preoperative phase. Therefore, the following are the objectives for the study:

- To ensure correct patient and correct surgery to mitigate the wrong site surgery.
- To ensure good understanding and knowledge in preparation for the surgery.
- To ensure all site marking is done to prevent patients from suffering from unnecessary surgery and complications.

Aim:

- To improve compliance with Surgical site marking by Performing Surgeon at the Surgical Ward from the rate of 87.90% to 100%, according to referrals from MSQH Performance Indicator.
- To improve compliance in a pre-op checklist, from a rate of 89.72% to 100%, refer to the rate of compliance to Safe Surgery Saves Lives (SSSL) practice.

METHODS AND MATERIALS

Incident Reporting shows 12.10% (901 cases) out of 7,447 total surgeries requiring site marking were detected incompliance in preoperative preparation for surgical-site marking cases in the Year 2018 – 2019.
One case of wrong-site surgery needs to be absorbed, into the malpractice payment of USD28,606.55 and the total cost is USD37,820.03.

1,428 cases (10.28%) of incomplete surgical checklists, and failure of compliance to use the WHO Surgical safety checklist for all patients undergoing surgery by the operating team may lead to surgical deaths and complications.

FMEA analysis is used to identify key steps at risk associated with a patient's journey through elective surgery.
High RPN values were accepted as the possible cause to resolve:

1. Consent form and other related documents, do not clearly state the need for site marking.
2. No visual indication for site marking to alert the surgeon.
3. No site marking notification at the ward.
4. Redundant required information from the ward checklist
5. Too many documents need to be verified with repeated information
6. Use a non-surgical skin markers pen.

The quality improvement method was the framework that guided us toward quality improvement, through planning, implementing, and testing vital changes in the process.

The surgical site marking initiative commenced on the month July 2021. However, compliance with the practice was not established until the standardization process and monitoring were initiated in April 2022.
The monitoring was piloted in the Surgical Ward over a period of 2 weeks from 12 March to 25 March 2022.
We have studied and collected data from 43 cases through randomized sampling. The number of cases monitored based on 30% of the total number of cases performed per day. The audit elements used and the results are as:
1. 91% Site marking done by performing surgeon at Surgical Ward. 2. 95% site was marked using an indelible Marker by placing an arrow at or near the operative site. 3. 97% of patients confirm the site marking.
4. 93% of site marking information was documented on the checklist. 5. 93% compliance with a checklist.
As it is an ongoing project, the team aims to achieve the target by April 2022,

FINAL SELECTION OF IDEAS FOR MODIFICATION

PDSA Cycle 1

1. Involvement of the Top Management for support and approval.
2. Develop the Pre-operative patient educational video to guide patients in preparation for surgery (including the importance of site-marking), recovery, and discharge process. Video is able to be accessed during early admission for better understanding.
3. Comprehensive checklist – includes all of the SOP process steps into one form to improve compliance.
4. Alerting system at the patient's bedside in the ward – The ward nurse place the site marking signage at the patient's bedside to alert the surgeon.
5. Update patient OT information system – Ward Nurse enters the remarks column for a particular patient requiring site marking, information can be seen directly by the OT Team in real-time. Status patient in OT room according to color indicator for visitor information.
6. Performing site marking was shifted from the OT holding bay to the Surgical Ward and using a surgical skin marker to prevent cross-infection

Compliance with the practice was not established, and the team members came up with possible improvements.

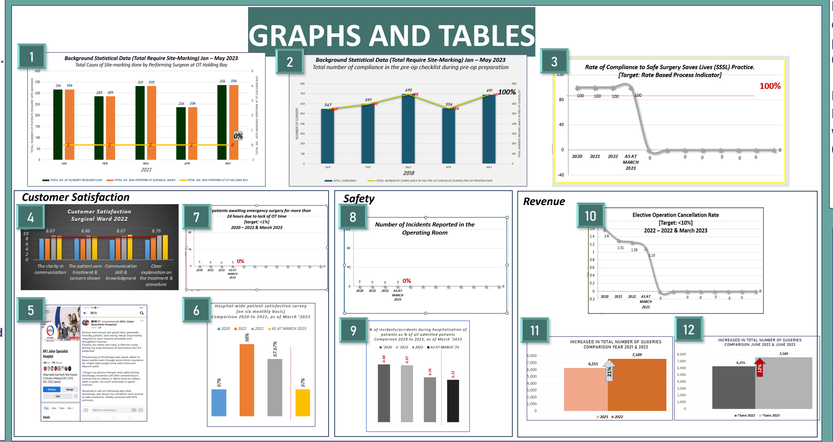
PDSA Cycle 2

1. Chief Nursing Officer coordinated with the Head of Surgical Dept. to improve compliance.
2. Review and standardization of safe surgery policy
3. Continuous education sessions are conducted for surgeons and nurses on safe surgery policy. A policy review class for nurses was conducted, and reinforcement in JCI standard policy.
4. Development of the audit checklist. Strict reinforcement when non-compliance is observed.
5. Best practice campaign- Site marking campaign poster display at wards and Holding Bay. An educational video camping poster display at Clinics, Admission Suites, wards, and visitor areas.

RESULTS

1. Accomplished zero instances of incorrect surgery by having all site marking performed in the ward. The establishment showed target was achieved by 100%, increasing 12.10% (Apr-May 2022) surgical-site markings performed at the Surgical Ward. Statistical data shows zero cases of surgical site marking were performed at Operation Theatre Holding Bay.
2. The compliance rate in the pre-op checklist during pre-op preparation also reached 100%, an increase of 10.28% (Apr-May 2022). The project goals were monitor, achievement 100%.
3. Achievement 100% in the rate of compliance to Safe Surgery Saves Lives Practice.
4. Surgical Ward was given an excellent rating in overall satisfaction on the clear explanation of the treatment and procedure.
5. Received positive feedback from our customers regarding our overall services.
6. Hospital-wide patient satisfaction surveys on 6 monthly basis. 3-year trend analysis showed a maintained customer satisfaction rating.
7. Zero case patients awaiting emergency surgery for more than 24 hours due to lack of OT time.
8. Zero incidents were reported in Operation Theatre.
9. Increase in patient safety level, as a reduction of incidents or accidents during hospitalization of patients, in three years trending.
10. Reduction of Elective Operation Cancellation Rate.
11. Increase 21% of the total number of surgeries in comparison year 2021 and 2022.
12. Increase 12% of the total number of surgeries comparison between June 2022 and June 2023.

GRAPHS AND TABLES



DISCUSSION

Surgical Site Marking is a critical safety measure that involves clearly labeling the intended incision Site before surgery to prevent errors. Accurately marking the site reduces the risk of wrong-site Surgeries, ensuring patient safety, and preventing legal complications. It is essential that surgeons, Nurses, and patients actively participate in this crucial preoperative protocol.

Patient engagement in site marking is not merely a procedural step; it is a fundamental aspect of patient-centered care and surgical safety. It empowers patients, improves communication, reduces the risk of errors, and fosters a culture of safety. By actively involving patients in the surgical process, healthcare providers can enhance outcomes, minimize adverse events, and ultimately ensure the best possible care for their patients.

CONCLUSIONS

Operation Theatre is a highly complexity work environment. Display clear instructions to the patient identification, Time-out, and notifying critical results able to reduce error.

KPJ Johor identified strategies to improve patient safety in site marking. In line with patient-centered care, the hospital provides a preoperative educational video to create awareness and preparation prior to surgery. The surgeon clearly explained the surgery to empower the patient's confidence while Obtaining the informed consent.

PROJECT ACHIEVEMENT:
Incredibly for this project, KPJ Johor Specialist Hospital won the EXCELLENCE Award at the International Quality & Productivity Convention (IQPC) 2023.



REFERENCES

1. https://www. jointcommission.org march-24-2021 sentinel-event-statistics-released-for-2020 *The Joint Commission, Sentinel event data released for the first six months of 2021*
2. WHO "High 5S Project 2006 and 2014. https://www.who.int/patientsafety/implementation/solutions/high5s/High5_InterimReport.pdf(Accessed
3. https://pubmed.ncbi.nlm.nih.gov/25673117/
4. Medscape Medical News

© 2021 WebMD, LLC. All rights reserved

Best practice campaign



PDSA CYCLE 1

