Risk Management of Pre-operative Processes for Patient Safety

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Background

The High 5s Project, established by WHO in 2007, is an international collaboration carried out in seven countries- Australia, Germany, France, the Netherlands, Singapore, Trinidad & Tobago and the United States of America- and coordinated by the WHO Collaborating Centre on Patient Safety, The Joint Commission. Its mission is to facilitate implementation and evaluation of standardized patient safety solutions within a global learning community, to achieve measurable, significant and sustainable reductions in high risk patient safety problems.

Introduction

KKH had implemented High 5s Correct Site Surgery (CSS) protocol in the major operating theatre (MOT) from 2010 to 2011 with success. Pre-operative verification and time-out compliance rates had improved initially to 92% after process redesign and checklist revision, then later to 97-98%. Site marking had shown only gradual improvement due to challenges – from 40% in 2010 to average of 70% in 2011.

Objective

This follow-on analysis aims to look at persistent discrepancies and the corresponding actions taken, update compliance status for 2012, and share implementation progress at Day Surgery.

Methodology

This was a continuous random documentation audit of 360 cases per month done at MOT. A more in-depth data analysis was performed whereby persistent discrepancies were identified and brought up to respective department heads then, improvements were made to close the gaps.

Findings: Persistent discrepancies

Pre-operative verification and Time-Out documentation:

- Abbreviation on MOT list for add-on and emergency cases which are handwritten
- Incomplete and/or inaccurate documentation
- Use of "X" mark instead of NA for cases where special equipment or implants are not applicable
- Discrepancy in documenting availability of special equipment and implant on pre-operative verification and time-out sections

Site Marking:

- Non-compliance to site marking for spine and gynecology cases

Actions taken to resolve discrepancies

In-depth audit and feedback

Specific cases with discrepancy and staff involved were identified.

Site marking compliance breakdown per subspecialty reported to department heads (Figure 1)

Empowerment

Nurses were empowered to prevent patients without site marking from entering the MOT room

Improve Compliance

Leadership support

Surgical heads reinforced site marking for spine and gynecologic cases

Reinforcement

Reception staff reinforced to write nature of procedure in full on MOT list (Figure 2)

Circulating and anaesthetic nurse to countercheck each other's documentation

Open communication

Staff counseling and refresher on basic and special equipments conducted

Feedback emails sent to primary surgeons whose cases had discrepancy on site marking

Sub-Speciality	Jan-Jun 2012: Cases that need site marking	Jan-Jun 2012: Not marked	Jan-Jun 2012: Cases marked No. and %		Jul-Dec 2012: Cases that need site marking	Jul-Dec 2012: Not marked	Jul-Dec 2012: Cases marked No. and %	
A	26	15	11	42%	39	9	30	77%
B	82	21	61	74%	60	7	53	88%
C	175	10	165	94%	223	2	221	99%
D	31	4	27	87%	35	3	32	91%
E	4	3	1	25%	9	7	2	22%
F	0	0	NA	NA	1	0	1	100%
G	33	7	26	79%	41	4	37	90%
H	25	13	12	48%	14	4	10	71%
I	6	3	3	50%	4	1	3	75%
J	0	0	NA	NA	3	0	3	100%

Figure 1. All subspecialties improved compliance during 2nd half of 2012 except for E as surgeons believed that site marking is not needed for most of the cases.

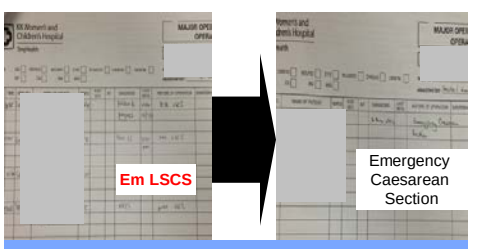

Figure 2. MOT List: Reception staff started writing nature of procedure in full, eg. Em LSCS written in full as Emergency Caesarean Section.

Status of Compliance in 2012

- Pre-operative verification and Time-Out compliance rates are at 98-99% (Figure 3).
- With the actions taken by the department heads and nursing empowerment, site marking improved from an average of 70% in 2011 to 80% during first half of 2012 and further increased to 91% in the second half (Figure 4).

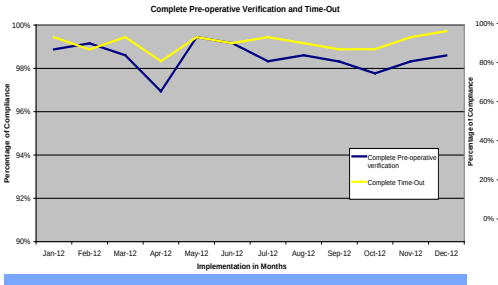

Figure 3. Pre-operative verification and Time-Out with an average compliance rate of 98-99% in 2012.

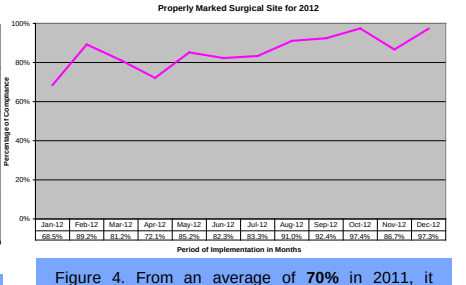

Figure 4. From an average of **70%** in 2011, it improved to **80%** in 1st half of 2012, then to **91%** during 2nd half, with highest rate at 97% in December.

Sustainability at Major Operating Theatre

- Consistent use of revised checklist and implementation of redesigned processes
- Continuous monitoring through audit and feedback
- Increase hospital-wide awareness of the project in line with patient safety
- Tailoring the practice for each discipline

High 5s CSS at Day Surgery

- Day Surgery operating theatre (Figure 5) provides services for scheduled elective procedures in 5 operating rooms and 1 procedure room.
- Services include: Paediatric surgery, Gynaecological surgery and Women's surgery such as Breast, Colorectal and Aesthetics.
- Approximately 35 cases performed per day.
- CSS protocol has been implemented in Day Surgery since 2011
- Made use of the revised checklist and implemented redesigned processes
- High 5s audit was not conducted at the initial stage
- Preliminary observational survey was done in January 2013. Most discrepancies were similar to that of MOT's.

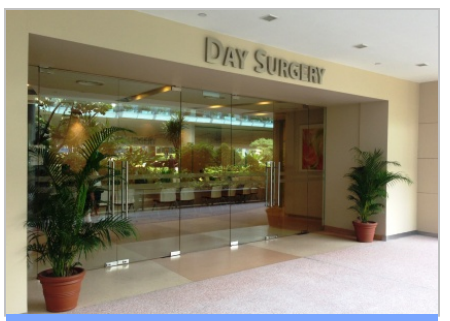

Figure 5. Day Surgery Operating Theatre

Figure 6. Surgical team conducting Time-Out process at Day Surgery

Conclusion

- In managing risks of pre-operative processes, it is essential to tailor the practice for each discipline as different specialties have different practices.
- In-depth data analysis and feedback and full leadership support are keys to get staff to buy-in and sustain the practice.

Future Works

- To perform compliance monitoring at Day Surgery through regular audit and feedback and to close the gaps identified.
- To apply the protocol to other relevant areas such as Diagnostic Imaging department, wards and clinics where invasive procedures are being performed

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