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Facilitators & Barriers to the Implementation of Surgical Safety Checklist (SSC): An Integrative Review

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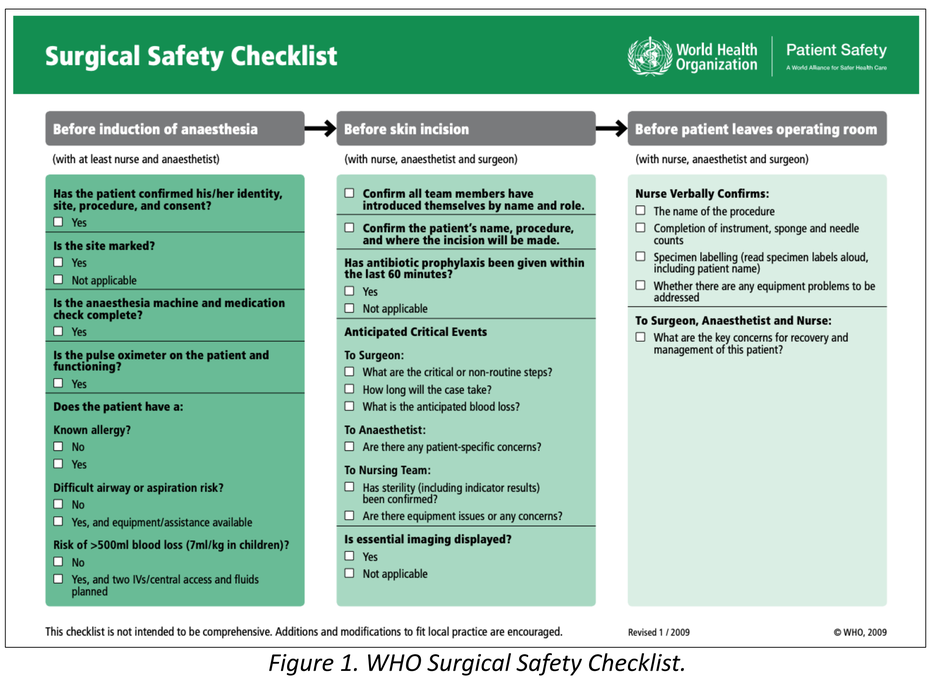
Introduction

Surgical procedures pose an immense risk to patients, which can lead to various complications and adverse events. However, almost half of the adverse events were identified as preventable. To safeguard patients' safety, the World Health Organisation (WHO) initiated the implementation of the WHO Surgical Safety Checklist (SSC) in operating theatres (OT) worldwide. [1]



Surgical Safety Checklist

World Health Organization | Patient Safety — A World Alliance for Safer Health Care

Before induction of anaesthesia (with at least nurse and anaesthetist)

- **Has the patient confirmed his/her identity, site, procedure, and consent?** ☐ Yes
- **Is the site marked?** ☐ Yes ☐ Not applicable
- **Is the anaesthesia machine and medication check complete?** ☐ Yes
- **Is the pulse oximeter on the patient and functioning?** ☐ Yes
- **Does the patient have a:**
  - **Known allergy?** ☐ No ☐ Yes
  - **Difficult airway or aspiration risk?** ☐ No ☐ Yes, and equipment/assistance available
  - **Risk of >500ml blood loss (7ml/kg in children)?** ☐ No ☐ Yes, and two IVs/central access and fluids planned

Before skin incision (with nurse, anaesthetist and surgeon)

- ☐ **Confirm all team members have introduced themselves by name and role.**
- ☐ **Confirm the patient's name, procedure, and where the incision will be made.**
- **Has antibiotic prophylaxis been given within the last 60 minutes?** ☐ Yes ☐ Not applicable
- **Anticipated Critical Events**
  - **To Surgeon:** ☐ What are the critical or non-routine steps? ☐ How long will the case take? ☐ What is the anticipated blood loss?
  - **To Anaesthetist:** ☐ Are there any patient-specific concerns?
  - **To Nursing Team:** ☐ Has sterility (including indicator results) been confirmed? ☐ Are there equipment issues or any concerns?
- **Is essential imaging displayed?** ☐ Yes ☐ Not applicable

Before patient leaves operating room (with nurse, anaesthetist and surgeon)

- **Nurse Verbally Confirms:**
  - ☐ The name of the procedure
  - ☐ Completion of instrument, sponge and needle counts
  - ☐ Specimen labelling (read specimen labels aloud, including patient name)
  - ☐ Whether there are any equipment problems to be addressed
- **To Surgeon, Anaesthetist and Nurse:** ☐ What are the key concerns for recovery and management of this patient?

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged. Revised 1 / 2009 © WHO, 2009

Figure 1. WHO Surgical Safety Checklist.

SSC usage has been widely encouraged and accepted among OT staff with its countless benefits. Despite its advantages, several studies highlighted that surgical team members had different compliance rates when performing the SSC, ranging from 40% to 90%. [2-4]

Aims

- Identifying the facilitators and barriers to implementing SSC.
- Highlighting the implications and recommendations to promote the smooth integration of SSC into clinical practice.

Methodology

This review utilised the framework by Whittemore and Knafl [5] that summarises theoretical literature to comprehensively understand a particular healthcare problem. This study was done according to 5-stages of integrative review which includes: (1) problem identification, (2) literature search, (3) data evaluation, (4) data analysis, and (5) presentation.

Eligibility Criteria
- English
- 2008 till present

Literature Search
- 3 databases: PubMed, CINAHL, EMBASE
- Conducted by 2 authors & checked by other 2 authors

Study Selection
- Abstracts were reviewed, and upon consensus, full texts of articles that met the inclusion criteria
- Screened for relevance by authors

Quality Appraisal
- JBI appraisal tools
- McGill University's Mixed Methods Appraisal Tool (MMAT)

Data Abstraction & Synthesis
- Constant comparative analysis method
- Themes identified
- Data saturation reached

Results

A total of 34 articles were deemed suitable for inclusion in this review. The following three themes emerged for the facilitators and barriers to the SSC after analysing the included articles: individual, professional and organisational levels. [7-12]. The Venn diagram below displays the SSC facilitators where there were different themes have overlapping similarities.

Barriers:

- **Individual:** Time consuming to perform SSC; Active resistance or passive non-compliance of OT staff. [13-14]
- **Interprofessional:** Low validation and engagement levels among OT staff. [15]
- **Organisational:** Low sense of ownership for SSC's relevance to OT staff; Constrained nurse staffing. [16]

Recommendations

- ✓ To promote SSC's efficacy and foster teams' mentality with participation of relevant stakeholders.
- ✓ OT nurses are in the ideal position to introduce and provide guidance for positive interactions and learning experiences.
- ✓ Cultivate a transformational hierarchical culture with open communication to promote transparency in organizational process.
- ✓ Train staff on using the checklist, promoting staff involvement by incorporating staff feedback into checklist adaptations
- ✓ Leaders need to consider the method of checklist initiation involving the support, ownership, and relevance of the SSC communicated to the OT staff.
- ✓ Regular review of SSC's effectiveness based on its context, content, appropriateness, and time to complete the SSC.

Conclusion

Critical analysis of the evidence demonstrated that SSC increased patient safety and promoted interprofessional cooperation. Conversely, some key focuses and recommendations are needed to overcome the multi-level barriers. The key focused areas for successful SSC implementation are regular staff training and education, providing conducive workplace culture, timely audits, and appropriate checklist modifications.

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