

Editorial-Educational

World Health Organization (WHO) Surgical Safety Checklist

Eamon Tierney, MB, BCH, BAO, FFARCSI, FJFICMI*
Martin T Corbally, MB, FRCSI, MCh, FRCSEd, FRCS (Paed)**

The World Health Organization (WHO) surgical safety checklist is in place to ensure that the correct patient is in theatre for the correct procedure on the correct side¹. However, wrong site surgery (WSS) continues to occur with worrying frequency.

The surgical safety checklist relies on three stages that should act as effective barriers against WSS. The three stages are:

Stage 1: On arrival in theatre, patient's identity, consent and appropriate investigations are checked.

Stage 2: Immediately before incision, identity, consent, the planned operation, operation site, preoperative investigations and the presence of allergies are confirmed. Imaging is also reviewed. The entire theatre team participates in this "Surgical Time Out" and all are encouraged to express any concern.

Stage 3: This confirms the completion of the operation, correct storage and disposal of specimens and any concerns regarding the recovery phase, see figure 1.

* Director of Intensive Care and Consultant Anaesthetist
King Hamad University Hospital, Bahrain
Associate Professor of Critical Care and Anaesthesia, RCSI-MUB
**Chief of Medical Staff and Head of Surgery
King Hamad University Hospital, Bahrain
Professor and Chairman, Department of Surgery, RCSI-MUB
Kingdom of Bahrain
Email: eamon.tierney@khuh.org.bh

 SURGICAL SAFETY CHECKLIST (FIRST EDITION)		
Before induction of anaesthesia	Before skin incision	Before patient leaves operating room
<p>SIGN IN</p> <input type="checkbox"/> PATIENT HAS CONFIRMED · IDENTITY · SITE · PROCEDURE · CONSENT	<p>TIME OUT</p> <input type="checkbox"/> CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE	<p>SIGN OUT</p> NURSE VERBALLY CONFIRMS WITH THE TEAM:
<input type="checkbox"/> SITE MARKED/NOT APPLICABLE	<input type="checkbox"/> SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM · PATIENT · SITE · PROCEDURE	<input type="checkbox"/> THE NAME OF THE PROCEDURE RECORDED
<input type="checkbox"/> ANAESTHESIA SAFETY CHECK COMPLETED	ANTICIPATED CRITICAL EVENTS	<input type="checkbox"/> THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
<input type="checkbox"/> PULSE OXIMETER ON PATIENT AND FUNCTIONING	<input type="checkbox"/> SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?	<input type="checkbox"/> HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
DOES PATIENT HAVE A: KNOWN ALLERGY? <input type="checkbox"/> NO <input type="checkbox"/> YES	<input type="checkbox"/> ANAESTHESIA TEAM REVIEWS : ARE THERE ANY PATIENT-SPECIFIC CONCERNS?	<input type="checkbox"/> WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED
DIFFICULT AIRWAY/ASPIRATION RISK? <input type="checkbox"/> NO <input type="checkbox"/> YES, AND EQUIPMENT/ASSISTANCE AVAILABLE	<input type="checkbox"/> NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?	<input type="checkbox"/> SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT
RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)? <input type="checkbox"/> NO <input type="checkbox"/> YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED	HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES? <input type="checkbox"/> YES <input type="checkbox"/> NOT APPLICABLE	
	IS ESSENTIAL IMAGING DISPLAYED? <input type="checkbox"/> YES <input type="checkbox"/> NOT APPLICABLE	

THIS CHECKLIST IS NOT INTENDED TO BE COMPREHENSIVE. ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

Figure 1: Surgical Safety Checklist

WHO: Ten Essential Objectives for Safe Surgery

- Objective 1:** The team will operate on the correct patient at the correct site.
- Objective 2:** The team will use methods known to prevent harm from anaesthetic administration, while protecting the patient from pain.
- Objective 3:** The team will recognize and effectively prepare for life-threatening loss of airway or respiratory function.
- Objective 4:** The team will recognize and effectively prepare for risk of high blood loss.
- Objective 5:** The team will avoid inducing an allergic or adverse drug reaction known to be a significant risk to the patient.
- Objective 6:** The team will consistently use methods known to minimize risk of surgical site infection.
- Objective 7:** The team will prevent inadvertent retention of sponges or instruments in surgical wounds.
- Objective 8:** The team will secure and accurately identify all surgical specimens.
- Objective 9:** The team will effectively communicate and exchange critical patient information for the safe conduct of the operation.
- Objective 10:** Hospitals and public health systems will establish routine surveillance.

Despite preoperative assessment, team briefings and the above checklist, errors continue to occur². We propose adding an extra stage, the “Intra-Operative Time Out” to the WHO process especially when extirpative surgery is planned and where laterality is crucial, e.g. renal, limb and brain surgery. This would involve a pause after surgical exposure and before any irreversible action such as vessel ligation has occurred. At this stage, the surgeon would confirm that the operative findings were in keeping with expectations. This confirmation would be voiced and recorded. When it was not possible to confirm the diagnosis and

planned procedure, the operation would be halted pending consultation and further evaluation. This possibility would become a standard part of informed consent.

We believe that this additional and final confirmation in any operative situation is the ultimate safeguard against wrong site surgery especially where organ removal is planned.

REFERENCES

1. WHO: Safe Surgery Saves Lives. Available at: http://whqlibdoc.who.int/hq/2008/WHO_IER_PSP_2008.07_eng.pdf. Accessed on 12.8.2013.
2. Neily J, Mills PD, Eldridge N, et al. Incorrect Surgical Procedures within and outside the Operating Room. Archives of Surgery 2009; 144(11): 1028-34.