Overview

- WHO Safe Surgery Saves Lives Program
- WHO Safe Surgery Checklist
- Elements of the Checklist
  - Description
  - Implementation and Documentation
Safe Surgery Saves Lives

- Program by WHO World Alliance for Patient Safety in an effort to reduce surgical deaths across the globe

- Seeks to address:
  - Inadequate anesthetic safety practice
  - Avoidable surgical infections
  - Poor communication among team members
Safe Surgery Saves Lives Strategy

- Provide information on surgical safety
- Identify a set of safe surgery standards
- Define minimum surveillance measures
Essential objectives for safe surgery

- Operate on the correct patient at the correct site
- Prevent harm from administration of anesthesia, while protecting patient from pain
- Recognize and prepare for life-threatening loss of airway
- Recognize and effectively prepare for risk of high blood loss
Essential objectives for safe surgery

- Avoid inducing allergic or adverse drug reaction for which the patient is known at significant risk
- Use of methods to minimize risk of surgical infection
- Prevent inadvertent retention of instruments or sponges in surgical wounds
- Secure and identify all surgical specimens
Essential objectives for safe surgery

- Communicate and exchange critical communication on the patient
- Establish routine surveillance of surgical capacity, volume and results.
WHO Safe Surgery Checklist

- Identified set of 19 safety checks to be used in any operating room for clinicians to improve safety and reduce unnecessary surgical deaths
Table 1. Elements of the Surgical Safety Checklist.*

<table>
<thead>
<tr>
<th>Sign in</th>
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<tbody>
<tr>
<td>Before induction of anesthesia, members of the team (at least the nurse and an anesthesia professional) orally confirm that:</td>
</tr>
<tr>
<td>The patient has verified his or her identity, the surgical site and procedure, and consent</td>
</tr>
<tr>
<td>The surgical site is marked or site marking is not applicable</td>
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<tr>
<td>The pulse oximeter is on the patient and functioning</td>
</tr>
<tr>
<td>All members of the team are aware of whether the patient has a known allergy</td>
</tr>
<tr>
<td>The patient’s airway and risk of aspiration have been evaluated and appropriate equipment and assistance are available</td>
</tr>
<tr>
<td>If there is a risk of blood loss of at least 500 ml (or 7 ml/kg of body weight, in children), appropriate access and fluids are available</td>
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<table>
<thead>
<tr>
<th>Time out</th>
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<tbody>
<tr>
<td>Before skin incision, the entire team (nurses, surgeons, anesthesia professionals, and any others participating in the care of the patient) orally:</td>
</tr>
<tr>
<td>Confirms that all team members have been introduced by name and role</td>
</tr>
<tr>
<td>Confirms the patient’s identity, surgical site, and procedure</td>
</tr>
<tr>
<td>Reviews the anticipated critical events</td>
</tr>
<tr>
<td>Surgeon reviews critical and unexpected steps, operative duration, and anticipated blood loss</td>
</tr>
<tr>
<td>Anesthesia staff review concerns specific to the patient</td>
</tr>
<tr>
<td>Nursing staff review confirmation of sterility, equipment availability, and other concerns</td>
</tr>
<tr>
<td>Confirms that prophylactic antibiotics have been administered ≤60 min before incision is made or that antibiotics are not indicated</td>
</tr>
<tr>
<td>Confirms that all essential imaging results for the correct patient are displayed in the operating room</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Before the patient leaves the operating room:</td>
</tr>
<tr>
<td>Nurse reviews items aloud with the team</td>
</tr>
<tr>
<td>Name of the procedure as recorded</td>
</tr>
<tr>
<td>That the needle, sponge, and instrument counts are complete (or not applicable)</td>
</tr>
<tr>
<td>That the specimen (if any) is correctly labeled, including with the patient’s name</td>
</tr>
<tr>
<td>Whether there are any issues with equipment to be addressed</td>
</tr>
<tr>
<td>The surgeon, nurse, and anesthesia professional review aloud the key concerns for the recovery and care of the patient</td>
</tr>
</tbody>
</table>

* The checklist is based on the first edition of the WHO Guidelines for Safe Surgery. For the complete checklist, see the Supplementary Appendix.
Checklist Coordinator

- Single person responsible to confirm completion of each step of the checklist
- Leads the checklist process
- Most often the circulating nurse
Sections of the Checklist

- **Sign In**
  - Upon patient’s arrival in the operating room, prior to induction

- **Time Out**
  - after induction, prior to incision

- **Sign Out**
  - During or after wound closure, before the patient is brought out of the operating room
Elements of the Checklist: Sign In

- Focus:
  - Identification verification
  - Safe anesthesia practices
  - Equipment check
Elements of the Checklist: Sign In

- Items (7)
  - Patient, site, procedure, consent confirmation
  - Site marking
  - Anesthesia safety check
  - Pulse oximeter available and functioning
  - Knowledge of allergies
  - Airway assessment and support
  - Intravenous access secured
Confirmation

- Nurse and anesthesiologist to verbally confirm with the patient, or guardian

- In case patient is incapacitated (e.g. emergency) and guardian unavailable, the box is left UNCHECKED
Site marking

- Surgeon to mark
  - Cases involving laterality, level
- Patient must be involved in the marking
- CC to confirm the presence of and the correctness of the mark
Anesthesia safety check

- Systematic approach to reviewing the patient, machine, equipment and medications
- Airway assessment
  - Objective evaluation of the airway
  - Planned strategy for managing the airways
- Breathing systems (oxygen and inhalationals)
- Drugs and devices
- Emergency medication
Allergy check

- Nurse to confirm with patient
- Nurse to ask anesthesiologist
Airway and Aspiration Risk Assessment

- Objective assessment of airway (eg. Mallampati score, thyromental distance, Bellhouse-Dore score)

- Preparation for airway disaster must be in place for patients with high risk for difficult airway
  - Emergency equipment must be available
  - Second person to assist

- Box checked only if anesthesia has confirmed adequate equipment and assistance
Pulse Oximetry

- **Objective**: safe anesthesia practice

- **Evidence**:
  - Mainly by expert opinion; standardization of practice in health care
  - Theoretical value lies in its ability to provide earlier, clearer warning on hypoxemia
Pulse Oximetry

- Implementation:
  - Continuous monitoring with a variable-pitch pulse tone loud enough to be heard throughout the OR
  - CC to confirm oximeter has been placed on the patient and is functioning correctly
Appropriate intravenous access

- CC asks anesthesia on risk for significant blood loss
- Two large bore peripheral lines or one central venous line and one peripheral line when blood loss of at least 500 ml (7ml/kg) is anticipated
Elements of the Checklist: Time Out

- Focus:
  - Communication
  - Identification verification
  - Infection Control
Elements of the Checklist: Time Out

- Items (7)
  - Introduction of team members
  - Patient, site, procedure, consent confirmation
  - Critical events review
    - Surgeon: procedure
    - Anesthesia: patient condition
    - Nurse: sterility, equipment condition
  - Antibiotic prophylaxis
  - Imaging correct and available
Team Introduction

- CC confirms that team members introduce themselves by name and role
- When new members enter the operation, they must introduce themselves
Confirmation

- Surgeon to declare the patient’s name, procedure and site
- Anesthesiologist and nurse to agree
- CC checks box only all team members explicitly and individually confirm agreement
Review of events

- CC to ask team members if they have any special concerns regarding the patient and the operation
- Surgeon to review critical steps in the procedure and declare requirements for special equipment
- Anesthesiologist to declare patient’s status, concerns for resuscitation
- Scrub nurse to declare sterility of instruments, availability of equipment and needs
Antibiotic prophylaxis

• Must be given less than 60 minutes prior to incision
• Nurse/anesthesia must verbally confirm administration
• Box is left blank if medication given longer than 60 minutes before;
• In case where antibiotics are not indicated, “not applicable” box is checked upon verbal confirmation by team
Imaging displayed

- CC to ask surgeon if imaging is needed
- CC confirms imaging is displayed
- If not available, surgeon to decide if operation can proceed without the imaging; Box is left UNchecked
Elements of the Checklist: Sign Out

• Focus:
  • Securing surgical specimen
  • Prevention of sponge / instrument retention
  • Communication
Elements of the Checklist: Sign Out

- Items (5)
  - Procedure noted
  - Surgical specimen secured and labelled
  - Sponge and instrument counts
  - Equipment check
  - Review of postop care (surgeon, anesth, nurse)
• CC confirms with surgeon and team exactly what procedure was done
Correct counts

- Scrub or circulating nurse verbally confirms the completeness of the final sponge and needle counts
Specimen labelled

- CC confirms correct labelling of any pathological specimen by reading out the patient’s name, specimen description and any orienting marks.
CC ensures that equipment problems arising during an operation are identified by the team.
Review of postop care

- Team declares postoperative recovery and management plan to ensure appropriate transfer of critical information to the entire team
Checklist implementation

- Proven to reduce morbidity and mortality in a global pilot study involving 3000 patients in 8 hospitals
- Ensures consistency in patient safety
- Introduces a culture that values achieving safety for patients