World Health Organization

Patient Safety

A World Alliance for Safer Health Care

Implementation Manual
WHO Surgical Safety Checklist 2009

Safe Surgery Saves Lives

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Introduction

The *Safe Surgery Saves Lives* programme was established by WHO Patient Safety as part of the World Health Organization's efforts to reduce the number of surgical deaths across the globe. The aim of the programme is to harness political commitment and clinical will to address important safety issues, including inadequate anaesthetic safety practices, avoidable surgical infection and poor communication among team members. These have proved to be common, deadly and preventable problems in all countries and settings.

To assist operating teams in reducing the number of these events, WHO Patient Safety—in consultation with surgeons, anaesthetists, nurses, patient safety experts and patients around the world—has identified ten essential objectives for safe surgery. These were compiled into the WHO Surgical Safety Checklist. The aim of this Checklist (available at www.who.int/safesurgery) is to reinforce accepted safety practices and foster better communication and teamwork between clinical disciplines. The Checklist is intended as a tool for use by clinicians interested in improving the safety of their operations and reducing unnecessary surgical deaths and complications. Its use has been demonstrably associated with significant reductions in complication and death rates in diverse hospitals and settings, and with improvements in compliance to basic standards of care[1].

Surgical Safety Checklist

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

This checklist is not intended to be comprehensive.

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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?

Additions and modifications to fit local practice are encouraged.

How to use this manual

In this manual, the “operating team” is understood to comprise the surgeons, anaesthetists, nurses, technicians and other operating room personnel involved in surgery. Much as an airplane pilot must rely on the ground crew, flight personnel and air traffic controllers for a safe and successful flight, a surgeon is an essential but not solitary member of a team responsible for patient care. All members of the operating team play a role in ensuring the safety and success of an operation.

This manual provides guidance on using the checklist, suggestions for implementation, and recommendations for measuring surgical services and outcomes. Different practice settings should adapt it to their own circumstances. Each safety check has been included based on clinical evidence or expert opinion that its inclusion will reduce the likelihood of serious, avoidable surgical harm and that adherence to it is unlikely to introduce injury or unmanageable cost. The Checklist was also designed for simplicity and brevity. Many of the individual steps are already accepted as routine practice in facilities around the world, though they are rarely followed in their entirety. Each surgical department must practice with the Checklist and examine how to sensibly integrate these essential safety steps into their normal operative workflow.

The ultimate goal of the WHO Surgical Safety Checklist—and of this manual—is to help ensure that teams consistently follow a few critical safety steps and thereby minimize the most common and avoidable risks endangering the lives and wellbeing of surgical patients. The Checklist guides a verbal team-based interaction as a means of confirming that appropriate standards of care are ensured for every patient.

How to run the Checklist (in brief)

In order to implement the Checklist during surgery, a single person must be made responsible for performing the safety checks on the list. This designated Checklist coordinator will often be a circulating nurse, but it can be any clinician participating in the operation.

The Checklist divides the operation into three phases, each corresponding to a specific time period in the normal flow of a procedure—the period before induction of anaesthesia, the period after induction and before surgical incision, and the period during or immediately after wound closure but before removing the patient from the operating room. In each phase, the Checklist coordinator must be permitted to confirm that the team has completed its tasks before it proceeds onward. As operating teams become familiar with the steps of the Checklist, they can integrate the checks into identity has been confirmed, that the procedure and site are correct and that consent for surgery has been given. The coordinator will visualize and verbally confirm that the operative site has been marked (if appropriate) and will review with the anaesthetist the patient’s risk of blood loss, airway difficulty and allergic reaction and whether an anaesthesia machine and medication safety check has been completed. Ideally the surgeon will be present during this phase as the surgeon may have a clearer idea of anticipated blood loss, allergies, or other complicating patient factors. However, the surgeon’s presence is not essential for completing this part of the Checklist.

Before skin incision, each team member will introduce him or herself by name and role. If already partway through the operative day together, the team can simply confirm that