Editorial

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Is this tool the cure for wrong-site surgery and other OR errors?

WHO wants its checklist to be a catalyst for safety. Just by its presence in surgery, the plan might come off.

A new **19-item checklist for safe surgery** from the World Health Organization (WHO) aims to improve communication and cohesiveness among team members at three key mileposts:

- ❑ Before anesthesia is induced—"Sign In"
- ❑ Before the skin incision—"Time Out"
- ❑ Before the patient leaves the OR—"Sign Out"

Wrong-site surgery is devastating—for the patient and family, of course, but also for the surgical team. Almost always, such error is the result of poor surgical process and ineffective communication among members of the surgical team. Now, WHO is working to improve the surgical process and team communication around the globe—with the goal of eliminating error in the operating room (OR). Is your hospital or clinic following through?

First, some background

After a spate of wrong-site surgical events that were covered intensively by the national media, including a highly publicized wrong-side brain surgery at Rhode Island Hospital in 2001, The Joint Commission in July 2003 designated elimination of wrong-site surgery as a National Patient Safety Goal. The Commission's Universal Protocol, or UP, including the preprocedure "Time Out," was made standard practice for all surgical procedures both in the main OR and at other care sites. (Editor's note: The Joint Commission issued a revised Universal Protocol in January; you can read it, and considerable background on this safety effort, at http://www.jointcommission.org/PatientSafety/UniversalProtocol/.)

The 3-step UP

The Universal Protocol calls for the surgical team to take three steps preoperatively:

- confirm the patient's identity using at least two identifiers
- mark the operative site
- take a final "time out," which requires "active communication among all members of the surgical team, consistently initiated by a designated member of the team, conducted in a "fail-safe" mode" such that the procedure is not started if a team member has concerns. The "time out" includes explicitly confirming **1)** the identity of the patient, **2)** what procedure is planned, and **3)** the correct site of surgery.

There is more: The team should confirm the availability of all appropriate equipment, and members should be asked if they have any concerns about the plan.

This is not news to ObGyns and other surgeons; most practice sites have developed a checklist to ensure that the Universal Protocol is implemented. But, as experience with the Universal Protocol has evolved, it's become apparent that the protocol should be expanded to include **briefing** and **debriefing** components.

Renewed focus on "Before" and on "After"

About one half of all surgical complications can be prevented, studies of surgical error suggest.[1] **Communication failure** and **poor teamwork** among members of the surgical team are a commonly observed cause of adverse surgical outcomes.[2] To improve teamwork and reduce communication failure, many experts have urged that the Universal Protocol be expanded to include a preprocedure briefing and a postprocedure debriefing. Such a briefing process may reduce preventable errors in several ways:

- encouraging ongoing communication
- sharing information
- prioritizing tasks
- improving attention
- avoiding tunnel vision.

Enter the Checklist

Building on these ideas, WHO has developed a Surgical Safety Checklist that incorporates many of these best practices into a 19-item checklist (**TABLE**, page 8). It's hypothesized—and hoped—that the checklist will

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TABLE The World Health Organization offers a "Surgical Safety Checklist"*

Before induction of anesthesia →	Before skin incision →	Before patient leaves operating room
Sign in	**Time out**	**Sign out**
❑ **Patient has confirmed** • Identity • Site • Procedure • Consent	❑ **Confirm all team members have introduced themselves by name and role**	**Nurse verbally confirms with the team:** ❑ **The name of the procedure recorded** ❑ **That instrument, sponge, and needle counts are correct** (or not applicable) ❑ **How the specimen is labeled** (including patient name) ❑ **Whether there are any equipment problems to be addressed**
❑ **Site marked/not applicable**	❑ **Surgeon, anesthesia professional, and nurse verbally confirm** • Patient • Site • Procedure	
❑ **Anesthesia safety check completed**	❑ **Anticipated critical events** ❑ **Surgeon reviews:** What are the critical or unexpected steps, operative duration, anticipated blood loss? ❑ **Anesthesia team reviews:** Are there any patient-specific concerns? ❑ **Nursing team reviews:** Has sterility (including indicator results) been confirmed? Are there equipment issues or any concerns?	
❑ **Pulse oximeter on patient and functioning**		❑ **Surgeon, anesthesia professional, and nurse review the key concerns for recovery and management of this patient**
Does patient have a: **Known allergy?** ❑ No ❑ Yes **Difficult airway/aspiration risk?** ❑ No ❑ Yes, and equipment/assistance available **Risk of >500 mL blood loss (7 mL/kg in children)?** ❑ No ❑ Yes, and adequate intravenous access and fluids planned	**Has antibiotic prophylaxis been given within the last 60 minutes?** ❑ Yes ❑ Not applicable **Is essential imaging displayed?** ❑ Yes ❑ Not applicable	

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.
*First edition.

improve teamwork and effective communication; foster adherence to optimal surgical practices; and improve the team's ability to anticipate possible adverse events.

That hypothesis has been bolstered by the results of a recent study of 7,688 patients who were undergoing noncardiac surgery at any one of eight hospitals. Implementing the WHO Surgical Safety Checklist led to **1)** a decline in surgical death—from 1.5% to 0.8% of surgeries ($p = .003$)—and **2)** a reduction in overall complications from 11% to 7% ($p < .001$). Surgical-site infection was reduced from 6.2% to 3.4%, and unplanned return to the operating room declined from 2.4% to 1.8% of surgeries.[3]

The design of that study doesn't allow us to identify, with precision, the reasons that using the checklist improved outcomes. It's possible that the performance of members of the surgical team improved because they knew that they were being studied (the so-called Hawthorne effect). More likely, the structured, collaborative conversation prompted by the checklist improved the exchange of critical information and stimulated group decision-making, which, in turn, improved outcomes.

Psychosocial dynamics come into play

It's been observed that groups faced with complex problem-solving situations often identify better solutions as a group than any individual in that group can, acting alone. Consider the insertion of that finding into the

modern, multidisciplinary medical–surgical environment: Autocratic decision-making by the surgical attending might yield a worse outcome than would shared decision-making and action by the surgical team. To reach optimal group decision-making, information must be shared openly and opinions must be solicited actively.[4]

Much that we can realize from a checklist

In obstetric care, standardized checklists have been reported to improve outcomes and reduce clinicians' exposure to professional liability.[5] A structured checklist helps to standardize processes; used effectively, it stimulates effective communication among team members. It is also a catalyst to the collaborative conversations and shared decision-making that we need to provide successful clinical care in a complex and multidisciplinary surgical environment.

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