# Swedish Nurse Anesthetists' Experiences of the WHO Surgical Safety Checklist

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**Purpose:** *The World Health Organization (WHO) surgical safety checklist aims to increase communication, build teamwork, and standardize routines in clinical practice in an effort to reduce complications and improve patient safety. The checklist has been implemented in surgical departments both nationally and internationally. The purpose of this study was to describe the registered nurse anesthetists' (RNA) experience with the use of the WHO surgical safety checklist.*
**Design:** *This was a cross-sectional study with a descriptive mixed methods design, involving nurse anesthetists from two different hospitals in Sweden.*
**Methods:** *Data were collected using a study-specific questionnaire.*
**Findings:** *Forty-seven RNAs answered the questionnaire. There was a statistically significant lower compliance to "Sign-in" compared with the other two parts, "Timeout" and "Sign-out." The RNAs expressed that the checklist was very important for anesthetic and perioperative care. They also expressed that by confirming their own area of expertise, they achieved an increased sense of being a team member. Thirty-four percent believed that the surgeon was responsible for the checklist, yet this was not the reality in clinical practice. Although 23% reported that they initiated use of the checklist, only one RNA believed that it was the responsibility of the RNA. Forty-three percent had received training about the checklist and its use.*
**Conclusion:** *The WHO surgical checklist facilitates the nurse anesthetist's anesthetic and perioperative care. It allows the nurse anesthetist to better identify each patient's specific concerns and have an increased sense of being a team member.*

**Keywords:** *WHO checklist, patient safety, registered nurse anesthetist's (RNA), compliance, team, research.*


**PATIENTS UNDERGOING SURGERY** are at risk for complications. Communication, lack of time, and urgent surgical procedures often contribute to these complications.[1] While complications during or after surgery are common, most of them are preventable.[2] Of the 234 million surgical procedures done annually, seven million patients suffered complications, including one million who died during or immediately after surgery.[3] Complications are costly. Structured safety approaches are assumed to benefit both the patient and the health care system.[4] The World Health Organization (WHO) developed a surgical safety checklist aimed to improve patient safety and decrease complications.[5]

The WHO checklist is divided into three parts—"Sign-in," "Time out," and "Sign-out"—with a

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verbal confirmation of each step. Sign-in takes place before the induction of anesthesia and includes confirmation of the patient's identity, procedure, site (marked, if appropriate), and consent. Anticipated risk of blood loss, airway difficulty, hypothermia risk, and known allergic reactions are reviewed. A safety check of the anesthesia equipment and oxygen saturation value is monitored. Time-out takes place before the surgical incision and includes presentation of each team member by name and role or confirmation that they are acquainted. The team also confirms that it is the correct operation on the correct patient and site. There is a discussion of anticipated critical events and of the use of antibiotic prophylaxis; essential imaging is displayed if needed. Sign-out takes place after the procedure, before the patient leaves the operating room (OR), with the completion of an instrument count and the labeling of specimens. Any problems with equipment and postoperative prescriptions and instructions are reviewed.[2,5]

Previous research indicates that the implementation of a checklist can decrease both the number of communication failures in the OR and the number of complications from surgery.[2,6,7] It can also reduce the risk of wrong-site surgery.[8] There are some concerns about whether to use the checklist in emergency situations, due to possible delay. However, complications are more common with emergency surgery and could potentially be reduced if the checklist is used.[1]

It has also been suggested that use of the WHO checklist is associated with the development of a better safety attitude among OR staff.[9,10] With the introduction of each staff member, more of a sense of team can be created.[9] The purpose of the introductions is to ensure that all personnel know each other and feel included and free to speak about any issues during the surgical procedure. However, the introduction can sometimes seem unnecessary if the members already know each other.[11]

Surgical departments have implemented the checklist both nationally and internationally. However, despite significant decreases in both postoperative morbidity and mortality,[12] there remains low use of the checklist.[1,11,13,14] A recent study from Sweden investigated deviations from Time-out and found that it was not always applied as intended and that the component that facilitates communication was often neglected. The study also found that in general, surgeons and nurse anesthetists did most of the talking during the Time-out.[14] In Sweden, a nurse anesthetist has an independent responsibility for the anesthetic care of the patient.[15] This includes being one step ahead when planning care by identifying each patient's risk factors as well as being aware of the complications that can arise.[16] It is therefore of interest to enlist nurse anesthetists to use the checklist, as well as to know their opinion of it.

## Aim

The aim of this study was to describe Swedish registered nurse anesthetists' (RNA) experience with the WHO surgical safety checklist.

## Methods

### *Sample and Settings*

A cross-sectional study with a descriptive mixed methods design was performed at two hospitals in Sweden, a university hospital and a community hospital. The study took place during 3 days in December 2011. The survey was carried out among RNAs who were on duty during the data collection period. A total of 68 RNAs were eligible for participation, and 47 (69%) answered the questionnaire.

### *The Questionnaire*

The structured questionnaire (see Appendix 1 for details) was constructed by the authors for the purpose of this study and based on a review of the literature concerning implementation of, attitudes towards, and utility of the WHO checklist, as well as their own clinical experience as RNAs. An expert group consisting of two nurse anesthetists and two anesthesiologists with experience in using the checklist evaluated the questionnaire's validity. The experts suggested some minor revisions, but no changes in the main content of the questionnaire were suggested or made. The experts were not included in the main study.

The questionnaire addressed the following issues:

- compliance with the checklist: the usage of the three different parts, and the RNAs'