

# SURGICAL SAFETY CHECKLIST

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## WHY: INFORMATION, RATIONALE, AND FAQ



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## INFORMATION, RATIONALE, AND FAQ FOR THE SURGICAL SAFETY CHECKLIST

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The aim of this document is to provide information about and rationale for the Surgical Safety Checklist and its contents. It brings additional arguments to the “Detailed Explanation of the Surgical Safety Checklist Items” document.

Supplementary tools and resources to help organizations with implementation are available on the [www.safesurgerysaveslives.ca](http://www.safesurgerysaveslives.ca) website and on the Safe Surgery Saves Lives Community of Practice.

***This document is created by the Canadian In-Country Working Group with support from the Canadian Patient Safety Institute.***

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## WHAT IS THE SURGICAL CHECKLIST

The Surgical Safety Checklist (Checklist) is a tool to promote patient safety in the perioperative period. The Checklist provides a list of the most common tasks and items that Operating Room (OR) teams carry out in the perioperative period. In this document, the term ‘OR team’ is understood to include surgeons, anesthesiologists, nurses, technicians and other OR personnel.

The Checklist has three parts, corresponding to the three distinct phases of any surgical procedure: the period before induction of anesthesia (**Briefing**), the period after induction and before surgical incision (**Time Out**), and the period during or immediately after wound closure but before the patient is transferred from the operating room (**Debriefing**).

## HOW DOES THE SURGICAL CHECKLIST PROMOTE PATIENT SAFETY

The Checklist promotes patient safety through two mechanisms

❑ **Mechanism #1:** In providing the list of tasks to be completed and items to be considered in the perioperative period. In most institutions in Canada, the checking of many of these tasks and items is already considered routine practice. However, rarely are *all* the tasks and items checked *all* the time by *all* OR teams in *all* facilities, because of many factors, such as time pressure, shift changes, and the presence of more than one surgical team (as in multiple trauma cases).

For example, imaging is critical for proper planning and the conduct of many operations but often there is a lack of clarity as to whose job it is to ensure that the appropriate imaging results are available. Including ‘**Imaging**’ in the Checklist will help OR teams to develop a systematic method to ensure imaging availability. In addition, an increasing number of OR teams are using image guidance systems to facilitate surgical procedures. These teams may choose to include a check of the presence and functioning of an image guidance system in the Checklist.

By going through the Checklist and then ‘checking off’ each item, OR team members gain visual and/or verbal confirmation that these tasks and items have been implemented and/or addressed at

various points in the perioperative period. Some teams have used the Checklist to ‘park’ items that cannot be dealt with in the normal course of events. For example, pre-incision counts of sponges, sharps, designated miscellaneous items and instruments may be rushed or sometimes not completed if a patient’s condition is so unstable that a ‘crash’ procedure such as a thoracotomy or laparotomy must be performed. In such situations, the ‘**Time-out**’ provides an opportunity to address this issue, with the question: “Does anyone have any questions or concerns?” This provides an opportunity for the nurse(s) to ‘readvise’ the surgeon that the counts have not been completed, recognizing the possibility that the surgeon might not have heard the nurse state that the count was not finished.

In operations where a body cavity was entered, the scrub or circulating nurse(s) verbally confirm(s) that the final surgical counts, (sponges, sharps and designated miscellaneous items) AND instrument counts must also be confirmed as correct. If these counts are not correct, then the OR team must be alerted and appropriate steps taken, such as performing a recount and searching the wound, drapes, floor, laundry and garbage. If the counts are still incorrect, then roentgenography is mandated to exclude inadvertent retention of one or more foreign bodies. In this example, the Checklist can be used as a reminder to conduct and review the x-ray. On other occasions, an instrument or a piece of equipment may malfunction or not work at all. Being able to identify the device is an important step in stopping such items from being used for another patient before the problem has been addressed and rectified. Thus, use of the Checklist can help to reduce the frequency of tasks and items overlooked, put off, or otherwise forgotten.

❑ **Mechanism #2:** The process of ensuring that each of the tasks and items has been addressed will require members of the OR team to engage in discussion about the Checklist. For example, although a patient is more likely to suffer hypovolemic shock when blood loss exceeds 500 ml in an adult or 7 ml/kg in a child, some surgeons may not always or consistently communicate the possibility of greater than normal blood loss to the anesthesiologist and nursing staff. Listing ‘**Blood Loss**’ on the Checklist provides a structured way for the anesthesiologist and nursing staff to confirm with the surgeon what he or she anticipates. This type of discussion should also

help team members understand each other's specific roles and capabilities, foster reflection, increase communication, and strengthen the OR team.

## SHOULD WE CHECK ALL THE 26 CHECKBOXES?

Ultimately, the value of the Checklist will not be reflected in the completion of a form and it is important to avoid the phenomenon of 'tick and flick', a process of automatically filling out a form without attention to the content or intent of the item. The Checklist is simply a verbal tool developed to support excellent patient care through good preparation and teamwork.

All hospitals are encouraged to adapt and integrate the Surgical Safety Checklist for their individual needs, this including the way the checkboxes are used. The Canadian Checklist is created in different formats (with and without a scorecard), in order to allow hospitals to choose a way for tracking their use of the Checklist most appropriate to their setting.

At minimum, hospitals are encouraged to monitor whether or not the Surgical Safety Checklist is used, either on paper or electronically. Alternatively, some hospitals may choose to record if each of the three sections is completed (Briefing, Time-out, and Debriefing). Finally, hospitals are encouraged to use the Checklist to support continuous quality improvement. Specifically, the Debriefing allows teams the opportunity to take time to consider and record those aspects of care that could be improved. Collecting this information then allows Quality Improvement teams to work to improve the underlying Structure and Process of care based on these case reports. However, OR teams may also choose to record those aspects of a case that went well, so that they can be reviewed and repeated in the future.

## WHO SHOULD BE RESPONSIBLE FOR COMPLETING THE CHECKLIST?

The responsibility for implementing and ensuring adherence to all components of the Checklist rests with one or more representatives of the three groups of professionals who make up traditional OR teams: surgery, anesthesia, and nursing. Some teams find it helpful to designate one individual to perform the role of Checklist Coordinator. Other teams use one individual from each of the three professional groups for each of the three phases.

When completing the Checklist, the designated Checklist Coordinator must confirm that team members have implemented and/or addressed the necessary tasks and items in each of the three phases, before proceeding further. As OR team members become more familiar with the Checklist and are able to integrate it into their ‘normal’ OR process, the need for the Checklist Coordinator to direct completion of the Checklist will diminish. Using the Checklist effectively and efficiently will then become a normal activity for the team.

## WHY ARE CERTAIN ITEMS INCLUDED IN THE CHECKLIST?

In making decisions as to the inclusion of certain items, the Working Group reviewed the original WHO Surgical Safety Checklist and the healthcare literature. An attempt was made to include those tasks or items that members of the Working Group knew were inconsistently implemented or addressed and that could be correlated with patient harm.

❑ **Example #1:** Despite strong evidence and wide consensus that antibiotic prophylaxis against wound infections is most effective if adequate serum and/or tissue concentrations of antibiotic are achieved before the incision is made, surgical teams are inconsistent in administering antibiotics within one hour before the surgeon makes the first incision.

❑ **Example #2:** There is current evidence that good glycemic control (maintenance of serum glucose concentration below 11.1 mmol/L<sup>1</sup>) is associated with reduction of surgical site

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<sup>1</sup> How-to Guide: Prevent Surgical Site Infections *Safer Healthcare Now!* Campaign May 2007. Retrieved March 26, 2009:

<http://www.saferhealthcarenow.ca/EN/Interventions/SSI/Documents/SSI%20Getting%20Started%20Kit.pdf>

infections. However, there is also new evidence that “intensive glucose control” (maintenance of blood glucose concentration between 4.5 and 6.0 mmol/L) in Intensive Care Unit (ICU) patients is associated with an increased rate of mortality in comparison to “conventional glucose control” (maintenance of blood glucose concentration of 10.0 mmol of less per litre).<sup>2</sup> The Checklist can therefore be used to help remind OR teams to check blood glucose concentrations in diabetic patients and in those patients destined to be admitted to the ICU postoperatively.

❑ **Example #3:** VTE is one of the most common and preventable complications of hospitalization. If VTE thromboprophylaxis is not instituted, then 10 to 40 percent of general surgery patients and 40 to 60 percent of hip surgery patients will develop VTE.<sup>3</sup>

❑ **Example #4:** Patients undergoing surgery often become hypothermic during the perioperative period from a combination of factors, including the state of anesthesia, cold skin preparation solutions, and skin / body cavity exposure in cold ORs. Patients who do become hypothermic then have an increased probability of suffering from a range of complications, such as increased blood loss, surgical site infections, and discomfort from intense shivering.

## WHAT IS THE ASA CLASS AND WHAT DOES IT MEAN?

The American Society of Anesthesiologists (ASA) Class is a numerical (six point) scale used by anesthesiologists to classify a patient’s physical condition. The ASA Class is not an ‘anesthetic risk score’. However, the ASA class does correlate with the probability of postoperative mortality, for which the patient’s condition and the operation undertaken play the largest role in determining the patient’s outcome.

The six categories that form the ASA class are:<sup>4</sup>

- P1 A normal healthy patient

<sup>2</sup> Intensive versus Conventional Glucose Control in Critically Ill Patients. *The NICE-SUGAR Study Investigators*. NEJM 2009;360(13):1283-1297

<sup>3</sup> How-to Guide: Prevention of Venous Thromboembolism. *Safer Healthcare Now! Campaign* May 2008. Retrieved March 26, 2009:

<http://www.saferhealthcarenow.ca/EN/Interventions/vte/Documents/VTE%20Getting%20Started%20Kit.pdf>

<sup>4</sup> Appendix II: American Society of Anesthesiologists Classification of Physical Status. Guidelines to the Practice of Anesthesia – 2008. As Recommended by the Canadian Anesthesiologists’ Society - 2008. [http://www.cas.ca/members/sign\\_in/guidelines/practice\\_of\\_anesthesia/default.asp?load=appendix\\_ii](http://www.cas.ca/members/sign_in/guidelines/practice_of_anesthesia/default.asp?load=appendix_ii)



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- P2 A patient with mild systemic disease
  - P3 A patient with severe systemic disease
  - P4 A patient with severe systemic disease that is a constant threat to life
  - P5 A moribund patient who is not expected to survive without the operation
  - P6 A declared brain-dead patient whose organs are being removed for donor purposes

## WHAT ARE “REQUIRED” MONITORS FOR ANESTHESIA?

Monitors classified as “required”<sup>5</sup> according to the Guidelines to the Practice of Anesthesia are those that are (or will be) in continuous use through the course of the anaesthetic. These monitors include a pulse oximeter; apparatus to measure blood pressure (either directly or noninvasively), electrocardiography, capnography (end-tidal carbon dioxide monitoring) when endotracheal tubes or laryngeal masks are inserted, and an agent-specific anesthetic gas monitor when inhalation anesthetic agents are used.

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<sup>5</sup> Patient Monitoring. Guidelines to the Practice of Anesthesia – 2008. As Recommended by the Canadian Anesthesiologists’ Society.  
[http://www.cas.ca/members/sign\\_in/guidelines/practice\\_of\\_anesthesia/default.asp?load=patient\\_monitoring](http://www.cas.ca/members/sign_in/guidelines/practice_of_anesthesia/default.asp?load=patient_monitoring)