HOW TO RUN THE CHECKLIST: **IN DETAIL – SIGN IN**

> "The Sign In is to be completed before induction of anaesthesia in order to confirm the safety of proceeding."

The **"Sign In"** requires the presence of the anaesthesia professional and nursing personnel at the very least. The Checklist coordinator may complete this section all at once or sequentially, depending on the flow of preparation for anaesthesia. The details for each of the boxes in the "Sign In" are as follows:

PATIENT HAS CONFIRMED IDENTITY, SITE, PROCEDURE AND CONSENT

The coordinator verbally confirms with the patient his or her identity, the type of procedure planned, the site of surgery and that consent for surgery has been given. While it may seem repetitive, this step is essential for ensuring that the team does not operate on the wrong patient or site or perform the wrong procedure. When confirmation by the patient is impossible, such as in the case of children or incapacitated patients, a guardian or family member can assume this role. If a guardian or family member is not available and this step is skipped, such as in an emergency, the box should be left unchecked.

SITE MARKED/NOT APPLICABLE

The Checklist coordinator should confirm that the surgeon performing the operation has marked the site of surgery (usually with a permanent felt-tip marker) in cases involving laterality (a left or right distinction) or multiple structures or levels (e.g. a particular finger, toe, skin lesion, vertebra). Site-marking for midline structures (e.g. thyroid) or single structures (e.g. spleen) will follow local practice. Some hospitals do not require site marking because of the extreme rarity of wrong-site surgery in these instances. Consistent site marking in all cases does, however, provide a backup check confirming the correct site and procedure.

ANAESTHESIA SAFETY CHECK COMPLETED

The coordinator completes this next step by asking the anaesthesia professional to verify completion of an anaesthesia safety check, understood to be a formal inspection of the anaesthetic equipment, medications and patient's anaesthetic risk before each case. A helpful mnemonic is that, in addition to confirming that the patient is fit for surgery, the anaesthesia team should complete the ABCDEs – an examination of the Airway equipment, Breathing system (including oxygen and inhalational agents), suCtion, Drugs and devices and Emergency medications, equipment and assistance to confirm their availability and functioning.

PULSE OXIMETER ON PATIENT AND FUNCTIONING

The Checklist coordinator confirms that a pulse oximeter has been placed on the patient and is functioning correctly before induction of anaesthesia. Ideally, the pulse oximetry reading should be visible to the operating team. An audible system should be used when possible to alert the team to the patient's pulse rate and oxygen saturation. Pulse oximetry has been highly recommended as a necessary component of safe anaesthesia care by WHO. If no functioning pulse oximeter is available, the surgeon and anaesthesia professional must evaluate the acuity of the patient's condition and consider postponing surgery until appropriate steps are taken to secure one. In urgent circumstances, to save life or limb, this requirement may be waived, but in such circumstances the box should be left unchecked.

DOES THE PATIENT HAVE A KNOWN ALLERGY?

The Checklist coordinator should direct this and the next two questions to the anaesthesia professional. First, the coordinator should ask whether the patient has a known allergy and, if so, what it is. This should be done even if he or she knows the answer in order to confirm that the anaesthesia professional is aware of any allergies that pose a risk to the patient. The appropriate box is then filled in. If the coordinator knows of an allergy that the anaesthesia professional is not aware of, this information should be communicated.

DOES THE PATIENT HAVE A DIFFICULT AIRWAY/ASPIRATION RISK?

The coordinator should verbally confirm that the anaesthesia team has objectively assessed whether the patient has a difficult airway. There are a number of ways to grade the airway (such as the Mallampati score, thyromental distance, and Bellhouse-Doré score). An objective evaluation of the airway using a valid method is more important than the choice of method itself. Death from airway loss during anaesthesia is still a common disaster globally but is preventable with appropriate planning. If the airway evaluation indicates a high risk for a difficult airway (such as a Mallampati score of 3 or 4), the anaesthesia team must prepare against an airway disaster. This will include, at a minimum, adjusting the approach to anaesthesia (for example, using a regional anaesthetic, if possible) and having emergency equipment accessible. A capable assistant—whether a second anaesthesia professional, the surgeon, or a nursing team member—should be physically present to help with induction of anaesthesia.

The risk of aspiration should also be evaluated as part of the airway assessment. If the patient has symptomatic active reflux or a full stomach, the anaesthesia professional must prepare for the possibility of aspiration. The risk can be reduced by modifying the anaesthesia plan, for example using rapid induction techniques and enlisting the help of an assistant to provide cricoid pressure during induction. For a patient recognized as having a difficult airway or being at risk for aspiration, the box should be marked (and induction of anaesthesia begun) only after the anaesthesia professional confirms that he or she has adequate equipment and assistance present at the bedside.

DOES THE PATIENT HAVE A RISK OF >500 ML BLOOD LOSS (7 ML/KG IN CHILDREN)?

In this safety step, the coordinator asks the anaesthesia team whether the patient risks losing more than half a litre of blood during surgery in order to ensure recognition of and preparation for this critical event. Large volume blood loss is among the most common and important dangers for surgical patients, with risk of hypovolaemic shock escalating when blood loss exceeds 500 ml (7 ml/kg in children). Adequate preparation and resuscitation can mitigate the consequences considerably. Surgeons may not consistently communicate the risk of blood loss to anaesthesia and nursing staff. Therefore, if the anaesthesia professional does not know what the risk of major blood loss is for the case, he or she should stop to discuss the risk with the surgeon before induction of anaesthesia. If there is a significant risk of a greater than 500 ml blood loss, it is highly recommended that at least two large bore intravenous lines or a central venous catheter be placed prior to skin incision. In addition, the team should confirm the availability of fluids or blood for resuscitation. (Note that the expected blood loss will be reviewed again by the surgeon during the "Time Out". This will provide a second safety check for the anaesthesia professional and nursing staff.)

AT THIS POINT THE SIGN IN IS COMPLETED AND THE TEAM MAY PROCEED WITH ANAESTHETIC INDUCTION