Implementation of Surgical Safety Checklist

The World Health Organisation has identified through consultation with surgeons, anaesthetists and nurses a checklist of critical steps that are common to all perioperative environments. These steps are essential in ensuring a safe surgical outcome for the patient and facilitate effective communication between team members.

The checklist is not designed to be exhaustive and the WHO encourages modifications to the checklist to suit local practices/situations.

It is important that all steps of the checklist are verbally communicated, brief and do not require extensive explanation. Undertaking each stage of the checklist should not take longer than 60 seconds – there are three stages in total.

The responsibility for initiating the checklist will normally be the checklist coordinator, at the Animal Health Trust this is designated as routine to be the circulating nurse. However, any team member may prompt the checklist, although all team members must be available to participate and at a stage in the procedure where they can cooperate and communicate effectively.

Key points

- Verbal checklist engaging all team members
- <60 seconds per section
- Checklist coordinator responsible
- Checklist coordinator, for brevity, may make a statement of fact if critical steps of the checklist have been communicated to them prior to the checking stage e.g. “Antibiotics have been given”. If there is any doubt, the checklist proceeds with a question being asked, “Have antibiotics been given?”
- Concerns are specific, not general.
- If there are no specific concerns, a team member may respond “No specific concerns”, there is not a requirement to identify problems if there aren’t any.
- WHO make no recommendation as to how steps are achieved and the system is to be introduced in a manner that compliments local practice.
- There is no right or wrong way of performing the checklist – it prompts checking actions/raising awareness rather than enforcing procedures.
- Checklist steps do not need to be verbalised as written but can either prompt a question or a statement of fact in order to satisfy the checklist.
- Checking must not be performed retrospectively – team awareness at the time of surgery is pivotal in the success of the checklist.
SIGN IN

Before the induction of anaesthesia, the anaesthetist and checklist coordinator verbally confirm:

- Identity of patient
  - Patient name tag read aloud and checked against patient notes and signed consent
- Procedure
  - As read from tag, consent form and notes
- Consent
  - Signed consent verified or verbal consent documented

**Example**

“This is Ann Example, case number 08/3432 we have signed consent for a right sided, three-quarter foreleg amputation”

If there is a discrepancy with any information or if any means of identification are missing, then the induction of anaesthesia cannot proceed until rectified.

**Is the surgical site identified?**

Site-specific surgeries must be marked – ideally in the presence of the owner. To avoid any confusion, nail varnish has been suggested as a useful means of identifying surgical sites and will be removed during patient preparation. Superficial lumps are also to be marked, many patients present with multiple pathology – not all for surgical intervention. For single organ sites, no additional means of identification is necessary.

Where applicable, the site will be checked against the patient notes, consent form and patient markings examined and verbally agreed by all team members.

“Ann Example is marked on the right foreleg, as per patient notes and consent”

**Is the anaesthesia machine and medication check complete?**

The risks of anaesthesia are widely acknowledged, a separate drill of checking equipment, monitoring devices and drugs is recommended to avoid accidental and preventable error. Syringe labels are compulsory. Any unlabelled syringes are to be discarded, without exception. The anaesthetists are responsible for checking their own equipment and drugs prior to commencing an anaesthetic.

**Does the patient have a:**

**Known allergy?**
Identified by the pre-surgical evaluation of the patient by the anaesthetist
Difficult airway or increased aspiration risk?
Different techniques may be employed for certain at risk patient and appropriate equipment
crosschecks can be made. Staff awareness is critical in avoiding/dealing with incidents

Checklist coordinator, “Is there a difficult airway or increased aspiration risk?”
Anaesthetist, “Ann Example is brachycephalic, pre oxygenation is required and I need access to
styles and emergency airway kit”.

Risk of >15% blood loss?
Estimates of blood loss should be made prior to surgery though it is acknowledged that unexpected
haemorrhage remains an unplanned event in any surgery and realistic, patient specific concerns can
be addressed at this point. This check should result in team awareness and ensure that adequate IV
access and supplies of appropriate infusions/drugs/equipment are available without delay. Decision
making in the procurement of blood products can be made if not already dealt with.

“Ann Example could lose up to 20%, we’ve planned an extra IV and colloids are in theatre.”

Patient position in theatre (suggested modification)
Within the “TIME OUT” section of original checklist, staff should be aware of the ultimate position of
the patient during surgery, facilitating the planning of:
• Positioning aids/devices
• Anticipated movement
• Arousal of patient during transfer
• Specific equipment/device requirements or management, e.g. securing airway
• IV access
A final crosscheck of positioning is made in “TIME OUT” prior to skin incision.

Antibiotic prophylaxis (suggested modification)
Within the “TIME OUT” section of the original checklist. Requests for prophylactic antibiotics are
made aware to the team as planning and prompt administration of perioperative antibiotics is
widely recognised as being a significant step in reducing/minimising surgical site infections in certain
types of surgery. To be effective, antibiotics must be given within 60 minutes prior to incision. If
cultures are to be obtained, staff must be made aware to avoid inadvertent error. The decision to
administer antibiotics is a surgical decision.

Estimated surgery time is?
Additional step – different surgeons with differing skill levels may vary considerably in planned
surgical time and it is appropriate that this is known to the team in order to deliver safe care to the
patient and assist in planning of surgical lists.
Team designates roles and discusses perioperative plan.
Additional step – the requirements of anaesthetists, nurses and surgeons are discussed and a plan is made to avoid unnecessary delay in the preparation of the patient and roles are designated so everyone knows who is doing what when.

Any concerns?
A final question allowing any team member to raise a question about the proposed delivery of care or make the team aware of any patient specific concerns they have.

TIME OUT
To be completed before the start of surgical intervention, e.g. skin incision. This step should take place before draping and securing the sterile field, however, anaesthesia personnel may not be ready at this stage and it must not take place without their attention.

Surgeon, anaesthetist and nurse verbally confirm:
- Patient name
- Procedure
- Site
- Position
It is acknowledged that surgeons will be moving from one area of the hospital to another and attending multiple patients, this step re-confirms prior to incision the surgeon is familiar with the patient needs.

Anticipated critical events:

Surgeon:
How much blood loss is anticipated? A crosscheck from “SIGN IN”
“Hopefully should be minimal, there is some dissection around the vena cava....”

Are there any specific equipment requirements or special investigations? The surgeon is made aware of what has been prepared and is given the opportunity to request further equipment either to be on the sterile field or available for immediate use. If essential equipment is not available, remedial action can be taken prior to proceeding with the procedure.

Are there any critical or unexpected steps you want the team to know about? In lieu of a team briefing, this is an opportunity to outline and review the surgery and prompt any actions required. “If I nick the vena cava we could have sudden blood loss and I’ll need the vascular set and maybe more suction.”
Anaesthetist:

**Are there any patient specific concerns?** A chance to review in front of the whole team any patient specific concerns and any actions required.

"Hypotension and hypovolaemia - If we have sudden blood loss I’ll need X Y and Z"

**What is the patient ASA grade?**

**What monitoring equipment and other specific levels of support are required?** An opportunity to address equipment needs/concerns and outline specific staffing needs in anticipation of X occurring.

"Can I have a Doppler as NIBP not reading, I’ll need a bag of warm colloid too, can somebody be available to do X."

Theatre Nurse:

**Has the sterility of the instrumentation been confirmed?** Internal sterilisation indicators must be checked prior to commencing surgery.

"Sterility was confirmed on set up and indicators recorded"

**Are there any equipment issues or concerns?** If something is missing or potentially faulty it should be brought to the attention of the team before surgery.

"The vascular set is still in sterilisation and won’t be available for 20 minutes, I have X available instead, is this ok?"

**Has the surgical site infection (SSI) bundle been undertaken?** SSI bundle describes activities in order to minimise surgical site infection. Each section is verbalised and checked.

- **Antibiotic prophylaxis within the last 60 mins?**
- **Patient warming?** Coordinators confirms patients current temperature and lists active warming devices and requests made for further intervention
- **Hair removal?** Final opportunity for further clipping if not adequate
- **Antisepsis?** Confirmation of final preparation and agent used

**Is essential imaging displayed?** Imaging is an essential component of planning some surgical procedures. Its availability within theatre provides a reference and facilitates correct site surgery. All images should be checked for correct patient identification.

**SIGN OUT**

To be completed before the team leaves the operating room.

The checklist coordinator confirms with the team:

**Has the name of the procedure been recorded?** It is not unusual for a procedure to change intraoperatively; it is essential the correct surgical procedure be recorded in the patient notes to ensure staff awareness continues into recovery.

**Has it been confirmed that instruments, swab and sharps counts are complete?** Unintentional retention of surgical objects is avoidable through an established counting procedure, although it is
recognised not to be 100% The surgeon is encouraged to participate in the surgical count by performing a search of the operative site whilst closing counts are in progress.

**Have the specimens been labelled correctly?** Correct identification of surgical specimens is essential; many procedures are solely for the collection of biopsies. The checklist coordinator reads aloud to the team the patients details as labelled and their contents, the surgeon should confirm details to be correct and the samples are processed appropriately. The surgeon is responsible for completing accompanying paperwork.

**Have any equipment problems been identified that need to be addressed?** Equipment malfunctions and errors are easily overlooked when mentioned in passing, a specific crosscheck close to the end of the procedure prompts documentation and remedial action.

Checklist coordinator asks the whole team:
**What are the key concerns for recovery and management of this patient?** Allows for the whole team to review and discuss the surgery, anticipated recovery, and analgesia, feeding and dressing requirements together with any alert triggers for nursing staff. This facilitates handover of the patient back onto the wards and changes implemented in nursing care plans.