peri-operative care series

Much of what we do every day, including working in teams in the operating theatre, centres on practices fraught with preventable errors. The World Health Organization (WHO) predicts that half a million deaths related to surgery could be prevented each year with implementation of their checklist (<http://www.who.int/patientsafety/safesurgery/en/>). The WHO has also estimated that the number of operations performed each year is almost double the annual number of childbirths. Given that operations are more dangerous than childbirth, our complex working lives need a system and culture change.

In today's financially challenged and rapidly changing NHS, patient safety must remain high profile and a key priority. The Safe Surgery Saves Lives campaign is one example of how the WHO surgical safety checklist can reduce harm to patients. Haynes *et al* have shown that deaths are reduced by an impressive 47% and in-hospital complications by 36% after implementation of the checklist.¹

Although the authors accept that some of this improvement may be as a result of the Hawthorne effect, any intervention that supports collaborative teamwork and encourages team members to introduce themselves to each other must be beneficial. After all, how can a member of the theatre staff voice concern or ask questions if the team don't know one another's names?

In practice, team briefings take a few minutes and we need to embrace this change so that checklists do not become a tick-box exercise. In this article, Rachel Vickers discusses the surgical safety checklist and why the points are relevant and important.

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Five steps to safer surgery

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Question

A 35-year-old type-1 diabetic is on an ENT list for an atticotomy. How will using the five steps to safer surgery reduce his risk of peri-operative harm?

Overview

Worldwide, 45% of medical errors occur in the operating theatre and nearly half of these are preventable.² Faced with evidence of avoidable harm, attitudes and practices need to change to promote safer healthcare.

Five Steps to Safer Surgery is a surgical safety checklist. It involves briefing, sign-in, timeout, sign-out and debriefing, and is now advocated by the National Patient Safety Agency (NPSA) for all patients in England and Wales undergoing surgical procedures.³ The medical profession has been slow in adapting such checklists into everyday practice. However, the use of these steps has been shown to decrease death rates from 1.5% to 0.8% and serious complications from 11% to 7%.¹ This article discusses what these five steps in-

volve, issues with their implementation and how they might improve the safety of patients.

Background

The NPSA launched an adaptation of the 2008 WHO surgical safety checklist in January 2009.⁴ Simultaneously, a *Patient Safety Alert* was issued to all NHS organisations in England and Wales promoting the use of the checklist for every patient undergoing a surgical procedure. Additionally, this had to be documented in the patient's notes (or electronic record).

The checklist requires items to be checked at three points of the patient journey through theatre:

- > sign-in
- > timeout (before the start of surgical intervention)
- > sign-out (before any member of team leaves the operating theatre)

Specific checklists have since been issued by the NPSA for maternity, ophthalmology, neurosurgery and interven-

tional radiology procedures. The order of items may be adapted for local practice.

Feedback from initial implementation of the adapted WHO surgical safety checklist suggested that briefing and debriefing was an important part of reducing harm. The three-point checklist was converted to the *Five Steps to Safer Surgery* and was introduced in the *'How to Guide'* produced by the NPSA in December 2010.⁵ Both the NPSA⁴ and the Patient Safety First⁵ campaign produced information and guidance for implementation of the checklists and 100% of hospitals in England and Wales had introduced the checklist by the required date.

Support for implementation is also available in the team-working module of the NHS Institute for Innovation and Improvement's Productive Operating Theatre programme. Table 1 details the specific aspects of the *Five Steps to Safer Surgery* (a summary of the NPSA checklist, *'How to Guide'* information and comments)

Discussion

There are a number of reasons why introduction of the checklists and briefing/debriefing may not always have proceeded in a straightforward manner:

- > Concerns that the operating list might have a delayed start or be hindered – this is especially relevant if there is a significant anaesthetic time.
- > Addressing a problem that does not exist – individuals may mistakenly believe the aim is only to prevent wrong-side operating or instrument/swab retention whereas it addresses these and broader clinical issues such as thromboprophylaxis and reducing surgical infection rates.
- > The need to change to a new checklist when one already existed locally – there is also some argument regarding the need for all things to be discussed for all patients. There can be local adaptation but the items on the NPSA checklist should be used as a minimum.
- > The checklist being a tick-box exercise rather than prompting discussion – it is necessary for the teams involved to prevent this happening.
- > Culture change – implementation requires a culture change to the way teams work and can call for extensive effort. There are a number of people who will champion this approach but senior personnel may resist it.

Table 1 *Five Steps to Safer Surgery*

Step	Timing of intervention	What to discuss (summary)	Comments/challenges
1. Briefing	Before list or each patient (if different staff for each patient, eg emergency list)	Introduction of team/individual roles List order Concerns relating to staff/equipment/surgery/anaesthesia	Local arrangements will determine when the first patient on list is sent for May also include aspects from steps 2 and 3 Could be an opportunity to discuss anticipated breaks during the list (eg lunch) May be difficult to get the team together
2. Sign-in	Before induction of anaesthesia	Confirm patient/procedure/consent form Allergies Airway issues Anticipated blood loss Machine/ medication check	Aspects of step 3 may be done here Surgical site marking should be checked by the surgeon at this point
3. Timeout (stop moment)	Before the start of surgery	Team member introduction Verbal confirmation of patient information Surgical/anaesthetic/nursing issues Surgical site infection bundle Thromboprophylaxis Imaging available	In practice most of this information is discussed before, so this is used as a final check Surgeons may use this opportunity to check that antibiotic prophylaxis has been administered
4. Sign out	Before staff leave theatre	Confirmation of recording of procedure: Instruments, swabs and sharps correct Specimens correctly labelled Equipment issues addressed Post operative management discussed and handed over	Should include all team members (including surgeons and anaesthetists)
5. Debriefing	At the end of the list	Evaluate list Learn from incidents Remedy problems, eg equipment failure Can be used to discuss five-step process	Can be difficult to gather people together to do this Evaluation of the list includes a discussion of what went well

So how might the five-step approach help reduce harm in the previously mentioned patient? The briefing enables members of the theatre team to know one another and what their roles are. Using the checklists would ensure the following:

- > that the patient was first on the list (if possible);
- > that his diabetes care peri-operatively followed best practice;
- > that the requirement for antibiotics was discussed; and
- > that the theatre team was aware that the operation could take a long time, allowing specific attempts to maintain his normothermia, give appropriate thromboprophylaxis and also allow for appropriate staff rotation and breaks.

References

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