The Royal College of Radiologists

Radiology

Standards for the NPSA and RCR safety checklist for radiological interventions

Board of the Faculty of Clinical Radiology
The Royal College of Radiologists

Foreword

The best radiologist I ever met was also the one with the saddest career-ending story. Experienced in hundreds of biopsies, he got the wrong side one day. He was busy and distracted. The radiographers and nursing staff watching the routine case didn't interfere because that wasn't their role. He knew what he was doing. One avoidably dead patient in a whole working lifetime and all that goes with it for so many people. That's all it takes to define an otherwise glittering career. A deep breath, a one-minute chat to the team – a reappraisal of what you are doing, how and why. Staff who are empowered, know their role and are part of the team. That's all it takes to avoid the major complication – the one death.

I would like to thank Dr Raman Uberoi, Dr Sue Barter and Dr Neil Cozens for their help in drafting this document.

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Introduction

The World Health Organization (WHO) *Safe Surgery Saves Lives Checklist* was created by an international group of experts gathered by the WHO, with the aim of improving the safety of patients undergoing surgical procedures around the globe.[1] Clinical testing of the checklist led to the publication of a paper in the *New England Journal of Medicine* in January 2009,[2] demonstrating that significant reductions in surgical morbidity and mortality could be achieved with a simple checklist in diverse clinical settings during a wide variety of operative procedures. The National Patient Safety Agency (NPSA) supported by the then Chief Medical Officer, Sir Liam Donaldson, and the Health Minister (Lord Darzi of Denham) issued an alert requiring all healthcare organisations in England and Wales to implement the WHO Surgical Safety Checklist by February 2010.[3]

In March 2009, The Royal College of Radiologists (RCR) published its guidelines for radiologists in implementing the NPSA Safe Surgery requirement.[4] Subsequently, collaboration between the NPSA and the RCR has further developed a specific checklist adapted for radiological interventions, based upon the WHO Surgical Safety Checklist, available to download from NPSA website (Appendix 1).[5]

The checklist is not intended to replace current good practice or protocols already in place, but is an additional safeguard. The checklist is designed to act as a 'pause' – to reflect – before embarking on any procedure which requires the insertion of a needle into a patient for the purpose of biopsy or other intervention. We have a duty of care to our patients to 'do no harm'; implementation of the checklist in surgery has proven benefits, adoption of the radiological version is likely to confer significant safety benefits to our patients.

Although the NPSA is not a regulatory organisation, compliance is encouraged through the Annual Health Check of UK NHS trusts by the Care Quality Commission.

It is the aim of this document:

- To describe the role of the NPSA and RCR safety checklist for radiological interventions
- To set standards for its integration into interventional radiological practice
- To assist the process of local implementation of the checklist.

Standards for safety in radiological interventions

Any procedure that requires needle insertion into a patient has the potential for catastrophic consequences. Therefore, the NPSA has clearly identified that the checklist should apply to all patients undergoing invasive procedures (defined as a procedure which is dependent on penetration of the skin, other than placement of intravenous [IV] access) under general or local anaesthesia.

Ten core standards were specified by the WHO during development of its safety checklist; these have been copied or adapted to define the expected standards for radiological interventions below.

1. The team will perform the procedure on the correct patient at the correct site.
2. The team will recognise and effectively prepare for risk of high blood loss and check risk factors for bleeding and renal failure.
3. The team will avoid inducing any allergic or adverse drug reaction known to be a significant risk for the patient.
4. The team will consistently use methods known to minimise risk of procedural site infection.
5. The team will ensure relevant imaging is available and reviewed prior to the procedure
6. The team will ensure the required equipment is available and in date.
7. The team will prevent inadvertent retention of instruments or invasive equipment within the patient.
8. The team will secure and accurately identify all tissue specimens.
9. The team will effectively communicate and exchange critical patient information for the safe conduct of the procedure.
10. Appropriate audit of the implementation and use of the radiological checklist will be undertaken.

Additional standards can be found below for use where appropriate.

11. The team will use methods known to prevent harm from anaesthetic administration, while protecting the patient from pain.
12. The team will recognise and effectively prepare for life-threatening loss of airway or respiratory function.

Implementation of the safety checklist for radiological interventions

The checklist has three component parts for each patient, which can provide vital prompts to support clinical teams and verification of critical safety steps that assure the safety of the patient:

- Sign in
- Time out
- Sign out.

Each of these steps is designed to take under a minute.

Although everyone in the team is involved, one person should be responsible for reading out the checklist. This will often be the radiology nurse but it can be anyone participating in the procedure. The team should not progress to the next phase of the procedure until each step is satisfactorily addressed.

The checklist should be introduced into radiology departments as part of a wider process which includes a 'team brief' before the list starts and a 'team debrief' at the end of the list (Appendix 2). It is meant to be a tool to drive improvements in communication and teamwork. The checklist is deliberately concise to encourage effective use.

Local adaptation of this checklist for specific procedures and to reflect local practice is actively encouraged to ensure it is integrated into clinical practice effectively. This may mean that some of the interventions are moved to a different step in the checklist; for example, from time out to sign in. Any adaptations should be undertaken in accordance with the local clinical governance scrutiny process. This is also the advised route to decide if any radiological procedures may be appropriate to omit from the checklist process. The WHO provides succinct advice for local adaptation.[6]

Implementation within local radiology departments is best undertaken on a small scale, by staff enthusiastic to adopt it, with ongoing local adaptation, testing and reviewing improvements before systematically and carefully extending it to other areas, with the aim of adopting it throughout the department for all appropriate procedures.[7]

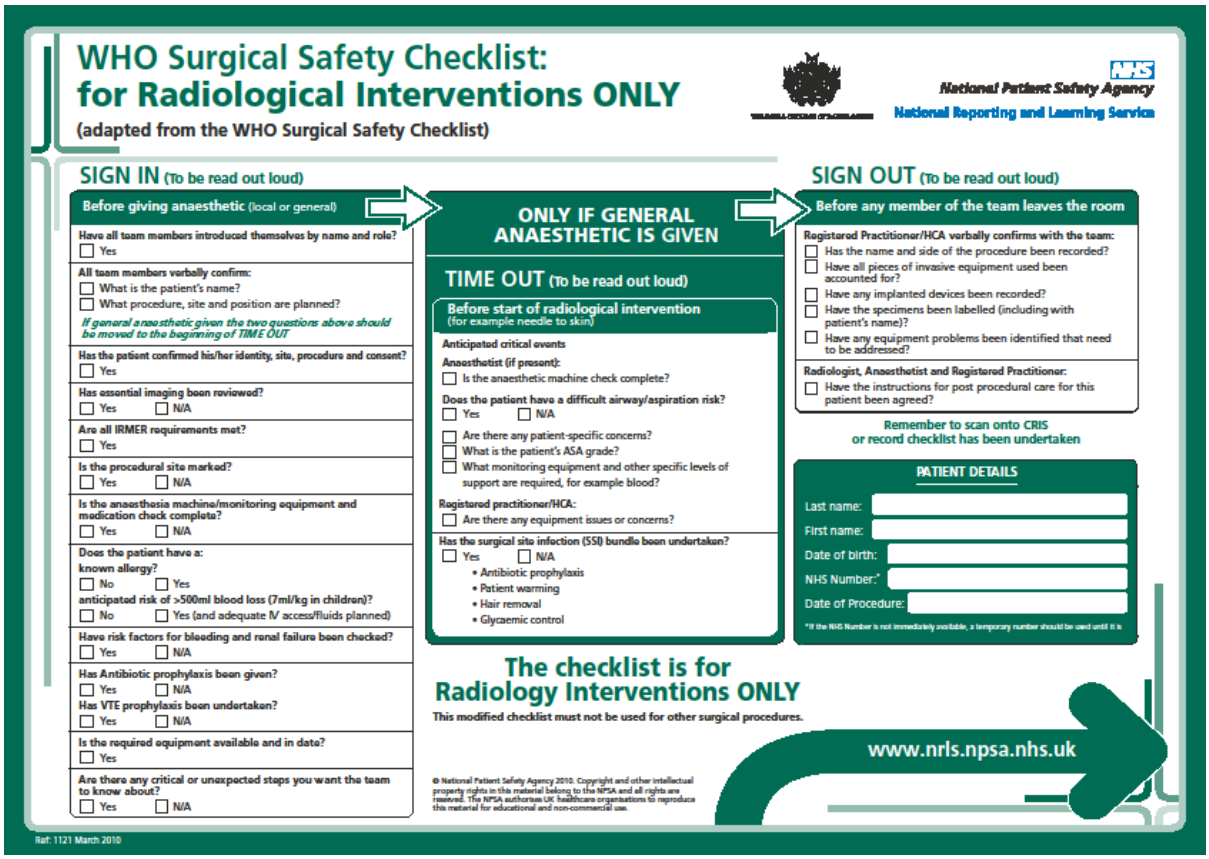
The means of recording and confirming that the checklist has been used is also dependent upon local clinical governance arrangements. It does not have to include ticking all the boxes and signing the checklist, but the minimum expected requirement is that the use of the checklist is entered into either the clinical notes or electronic record. Where feasible, scanning the appropriately completed checklist into the electronic patient radiology information system would be ideal.

Approved by the Board of the Faculty of Clinical Radiology: 22 October 2010

References

1. World Health Organization. *Safe Surgery Saves Lives FAQ*. http://www.who.int/patientsafety/safesurgery/knowledge_base/faq.pdf (last accessed 12/11/10)
2. Haynes AB, Weiser TG, Berry WR *et al*. A surgical safety checklist to reduce morbidity and mortality in a global population. *New Engl J Med* 2009; **360:** 491–499.
3. National Patient Safety Agency. *Patient Safety Update. WHO Surgical Safety Checklist*. London: NPSA, 2009.
4. The Royal College of Radiologists. Guidelines for radiologists in implementing the NPSA Safe Surgery requirement. London: The Royal College of Radiologists, 2009.
5. National Patient Safety Agency, The Royal College of Radiologists. *WHO Surgical Safety Checklist: for radiological interventions only*. http://www.nrls.npsa.nhs.uk/resources/?entryid45=73612 (last accessed 12/11/10)
6. World Health Organization. *The WHO Surgical Safety Checklist : Adaptation Guide.* http://www.who.int/patientsafety/safesurgery/checklist_adaptation.pdf (last accessed 12/11/10)
7. World Health Organization. *World Health Organization Safe Surgery Saves Lives: Starter Kit for Surgical Checklist Implementation.* http://www.who.int/patientsafety/safesurgery/testing/participate/starter_kit-sssl.pdf (last accessed 12/11/10)

Appendix 1. The checklist



WHO Surgical Safety Checklist: for Radiological Interventions ONLY

(adapted from the WHO Surgical Safety Checklist)

National Patient Safety Agency
National Reporting and Learning Service

SIGN IN (To be read out loud)

Before giving anaesthetic (local or general)

Have all team members introduced themselves by name and role?
☐ Yes

All team members verbally confirm:
☐ What is the patient's name?
☐ What procedure, site and position are planned?
If general anaesthetic given the two questions above should be moved to the beginning of TIME OUT

Has the patient confirmed his/her identity, site, procedure and consent?
☐ Yes

Has essential imaging been reviewed?
☐ Yes ☐ N/A

Are all IRMER requirements met?
☐ Yes

Is the procedural site marked?
☐ Yes ☐ N/A

Is the anaesthesia machine/monitoring equipment and medication check complete?
☐ Yes ☐ N/A

Does the patient have a:
known allergy?
☐ No ☐ Yes
anticipated risk of >500ml blood loss (7ml/kg in children)?
☐ No ☐ Yes (and adequate IV access/fluids planned)

Have risk factors for bleeding and renal failure been checked?
☐ Yes ☐ N/A

Has Antibiotic prophylaxis been given?
☐ Yes ☐ N/A
Has VTE prophylaxis been undertaken?
☐ Yes ☐ N/A

Is the required equipment available and in date?
☐ Yes

Are there any critical or unexpected steps you want the team to know about?
☐ Yes ☐ N/A

ONLY IF GENERAL ANAESTHETIC IS GIVEN

TIME OUT (To be read out loud)

Before start of radiological intervention
(for example needle to skin)

Anticipated critical events

Anaesthetist (if present):
☐ Is the anaesthetic machine check complete?

Does the patient have a difficult airway/aspiration risk?
☐ Yes ☐ N/A

☐ Are there any patient-specific concerns?
☐ What is the patient's ASA grade?
☐ What monitoring equipment and other specific levels of support are required, for example blood?

Registered practitioner/HCA:
☐ Are there any equipment issues or concerns?

Has the surgical site infection (SSI) bundle been undertaken?
☐ Yes ☐ N/A
- Antibiotic prophylaxis
- Patient warming
- Hair removal
- Glycaemic control

SIGN OUT (To be read out loud)

Before any member of the team leaves the room

Registered Practitioner/HCA verbally confirms with the team:
☐ Has the name and side of the procedure been recorded?
☐ Have all pieces of invasive equipment used been accounted for?
☐ Have any implanted devices been recorded?
☐ Have the specimens been labelled (including with patient's name)?
☐ Have any equipment problems been identified that need to be addressed?

Radiologist, Anaesthetist and Registered Practitioner:
☐ Have the instructions for post procedural care for this patient been agreed?

Remember to scan onto CRIS
or record checklist has been undertaken

PATIENT DETAILS

Last name:
First name:
Date of birth:
NHS Number:*
Date of Procedure:

*If the NHS Number is not immediately available, a temporary number should be used until it is

The checklist is for Radiology Interventions ONLY

This modified checklist must not be used for other surgical procedures.

www.nrls.npsa.nhs.uk

Ref: 1121 March 2010

Appendix 2. Quick guide to briefing

When	Initiate the safety briefing before the first case of the day, once all team members are available in the department
Who is leading the briefing?	It can be any member of staff Consider rotating the lead, including and encouraging junior staff/trainees
People	Team members introduce themselves Clarify roles, responsibilities, actions and interactions – who's doing, what, where, when? Who's missing? Does everyone feel comfortable about today? Qualify any supervision/assessment considerations Remember we're part of a team Everybody has a valid role, perspective and opinion Additional personnel, eg, multi-specialty case/perfusionists/radiography
List	Highlight any issues arising from the previous list's debrief Overview of the list Any changes? Anticipated events, eg, fire alarm test, industry observer Details of each case Be clear about the plan, expectations, special considerations, eg, latex allergy/positioning
Equipment	What, where, when and how? Loan equipment Decontamination issues Consumables
Questions and concerns	Check for any misunderstandings Ask the team to highlight potential risks and hazards Identify and discuss contingency and mitigation plans Agree when the debrief will be performed

Quick guide to debriefing

When	Perform the debrief before team members start leaving the theatre/department
Why	Aim is to improve versus blame Opportunity to close the loop on team learning Capture problems, trends and near misses
Who is leading the debriefing?	It can be any member of the team Consider rotating the lead including students and trainees Consider giving the lead to the team member who is often the first to leave the theatre
How to debrief	Reflect; sharing information and perspectives Own personal views, start sentence with 'I' No direct criticism or blame Openness and honesty Encourage everyone to contribute Acknowledge, glitches, mistakes, distractions and interruptions Reflect on your own work as well as others Think about individual, team and system contributors to events End on a high/positive learning point
What went well and why?	Did you work as well as you could have? If not, why? Did you speak up when you needed to? Was the whole team present? Did we work well as a team – were we well prepared? How was the atmosphere in theatre? Was the briefing beneficial? Was anything missed out?
What didn't go well and why?	Were there any times when you didn't know what was going on? Were there any surprises? Were there any errors? Violations? Were there any potential errors or glitches? Were they linked to: ▪ Equipment? ▪ Leadership? ▪ Environment? ▪ Communication? ▪ Process? ▪ Decision-making? ▪ Planning? ▪ Training? ▪ Time pressures? ▪ Staffing? ▪ Distraction/interference ▪ External influences ▪ What's happening in the trust?
Close the loop Record, feedback and action	Record successes and learning points What do we need to change? Does anything require escalation? What can we do ourselves? Who will take forward? What do we need external or senior support for? Who will take forward? Record actions

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