Standards for the NPSA and RCR safety checklist for radiological interventions
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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Dean of the Faculty of Clinical Radiology
The Royal College of Radiologists
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.

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.

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

Appendix 1. The checklist

WHO Surgical Safety Checklist: for Radiological Interventions ONLY
(adapted from the WHO Surgical Safety Checklist)

SIGN IN (to be read out loud)
Before giving anaesthetic (local or general)

SIGN OUT (to be read out loud)
Before any member of the team leaves the room

ONLY IF GENERAL ANAESTHETIC IS GIVEN

TIME OUT (to be read out loud)
Before start of radiological intervention for example needs to do:

Additional information

The checklist is for Radiology Interventions ONLY
This modified checklist must not be used for other surgical procedures.

www.nrls.npsa.nhs.uk
## Appendix 2. Quick guide to briefing

<table>
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<th>When</th>
<th>Initiate the safety briefing before the first case of the day, once all team members are available in the department</th>
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| 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

<table>
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<tr>
<th><strong>When</strong></th>
<th>Perform the debrief before team members start leaving the theatre/department</th>
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| **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 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 |