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Objectives

- WHO Radiology check list
- Compliance rates
- Audit cycle – improving practice
- Practice implications & the next steps
Introduction - Errors are common

- More than 230 million operations every year
- 10% of hospitalized patients experience a patient safety incident
- 50% of these are preventable
- 971 deaths in the UK (Jan 2005 - Sept 2008)

A checklist is...

- A formal list used to identify, schedule, compare or verify a group of elements
- Used as visual or oral aid that enables the user to overcome limitations of short-term human memory
A simple checklist

- Simple checklists have significantly reduced morbidity and mortality in surgery
- National Patient Safety Agency (NPSA) between 2005 and 2008
- The WHO Radiology checklist introduced throughout England and Wales 2010

Evidence of impact in surgery

- Before
  - Death rate = 1.5%
  - Complications = 11.0%

- Afterward
  - Death rate = 0.8%
  - (P = 0.003)
  - Complication = 7.0%
    - (P<0.001)
The reality...

- Jan 2009
  - NPSA, CMO, DH, Lord Darzi Guidelines
  - “All health organisations must do check list by Feb 2010”

- March 2009
  - Royal College Radiologists (RCR) Guidelines
  - “All diagnostic and Interventional Radiology procedures requiring local and general anaesthetics”
• Involve all staff in radiology department
• Find out existing local policies and develop protocol that complies
• Have an open discussion about merits & obstacles of using the checklist
• Take a step by step approach to creating an effective process
• Developed by those that use them and flexible enough to adapt to different procedure

Royal College Radiologists (RCR) Guidelines

Checklist Content

• Patient details
• Request form
• Consent
• Allergies
  • Bloods reviewed
    • Hb, INR, Plt, eGFR/Cr
• Blood loss
  • Cross matched
• Site marked
• Prescribed
  • Sedation, analgesia, antiemetic
• BP/Pulse monitoring
• Essential imaging reviewed
• Post procedure - ward informed of after care

Check list scanned into PACS
Aim

• The RCR recommends implementation of WHO checklist in all interventional procedures involving any form of anesthesia.

• Standard: 100% of all Interventional Procedures
Method

- Retrospective analysis
- Radiology information systems of two departments
  - Aintree University Hospital NHS Trust (hospital A)
  - Wirral University Teaching Hospital NHS Trust (hospital B)
- CT and Fluoroscopy guided interventional procedures
- One month period in 2010
- Trainee lead educational campaign
- Repeated study in 2011

WHO Proforma

- Checklist done
- Any significant findings
- Procedure cancelled
- Procedure modified
- Patient re-booked

<table>
<thead>
<tr>
<th>WHO Proforma Audit</th>
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<tbody>
<tr>
<td>- Cris no</td>
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<tr>
<td>- Date of procedure</td>
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<tr>
<td>- Name of procedure</td>
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<tr>
<td>- WHO check done</td>
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<td>- Yes</td>
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<td>- No</td>
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</tbody>
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- If WHO check done
  - Any significant findings noted on WHO check
    - Yes
    - No

- If yes to above tick one of the below or fill the information.
  - a) Procedure cancelled all together
  - b) Procedure modified
  - c) Patient rebooked
  - d) Other

- Follow-up of any equipment problems
  - Yes
  - No
Audit weakness

- Missed data - Checklist performed but not recorded e.g. during out of normal hours on call
- US guided procedures not included

Trainee led intervention

- Nominated Trainee for each Hospital
- A systematic review of the checklist process
- Active involvement of departments
  - Interventional Consultants
  - Key radiographers
- Informative Lectures and posters
- Regular Updates
Results

- One month (Nov – Dec) in 2010 and 2011 (Hospital B)
- Procedures 2010 = 123
- Procedures 2011 = 119
  - Vascular e.g. Angioplasty, embolization
  - Abdominal e.g. Stents, Tubograms

Results – Procedure mix
Compliance - Aintree (Hospital A)

Compliance - Arrow Park (Hospital B)
Summary

Problems identified

- Findings
  - 42x Allergies e.g. medication and latex
  - High INR, no Bloods or Cross matching

- 2 x Abandoned procedure

- Equipment availability or failures

- Incomplete checklists

- No electronic Record of checklist performed
Conclusion

• Lower than expected Radiology WHO Checklist compliance rates in multiple institutes

• Coordinated trainee-led educational program improved compliance

• Significant improvement in Patient safety standards

Recommendations

• Verbal confirmation of checklist
  • Everyone in the room, including the patient, are encouraged to respond (e.g. confirmation of allergy status, antibiotic or VTE prophylaxis)

• Completed Checklist scanned into patient electronic radiology record
Recommendations

- WHO Check list - All invasive procedures
- Formal listed of exceptions – department policy
- Introduce a nominated “check list Officer”
- Active involvement of key stakeholders

Exclusions?

- Tubograms/Linograms
- PICC lines
- HSG
What's next locally

- Reminder and promotional posters in Interventional Radiology, CT and Ultrasound departments
- Introduce electronic recording of WHO checklist in all departments
- Re-audit in 12 months

The next steps:

- More Hospitals
  - Large Trauma centres
  - Smaller district departments
- Collaboration with Quality Improvement body
- National and International Presentations to raise awareness
- RCR national Audit
Acknowledgements

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- PACS teams
- AQUA Advanced Quality Alliance

References


Questions

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