Gloucestershire Hospitals NHS
NHS Foundation Trust

WHO Checklist - The Writing's on the Wall

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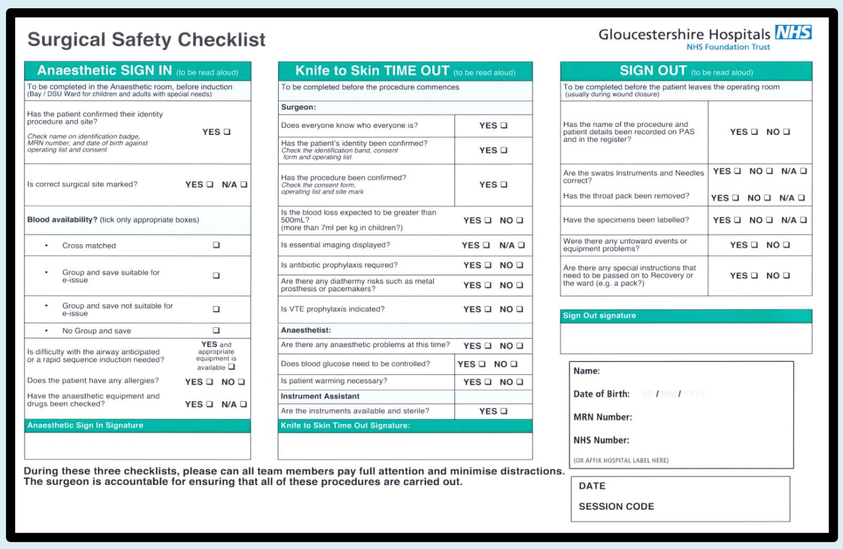
Introduction

The World Health Organisation (WHO) Surgical Safety Checklist, introduced in 2008, has been shown to improve patient safety, as well as improving teamwork and communication in theatres. [1,2] However, the ability to bring about these improvements appears to be related to the style of implementation used, and the engagement of clinical teams, rather than the introduction per se. In the NHS between April 2017 and March 2018 there were 209 wrong-site surgeries. [3] Currently, there is no standardised way the checklist is performed, and in Gloucester Royal Hospital and Cheltenham General Hospital, a paper checklist was used (see below).



Surgical Safety Checklist — Gloucestershire Hospitals NHS, NHS Foundation Trust

Anaesthetic SIGN IN (to be read aloud)
To be completed in the Anaesthetic room, before induction (Bay / DSU Ward for children and adults with special needs)

Has the patient confirmed their identity procedure and site? *Check name on identification badge, MRN number, and date of birth against operating list and consent*	YES ❑
Is correct surgical site marked?	YES ❑ N/A ❑
Blood availability? (tick only appropriate boxes)	
• Cross matched	❑
• Group and save suitable for e-issue	❑
• Group and save not suitable for e-issue	❑
• No Group and save	❑
Is difficulty with the airway anticipated or a rapid sequence induction needed?	YES and appropriate equipment is available ❑
Does the patient have any allergies?	YES ❑ NO ❑
Have the anaesthetic equipment and drugs been checked?	YES ❑ N/A ❑

Anaesthetic Sign In Signature

Knife to Skin TIME OUT (to be read aloud)
To be completed before the procedure commences

Surgeon:	
Does everyone know who everyone is?	YES ❑
Has the patient's identity been confirmed? *Check the identification band, consent form and operating list*	YES ❑
Has the procedure been confirmed? *Check the consent form, operating list and site mark*	YES ❑
Is the blood loss expected to be greater than 500mL? (more than 7ml per kg in children?)	YES ❑ NO ❑
Is essential imaging displayed?	YES ❑ N/A ❑
Is antibiotic prophylaxis required?	YES ❑ NO ❑
Are there any diathermy risks such as metal prosthesis or pacemakers?	YES ❑ NO ❑
Is VTE prophylaxis indicated?	YES ❑ NO ❑
Anaesthetist:	
Are there any anaesthetic problems at this time?	YES ❑ NO ❑
Does blood glucose need to be controlled?	YES ❑ NO ❑
Is patient warming necessary?	YES ❑ NO ❑
Instrument Assistant	
Are the instruments available and sterile?	YES ❑

Knife to Skin Time Out Signature:

SIGN OUT (to be read aloud)
To be completed before the patient leaves the operating room (usually during wound closure)

Has the name of the procedure and patient details been recorded on PAS and in the register?	YES ❑ NO ❑
Are the swabs Instruments and Needles correct?	YES ❑ NO ❑ N/A ❑
Has the throat pack been removed?	YES ❑ NO ❑ N/A ❑
Have the specimens been labelled?	YES ❑ NO ❑ N/A ❑
Were there any untoward events or equipment problems?	YES ❑ NO ❑
Are there any special instructions that need to be passed on to Recovery or the ward (e.g. a pack?)	YES ❑ NO ❑

Sign Out signature

Name:
Date of Birth: DD / MM / YYYY
MRN Number:
NHS Number:
(OR AFFIX HOSPITAL LABEL HERE)

DATE
SESSION CODE

During these three checklists, please can all team members pay full attention and minimise distractions. The surgeon is accountable for ensuring that all of these procedures are carried out.

Figure 1. Paper WHO Surgical Safety Checklist used in Gloucester and Cheltenham hospitals

Review of current practice

In April 2018, an online survey of 110 theatre staff and an audit was carried out.

Audit
10-day period
97 'sign ins' and 'time outs' captured

Checklist done before every operation.
Not all points discussed.
Compliance with completing all sections of 'sign in' was 68% and for 'time out' was 87%.
During 'time out' full engagement by the entire theatre team was achieved 58% of the time.

Causes for distraction: scrubbing up, adjusting monitoring, administering drugs, writing in the notes.

Aim

To achieve 90% compliance and engagement with the WHO Surgical Safety Checklist by the entire theatre team by April 2019.

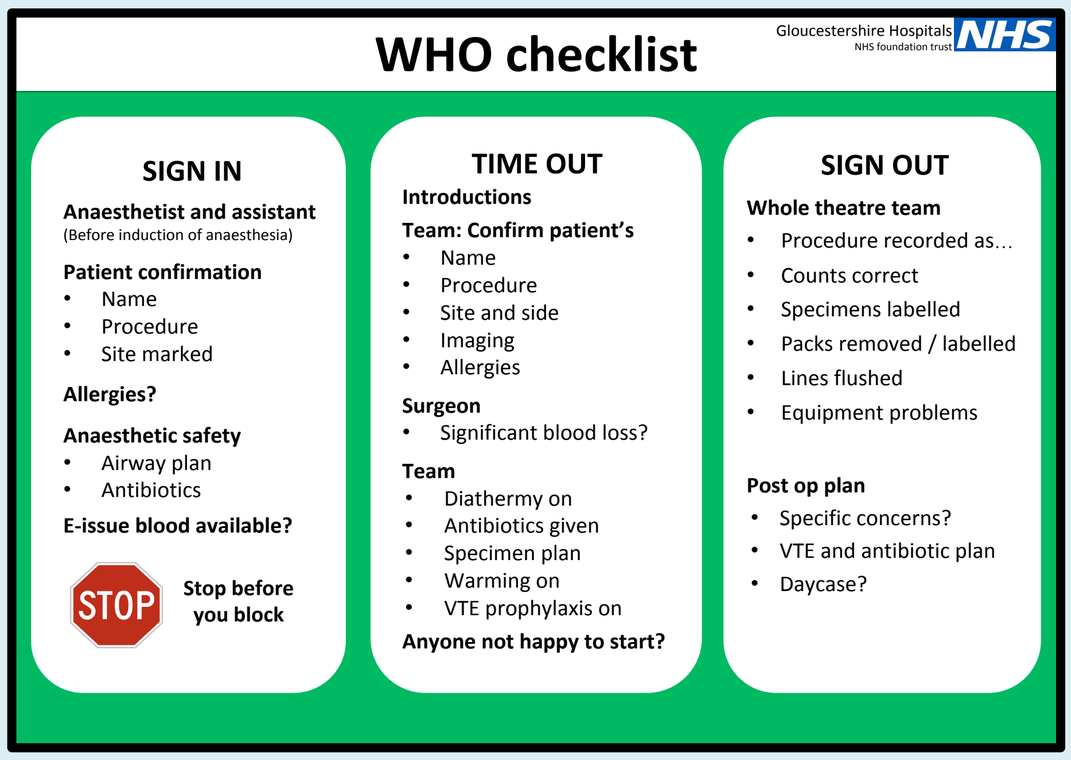
Driver Diagram

Aim	Primary Drivers	Secondary Drivers	Change Ideas
Improve compliance and engagement with the WHO Surgical Safety Checklist	Checklist	Environment	Move from a paper checklist to a wall-mounted checklist
		Team	Change timing of 'time out' to immediately prior to knife to skin
		Documentation	Improve layout Refine points Include 'stop before you block' section
	Staff	Training	Regular emails to staff
			Simulation sessions
			Posters outlining change
			Online video of new checklist in use

Outcome measures
- Percentage of compliance
- Percentage of engagement

Implementing Change

The wall-mounted checklist was designed, and trialled in one of the general theatres in Gloucester Royal Hospital in September 2018.



WHO checklist — Gloucestershire Hospitals NHS foundation trust

SIGN IN
Anaesthetist and assistant
(Before induction of anaesthesia)
Patient confirmation
- Name
- Procedure
- Site marked

Allergies?
Anaesthetic safety
- Airway plan
- Antibiotics

E-issue blood available?

STOP — **Stop before you block**

TIME OUT
Introductions
Team: Confirm patient's
- Name
- Procedure
- Site and side
- Imaging
- Allergies

Surgeon
- Significant blood loss?

Team
- Diathermy on
- Antibiotics given
- Specimen plan
- Warming on
- VTE prophylaxis on

Anyone not happy to start?

SIGN OUT
Whole theatre team
- Procedure recorded as…
- Counts correct
- Specimens labelled
- Packs removed / labelled
- Lines flushed
- Equipment problems

Post op plan
- Specific concerns?
- VTE and antibiotic plan
- Daycase?

Figure 2. Wall-Mounted WHO Surgical Safety Checklist

Re-audit and Results

In September 2018 the new checklist was re-audited. Data was collected over a 5-day period. 17 'signs ins', 'time outs', and 'sign outs' were captured.

Findings
- The new process was well received.
- Compliance improved from 68% to 92% with completing all sections of 'sign in' and from 87% to 93% with 'time out'.
- Engagement by the entire theatre team was achieved 100% of the time, compared to 58% of the time with the paper checklist.

Next steps
- Adjustments made, and new checklist trialled in all theatres in stages.
- Re-audit in December 2018 following trial in orthopaedic theatres. 23 'signs ins', 'time outs', and 'sign outs' captured. Compliance improved further to 99% for 'sign in' and 100% for 'time out', and full engagement was maintained at 100%.

Re-audit and Results continued

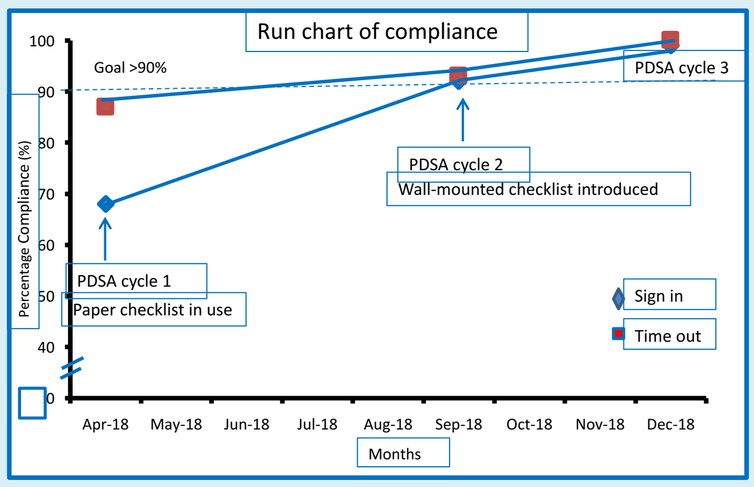


Figure 3. Run chart showing compliance with completing all sections of 'sign in' and 'time out'. Initial audit and re-audits (PDSA cycles) shown.

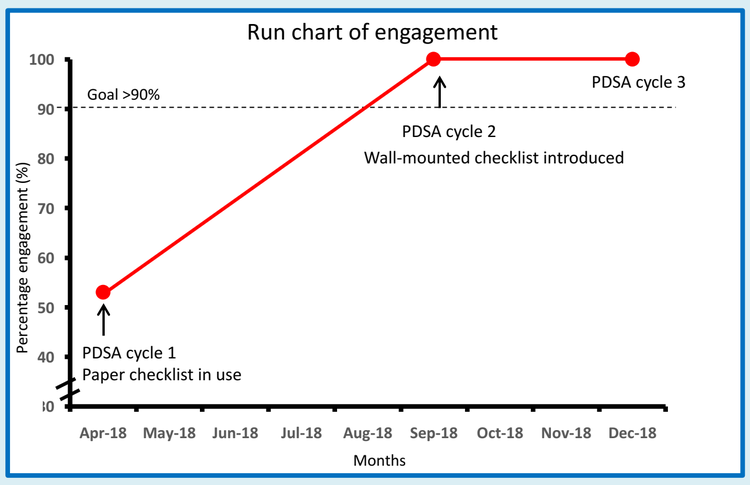


Figure 4. Run chart showing engagement with 'time out' by the entire theatre team. Initial audit and re-audits (PDSA cycles) shown.

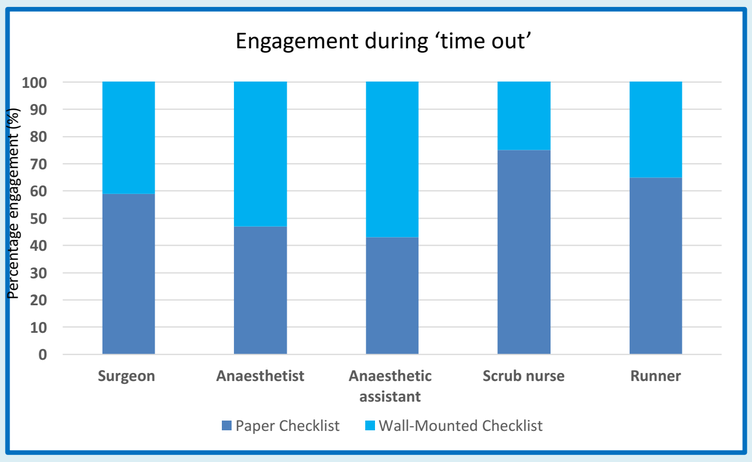


Figure 5. Bar chart showing engagement with 'time out' by theatre staff using the paper checklist (PDSA cycle 1) and wall-mounted checklist (PDSA cycle 2 and 3) .

Plan-Do-Study-Act (PDSA) Cycles

April 2018	May 2018	September 2018	December 2018	April 2019	The next step
• Paper checklist in use • Audit and survey	• Wall-mounted checklist designed • Presentations at anaesthetic and surgical meetings	• Trialled in 1 general theatre • Re-audit, feedback, adjustments	• Trialled in all general theatres, gynaecology, urology, orthopaedics • Re-audit, feedback, adjustments • Presentations, emails, posters, and simulation sessions arranged	• New checklist rolled out across the Trust • Video of the checklist in use produced • Documentation included in the theatre register	• Re-audit and feedback • Documentation to be included electronically on TrakCare

References
1. Haynes AB et al (2009). A surgical safety checklist to reduce morbidity and mortality in a global population. N Engl J Med, 360, 491-9
2. World Health Organisation. Safe Surgery Saves Lives. Second Global Patient Safety Challenge. (2008). [Brochure]. https://www.who.int/patientsafety/safesurgery/knowledge_base/SSSL_Brochure_finalJun08.pdf
3. Never Events data summary for 2017/2018 pdf. NHS England and NHS Improvements. https://improvement.nhs.uk/resources/never-events-data/