

# The Productive Operating Theatre

*Building teams for safer care™*

## ***Team-working***

### **Version 1**

This document is for theatre managers, theatre matrons, theatre coordinators, theatre staff, anaesthetists, surgeons, improvement leads, and those with a role in improving patient safety.



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The Productive Operating Theatre

## ***Team-working***

### **Purpose of this module**

This module will help you to improve patient safety in the operating theatre. By applying safety techniques taken from aviation and other high-risk industries, this guide will help you to recognise the importance of both the technical skills that you have and the non-technical skills such as communication. It will help you to understand the importance of good team-working and the positive impact this has on the quality and safety of care your operating team delivers.

By implementing this module, you will gain an understanding of how the performance of your team can be enhanced by improved communication. It will show you how implementing tools such as briefing and debriefing can help your team to

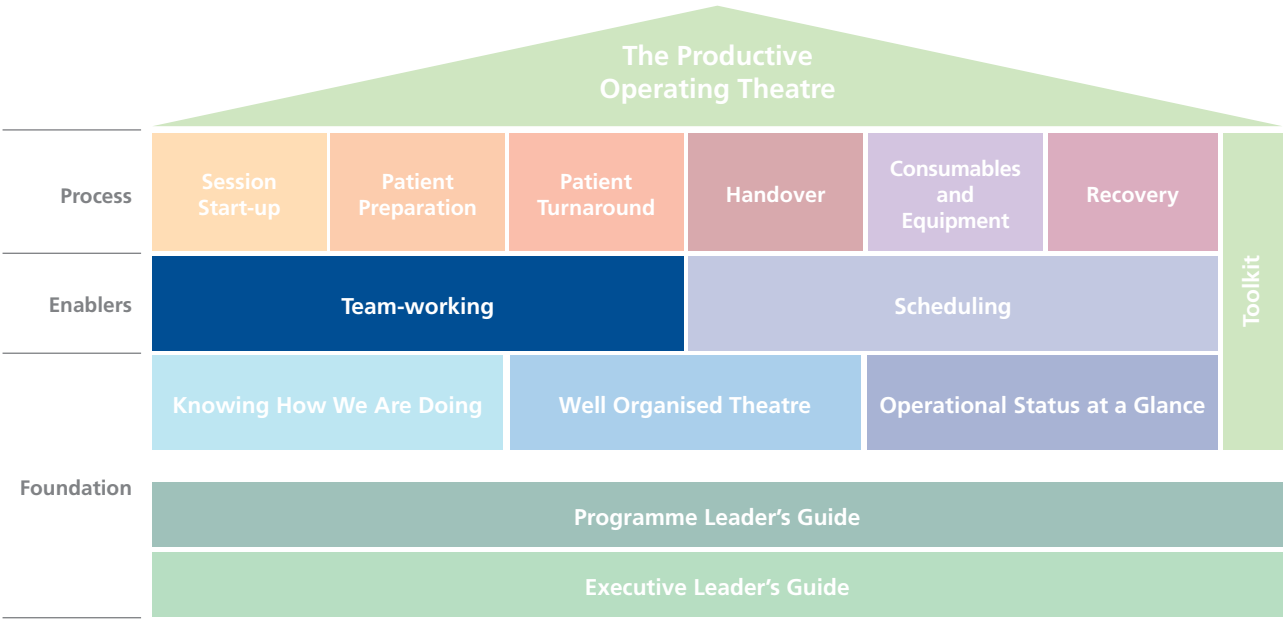
- create a calmer working environment for staff and patients
- avoid errors and prevent mistakes from occurring or causing harm to patients
- reduce hierarchies and give everyone an equal voice
- create a shared plan for the list to reduce the opportunity for surprises
- review the list and identify any issues or glitches that can be removed/eradicated.

Better team-working and communication will ensure that everyone in the multidisciplinary team feels able to raise concerns and to ask questions. This not only improves patient safety but also increases staff wellbeing and creates an environment which supports learning and continuous improvement.

*'Team-working has saved patients from morbidity if not mortality within the first three months of using it. It's actually a lifeline for the patient that we should be using to prevent us from getting it wrong.'*

Richard Berrisford - consultant thoracic surgeon, Royal Devon and Exeter NHS Foundation Trust

These modules create The Productive Operating Theatre





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# 1. *What is the Team-working module?*

## What is it?

The Team-working module focuses on enhancing multidisciplinary team-working within operating theatres. By developing and implementing communication tools, such as briefing, debriefing, World Health Organisation surgical safety checklist (WHO checklist) and SBAR (Situation – Background – Assessment – Recommendation), teams can improve patient safety by reducing mistakes and errors and create a better working atmosphere for the theatre team. This can lead to an improvement in the safety culture in your theatres and reduce glitches, errors and avoidable harm to patients. Improved team-working also has a positive effect on staff morale and efficiency.

## Why do it?

- Improve patient safety by:
  - continuously reviewing how you perform as a team
  - introducing clear concise methods of communication – reducing the likelihood of misunderstanding
  - providing all team members with a way to highlight their concerns when they think an error or incident may occur
  - providing an opportunity to discuss and prepare for issues that may arise throughout the day.
- Enhance team communication by
  - understanding the factors that impact your own and your team's performance
  - understanding yourself and your colleagues better and how you affect each other
  - becoming aware of factors which undermine concentration and situation awareness.
- Create a better working atmosphere and improve staff wellbeing.
- Reduce wasted time through more efficient lists.
- Create energy for change and drive for continuous improvement.

*'We are helping to make theatre teams, but at the same time we are turning individuals into team players who can then slot into any team that uses our philosophy.'*

**Gordon Cross - consultant anaesthetist, Medway NHS Foundation Trust**

### What it covers

- An introduction to some aspects of human factors and non-technical skills definitions.
- How to run a team-working session for your theatre staff to help raise awareness of how humans make errors and how you can prevent them or reduce their impact.
- How to implement some key processes:
  - briefing and debriefing
  - adapting and successfully implementing the WHO checklist
  - SBAR – a communication and handover tool, as well as other important communication tools.

### What it does not cover

- This module does not tell you what to implement, but provides you with a process to evolve, test and implement your own methods to improve team-working.
- Skill mix and role redesign.
- How the design of machines and the interface between man and machine can influence error rates (ergonomics).

*'Team-work is the transformational module of the whole programme. Once the surgeons and anaesthetists see the benefit of brief and debrief in reducing glitches and avoiding errors they are keen to be involved in all aspects of The Productive Operating Theatre programme. We also noticed a massive cultural change after implementing brief and debrief especially around team communication during surgery.'*

**Lisa Elliott - service improvement lead, Central Manchester University NHS Foundation Trust**

## Learning objectives

After completing this module it is expected that your team will:

- understand the impact that individual behaviours can have on team dynamics and performance
- understand how they can contribute to the avoidance of errors and improve patient safety
- understand the importance of, and be able to:
  - conduct a brief and debrief and learn from experience
  - apply the principles of the WHO checklist
  - be confident in the use of SBAR in daily communication
- implement and maintain local systems and procedures to support brief, WHO checklist and debrief
- improve the quality of communication within the team using communication tools such as SBAR to deliver safer, more effective care to patients.

## What tools will you need?

Tool	Toolkit section reference number
Meetings	1
Interviews	7
Photographs	8
Module action planner	13
Glitch count	20

## What is team-working and human factors

### What is a team?

*'A set of people working together' Oxford English Dictionary*


A team is not only a set of people working together: it is a set of people working towards a common goal. In healthcare the collective common goal should always be focused on the patient. Non-technical skills (such as how to communicate effectively) will enhance individual and team performance to the benefit of the team as a whole and make a significant contribution towards improving patient safety.

There are big differences in perceptions of team-working. Surgeons usually rate the communications within their team much more highly than nurses in the same department. This is partly due to the hesitancy of many nurses to speak up when they think something might be going wrong.

That is why the application of communication tools can enhance team performance. This module covers some of the tools that can reduce the impact of human factors on individual performance and enhance the performance of the team as a whole.

## Learning from other industries

There is compelling evidence that improvements in safety within healthcare depend on the application of scientific evidence about human performance<sup>1</sup>. Current research demonstrates that factors – human factors – known to affect the performance of healthcare professionals are similar to those in other high-risk industries, such as aviation, oil and nuclear power<sup>2</sup>. Many of these industries have a long history of learning lessons from incident investigation which take account of human factors and team performance. Healthcare is a relatively late starter.



*'It is only relatively recently that attention has been focused on patient safety as an issue. Despite the relatively high level of risk associated with healthcare – roughly one in ten patients admitted to hospital in developed countries suffers some form of medical error – systematic attempts to improve safety and the transformations in culture, attitude, leadership and working practices necessary to drive that improvement are at an early stage.'*

**Chief Medical Officer Sir Liam Donaldson in his review *Good Doctors, Safer Patients*<sup>3</sup>**

A high-risk industry that is most frequently compared with healthcare is aviation. For several decades controlled studies of the performance of pilots has been carried out. Research has shown significant similarities in the relationship between individual and team performance and outcomes. This applies in aviation and in other high-risk industries, particularly in the non-technical skills of experts, such as leadership, team-working, situation awareness, decision-making and structured communication. There is now an unprecedented opportunity for clinicians – doctors, nurses and operating department practitioners – to learn about the psychology of human performance and to use it to achieve real improvement in patient outcomes.

1. Giddings AEB and Williamson C. The Leadership and Management of Surgical Teams. R Coll Surg Eng London 2007.
2. Flin R, O'Connor P and Creighton M. Safety at the Sharp End: A Guide to Non-Technical Skills. Ashgate, Aldershot UK 2008.
3. Good Doctors, Safer Patients. A Report by the Chief Medical Officer. Department of Health 2006.

A list of further reading is provided in Appendix 2.

## Leadership in theatres

In the operating theatre there is generally no clear single leader.

- The nurse in charge (theatre sister, team leader, etc) leads on staffing, organising equipment and the running of the list.
- The surgeon leads the conduct of the operation.
- The anaesthetist leads on supporting and sustaining the patient through the procedure.

Each leader has a lead role at different times and for different elements. In this shared leadership environment team-working becomes paramount to improve safety and deliver high performance. Each has a different perspective on what is going on, and this needs to be shared among all members of the team.





## What do we mean by human factors?

Accidents and errors in healthcare are common. Estimates suggest that around ten per cent of patients suffer harm at some point in their admission and that 50 per cent of these errors are preventable. More are caused by human factors than by technical errors. Errors of omission (eg not giving a drug) are far more frequent than errors of commission (eg giving the wrong drug or wrong dose). This is particularly important for the prevention of both surgical site infections and venous thrombo-embolism in surgical patients.

### Eight key human factors

In theatre, safety and reliability is affected on a daily basis by the fact that human beings run the system. All humans are fallible, ie liable to make mistakes. Therefore any system that relies on human memory will fail. Eight important human factors have been identified to explain this. We each have some ability to control the impact of these factors, and therefore have a positive or negative effect on the team.



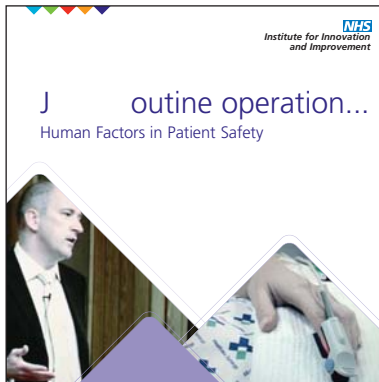
For a more detailed summary of each factor see Appendix 1.

## 1. What is the Team-working module?

These eight areas of human performance are sometimes referred to as non-technical skills, such as how to communicate effectively, to distinguish them from technical skills, such as how to perform a procedure.

*'Let's wake up to human factors – let's make a difference.'*

Martin Bromiley - airline pilot, widower



To learn more about the importance of human factors in both healthcare and aviation, watch '*Just a Routine Operation*' at [www.institute.nhs.uk/theatres](http://www.institute.nhs.uk/theatres)



## *2. How will you do it in your theatre?*

To begin to understand and improve team-working in a manageable way, this module has identified three interventions:

- briefing and debriefing
- WHO checklist
- SBAR: Situation - Background - Assessment - Recommendation.

Each section follows a Plan Do Study Act model for improvement.

Different groups of staff will be involved in the different interventions and the time it takes to implement and realise the benefits will vary. As a result it is possible to begin working on all three simultaneously.

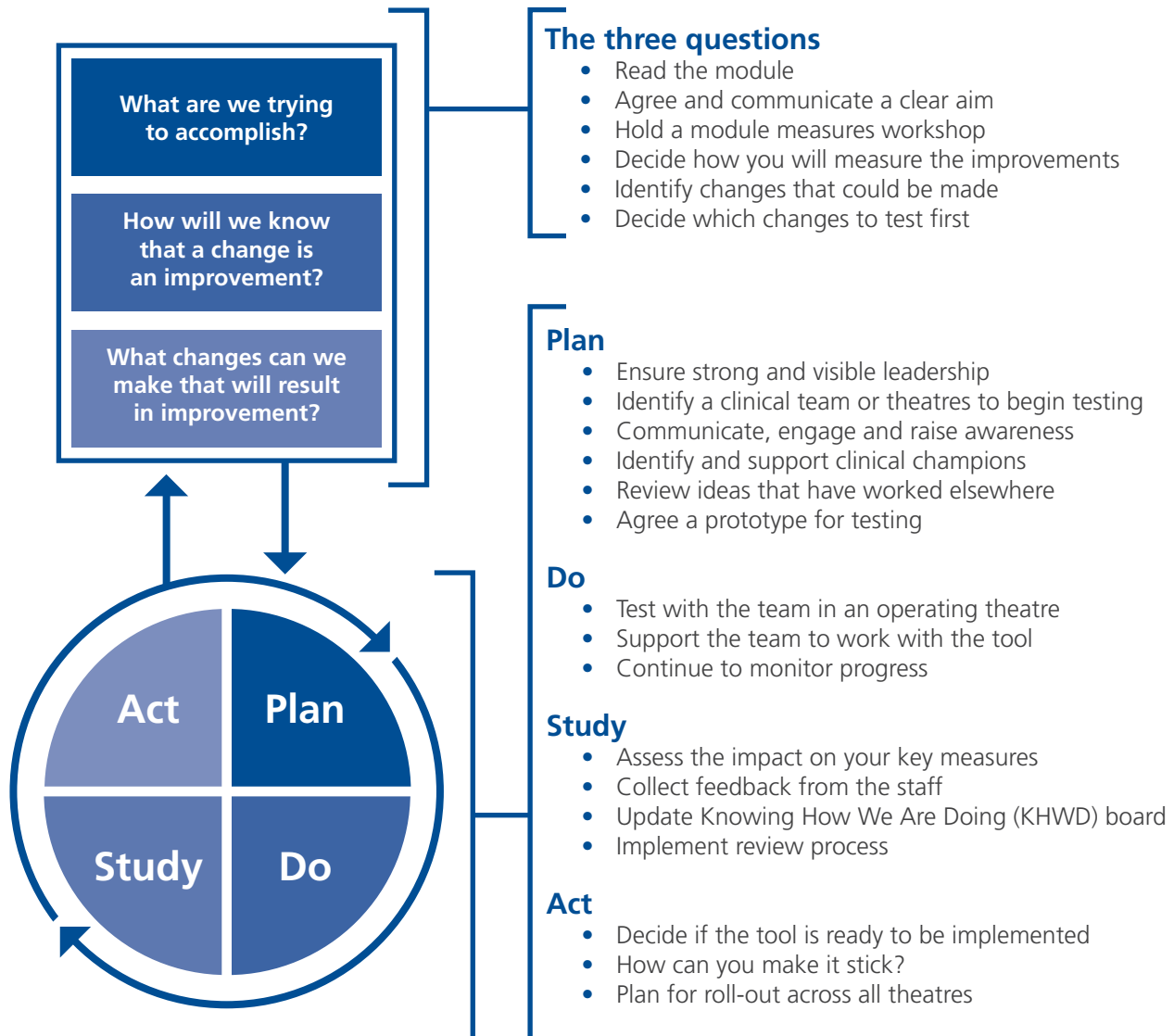






## How will you do it in your theatre?

### The model for improvement





### 3. Team-working session

Holding a team-working session is the best way to raise awareness and engage the showcase theatre teams in this module within The Productive Operating Theatre programme. (For more information on choosing your showcase theatres see the Programme Leader's Guide pages 42 - 45). A successful team-working session will ensure that a large multidisciplinary group of staff spend time together, sometimes for the first time, to understand more about team-working and how they can work better together. They should leave the session with a clear action plan and feel enthused to make changes in the way they work together.

#### Aim

- To convince the team that care can be made safer and how frequently errors occur.
- To learn how improved team-working can reduce the frequency of errors and the impact of human factors.
- To recognise the significant benefits this brings to patients and staff.

#### Objectives

- Demonstrate how humans are fallible, ie liable to make mistakes.
- Increase awareness of the influence of human factors on performance and safety.
- Develop the knowledge, skills and strategies to overcome human factors.
- Identify enthusiasts who will act as champions.
- Develop an action plan to help the team get started.

*'The human factors workshop was wonderful. A room filled with surgeons, administrators and theatre staff all from different parts of the hospital learning and discussing together. Human factors is obviously important – we are all humans after all!'*

Vernon Hull - Chairman, Medway NHS Foundation Trust

## Organising the session

- Decide whether you have the skills and knowledge within your organisation to run this session or whether you will need external support. To help you do this:
  - seek expertise in human factors within your organisation, a likely department may be in a simulation suite, clinical education department or nearby psychology faculty.
  - review the external support available from the NHS Institute as part of the implementation support package, or see [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources) for a list of private providers.
- Book the date well in advance, at least six to seven weeks ahead so that surgeons and anaesthetists will be available to attend.
- If you decide to run the session internally, you will need to schedule at least a half-day session. It is a good idea to use an existing commitment such as an audit session if possible, as these are generally suitable times for all clinicians to be available. Running a whole day would be even better, provided you have presenters who are strong facilitators and there is enough time devoted to interaction and group discussion. Use mixed media – DVDs and audio as well as presentation.
- Design and distribute an invitation to the session. You want to gain maximum attendance at this session, so it is important to think about strategies that will grab the attention of the reader. For example, some quotes from key clinicians will help demonstrate leadership commitment. Your communications department may be able to help you. Examples of invitations are available on [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources)
- Ideally book a venue that is off-site, with sufficient capacity to allow attendees to sit around tables ('cabaret style').
- Think about room size and layout. Cabaret style seating allows teams to sit together and encourages them to interact during the session.
- Provide food and beverages. This may be the first time that the whole team has attended a group event together. The informal parts of the day will contribute to engagement and better team-working and help create an improved multidisciplinary team culture.
- Encourage teams that work together in theatres to sit and work together during the session.
- If you hold your session in the morning, closing the session in time for lunch will allow attendees to continue their discussions and network with each other.
- Designate someone to take photographs – take lots during the session for story boards and newsletters following the event.

## Communication

Communication of the workshop needs to be both by invitation and by word of mouth. Try to identify a champion or leader in each professional group who will be able to influence their colleagues to attend. Executive support and leadership will also help generate good attendance, especially if other clinical activities are affected.

## Resources

- Laptop, projector, and screen for power point presentations and loudspeakers for showing DVDs.
- Flipcharts, notepaper, sticky notes and pens.
- Name badges or blank name labels.
- The Productive Operating Theatre posters.
- Camera.

## Who should attend?

It is important that a multidisciplinary group of staff attend this session. The attendance should include theatre nurses, operating department practitioners, anaesthetists and surgeons (including trainees), recovery nurses and anyone else you consider to be involved in helping to deliver safer care in the operating theatre. You should aim to include at least two-thirds of the staff that will be affected by any changes you plan to implement in your showcase theatres.

The impact is further enhanced if the session can be followed up by some coaching of teams in their working environment to practice and improve these new communication skills.









## Running the team-working session

Below is a suggested agenda for a team-working session. Depending on availability of skills and resources to run this session, adapt it to your local situation and timing.

Approx time	Who	Item	Notes
10 mins	Senior clinical leader	Welcome and introduction: Outline of safety in healthcare	Demonstrate features of briefing
15 mins	All	Why safety is important	A training DVD such as <ul style="list-style-type: none"> <li>• 'Just a routine operation' (NHS Institute)</li> <li>• 'The Journey' (Royal College of Surgeons of England)</li> </ul>
25 mins	Small groups	Small group discussions on our own experience of mistakes or near misses	Introduce this interactive part by telling a story, then encouraging people to work in small groups to tell personal stories.
60 mins	Psychologist or other expert on human factors	Why humans make mistakes Learning from other high risk industries Examples from healthcare	Useful to illustrate using short film clips such as the basketball film, changing colours card game, smoke-filled room experiment. Some of these are freely available on the internet
15 mins	Small groups	Revisit your own safety story	Small group discussions to see where understanding of human factors helps to explain what happened
30 mins	Senior clinical leader	Team-working Review of the evidence in healthcare An overview of the key tools <ul style="list-style-type: none"> <li>• briefing and debriefing</li> <li>• WHO checklist</li> <li>• SBAR</li> </ul>	Introduce the three tools Show the DVD from the Enabler box set or the film of briefing at the Royal Devon and Exeter NHS Foundation Trust (NHS Institute website)
15 mins	Improvement leader or clinical leader	Implementation: the need for local adaptation and customisation	Introduce the model for improvement, outline the three questions, then describe rapid improvement cycles (See pages 17 and 18)
20 mins	Groups	Action planning	Ask each team to agree: <ul style="list-style-type: none"> <li>• when they are going to begin testing each tool, what date</li> <li>• who will lead</li> <li>• how they could measure the impact</li> </ul>
5 mins	Facilitator	Debrief the session	Demonstrate features of debriefing by debriefing the team-working session: What went well? What would make it even better?

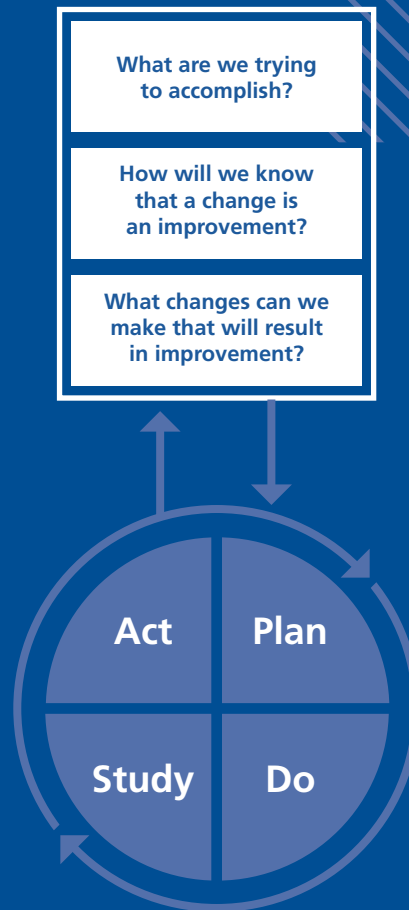


## 4. *The three questions*

Before you start implementing the Team-working module, make sure you are clear about the approach you are going to take.

Take time to read the module fully, so that you understand the full scope of what is involved. Form a small module team, and chose one or more module champions (ideally one from each key professional group). These champions may have been identified when you held the visioning workshop (see Productive Leader's Guide) or at your team-work session (see section 2 of this guide).

Ask the team to work through the three key questions in this section.



# 1. What are we trying to accomplish?

The key idea in answering this first question is to provide an aim for your improvement that will help to guide and keep your efforts focused. Improvement requires setting aims; you will not improve without a clear and firm intention to do so. Your aim for the Team-working module should be time-specific and measurable, or SMART.

## Setting a SMART aim

As a team set an aim for what you want to achieve from this module according to SMART principles:

**Simple** – give the aim a clear definition (eg reduce turnaround time)

**Measurable** – ensure that data is available

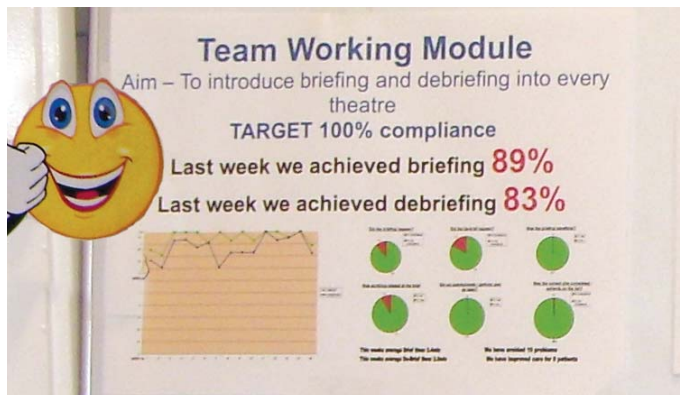
**Aspirational** – set the aim high to provide a challenge to the team

**Realistic** – take into consideration factors beyond your control which may limit your impact

**Time bound** – set a deadline.

You have already developed a vision for your programme; ask the team how the Team-working module will contribute to delivering your overall vision.

Record your thoughts on a flipchart. Once agreed, communicate the module aim on The Productive Operating Theatre notice boards showing how it links to your vision.



Example of a SMART aim from Central Manchester University Hospitals NHS Foundation Trust, Knowing How We Are Doing board.

## 2. How will we know that a change is an improvement?

As part of the Knowing How We Are Doing module you should have agreed a balanced set of measures across the four programme aims.



### How will your improvements from using the Team-working module be represented in the balanced set of measures?

If it is not explicit you will need to include a new 'intervention' level measure or measures that will capture the impact of this module. The suggested measures sheet and driver diagrams in Knowing How We Are Doing will give you ideas about how to do this. Also see the measures and driver diagram on the Periop Care page of the Patient Safety First website: [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk)

### The module measures workshop

You may want to run a module measures workshop with the team that is going to be involved with this module. A suggested set of slides for this session is available at [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources)

The aims of this session are to:

- refresh the team's understanding of how to use measurement to drive improvement
- understand how the Team-working module fits into your agreed balanced set of measures
- identify measures for this module
- decide how to collect, analyse and review the information
- complete a measures checklist for the module.

Once agreed, start collecting, analysing and reviewing data for your balanced set of measures.

**Tip:**

Here are some ideas of what you might wish to collect. You may already be collecting some of these. Your choice may be influenced by other modules.

- Percentage of lists for which a briefing and debriefing occur
- Percentage of operations where your version of the WHO checklist is completed
- Percentage of staff who know what SBAR is and can give an example of its use
- The confidence of theatre staff that they had sufficient information at the start of the list
- Number of glitches per day / week / list
- Staff sickness / absence

## Things to consider

Patient safety is adversely affected by mistakes and errors made by theatre staff. It is useful to obtain local data through a case notes review using the 'global trigger tool'. Incident reporting notoriously underestimates the number of errors occurring. In a recent study only six per cent of errors in patient care were actually reported.

### Team-working measures

Don't forget that some of the high-level outcome measures, such as reduced complications, will be hard to collect and may not show improvement for a considerable period of time. Process measures, or 'intervention' level measures such as the percentage of theatre lists with a team brief, are generally immediate and easy to collect. There is now strong evidence to show that such processes are associated with improved outcomes. It is also useful to gather data about staff reactions, preferably on a structured questionnaire, about how they feel about the process and how confident they were that they had all the information they needed at the start of the list.

There are more complex techniques for observing team behaviours and dynamics, but these generally require additional training and resources.

The underlying culture of your organisation is a key determinant. If you want to measure the team-work climate or culture, you may wish to carry out a survey using a survey tool such as a safety attitudes questionnaire (see [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources)).



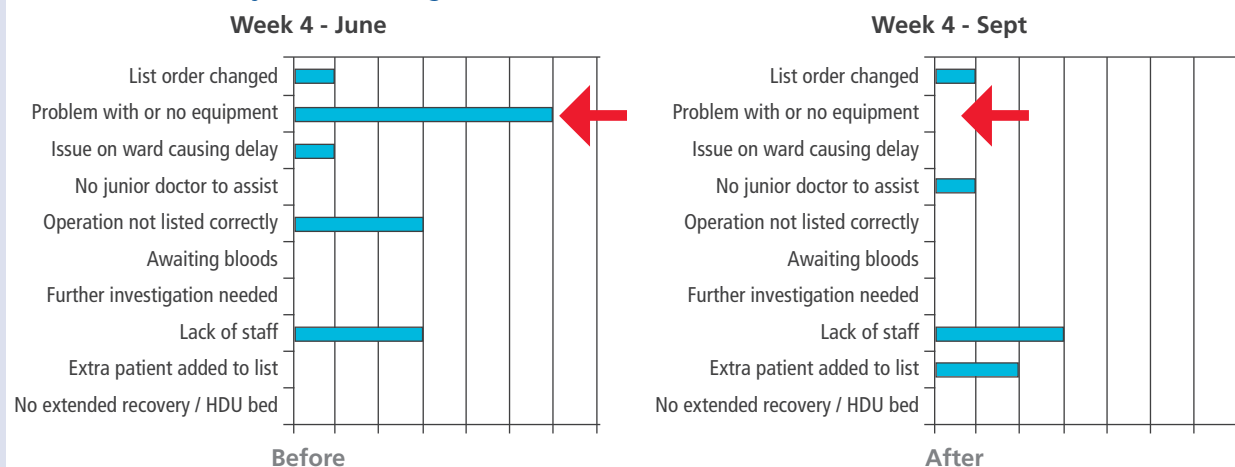
## Safety and reliability measures

Serious untoward incidents are not a useful measure of safety<sup>1</sup>. They are valuable in helping to identify areas that need attention to prevent future errors but, as the culture of safety improves, you should experience an increase in reporting as staff become more confident that reports will be used for learning not for judgement.

A simpler measure is a glitch count compiled from the issues and problems identified in debriefing (see Toolkit section 20). The glitch count is an important link between the Team-working module and the other improvement elements of the programme. If the programme team are not seen to be taking glitches seriously and taking steps to find and implement countermeasures, enthusiasm for debriefing will quickly diminish. Categorise the glitches so that you can uncover particular areas that need attention.

This example below illustrates how glitches can be categorised and measured and can demonstrate improvement over time. This shows how one team have eradicated the most common glitch 'problem with, or no equipment' over a three month period.

### Glitches avoided by team briefing



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It is also useful to obtain local data through a case note review using the 'global trigger tool'. The underlying culture of your organisation is a key determinant, and you may wish to carry out a survey using a safety attitudes questionnaire (see [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources)).

1. Sari AB et al: Sensitivity of routine system for reporting patient safety incidents in an NHS hospital BMJ 2007; 334:79-81.

### 3. What changes can we make that will result in an improvement?

Having read the module and agreed on a clear aim, start to think about the changes you could make within your department that will result in improvement.

You will now have an overall idea of what you want to achieve from the Team-working module. With your team-work through a number of Plan, Do, Study, Act cycles, testing the implementation of practical ideas that will improve communication and the way the team works together. Start small with one team on one list, then learn and develop before working up to a full roll-out across the specialty or department. Remember, a solution that works well in one specialty may still need further adaptation for another specialty or department.


This module will focus on implementing:

- brief and debrief
- WHO checklist
- SBAR.

Other ideas that will improve team performance include:

- reducing interruptions and distractions (such as telephone calls, people entering or leaving the theatre, music)
- directing requests to a named person (rather than a general request to which no-one responds)
- read-back (repeating a request back, such as the circulating nurse repeating back that a 40 Vicryl suture is requested)
- checklists (not just the WHO surgical safety checklist, eg items to be checked on the anaesthetic equipment)
- suggesting taking a break when fatigue may be impairing performance
- encouraging all staff to speak up if they are concerned that an error might occur
- using critical language to raise concern, such as 'I need clarity' or 'I am concerned'
- other communication tools for escalation such as PACE: Probe – Alert – Challenge – Emergency.

These ideas can be introduced and discussed at the team-working session.



*'Following the human factors training and implementation of briefing and debriefing, the team is communicating more effectively as well as working better together and more efficiently.'*

**Jackie Ruffle - theatre sister, Heart of England NHS Foundation Trust**

## The three questions – milestone checklist

When you have completed **all** of the items on this checklist you will be ready to move onto the next three sections:

- Briefing and debriefing
- WHO checklist
- SBAR.

Checklist	Completed?
Read the module	
Decided and communicated a clear aim for the module	
Held a module measures workshop	
Decided how you will measure the improvements	
Identified changes that could be made	
Decided which changes to test first	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## ***5. Briefing and debriefing***



## What is briefing?

Briefing is a short, open team discussion which takes place at the beginning of the operating list. It enables the team to rapidly form, plan for the expected and prepare for the unexpected. Everyone needs to know what should happen, what could go wrong, what could cause the team to experience a 'bad day': this is referred to as situation awareness.

The aim is for the team to have a shared mental model of what is going to happen, and enable everyone to have a voice and share their knowledge and experience.



## Why briefing?

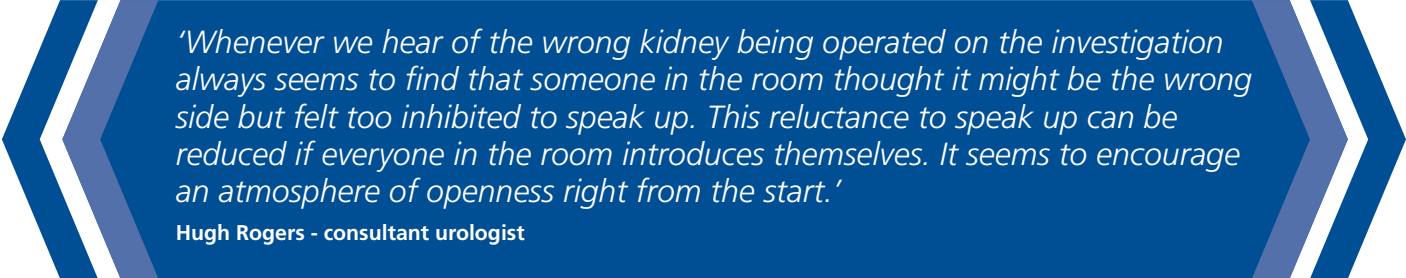
Briefing is an essential element of a high performing team. To get the best out of the briefing it is important to smooth the hierarchy within the team and establish an environment where the team can perform to their optimum ability, supporting each other as necessary.

Briefing helps teams to:

- use everyone's knowledge – any team member may hold that 'final piece of the jigsaw' setting an appropriate atmosphere so everyone feels able to speak up
- plan for the expected and protect against surprises
- prepare for the unexpected – when all the possibilities have been shared it leaves more capacity to deal with the unexpected
- prevent safety lapses by creating an atmosphere in which all team members are focusing on the above issues, making it less likely that safety will be compromised.

It is important to brief when individuals come together with a task to do; it is only by having some form of discussion that all parties can begin to have the same situation awareness or mental model. We can all make huge assumptions in everyday life. By discussing or briefing, these assumptions can be varied or altered so the whole team is 'on the same page'.

It need not take a lot of time but it is time well spent and can reduce wasted time later by avoiding glitches. Re-briefs throughout the list can also be useful.



*'Whenever we hear of the wrong kidney being operated on the investigation always seems to find that someone in the room thought it might be the wrong side but felt too inhibited to speak up. This reluctance to speak up can be reduced if everyone in the room introduces themselves. It seems to encourage an atmosphere of openness right from the start.'*

**Hugh Rogers - consultant urologist**



## ***A surgeon's story...***

*'We had a patient for a dangerous procedure, namely that of removing tumours from the left and right main bronchus, a particularly vascular type of tumour which bleeds a lot. As you can imagine, coring out bleeding tumours from the airway, down an 18-inch pipe, which is the shared airway with the anaesthetist, is dangerous.'*

*'The good thing about the briefing was that everyone in the theatre knew exactly what the risks were, how difficult this was going to be, what equipment might be needed and what we would do if we were unable to ventilate the patient. The theatre sister knew, the runner knew, the anaesthetic trainee knew: everyone knew. The effect this had was that:*

- the equipment was opened, at hand (in particular the balloon catheter we had available was out of date so a new one was made ready)*
- everyone knew how dangerous this was*
- everyone knew what we would do if we lost control of the airway*
- everyone knew how important communication between surgeon and anaesthetist was.*

*'When we did the debriefing it was great to hear from the anaesthetic trainee that: **'if someone had walked into the theatre in the middle of this case, they would have thought this was a routine procedure, there was no panic and the whole scene was very controlled and professional'**. We also arranged to update training on our argon beam coagulator, which was unfamiliar to some of the staff.*

*'The rest of the list was rather stressful for other reasons but as a team, we got the patient through safely. I was very impressed by the almost instant effect the brief and debrief has had on the perception of team-work in our theatre. I could not have understood this without actually doing it.'*

Richard Berrisford - consultant thoracic surgeon, Royal Devon and Exeter NHS Foundation Trust

## What is debriefing

Debriefing is a post list or procedure learning discussion that enables the theatre team to reflect upon the list. It is only effective if it adheres to the principle of constructive learning in a no-blame atmosphere, best summarised as:

*What went well? Even better if...*

### What are the principles of debriefing?

Firstly agree a suitable time for the debrief when as many members of the team as possible can be present. This might be at the end of the last procedure, or after the last patient goes to recovery. It is important for the anaesthetist and ODP to be there, some teams find it useful to have the recovery nurse present as well.

It is crucial to set the right tone to encourage participation and there are some skills to be learned to achieve this. Anyone should be able to raise any issue without fear. Senior staff need to be prepared to admit their own mistakes and should treat more junior members of the team with unconditional respect, acknowledging their contribution. This creates the kind of open communication that gets to the important issues and avoids blame. If the debrief is used by any member of staff to criticise others directly, the atmosphere of trust will be lost, team members will quickly learn not to contribute and debriefing may be abandoned.

Done correctly, debriefing is a valuable opportunity to learn important lessons about how errors can be avoided and ensures all team members feel valued for their contribution.

#### **Tip:**

Here is a list of principles for debriefing developed for healthcare by The Evidence Centre:

**H**ave open dialogue:  
**E**xamine progress  
**A**nalyse root causes  
**L**earn lessons  
**T**ransfer lessons learnt  
**H**igh note finish



13.11.09.  
PATIENT NAME  
SARA Abu  
DATE OF BIRTH  
02/04  
HOSPITAL  
508/0870  
WARD  
65  
CONSULTANT  
Dr. Palen

## Why debrief?

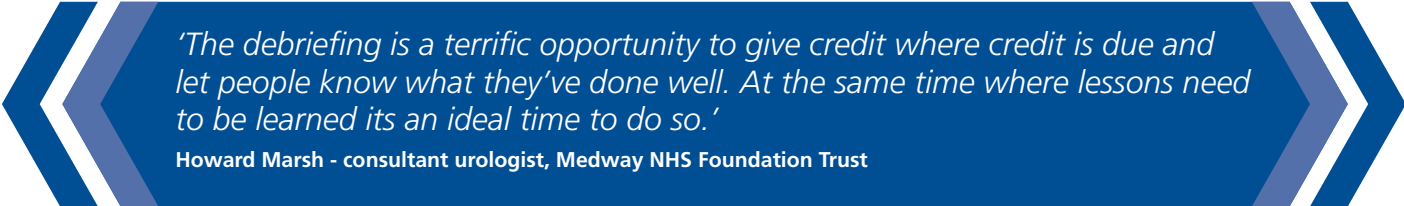
A successful team debriefing is much more than a meander around a subject. It is difficult to do well and requires practice. The aim is to make all parties consciously competent but, more importantly, to know why they are competent so they can replicate it next time. It allows teams to capture successes and improvement issues and prevents them from making the same mistakes again.

Just because it all went well does not mean that all team members knew why that was the case; it is possible that they may change their practices next time – no feedback is not an option!

It provides the opportunity:

- for improvement
- for learning not blaming
- to say thank you
- to improve staff wellbeing.

It is very important the debrief is not seen or used as a forum for criticism of individuals. You should be encouraging the concept of a just culture and not a blame culture.



*'The debriefing is a terrific opportunity to give credit where credit is due and let people know what they've done well. At the same time where lessons need to be learned its an ideal time to do so.'*

**Howard Marsh - consultant urologist, Medway NHS Foundation Trust**





## What is a re-brief?

A re-brief is an additional briefing, which may take place during the course of an operating list. It is most likely to be used when there is a change of plan or a change of staff within the team, for instance at the change of shifts.

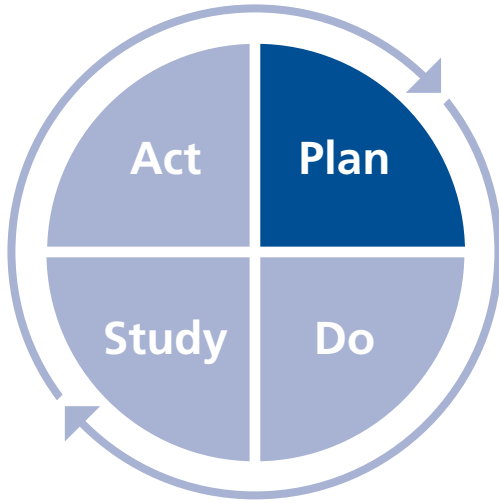
### Why do it?

It is important to re-brief when the team or situation changes to maintain situation awareness in the whole team. Teams should learn to do it when another member of the team joins the theatre team, eg at shift changeover, or a member of staff returns after a break. Re-briefing helps that member of staff join the team rapidly, understand and focus on the work in hand, and share the goals of the team.

It may also be necessary when there is a change of plan, for instance if a laparoscopic operation is to be converted to open surgery.

Re-briefing improves team communication and situational awareness. In some situations SBAR will be an appropriate tool to help teams to structure their re-briefing.





## Plan

There are a number of steps to work through to help you plan tests of change (PDSA cycles) for implementing Briefing and debriefing.

The module team needs to understand the importance of involving all groups of staff to make sure the solutions tested in PDSA cycles meet everyone's needs.



## Ensure strong and visible leadership

- Discuss implementation with the executive leader and senior clinicians.
- Ensure executive support and visibility for this area of work.
- Discuss how you will implement all the steps below and any support you may need.
- Discuss how the executive leader will support this work.
- Identify any team-working expertise within the organisation who could support this work.
- Decide whether you will need external support from the NHS Institute or another training provider.

## Identify a clinical team or showcase theatre to begin testing

The decision about where to start The Productive Operating Theatre should be based on several factors:

- where there is existing enthusiasm from staff and an awareness of the tools
- where there is a desire to implement the tools
- staff who will be willing and able to spread the implementation to other theatres and staff within the organisation.

## Communicate, engage and raise awareness

As part of the start-up phase for implementing briefing and debriefing, it is important that the clinical team or showcase theatre understand what briefing and debriefing is, why it is important and what benefits it will deliver. You can never communicate too much, so use several of the suggestions listed below to ensure your team are fully informed and ready to go.

- Briefing and debriefing meeting.
- One-to-one discussions or meetings.
- Posters and newsletters.
- Information on your Knowing How We Are Doing board including measures and quotes from clinical staff.
- Email.





## Identify and support clinical champions

Engaging clinicians in this project is crucial (see Programme Leader's Guide, page 52). To help with this you will need to recruit and support clinical champions within each professional group. The team-work session may provide a good opportunity to identify champions. See the Programme Leader's Guide for more information on selecting champions, and their role.

Capture quotes from your clinical champions to include in communications to the wider theatre team. Quotes are a powerful means of communicating positive messages, particularly from influential clinical staff.

*'The introduction of a briefing before the start of the operating lists has allowed us to focus as a team on the patients and the planned procedures in a more open fashion. Communication has improved and the lists run so much more smoothly.'*

*'Debriefing at the end of the day helps us iron out these glitches in a more fruitful way so that they are less likely to occur. It has certainly strengthened the ethos of the team.'*

**Alastair Williamson - consultant anaesthetist, Heart of England NHS Foundation Trust**

## Review ideas that have worked elsewhere

Look at examples with your team that have worked well in other places to inspire you to develop your own brief and debrief that will fit your local requirements. Further examples can be downloaded from [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources). Some sites have implemented briefing and debriefing together, others have separated them.

In addition, look at the resources on the Patient Safety First website, particularly the 'How to' guide for reducing harm in perioperative care, available at [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk)

# Example 1: team briefing and debriefing

Royal Devon and Exeter NHS Foundation Trust

Team briefing	Team debriefing
<p><b>All team members</b></p> <ol style="list-style-type: none"><li><b>1. Team introduction: including new members and roles</b></li><li><b>2. Any staffing issues (including sickness)</b></li><li><b>3. Anaesthetic safety checks complete</b></li><li><b>4. Any list changes / clarifications</b></li><li><b>5. Equipment / instrumentation issues (including availability)</b></li><li><b>6. Time: appropriate for list</b></li></ol>	<p><b>All team members</b></p> <ol style="list-style-type: none"><li><b>1. What went well</b></li><li><b>2. Did we perform as an effective team?</b></li><li><b>3. Were there any communication issues?</b></li><li><b>4. What might we have done differently?</b></li><li><b>5. Any other learning points</b></li><li><b>6. Was time an issue?</b></li><li><b>7. Did the briefing help?</b></li></ol>

The teams in Exeter have these lists printed on a large laminated poster on the wall in each theatre. They record the outcomes on the record and action plan on the next page, which is completed for each list. The brief and debrief checklist and the record and action plan are still being tested and improved.





## Record and Action Plan - Royal Devon and Exeter NHS Foundation Trust

RD&E Theatre 6..... Date.....

### Briefing & debriefing record and action plan version 1

Team leader:	Surgeon:	Anaesthetist:
--------------	----------	---------------

#### Pre-session multidisciplinary briefing

--	--

#### Post-session multidisciplinary debriefing

Time outs as per policy for all patients?	Yes / no
What went well?	
What could have been better?	
What will we do differently in future	

#### Action plan

Issues that we will resolve ourselves	Who will take this forward?
Issues that we need support to resolve <small>(Discuss with team manager)</small>	Who will take this forward?

#### Multidisciplinary Team Satisfaction Score:

Very low level of satisfaction    0   1   2   3   4   5    a really good list







## Example 2: brief and debrief

Heart of England NHS Foundation Trust

### Pre list briefing / Post list de-briefing aide memoir Version 4 – for trial & review (RSU theatres)

Pre list briefing	Examples
Team introductions	Establish team members & relationship. Introduce any new staff & their role. Clear identification of theatre team leader (particularly when no band 6)
Discuss each patient on the list  specific risks / issues	Planned surgical procedure Planned positioning Equipment requirements Specific surgical issues – incl . blood loss above 500mls Anaesthetic issues – incl difficult airway/aspiration risk Allergies/biohazard  Any other patient specific issues i.e. needle phobia / high BMI or other physiological & psychological factors
Staffing issues (multidisciplinary)	Any issues. Skills, students, availability of assistant etc.
Instrumentation, equipment, stock	Identify shortages / special requirements / prostheses / contingencies
Safety checks - confirmation	<b>Anaesthetic</b> – all checks complete and signed for i.e. machine / CDs etc - mandatory <b>Scrub</b> – all checks complete i.e. diathermy machine, suction etc <b>Surgical</b> – correct site surgery & consents etc
Operational issues	Change in order of list / Establish arrangement for breaks / Radiology / bed issues etc
What ifs.....	Predictable problems & plans to manage

Post list de-briefing	Examples
What went well?	Acknowledge & discuss the things that went well
What could we have done better?	What didn't go so well and why ?
What could we improve on next time?	Goals and Action plan for next session
Did we perform as an effective team?	Group evaluation - informal
Any incidents that require escalation/reporting?	If so – identify person responsible for reporting
Any other learning points	Anything relevant
Satisfaction score (optional)	0-5 group satisfaction

**Both Pre list briefing and post session de briefing should include all members of the multidisciplinary team. It is crucial to ensure that both anaesthetist and surgeon are present.**

**Don't forget that the floor coordinator needs to be in the loop of all relevant information that may impact on operational management**

### Example 3: brief

Central Manchester University Hospitals NHS Foundation Trust

DATE:	THEATRE: AM <input type="checkbox"/>	PM <input type="checkbox"/>	(Tick Box) Time Brief began :	Time Brief finished:
<h2 style="margin: 0;">TEAM BRIEF</h2>				
Who is Leading the Brief _____ (ask the surgeon/anaesthetist first, but any member of the team can lead the brief) Team introductions & their roles (introduction of new staff, agency or students etc) Staffing issues Were all Members of the Team present? Yes <input type="checkbox"/> No <input type="checkbox"/> (if not please state below who was missing and why)				
Comments:				
<b>Anaesthetics</b> Are there any anaesthetic issues / complications with any patients? (e.g. allergies, MRSA status, relevant past medical history etc.) Do any patients require HDU etc? Have all patients blood requirements been addressed?				
Comments:				
<b>Surgeon</b> Any list changes or clarifications? Is any special equipment required? Is the list expected to run to time? Who is performing the surgery?				
Comments:				
<b>Scrub Nurses</b> Are there any equipment issues? The floor co-ordinator is _____ (please fill in) If an all day list do the surgeon & anaesthetist wish to run through lunch ? (if staffing permits)				
Comments:				
<b>Recovery</b> Are there any issues pertaining to recovery?				
Comments:				
<b>Orderlies</b> Are there any issues pertaining to the orderlies?				
Comments:				
Does anyone have any other comments?				
Comments:				
How many problems have been avoided directly as a result of this brief? <input type="checkbox"/> (Please write number of problems avoided in box) How many patients have had their care improved as a result of this brief? <input type="checkbox"/> (Please write number of patients in box)				
Once brief and de-brief has occurred and this sheet is filled in please place in the file on the wall in theatre				

© CMFT

*'Briefing means we can anticipate potential problems and sort them out. The list runs more smoothly as we know where problems might happen in advance.'*

**Richard Clayton - consultant gynaecologist / oncologist,  
Central Manchester University Hospitals NHS Foundation Trust**



DATE: THEATRE: AM ☐ PM ☐ (Tick Box) Time De-brief began: Time De-brief finished:

TEAM DE-BRIEF	
Who is Leading the Brief _____ (ask the surgeon/anaesthetist first, but any member of the team can lead the brief)	
What went well during the theatre list?	Comments:
Were all Members of the Team present? Yes <input type="checkbox"/> No <input type="checkbox"/> (if not please state who was missing and whv)	Comments:
Did we communicate and perform well as a team during the theatre session? YES <input type="checkbox"/> NO <input type="checkbox"/> (If not please write why in comments box)	Comments:
Is there anything that could have been done differently to improve the list? YES <input type="checkbox"/> NO <input type="checkbox"/> (If yes please write why in comments box)	Comments:
Was the briefing beneficial? YES <input type="checkbox"/> NO <input type="checkbox"/> (If not please write why in comments box)	Comments:
Was anything missed at the brief? YES <input type="checkbox"/> NO <input type="checkbox"/> (If Yes please write what in comments box)	Comments:
Does anyone have any further comments?	Comments:
Was the correct site surgery verbal check (Check 4 on correct site surgery form) completed for the patients on the list? Yes <input type="checkbox"/> How many patients? <input type="checkbox"/> No <input type="checkbox"/> How many patients? <input type="checkbox"/>	

Once brief and de-brief has occurred and this sheet is filled in please place in the file on the wall in theatre

© CMFT

*'Debriefing is the enduring step in the process. Without it, learning opportunities are lost.'*

Leroy Edozien - consultant gynaecologist, Central Manchester University Hospitals NHS Foundation Trust

Example 4: briefing and debrief

West Middlesex University Hospital NHS Trust

West Middlesex University Hospital

NHS

NHS Trust

Team Brief Form

Please circle

Date:	Time started:	AM
Theatre:	Time finished:	PM
Briefing lead by:	Role of lead:	All day

Are all members of the team present?    Yes ☐    No ☐

Please state below members who are not present and why:

Checklist (if any issues with the following please list under 'Any issues or concerns?')

- Team introductions
- Any staffing issues?
- Equipment / consumables needed?
- Any list changes?
- Expected operative durations or concerns?  
Risk of >500ml blood loss (7ml/kg in children). If YES has blood been ordered?  
Do gynaecology patients require Anti-D?  
Have gynaecology patients signed Sensitive Tissue consent?
- Anaesthetic safety checks complete, planned anaesthetic techniques?  
Any specific concerns?  
What are the patients ASA grades?
- Imaging available on PACS or has image intensifier been booked?
- Operating table and positioning requirements?
- Will Sign in, Time Out be done whilst patient asleep or awake?
- Who is anaesthetising the patient?
- Has the work area been 5s'd?

End of Team Brief

Any issues or concerns? Please provide as much detail as possible

Send for 1st patient

WMUH Version 3, October 2009

West Middlesex University Hospital

NHS

NHS Trust

Team Debrief Form

Time started:	Time finished:
Debriefing lead by:	Role of lead:

Are all members of the team present?    Yes ☐    No ☐

What went well

What could we do better next time

Any issues / glitches

Details of issue / glitch	Tick if recorded onto Datix

End of Team Debrief

How many problems have been avoided directly as a result of this brief? ☐

How many patients have had their care improved as a result of this brief? ☐

Once form has been completed please place in the plastic folder beside the OSAG boards

WMUH Version 3, October 2009








## Agree a prototype for testing

Review the examples of briefing and debriefing from this module and on the NHS Institute website [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources), with your team from the showcase theatre (the team may know of other examples in use elsewhere). Ask the team to select a prototype to test and make any alterations which are immediately obvious.

You need to agree where and when briefing will happen, and who should lead it. The expectation should be that everyone working in the theatre for that list should be present including the surgeon, anaesthetist and any trainees. Some sites have involved the recovery nurse especially if the local custom is to allocate one for each theatre. Usually the brief will take place in the theatre but some teams brief at the theatre doors or in the corridor so they can include the surgeon before he changes into scrubs.



*'Thought needs to be given to where briefings will take place. It should be where all staff are easily accessible and soon enough after seeing the patients for their thoughts to be fresh. If the best place is the coffee room then that is where it should happen.'*

**Gordon Cross - consultant anaesthetist, Medway Foundation Trust**

Decide when to debrief: chose an appropriate time, towards the end of the list preferably after the anaesthetist has returned from the recovery unit. Discuss team dynamics and any glitches or issues which affected the list, with a clear action plan to carry forward. Give ownership of the resulting action to a named person.

Key questions to ask in a debrief:

- what went well?
- what could we change for the better?
- what would we do different next time?
- whose responsibility is it to make this happen?

Ensure you get the views of the whole team. It may be helpful to start with the most junior members of the team to emphasise that their contribution is important.

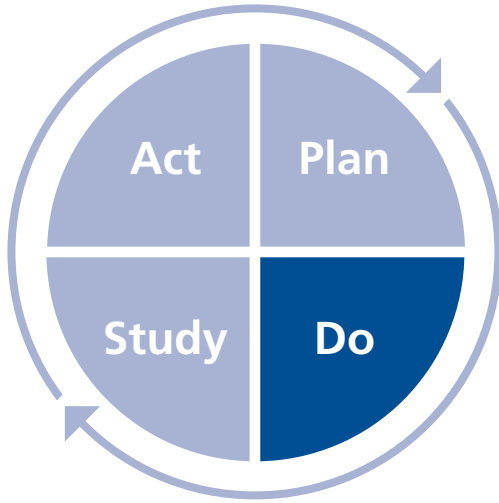


## Plan – milestone checklist

Move on to **Do** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Ensured strong and visible leadership	
Identified a clinical team or theatres to begin testing	
Communicated, engaged and raised awareness	
Identified and supported clinical champions	
Reviewed ideas that have worked elsewhere	
Agreed a prototype for testing	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Do

Once you have identified a briefing and debriefing prototype that you would like to try, you will need to test it on one list in one operating theatre. Do not expect staff to take to this new idea immediately: experience has shown that implementation works best when the whole theatre team are involved, and are encouraged to develop their own version.

This module usually involves many iterations of the PDSA cycle.



## Test brief and debrief with the team in an operating theatre

Once you have decided what questions to ask, decide how to present this to the team. Some teams have developed a poster, usually A3 or larger. Others have a paper or laminated A4 version for the person leading the brief to hold.

Establish all ground rules for briefing and debriefing. You may decide to introduce briefing first or both at once. The advantage of the latter is that teams find debriefing harder to implement but quickly see the advantages of briefing. If they see them as a single implementation, in time they will come to appreciate the benefits of debriefing as well.

Start with one team on one list and be prepared to use feedback to create a new version to try on the next list.

For briefing the real aim is to encourage an open atmosphere where anyone in the team feels they can speak up. In technical terms this is called 'flattening the hierarchy'. Introducing all team members by first name, surname and role is a good way to begin.



## Support the team to work with the tool

Emphasise that the whole point is to experiment, try some ideas that the team want to test even if you're not sure it will work, and then use the small scale tests of change method to review and refine the process until everyone is happy with it.

Beware of overcomplicating the documentation, it might put people off. Start with something simple and see how the team react.

Note that in the examples of ideas that have worked, some tools are designed to support both briefing and debriefing. Many teams have chosen to implement them together, although their purpose is different.

Ideally debrief should take place after the last patient on the list has left the operating theatre and gone to recovery. However, it may require a pragmatic approach to ensure the whole team is present. Acknowledge that the team may have to be flexible while performing debriefing – some teams do it during wound closure, or after the sign-out for the last patient on the list.

## Continue to monitor progress

Identify any important issues that arise during the testing phase and need to be resolved or escalated to the executive lead. In the early days of briefing and debriefing it is crucial that teams know that their concerns are being heard and acted upon.

*'We have had a briefing for the last two weeks on a Tuesday morning before my all-day list. Accepting that it is a rather different approach from things we normally do as doctors / theatre staff and therefore feels a bit awkward, it is something I would like to continue to develop and use. This morning was a prime example – no patients in beds to begin with, major list re-ordering because of the bed availability, equipment clashes with the other ENT theatre and a different anaesthetist from normal. Such days will never run smoothly, but I felt there was a definite sense of common purpose and understanding, and a sense of being "a team" from the briefing at the start of the day.'*

**Malcolm Hilton - consultant otolaryngologist, Royal Devon and Exeter NHS Foundation Trust**

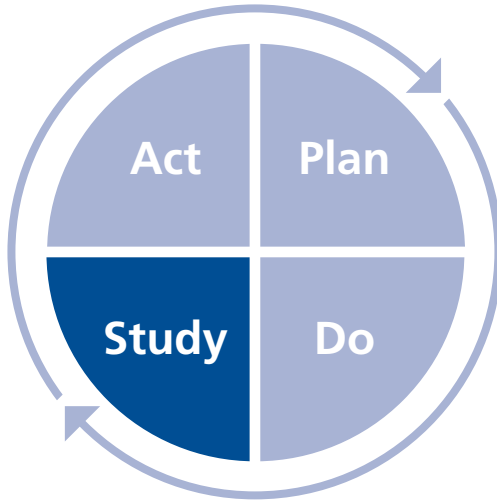


## Do – milestone checklist

Move on to **Study** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Tested brief and debrief with the team in an operating theatre	
Supported the team to work with the tool	
Continued to monitor progress	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Study

Implementing briefing and debriefing will require several PDSA cycles. It is important to keep track of your measures for success so that you can assess the impact of the changes soon after you make them.





## Assess the impact on your key measures

Refer back to the Knowing How We Are Doing module, and particularly the 'collect, analyse and review' sections. The measures for briefing and debriefing may be qualitative (how people feel about new ways) as well as quantitative (how many potential glitches were identified and averted).

- Are the staff implementing briefing and debriefing?
- Do the changes make any difference?
- What sort of glitches are coming up regularly?

## Collect feedback from the staff

What is the feedback from staff on the brief and debrief prototypes? Collect anecdotes and examples where potential errors – minor and major – have been averted. See how you can disseminate these stories to convince sceptics that the new ways are having a positive impact. Make sure that you keep the wider theatre team informed, tell them what you are doing and why, how you are doing it, and importantly, what's in it for them. Use every opportunity to engage the clinical staff.

## Update your Knowing How We Are Doing board

Use your Knowing How We Are Doing board to show progress on key measures as well as quotes, comments and stories.

## Implement a review process

Review briefing and debriefing with your team: find out how people reacted to the brief and debrief. Did it help them to understand what was going to happen? Did it make them more confident they had the right equipment available? Did they identify and avoid potential glitches?

*'Some clinicians did not want team brief as they thought it would delay the start of the list too much - by recording how long team brief and debrief take you can prove that this is not the case. For us the average team brief takes 4 minutes and debrief takes 2 mins.'*

**Julie Brough - programme leader, Central Manchester University Hospitals NHS Foundation Trust**





## Study – milestone checklist

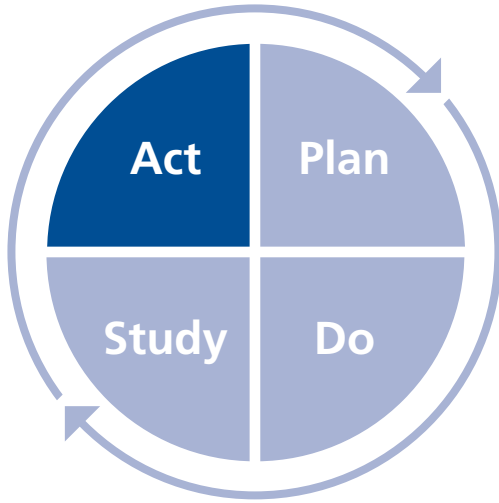
Move on to **Act** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Assessed the impact on your key measure	
Collected feedback from the staff	
Updated your Knowing How We Are Doing board	
Implemented review process	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	

*'You can easily monitor compliance with briefing and debriefing by adding coloured dots to a simple calendar on the wall in theatre.'*

Helen Ball - scrub sister, Central Manchester University Hospitals NHS Foundation Trust



## Act

Once you have successfully developed and tested the briefing and debriefing tool in your showcase theatre, you will need to plan for two key challenges; the roll-out across your theatre department, and crucially, how to sustain the use of the tool in the long term.



## Decide if the tool is ready to be implemented

If you are doing many small PDSA cycles with various modified prototypes, the team need to decide if the tool is ready to be implemented. The options can be summarised as:

- adopt
- amend
- abandon.

If the decision is made to abandon a particular line of testing, consider what alternatives might work better in your theatres. The most frequent mistake is to develop over-complicated paperwork, separate from the main theatre documentation. Once you have an acceptable prototype, consider what documentation really matters in your organisation and then see how you can integrate it with existing systems. For example, you might be able to record times of the briefing and debriefing on the theatre management system.

## How can you make it stick?

Sustaining new ways of working is always a challenge. This is where your champions come in – once they've helped to work out a successful new way of working they are unlikely to allow it to be abandoned. The other key is continued measurement and display of the percentage of implementation in each theatre. Once compliance reaches significant levels you might consider identifying which teams or individuals are doing well and which ones not so well, but this can be seen as punitive, and is probably best reserved until you have just a few stragglers.

If you have a substantial problem involving clinicians in brief and debrief, find out what the problem is. Perhaps your prototype or tool suits one professional group better than another and a new version may need to be tested. Ultimately if most staff have adopted brief and debrief, you may need the support of clinical directors, executive leads and other senior people to influence the stragglers.

Once the new way has been established, include it in the existing structures:


- induction for new staff
- standard operating procedures and policies
- documentation (including IT).

See also the sustainability model and guide on the NHS institute website [www.institute.nhs.uk/sustainability](http://www.institute.nhs.uk/sustainability). There is a brief account of this in the Programme Leader's Guide, pages 46–47.

## Plan for roll-out across all theatres

Spreading briefing and debriefing may come naturally if the various clinical groups decide to adopt it, but you should be prepared to support spread. The steering group or the programme team may have clear thoughts on where to spread first, and how to migrate the plan across all theatres, but you must be open to the prospect of further modification of the documents or tools as you roll-out. What works in cardiothoracic theatres may need significant adaptation and development to be right for day surgery.

However good you think your briefing and debriefing processes are, do not be tempted to send out an instruction to all staff to implement them. Experience has shown that, at best, they will grudgingly carry it out until you are no longer watching them. At worst, they will simply refuse. Staff have to be won over by engaging them, showing them the evidence that it works (qualitative and quantitative) and involving them in modifying the process to be fit for purpose in their particular clinical context. This takes time and perseverance.



*'It is really important to let everyone influence the implementation of team brief and debrief. We consulted everyone to decide what should be in the documentation and we allowed anyone to lead team brief from support worker to consultant. This has led to team ownership and so has embedded briefing into normal practice very quickly.'*

**Vanessa Blanchard - scrub sister, Central Manchester University Hospitals NHS Foundation Trust**





## Act – milestone checklist

Checklist	Completed?
Decided if the tool is ready to be implemented	
Agreed how you will make it stick	
Planned for roll-out across all theatres	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## 6. *WHO surgical safety checklist*

## What is the WHO surgical safety checklist?

A surgical safety checklist is a standardised method of completing safety checks for each patient immediately prior to surgery, involving the whole theatre team in order to:

- check the right patient
- reduce wrong site surgery
- reduce clinical incidents, deaths and complications
- reliably deliver high quality care
- produce a more efficient operating list
- create team-work.

The World Health Organisation surgical safety checklist is designed to promote effective team-work and prevent problems such as infection, unnecessary blood loss, ITU admission and returns to theatres. It was tested in hospitals in Seattle, Toronto, Tanzania, Auckland, Amman, Delhi, Manila and London.

Following the success of the global pilot in six nations (including England), the World Health Organisation launched the WHO surgical safety checklist in 2008. It has three elements:

- **Sign In** before anaesthesia is administered.
- **Time Out** immediately before the surgical incision is made.
- **Sign Out** final checks before the patient is removed from the operating theatre.


*'The checklist is not supposed to be the first and only time these items are checked. The answers to the questions should always confirm that the right thing has already been done. This is a final check before key steps are taken, commencement of anaesthesia, the start of the operation and finishing the operation.'*

**Mark Emerton - orthopaedic surgeon, The Leeds Teaching Hospitals NHS Trust**

Note the footnote states: *'This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.'* This provides a significant opportunity to engage your team in testing and developing their own WHO checklist.

## Example

The National Patient Safety Agency has released an adapted version of the WHO checklist, for use in England and Wales. This version of the checklist can be downloaded from [www.npsa.nhs.uk](http://www.npsa.nhs.uk) where it is available in both PDF and Microsoft Word versions to allow for local adaptation and customisation.

<h1>WHO Surgical Safety Checklist</h1> <p>(adapted for England and Wales)</p>		 National Patient Safety Agency National Reporting and Learning Service
<h3>SIGN IN (To be read out loud)</h3> <p>Before induction of anaesthesia</p> <p>Has the patient confirmed his/her identity, site, procedure and consent?</p> <p><input type="checkbox"/> Yes</p> <p>Is the surgical site marked?</p> <p><input type="checkbox"/> Yes/not applicable</p> <p>Is the anaesthesia machine and medication check complete?</p> <p><input type="checkbox"/> Yes</p> <p>Does the patient have a:</p> <p>Known allergy?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes</p> <p>Difficult airway/aspiration risk?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, and equipment/assistance available</p> <p>Risk of &gt;500ml blood loss (7ml/kg in children)?</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, and adequate IV access/fluids planned</p>	<h3>TIME OUT (To be read out loud)</h3> <p>Before start of surgical intervention for example, skin incision</p> <p>Have all team members introduced themselves by name and role?</p> <p><input type="checkbox"/> Yes</p> <p>Surgeon, Anaesthetist and Registered Practitioner verbally confirms:</p> <p><input type="checkbox"/> What is the patient's name?</p> <p><input type="checkbox"/> What procedure, site and position are planned?</p> <p>Anticipated critical events</p> <p>Surgeon:</p> <p><input type="checkbox"/> How much blood loss is anticipated?</p> <p><input type="checkbox"/> Are there any specific equipment requirements or special investigations?</p> <p><input type="checkbox"/> Are there any critical or unexpected steps you want the team to know about?</p> <p>Anaesthetist:</p> <p><input type="checkbox"/> Are there any patient specific concerns?</p> <p><input type="checkbox"/> What is the patient's ASA grade?</p> <p><input type="checkbox"/> What monitoring equipment and other specific levels of support are required, for example blood?</p> <p>Nurse/ODP:</p> <p><input type="checkbox"/> Has the sterility of the instrumentation been confirmed (including indicator results)?</p> <p><input type="checkbox"/> Are there any equipment issues or concerns?</p> <p>Has the surgical site infection (SSI) bundle been undertaken?</p> <p><input type="checkbox"/> Yes/not applicable</p> <ul style="list-style-type: none"><li>• Antibiotic prophylaxis within the last 60 minutes</li><li>• Patient warming</li><li>• Hair removal</li><li>• Glycaemic control</li></ul> <p>Has VTE prophylaxis been undertaken?</p> <p><input type="checkbox"/> Yes/not applicable</p> <p>Is essential imaging displayed?</p> <p><input type="checkbox"/> Yes/not applicable</p>	<h3>SIGN OUT (To be read out loud)</h3> <p>Before any member of the team leaves the operating room</p> <p>Registered Practitioner verbally confirms with the team:</p> <p><input type="checkbox"/> Has the name of the procedure been recorded?</p> <p><input type="checkbox"/> Has it been confirmed that instruments, swabs and sharps counts are complete (or not applicable)?</p> <p><input type="checkbox"/> Have the specimens been labelled (including patient name)?</p> <p><input type="checkbox"/> Have any equipment problems been identified that need to be addressed?</p> <p>Surgeon, Anaesthetist and Registered Practitioner:</p> <p><input type="checkbox"/> What are the key concerns for recovery and management of this patient?</p>
<h4>PATIENT DETAILS</h4> <p>Last name: <input type="text"/></p> <p>First name: <input type="text"/></p> <p>Date of birth: <input type="text"/></p> <p>NHS Number: <input type="text"/></p> <p>Procedure: <input type="text"/></p> <p><small>*If the NHS Number is not immediately available, a temporary number should be used until it is.</small></p>		<p>This checklist contains the core content for England and Wales</p> <p><a href="http://www.npsa.nhs.uk/nrls">www.npsa.nhs.uk/nrls</a></p>





## Why do it?

The WHO checklist ensures that the operating team spend time together before the anaesthetic, at the start of surgery and at the end of each case, to ensure all necessary steps have been followed as a team and every precaution taken to eliminate opportunities for errors or mistakes. Implementing the checklist in your theatre will help you and your team to:

- reduce the incidence of harm, risks and glitches
- increase reporting of incidents, risks, glitches or errors avoided or prevented ('near misses')
- improve patient satisfaction and clinical outcomes
- improve team-working
- optimise communication.



*'The beauty of the surgical safety checklist is its simplicity and – as a practising surgeon – I would urge surgical teams across the country to use it. Operating theatres are high-risk environments. By using the checklist for every operation we are improving team communication, saving lives and helping ensure the highest standard of care for our patients. The amazing results from the global pilot puts this beyond any doubt.'*

**Professor the Lord Ara Darzi of Denham**

## Compelling evidence

The National Reporting and Learning Service in England and Wales received over 135,000 reports of patient safety incidents relating to surgical specialties in a year. Of these incidents, 40,941 caused low, moderate or severe harm (see table). For an average English trust this equates to approximately two deaths per year and approximately 90 patients who suffer severe harm. The full report can be seen on the NPSA website [www.npsa.nhs.uk](http://www.npsa.nhs.uk)

No harm	Low harm	Moderate harm	Severe harm	Death
94,306	31,108	8,331	1,206	296

## Global study results

In January 2009 some impressive results from a year-long global study were published in the New England Journal of Medicine. These results demonstrated that using a three-part checklist during operations can cut deaths by more than 40% and complications by more than 33%. The World Health Organisation Surgical Safety Checklist and the behaviours it supports, improve the safety, quality and reliability of surgical care by covering essential safety checks and underpinning excellent team-work.

Evidence from the global study showed that the rate of major complications fell from 11% to 7%, and the rate of inpatient deaths following surgery was reduced from 1.5% to 0.8%.

### Learning from aviation

In aviation, checklists came into their own in 1934, after the crash of Boeing's new aeroplane, the 299. Everyone was horrified when at the launch event, and with Boeing's most experienced test pilot in the cockpit, the plane fell out of the sky and burst into flames. It was described by the press as 'too much plane for one man to fly.' Four checklists were developed to ensure that each stage was signed-off before proceeding.



A team of former pilots who lead work with clinicians on increasing reliability and safety say:

*'The model 299 was not 'too much plane for one man to fly', it was simply too complex for one man's memory. These checklists for the pilot and co-pilot made sure that nothing was forgotten.'*

In the end, the model 299 became the US Army Air Force's plane of choice with over 12,000 of them built, and became known as the B-17, the Flying Fortress.

## Supporting memory

The activities within the operating theatre are complex and require standardisation. Human short-term memory can store seven facts at one time. Therefore, human error will be built into our processes if we don't support our memory with useful and simple tools, such as checklists, to prevent us making mistakes.



## Plan

There are a number of steps to work through to help you plan tests of change (PDSA cycles) for implementing the WHO surgical safety checklist.

The module team needs to understand the importance of involving all groups of staff to make sure the solutions developed and tested in PDSA cycles meet everyone's needs.



## Ensure strong and visible leadership

The senior team of the organisation needs to understand the introduction of the checklist represents a cultural change which will require support in implementation. The chief executive and other key executives will need to provide personal leadership and ensure a high level of support to make sure the change endures and the tool is consistently applied.

Executive actions to support implementation might include:

- discussing the implementation of the checklist at a trust board meeting (eg as part of the trust board workshop – see the Executive Leader's Guide section 5 for details)
- reviewing this guide at an executive board meeting
- stating the commitment to use the checklist within corporate objectives
- visible support from the executive leader to the implementation team and clinical champions
- using all forms of internal media: team briefings, magazines, online bulletins, etc.
- building in visits to theatres as part of an executive safety walk round (see [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk))
- following up progress to ensure the change continues and spreads
- reviewing the number of issues highlighted by the checklist or 'glitch count'
- planning formal reviews into the audit programme
- publishing reports on progress.

## Identify a clinical team or theatres to begin testing

The decision about where to start in your operating theatre should be based on several factors:

- where there is existing enthusiasm from staff and an awareness of the tools
- where there is a desire to implement the tools
- staff are willing and able to spread the implementation to other theatres and staff within the organisation
- where there are known safety issues.

## Communicate, engage and raise awareness

As part of the initial phase of implementation, it is important that the clinical team or showcase theatre understand what the WHO checklist is, why it is important and what benefits it will deliver. You can never communicate too much, so use several of the suggestions listed below to ensure your team are fully informed and ready to go.

- WHO checklist meeting.
- One-to-one discussions or meetings.
- Posters and newsletters.
- Information on your Knowing How We Are Doing board including measures and quotes from clinical staff.
- Email.





### Time Out

Anaesthetist with consent form and drug chart	Surgeon with notes and id bracelet
What's this patient's name and DOB?	Name: ..... DOB: .....
What operation are you doing?	I'm doing a ..... side
Which side are you operating on?	I'm operating on the ..... side
Can you demonstrate the side on imaging?	Here is the side: .....
Are there potential problems?	Potential problems are: .....
Will blood be required?	Group and held, valid sample
What antibiotic have you given?	I have given: .....
Has heparin been given?	Heparin was given: .....
Are TED stockings on?	TED stockings are on

Key: surgeon text, anaesthetist text

Context: Patient stable on table, prior to surgical scrub

Version 2 August 2008





## Identify and support clinical champions

Having a small number of credible champions who will endorse this work is important. Help them to try it in their theatre session at an early stage. This will help convince sceptical colleagues, and will bring strength to both the effectiveness and speed of implementation. Identify candidates and provide ongoing support. Try to involve your medical and nursing directors as well as operational directors.

Engaging clinicians in this project is crucial (see Programme Leader's Guide, page 52). To help with this you will need to recruit and support clinical champions within each professional group. The team-work session may provide a good opportunity to identify champions (see the Programme Leader's Guide for more information on selecting champions and their role, page 29).

## Review ideas that have worked elsewhere

It is important to note that the WHO checklist can be adapted locally or for specific specialties.

With your team, look at examples that have worked well in other places to inspire you to develop your own version of the WHO checklist that will fit your requirements. Further examples can be downloaded from [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources)

### Example 1: implementing time-out

Royal Devon and Exeter NHS Foundation Trust

Theatre teams at the Royal Devon and Exeter decided that they wanted to involve the anaesthetist, surgeon and scrub nurse in a structured conversation. They developed a time-out dialogue on an A3 laminated sheet. This is put up on the light box in the theatre to remind staff of the script.

In addition to the scripted conversation between surgeon and anaesthetist, the scrub nurse checks the details against the consent form at the same time.

Information is captured on paper. A double side of A4 ‘ward sign out – theatre sign in’ checklist is part of the patient’s care plan. On the back it includes a section to record that time-out was done – the name of the surgeon, anaesthetist and scrub nurse and that the key issues of VTE prophylaxis, blood availability and antibiotics were all specifically considered during the time-out. This is then signed by the theatre nurse completing the patient’s theatre care plan.

## Time out

<i>Anaesthetist with consent form and drug chart</i>	<i>Surgeon with notes and id bracelet</i>
<b>What’s this patient’s name and DOB?</b>	<b>Name..... DOB.....</b>
<b>What operation are you doing?</b>	<b>I’m doing a .....</b>
<b>Which side are you operating on?</b>	<b>I’m operating on the ..... side</b>
<b>Can you demonstrate the side on imaging?</b>	<b>Here is the side .....</b>
<b>Are there potential problems?</b>	<b>Potential problems are .....</b>
<b>Will blood be required?</b>	<b>Group and held, valid sample</b>
<b>What antibiotic have you given?</b>	<b>I have given .....</b>
<b>Has Heparin been given?</b>	<b>Heparin was given .....</b>
<b>Are TED stockings on?</b>	<b>TED stockings are on</b>

**Key: surgeon text, anaesthetist text**

*Context: Patient stable on table, prior to surgical scrub*

Version 2 - August 2008

**Example 2:**

West Middlesex University Hospital NHS Trust

WMUH Safe Surgery Checklist (v5.3)		West Middlesex University Hospital <b>NHS</b> NHS Trust	
<b>SIGN IN</b> Before anaesthesia induction		<b>TIME OUT</b> Before intervention starts	
<b>Anaesthetist and ODP to ask patient:</b>		<b>Surgeon and Nurse:</b>	
<b>What is your name?</b> (Does this match ID band AND consent form?) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>What is your DoB?</b> (Does this match ID band AND consent form?) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>What operation are you having?</b> (Does this match operation list AND consent form?) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Which side is it? Please show me the mark</b> (Does this match consent form, green form +/- imaging?) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Do you have any allergies?</b> <input type="checkbox"/> Y <input type="checkbox"/> N List: _____ <b>Do you have any metal implants?</b> <input type="checkbox"/> Y <input type="checkbox"/> N List: _____ <b>Is this your signature on the consent form?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <b>Anaesthetist / ODP to consider:</b> <ul style="list-style-type: none"> <li>• Group &amp; save / cross match / blood</li> <li>• Difficult airway / risk of aspiration?</li> <li>• Require glucose monitoring?</li> <li>• Require warming?</li> </ul> <b>Anaesthetist name:</b> _____ <b>Signature:</b> _____ <b>OPD name:</b> _____ <b>Signature:</b> _____ <b>Patient sticker here:</b> <b>Name:</b> _____ <b>DoB:</b> _____ <b>Hospital no:</b> _____		<b>Patient's ID band matches details on Consent form?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Procedure on Op list matches Consent form?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Side / Site on Consent form matches green site form / skin mark / imaging?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Allergies?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Implants?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>TEDS / Flowtron on / Warming Blanket?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Anticoagulant prescribed?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Antibiotics given?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Ask: Does anyone have any other questions or concerns before proceeding?</b> <b>Date:</b> _____ <b>Operation:</b> _____ <b>Surgeon name:</b> _____ <b>Surgeon signature:</b> _____	
		<b>SIGN OUT</b> Before team leave operating room	
		<b>Nurse / Surgeon / Anaesthetist:</b>	
		<b>Swab Instrument/Sharp count correct?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Confirm actual procedure done</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Specimen labelled correctly?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Equipment problems?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Significant intraoperative event?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Recovery instructions? (free text below)</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Glitches recorded</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Was briefing completed?</b> <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <b>Briefing issues:</b> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <b>Free text box:</b> <div style="border: 1px solid black; height: 80px; width: 100%;"></div>	

The team at West Middlesex University Hospital NHS Trust have developed their own version of the WHO checklist within orthopaedics. This has now been successfully rolled out across the entire theatre suite.

### Example 3: integrating briefing with the WHO checklist

Luton and Dunstable Hospital NHS Foundation Trust

A theatre team at Luton and Dunstable took the WHO checklist and modified it to take account of the team briefing. They started by literally cutting up the checklist and pasting it in a different form.

**BEFORE THE LIST.**  
**PRE-OPERATIVE BRIEFING.**

- ☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE
- ANTICIPATED CRITICAL EVENTS**
- ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?
- ☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?
- ☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?
- DIFFICULT AIRWAY/ASPIRATION RISK?**
  - ☐ NO
  - ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE
- RISK OF >500ML BLOOD LOSS (7ML/KG IN CHILDREN)?**
  - ☐ NO
  - ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED
- IS ESSENTIAL IMAGING DISPLAYED?**
  - ☐ YES
  - ☐ NOT APPLICABLE

**Before induction of anaesthesia ▶▶▶▶▶▶▶▶**

**SIGN IN**

- ☒ PATIENT HAS CONFIRMED
  - IDENTITY
  - SITE
  - PROCEDURE
  - CONSENT
- ☒ SITE MARKED/NOT APPLICABLE
- ☒ ANAESTHESIA SAFETY CHECK COMPLETED
- ☒ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY?

☒ NO

☒ YES Adhesive tapes? elastoplast

▶ Before skin incision ▶▶▶▶▶▶▶▶

**TIME OUT**

- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
  - PATIENT
  - SITE
  - PROCEDURE
- HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?**
  - ☐ YES
  - ☐ NOT APPLICABLE

☒ DVT PROPHYLAXIS

☒ DIATHERMY PLATE ON

☐ WARNING ON.

**Before patient leaves operating room**

**SIGN OUT**

NURSE VERBALLY CONFIRMS WITH THE TEAM:

- ☐ THE NAME OF THE PROCEDURE RECORDED
- ☒ THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)
- ☒ HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)
- ☐ WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED
- ☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT

v4



After several PDSA cycles they settled on this version to try out more widely.

<h3 style="text-align: center;">Luton and Dunstable Hospital Safer Surgery Checklist</h3> <p>The discussion of each point should be led by the senior surgeon and/or anaesthetist, who may delegate the completion of each check box to another member of the team.</p> <p>Before the list</p> <div style="background-color: black; color: white; text-align: center; padding: 5px;"><b>PRE-OPERATIVE BRIEFING</b></div> <p style="text-align: center;">To be completed by Circulatory Nurse</p> <p><input type="checkbox"/> Confirm all team members have introduced themselves by name and role</p> <p><b>Anticipated critical events</b></p> <p><input type="checkbox"/> Surgeon reviews: What are the critical or unexpected steps, operative duration, anticipated blood loss? Are there any specific equipment requirements or special investigations?</p> <p><input type="checkbox"/> Anaesthesia review team reviews: Are there any patient specific concerns?</p> <p><input type="checkbox"/> Nursing team reviews: Has sterility (including indicator results) been confirmed? Are there equipment issues or any concerns?</p> <p><b>Difficult airway / aspiration risk?</b></p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment / assistance available</p> <p><b>Risk of &gt;500ml blood loss (7ml/kg in children)?</b></p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes, and adequate intravenous access and fluids planned</p> <p><b>Is essential imaging available?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> Not applicable</p>	<p>Before induction of anaesthesia</p> <div style="background-color: black; color: white; text-align: center; padding: 5px;"><b>SIGN IN</b></div> <p style="text-align: center;">To be completed by ODP</p> <p><input type="checkbox"/> Patient has confirmed:</p> <ul style="list-style-type: none"> <li>• Identity</li> <li>• Site</li> <li>• Procedure</li> <li>• Consent</li> </ul> <p><input type="checkbox"/> Site marked / not applicable</p> <p><input type="checkbox"/> Anaesthesia safety check completed</p> <p><input type="checkbox"/> What monitoring equipment and other specific support is required (e.g blood)?</p> <p><input type="checkbox"/> Does patient have a known allergy?</p> <p><input type="checkbox"/> Yes                      <input type="checkbox"/> No</p> <p><input type="checkbox"/> Has the patient's ASA grade been noted?</p> <p>Before skin incision</p> <div style="background-color: black; color: white; text-align: center; padding: 5px;"><b>TIME OUT</b></div> <p style="text-align: center;">To be completed by Circulatory Nurse</p> <p><input type="checkbox"/> Surgeon, anaesthesia professional and nurse verbally confirm:</p> <ul style="list-style-type: none"> <li>• Patient                      • Procedure</li> <li>• Site                          • Position</li> </ul> <p><b>Has antibiotic prophylaxis been given within the last 60 minutes?</b></p> <p><input type="checkbox"/> Yes                      <input type="checkbox"/> Not applicable</p> <p><b>Has DVT prophylaxis been undertaken?</b></p> <p><input type="checkbox"/> Yes                      <input type="checkbox"/> Not applicable</p> <p><b>Is diathermy plate in place?</b></p> <p><input type="checkbox"/> Yes                      <input type="checkbox"/> Not applicable</p> <p><b>Is appropriate patient warming in place?</b></p> <p><input type="checkbox"/> Yes                      <input type="checkbox"/> Not applicable</p>	<p style="text-align: center;">PLEASE AFFIX PATIENT STICKER HERE</p> <p>Before patient leaves operating room</p> <div style="background-color: black; color: white; text-align: center; padding: 5px;"><b>SIGN OUT</b></div> <p style="text-align: center;">To be completed by the Circulatory Nurse</p> <p><b>Registered practitioner verbally confirms with the team:</b></p> <p><input type="checkbox"/> The name of the procedure recorded</p> <p><input type="checkbox"/> That instrument, sponge and needle counts are correct (or not applicable)</p> <p><input type="checkbox"/> How the specimen is labelled (including patient name)</p> <p><input type="checkbox"/> Whether there are any equipment problems to be addressed</p> <p><input type="checkbox"/> Surgeon, anaesthetist and registered practitioner review the key concerns for the recovery and management of this patient</p> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div> <p>Comments:</p> <p style="text-align: center;">Please file completed checklist in the patient's notes</p>
---	---	---

## Agree a prototype for testing

Along with the team from your test area, review the examples of the WHO checklist from this module and on the NHS Institute website, [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources). The team may know of other examples in use elsewhere. Ask the team to select a prototype to test and make any alterations which are immediately obvious.

## Know when and where to seek help

Be realistic when assessing your organisation's capacity to implement this change. There is a range of further resources as well as organisations that can support your trust in implementation.

The Patient Safety First campaign seeks to provide NHS staff with the knowledge and support they need to improve the safety of patients. It has developed excellent tools to assist in implementation of the checklist and reduce the potential for harm.

See the Patient Safety First guides:

- surgical safety checklist for chief executives
- the 'how to' guide for implementing human factors in healthcare
- the 'how to' guide for reducing harm in perioperative care.

Available at: [www.patientsafetyfirst.nhs.uk](http://www.patientsafetyfirst.nhs.uk)

Trusts that need further help with implementation and training should consider the NHS Institute Implementation Support Package. For further information see [www.institute.nhs.uk/theatres](http://www.institute.nhs.uk/theatres)



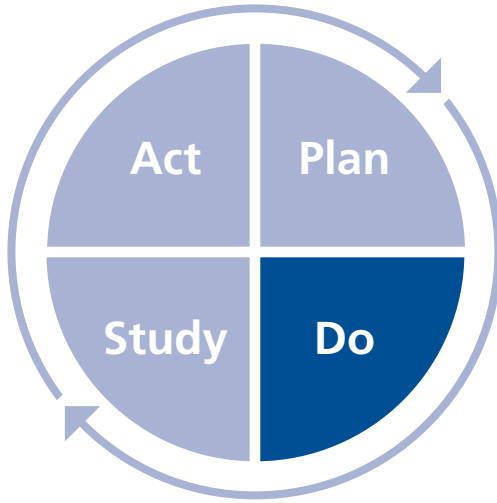


## Plan – milestone checklist

Move on to **Do** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Ensured strong and visible leadership	
Identified a clinical team or theatres to begin testing	
Communicated, engaged and raised awareness	
Identified and supported clinical champions	
Reviewed ideas that have worked elsewhere	
Agreed a prototype for testing	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Do

Once you have identified a version of the checklist you would like to try, you will need to test it on one list in one operating theatre. Do not expect staff to take to this new idea immediately, experience has shown that implementation works best when the whole theatre team are involved, and are encouraged to develop their own version.

You may need several iterations of the PDSA cycle to devise a version of the checklist for your organisation, with customised versions for discrete settings, eg day surgery, ophthalmic surgery, obstetrics.



## Test the WHO checklist with the team in an operating theatre

Once the team have decided on the version of the checklist they would like to test, they need to decide how to present this to the team. Some teams have developed a laminated poster, usually A3 or larger. Others have a paper or laminated A4 version for the person leading the checklist to hold.

Establish ground rules for the checklist. You may decide to introduce briefing and debriefing before checklist or both at once. Start with one team on one list and increase coverage once you have a version that is working.

You need to agree exactly when it will happen, and who should lead it. The expectation should be that, for the time-out, everyone working in the theatre for that list should be present including the surgeon, anaesthetist and any trainees. Most teams do it at the point when they would otherwise be making the incision; some do it before the surgeon scrubs.

## Support the team to work with the tool

It is important for the team to understand that the checklist is an extra 'double checking' step prior to the start of surgery. Emphasise that there is room for customising and adapting it. Try some ideas that the team want to test even if you're not sure they will work and then use the small-scale 'tests of change' method to review and refine the process until everyone is happy with it. Many of the items in the National Patient Safety Agency version of the WHO checklist may be appropriately covered by a team brief (see Luton and Dunstable example 3 on pages 84 and 85).

Beware of overcomplicating the documentation, it might put people off. Start with something simple and see how the team react, but also find a way to capture when the checklist identifies and averts a potential error.

## Continue to monitor progress

As with briefing, identify any important issues that arise during the testing phase and need to be resolved or escalated to the executive lead. In the early phase it is crucial that staff know that their concerns are being heard and acted upon.



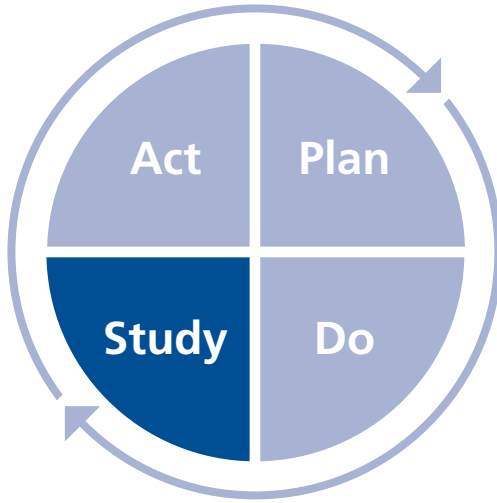


# Do – milestone checklist

Move on to **Study** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Tested the WHO checklist with the team in an operating theatre	
Supported the team to work with the tool	
Continued to monitor progress	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Study

Implementing the WHO checklist may require several PDSA cycles. It is important to keep track of your measures for success so that you can assess the impact of changes soon after you make them.





## Assess the impact on your key measures

Refer back to the Knowing How We Are Doing module, and particularly the ‘collect, analyse and review’ sections. The measures for the WHO checklist may be qualitative (how people feel about new ways) as well as quantitative (how many patients had the full checklist carried out, what potential glitches were identified and averted). Measures you might use include:

- are the staff implementing the WHO checklist?
- has it made any difference?
- what sort of glitches are coming up regularly?

## Collect feedback from the staff

What is the feedback from staff on your WHO checklist prototypes? Collect anecdotes and examples where potential errors – minor and major – have been averted. See how you can disseminate these stories to convince sceptics that the checklist is having a positive impact. Make sure that you keep the wider theatre team informed, tell them what you are doing, why you are doing it, how you are doing it and what has been achieved as a result. Use every opportunity to engage the clinical staff.

## Update your Knowing How We Are Doing board

Use your Knowing How We Are Doing board to demonstrate progress on key measures as well as quotes, comments and stories.

## Implement review process

Review the WHO checklist with the team. Find out how people reacted to the checklist – did it help them to understand what was going to happen? Did it help staff to identify and prevent any problems? Review and capture good news stories for your Knowing How We Are Doing board and for wider communication.



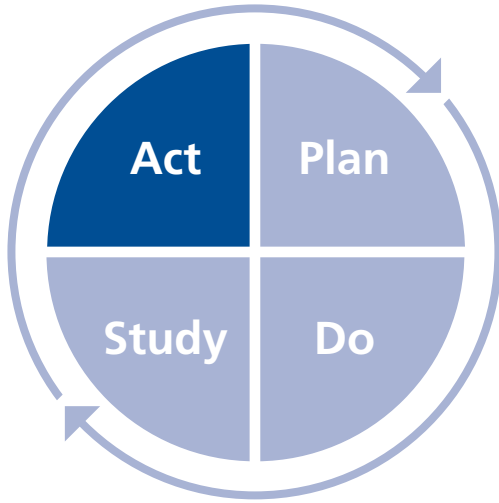


# Study – milestone checklist

Move on to **Act** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Assessed the impact on your key measure	
Collected feedback from the staff	
Updated your Knowing How We Are Doing board	
Implemented review process	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Act

Once you have successfully developed and tested the WHO checklist in your showcase theatre, you will need to plan for two key challenges; the roll-out across your theatre department, and crucially, how to sustain the use of the tool in the long term.



## Decide if the tool is ready to be implemented

If you are doing many small PDSA cycles with various modified prototypes, the team need to decide if the tool is ready to be implemented. The options can be summarised as:

- adopt
- amend
- abandon.

If the decision is made to abandon a particular version or way of using the checklist, consider what alternatives might work better in your theatres. The most frequent mistake is to develop over-complicated paperwork, separate from the main theatre documentation. Once you have an acceptable prototype, consider what documentation really matters in your organisation and then see how you can integrate it with existing systems. For example, you might be able to record completion of the three stages of the checklist on the theatre management system. Alternatively the checklist can form part of the patient care plan.

## How can you make it stick?

Sustaining new ways of working is always a challenge. This is where your champions come in – once they've worked out a successful new way of working they are unlikely to want it to be abandoned. The other key is continued measurement, and displays of the percentage of implementation of the WHO checklist in each theatre. Once compliance reaches significant levels you might consider identifying who is doing well and who not so well, but this can be seen as punitive and is probably best reserved until you have just a few stragglers.

If you have a substantial problem persuading clinicians to use the WHO checklist find out what the difficulty is. Perhaps your prototype suits one professional group better than another and a new version may need to be tested. Ultimately if most staff have adopted the WHO checklist you may need the support of clinical directors, executive leads and other senior people to influence the stragglers. Eventually use of the WHO checklist will become an element in appraisal and revalidation.

Once the new way has been established, include it in the existing structures:

- induction for new staff
- standard operating procedures and policies
- documentation (including IT).

See also the Sustainability Model and Guide on the NHS institute website [www.institute.nhs.uk/sustainability](http://www.institute.nhs.uk/sustainability), There is a brief account of this in the Programme Leader's Guide, pages 46 – 47.

## Plan for roll-out across all theatres

Spreading your local adaptation of the WHO checklist may start to happen organically if the various clinical groups decide to adopt it, but you should be prepared to support spread. The steering group or the programme team may have clear thoughts on where to spread first, and how to migrate it across all theatres, and how to link roll-out to briefing and debriefing. As with briefing and debriefing, you must be open to the prospect of further modification of the checklist as you roll-out. What works in cardiothoracic theatres may need significant adaptation to be suitable for day surgery or ophthalmic surgery. The content will also vary depending on whether teams have implemented briefing and debriefing. There is no particular order in which briefing and debriefing and the WHO checklist should be implemented.

However good you think your checklist is, do not be tempted to send out an instruction to all staff to implement it. Experience has shown that, at best, staff will grudgingly carry it out until you are no longer watching them. At worst, they will simply refuse. They have to be won over by engaging them, showing them the evidence that it works (qualitative and quantitative) and involving them in modifying the process to be fit for purpose in their particular clinical context. This takes time and perseverance.

We recommend that you put the WHO surgical safety checklist into use in planned stages, team-by-team and theatre-by-theatre. This also provides an opportunity for tailoring to meet sub-specialty needs and for helping each theatre team to understand the reasons for using it.

Use the PDSA approach, suggested elsewhere in this guide, to support teams in developing solutions which work for them and are consistent with other processes. For example, if a team carry out team briefings, including introductions, it makes no sense to repeat introductions at time-out unless key members of the team have changed.

Similarly, if induction of anaesthesia is carried out in the theatre (rather than the anaesthetic room) it makes sense to unify the sign-in and time-out processes.





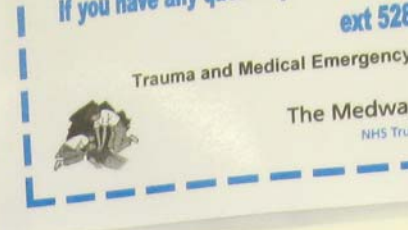
# Act – milestone checklist

Checklist	Completed?
Decided if the tool is ready to be implemented	
Agreed how you will make it stick	
Planned for roll-out across all theatres	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## ***7. SBAR***



1 DS.54

**S**

Situation  
I am calling about \_\_\_\_\_ patient name and location-  
The patient's code status is \_\_\_\_\_  
The problem I am calling about is \_\_\_\_\_  
I am afraid the patient is going to arrest.

I have just assessed the patient personally.

Vital signs are: Blood pressure \_\_\_\_\_ Pulse \_\_\_\_\_ Respiration \_\_\_\_\_

I am concerned about the:  
Blood pressure because it is over 200 or less than 100 or 30 mm  
Pulse because it is over 140 or less than 50  
Respiration because it is less than 5 or over 40  
Temperature because it is less than 96 or over 104.

**B**

Background  
The patient's mental status is:  
Alert and oriented to person place and time.  
Confused and cooperative or non-cooperative  
Agitated or combative  
Lethargic but conversant and able to swallow  
Stuporous and not talking clearly and possibly not able to swallow  
Comatose. Eyes closed. Not responding to stimulation.

The skin is:  
Warm and dry  
Pale  
Mottled  
Diaphoretic  
Extremities are cold  
Extremities are warm

The patient is not or is on oxygen.  
The patient has been on \_\_\_\_\_ (l/min) or (%) oxygen for \_\_\_\_\_.  
The oximeter is reading \_\_\_\_\_ %  
The oximeter does not detect a good pulse and is giving erratic readings.

**A**

Assessment  
This is what I think the problem is: \_\_\_\_\_ say what you think is the cause.  
The problem seems to be cardiac. Infection neurologic respiratory  
I am not sure what the problem is but the patient is deteriorating.  
The patient seems to be unstable and may get worse, we need \_\_\_\_\_

**R**

Recommendation  
Suggest or request that you \_\_\_\_\_ say what you would like to see done-  
transfer the patient to critical care  
come to see the patient at this time  
Ask the patient or family about code status.  
Ask the on-call family practice resident to see the patient now.  
Are any tests needed: \_\_\_\_\_  
Do you need any tests like CKR, ABO, EKG, CBC, or BMP?  
Others?  
If a change in treatment is ordered then ask:  
How do you want vital signs?  
How long to you expect this problem will last?  
If the patient does not get better when would you want us to call?

*This SBAR tool was developed by Kaiser Permanente. Please feel free to use and reproduce these materials and please retain this footer in the spirit of appropriate recognition.*

## What is SBAR?

### Situation – Background – Assessment – Recommendation

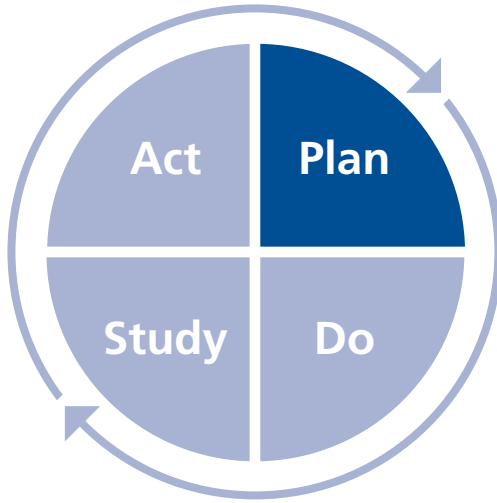
SBAR is a structured framework for communicating critical information that requires immediate attention and action.

#### Why use SBAR?

Sub-optimal communication is recognised as one of the most common contributory causes of serious errors – both clinically and organisationally. There are some fundamental barriers to communication across different disciplines and levels of staff. These include hierarchy, gender, ethnic background and differences in communication styles between disciplines and individuals. Communication is more effective in teams where there are standard structures of communication in place.

- It provides a structured process for clear communication, specifically patient handoffs, effective escalation and critical exchange of information.
- Its use is well established in many settings including the military, aviation and some acute healthcare environments.
- Using it helps to prevent breakdowns in verbal and written communication.
- It is an effective guide for conducting re-briefing.
- It is an effective mechanism to flatten the traditional hierarchy between senior clinicians and other care-givers by building a common language and structure for communicating critical events, thereby reducing barriers to communication between clinicians.
- As a memory prompt, it is easy to remember and encourages prior preparation for communication.
- It reduces the incidence of miscommunication that occur through the use of assumptions, hints, vagueness or reticence that may be caused by hierarchy.

SBAR is a well-established and internationally used tool. There is more detailed information on the NHS Institute website, [www.institute.nhs.uk](http://www.institute.nhs.uk). You will also find more information on page 126, Further SBAR reading.



## Plan

There are a number of steps to work through to help you plan tests of change (PDSA cycles) for implementing SBAR, although they may be simpler than those for briefing, debriefing and the WHO checklist.

The module team needs to understand the importance of involving all groups of staff to make sure the solutions tested in PDSA cycles meet everyone's needs, specifically in this case for those communicating.





## Ensure strong and visible leadership

- Discuss implementation with the executive lead and senior clinicians and team-work champions
- Discuss how you will implement the steps below, and any support you may need
- Identify any team-working expertise within your organisation who could support this work
- Decide whether you will need external support from the NHS Institute or another training provider

*'Clear leadership by senior staff is critical – they will be pivotal to setting the expectation for the use of SBAR. Managers and leaders need to be driving this forward as a clear governance strategy. However, they also should have access to training in order to effectively receive and deliver SBAR themselves.'*

**Ann Abbassi - theatre matron, Heart of England NHS Foundation Trust**

## Identify a clinical team, theatre or department to begin testing

Firstly, agree with senior management and your clinical governance department the need to introduce SBAR. You are likely to need to provide evidence of the benefits. The engagement of senior managers, clinical leaders and champions will facilitate early adoption in both clinical and operational situations and assist spread. For SBAR you may find enthusiasm in your recovery area since they have cause to escalate clinical situations more frequently than most others.

The decision about where to start in your operating department should be based on several factors:

- where there is existing enthusiasm from staff and an awareness of the tools
- where there is a desire to implement the tools
- staff who will be willing and able to spread the implementation to other theatres and staff within the organisation.

The actual delivery of training for SBAR is not complex or time consuming. The main challenge is likely to be reaching all members of your team, as well as encouraging the uptake of its use while the team is developing skills and confidence.

## Communicate, engage and raise awareness

As always, use several different means of communication – especially word of mouth and meetings.

Once the tool has been tested, the main tasks are to provide an aide-memoire wherever SBAR is most likely to be used (eg by telephones) and to train staff in its use and purpose.

Stationary Cupboard





## Identify and support clinical champions

Ensure that you have a key individual who can lead and deliver this work. They should be comfortable and skilled in the use of SBAR prior to rolling out the training. Having several people who can deliver sessions will provide you with additional flexibility.

Does your organisation already use SBAR within key areas? If so, the staff could be approached for advice and to access their training tools and other resources used to implement SBAR.

You will need to recruit and support clinical champions within the professional groups to gain widespread acceptance of the SBAR method. The team-work session may provide a good opportunity to identify champions. See the Programme Leader's Guide for more information on selecting champions, and their role.

*Do you have any staff who have previously worked in the forces? If so, they are likely to be skilled in the use of SBAR and may be willing to lead or champion the roll-out.*

## Review ideas that have worked elsewhere

With your team look at examples that have worked well in other places to inspire you to develop your own SBAR techniques to fit your requirements. Further examples can be downloaded from [www.institute.nhs.uk/theatres\\_resources](http://www.institute.nhs.uk/theatres_resources).

Gather background information and produce your local training package.

Plan to train existing staff and put a strategy in place for training new starters – could it be included as part of their induction? Develop supporting tools in-house to act as memory prompts (note pads, posters, cards, phone stickers, letter templates, etc). You may also want to produce your own using material from the NHS Institute. See the examples that have been developed elsewhere. There is an e-learning programme for SBAR available on the Safer Care section of the NHS Institute website, [www.institute.nhs.uk/safecare](http://www.institute.nhs.uk/safecare)

## Example 1: SBAR aide-memoire note pad developed by the Heart of England NHS Foundation Trust

Ice Codes

Mute

Headset

Recall

Save

Tone

LNR/ Pause

2 ABC

3 DEF

5 JKL

6 MNO

7 PQRS

8 TUV

9 WXYZ

\* OPER

0

#

Date \_\_\_\_\_ Time \_\_\_\_\_

**S**ituation Your name, ward, patient and why you are calling

\_\_\_\_\_

\_\_\_\_\_

**B**ackground Patient diagnosis, history and treatment

\_\_\_\_\_

\_\_\_\_\_

**A**ssessment Your assessment of the patient's condition in relation to your concerns


\_\_\_\_\_

\_\_\_\_\_

**R**ecommendation What actions you want from the call and the timescale

\_\_\_\_\_

\_\_\_\_\_

 Situation  
Background  
Assessment  
Recommendation

**NHS**


**H** HEART of ENGLAND  
NHS Foundation Trust






## Example 2: ideas that have worked – SBAR

This is an aide-memoire for ward nurses making a telephone call requesting support from senior nurses or doctors. It might be used with minor adaptation for recovery staff.



**Institute for Innovation  
and Improvement**



# SBAR Reporting

## Attention all team members

For good communication about patients between all health professionals, use the SBAR tool before calling:

- ▶ Assess the patient
- ▶ Know the admitting diagnosis
- ▶ Read the most recent progress notes and assessment from the prior shifts
- ▶ Have appropriate documents available e.g. Nursing and Medical Records, MEWS (modified early warning score) charts, Allergies, IV fluids resuscitation status

S

### ituation

- ▶ State your name and unit
- ▶ I am calling about patient's name
- ▶ The reason I am calling is

B

### ackground

- ▶ State the admission diagnosis and date of admission
- ▶ Relevant medical history
- ▶ A brief summary of treatment to date

A

### ssessment

- ▶ State your assessment of patient e.g. vital signs, MEWS score, mental state, mobility, medicines

R

### ecommendation

- ▶ I would like (state what you would like to see done)
- ▶ Determine timescale
- ▶ Is there anything else I should do?
- ▶ Record name and contact number of contact

## Don't forget to document the call

## Agree a prototype for testing

Along with the team from your test area, review the examples of SBAR from this module and on the NHS Institute website. The team may know of other examples in use elsewhere. Ask the team to select a prototype to test and make any alterations which are immediately obvious.

As a general rule, the prompts need to be specific enough to prompt for essential information in the clinical context, yet general enough to cover most situations without being too long or complicated. If in doubt keep it simple.





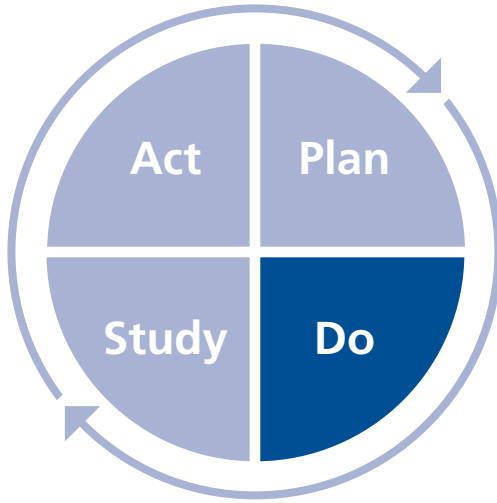


## Plan – milestone checklist

Move on to **Do** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Ensured strong and visible leadership	
Identified a clinical team or theatres to begin testing	
Communicated, engaged and raised awareness	
Identified and supported clinical champions	
Reviewed ideas that have worked elsewhere	
Agreed a prototype for testing	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Do

Once you have identified a version of the SBAR you would like to try, you will need to test it with a small team to see if they like it. Do not expect staff to take to this new idea immediately: experience has shown that implementation works best when staff are involved and are encouraged to develop their own version.

This module may involve several iterations of the PDSA cycle.



## Test the SBAR tool in an operating theatre or department

Provide an environment where staff feel safe to practice and develop their skills during non-critical communications. Plan opportunities for staff to practice in the safe environment. Use simple clinical and operational scenarios that are typical for your department. Ensure people feel able to prompt each other using your agreed SBAR framework. For example, 'can I make sure I'm understanding you?' or 'what is your recommendation here?'

Once you have decided on the SBAR prompts you would like to test, decide how to present this to staff. Some teams have a paper or laminated A4 version secured beside a telephone for the person delivering the SBAR to hold. Others have issued postcard-sized prompt cards.

You need to agree where and when you will introduce it. Be sure to brief both the staff using the SBAR to communicate and those likely to receive it.

## Support the team to work with the tool

Emphasise that the whole approach is to experiment, to try ideas that the team want to test, and then use small-scale tests of change to review and refine the process until everyone is happy with it. To maximise the benefits of the tool:

- implement SBAR training to all staff – including non-clinical
- clearly articulate the expectation that SBAR is to become the standard method for communicating issues and escalating situations across the area – whether the issue is clinical or not
- incorporate SBAR into appropriate reporting and handover documentation where possible. When planning new documentation consider the use of the SBAR format, at least in the initial development. This may subsequently become a more specific handover document for common handover situations such as recovery staff handing over patient care to a ward nurse.

Beware of overcomplicating the supporting tool or aide-memoire: start with something simple and see how the team react.

## Continue to monitor progress

Plan how you will assess the competency of frontline staff in using the SBAR tool through scenarios. Try voice recorders to record SBARs being practiced. In order to make this manageable in the context of the wider Productive Operating Theatre programme – keep it simple!

- Competence could be assessed by the use of a scenario or observation of an individual's good practice in daily work. Choose a method that will be manageable and encourage staff rather than placing additional pressure on the team.
- Celebration of excellent examples observed in practice among teams is likely to motivate use; these can also start to feed into the training package.
- A temporary SBAR information section on notice boards during implementation can help to raise awareness.
- You may wish to consider having a visible record within the department or on your Knowing How We Are Doing board indicating the training and competencies of staff in skills that contribute to highly performing teams. This could include SBAR and other areas of team-work training, such as team-working sessions, briefing and debriefing and the WHO checklist.
- Keep your senior clinical leaders and management team informed of progress and your expectations of them.

*You could ask the executive team to demonstrate a clear focus on SBAR when visiting or carrying out safety walk rounds. This will reinforce the commitment of the executive team to this area of practice. It would be helpful if they question staff about SBAR during visits.*



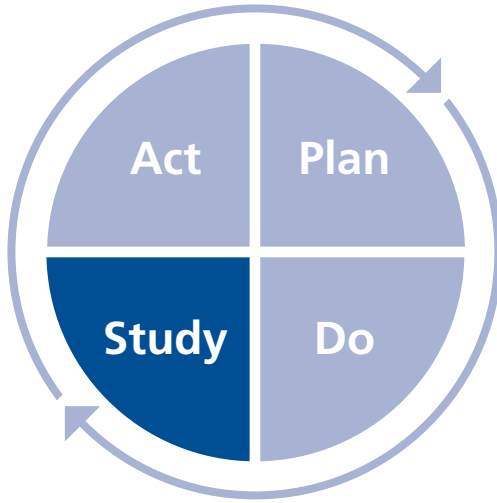


## Do – milestone checklist

Move on to **Study** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Tested the SBAR tool with the team in an operating theatre	
Supported the team to work with the tool	
Continued to monitor progress	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Study

Implementing the SBAR tool may require several PDSA cycles. It is important to keep track of your measures for success so that you can assess the impact of changes soon after you make them.





## Assess the impact on your key measures

You may want to run a module measures workshop as described in the Knowing How We Are Doing module to remind the team involved in the implementation of SBAR why measuring progress and acting on the findings is important. Measuring your progress on use of the SBAR tool does not have to be complicated. A simple measure might be providing monthly figures on the number and percentage of staff that have received training.

Outcome measures will be much harder to collect. You might review incident investigation reports to see whether communication issues continue to be a major contributing factor.

## Collect feedback from staff

One of the most useful measures of success will come from staff feedback.

- Ask 10 members of staff to provide an outline of SBAR and an example of its use; repeat at intervals.
- Gain regular feedback from senior clinicians and theatre management on whether urgent issues are being clearly and concisely articulated and escalated through the use of SBAR. Has it helped them to understand and focus on problems more effectively? Was any critical information missing?

## Update your Knowing How We Are Doing board

As you start to collect your information remember to display your progress on your Knowing How We Are Doing board and review it at your measures review meeting. See the Knowing How We Are Doing module, page 75, for more information. It may simply be progress on training and awareness of SBAR and stories of how SBAR helped in a critical situation.

Ensure you keep the wider theatre team informed: tell them what you are doing, why you are doing it, how you are doing it and – importantly, what's in it for them. Use every opportunity to engage the clinical staff – especially consultants who should begin to see the benefits of structured communication quickly.

## Implement the review process

Review the SBAR tool with the team. Find out how staff reacted to it:

- did it help them to communicate more effectively the detail of what was going on?
- did it help senior staff to make decisions and provide the appropriate response?
- have the team found any of the tools that you have provided helpful (ie posters, stickers, personal cards)?

Make time for team discussion, reflection and refinement of the tools.

Review and capture good news stories for your Knowing How We Are Doing board and wider communication.

Gather feedback from staff about the training – what went well, what could you have done better and are there any changes that the team would suggest?

What examples can you find of excellent practice? Have you received any positive feedback or examples where clearly escalated issues may have averted a serious incident?

What support are you receiving from senior trust managers in setting expectations and support with the team? Is this active enough?



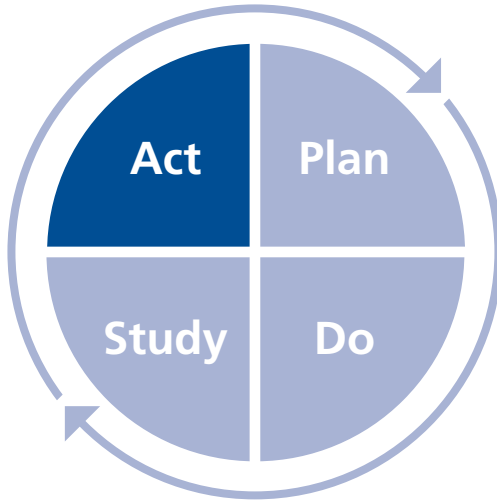


## Study – milestone checklist

Move on to **Act** only if you have completed **all** of the items on this checklist

Checklist	Completed?
Assessed the impact on your key measure	
Collected feedback from the staff	
Updated your Knowing How We Are Doing board	
Implemented review process	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	



## Act

Once you have successfully developed and tested the SBAR tool in your showcase theatre, you will need to plan for two key challenges; the roll-out across your theatre department, and crucially, how to sustain the use of the tool in the long term.



## Decide if the tool is ready to be implemented

If you are doing many small PDSA cycles with various modified prototypes, the team need to decide if the tool is ready to be implemented. The options can be summarised as:

- adopt
- amend
- abandon.

If the decision is made to abandon a particular line of testing, consider with the team why this is, and what alternatives might work better in your theatres. Staff may have some really good ideas about SBAR: discuss them with the team and try them out.

Keep your senior clinical and management team updated and let them know of any additional support you may require from them for establishing SBAR.







## How can I make it stick?

As much effort, if not more, needs to go into the roll-out and sustainability of a change as goes into the planning and starting of it. Sustaining new ways of working is always a challenge. The NHS Sustainability Model identifies ten factors that are key to the sustainability of any change, they are explained in the table. These should be considered in your roll-out plan.

	Factor	Things to consider
<b>Staff</b>	Clinical leadership	<ul style="list-style-type: none"> <li>Have strong clinical leaders and champions supporting the change, use them to influence their colleagues.</li> </ul>
	Senior leadership	<ul style="list-style-type: none"> <li>The programme executive leader.</li> </ul>
	Training and involvement	<ul style="list-style-type: none"> <li>Provide training on the changes to those that are affected by it so that they understand any new systems and processes.</li> </ul>
	Staff behaviours	<ul style="list-style-type: none"> <li>Continue to involve staff in developing the changes further – people own what they help to create which will increase the likelihood of sustainability. Use your champions to influence their colleagues.</li> </ul>
<b>Organisation</b>	Fit with organisational goals and culture	<ul style="list-style-type: none"> <li>Show how the change fits with your Productive Operating Theatre vision and the wider organisations strategy.</li> </ul>
	Infrastructure	<ul style="list-style-type: none"> <li>Formally incorporate the new roles and responsibilities that people have as a result of the changes into their job plans.</li> <li>Develop policies that embed the changes.</li> </ul>
<b>Process</b>	Benefits	<ul style="list-style-type: none"> <li>Explain to the staff involved what the benefits of the new way of working are for them.</li> </ul>
	Credibility of evidence	<ul style="list-style-type: none"> <li>Share the qualitative and quantitative benefits that you have collected through the testing cycles to engage colleagues during roll out.</li> </ul>
	Monitoring progress	<ul style="list-style-type: none"> <li>Continue to monitor the progress of the changes so that teams can see the impact of their efforts.</li> </ul>
	Adaptability	<ul style="list-style-type: none"> <li>Consider how the change will adapt to a different theatre team, specialty or site, do modifications need to be made?</li> </ul>

To identify if there are factors you need to focus on to increase the sustainability of your improvements complete the sustainability model which is available at [www.institute.nhs.uk/sustainability](http://www.institute.nhs.uk/sustainability)

## Plan for roll-out across all theatres

Experimenting with different support tools (eg pocket cards, laminated prompts by the phone) and refining the wording will help you develop a solution that works for your organisation. Using simple PDSA cycles will help you to develop training that is effective for the teams.

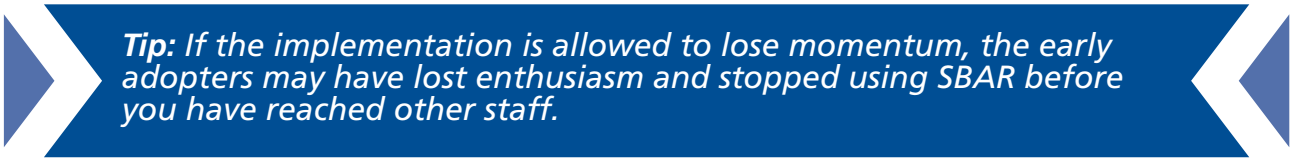
### Potential tools to develop:

- training packs – handouts and articles
- posters
- structured note pads near telephones
- stickers.

Create scenarios and use them to demonstrate the SBAR tool and process. This will help staff to understand how they can use SBAR to describe real situations. Make a small selection of scenarios available on a notice board or available in clinical areas that will allow teams to practice and develop their skills and confidence.

Training is key to successful roll-out of the SBAR tool. It is best delivered as a highly focused and intensive training campaign aimed at as many staff as possible within a clearly defined period. If the training is spread out over many months, the opportunity for quick uptake is reduced as some staff have the knowledge and skills while others may not.

If the training session is kept simple and does not rely on special equipment such as electronic presentation, it will be easier to take an opportunistic approach within a busy department. Having a training pack readily available will help you to use time flexibly when training opportunities occur.



***Tip: If the implementation is allowed to lose momentum, the early adopters may have lost enthusiasm and stopped using SBAR before you have reached other staff.***



Most of the principles outlined in this section can be adapted to implement a range of other communication and assertiveness tools. Other simple tools and ideas that will improve team communication include:

- reducing interruptions and distractions (such as telephone calls, people entering or leaving, music)
- directing requests to a named person (rather than a general request to which no-one responds)
- read-back (repeating a request back, such as the circulating nurse repeating back that a 40 Vicryl suture is requested)
- checklists (not just the WHO surgical safety checklist, eg items to be checked on the anaesthetic equipment)
- suggesting taking a break when fatigue may be impairing performance
- encouraging all staff to speak up if they are concerned that an error might occur
- using critical language to raise concern, such as 'I need clarity' or 'I am concerned'
- other communication tools for escalation such as PACE (Probe – Alert – Challenge – Emergency).



## Further SBAR reading

M Leonard, S Graham and D Bonacum *The Human Factor: The Critical Importance of Effective Team-work and Communication in Providing Safe Care Qual Saf Health Care* 2004;13: i85 - i90

V Arora, J Johnson, D Lovinger, H J Humphrey, and D O Meltzer *Communication Failures in Patient Sign-out and Suggestions for Improvement: A Critical Incident Analysis Qual. Saf. Health Care* 2005; 14(6): pp. 401–407

Haig, Kathleen M.; Sutton, Staci; Whittington, John *SBAR: A Shared Mental Model for Improving Communication Between Clinicians* Joint Commission Journal on Quality and Patient Safety, Volume 32, Number 3, March 2006, pp. 167-175(9)

Joint Commission Perspectives on Patient Safety. *The SBAR Technique: Improves Communication, Enhances Patient Safety*. February 2005. Volume 5, Issue 2

Institute for Healthcare Improvement *SBAR Technique for Communication: A Situational Briefing Model* [www.ihl.org](http://www.ihl.org)

HealthCare Benchmarks and Quality Improvement *SBAR Initiative to Improve Staff Communication*: tool was first developed, used by the military April, 2005



## Act – milestone checklist

Checklist	Completed?
Decided if the tool is ready to be implemented	
Agreed how you will make it stick	
Planned for roll-out across all theatres	

Effective team-work checklist	Tick if yes
Did all of the team participate?	
Was the discussion open?	
Were the hard questions discussed?	
Did the team remain focused on the task?	
Did the team focus on the area / process, not individuals?	





## *8. Learning objectives complete?*

Five objectives were set at the beginning of this module.

Test how successfully these objectives have been met by asking theatre team members (of differing professional groups and grades) the questions in the grid opposite.

The results of this assessment are for use in improving the facilitation of this module and are not a reflection on staff aptitude or performance.

If all the responses broadly fit with the answer guidelines then the learning objectives of the module have been met.

Note the objectives where the learning has only been partly met and think about how you can change the way you approach the module next time so that the responses are fully met.

It sometimes helps to re-read the module and reflect on the experiences in implementing the module first time round.



Question (ask the team member)	Answers for outcome achieved
What impact do individual behaviours have on the team dynamics and performance?	<p>Understanding and able to summarise the eight human factor elements and provide examples of how their individual or observed staff performance has changed</p> <ul style="list-style-type: none"> <li>• Self awareness</li> <li>• Behaviour and conflict management</li> <li>• Communication</li> <li>• Leadership</li> <li>• Team-work</li> <li>• Information processing</li> <li>• Decision-making</li> <li>• Situation awareness</li> </ul>
What contributions can individuals make to avoid errors and improve patient safety?	Examples of specific interventions under each of the headings above
<p>What do you understand about the importance of, and are you able to:</p> <ul style="list-style-type: none"> <li>• conduct a brief and debrief and learn from experience</li> <li>• apply the principles of the WHO checklist</li> <li>• apply SBAR.</li> </ul>	<ul style="list-style-type: none"> <li>• Essential to high performing teams</li> <li>• Rapidly form a team</li> <li>• Level hierarchy</li> <li>• Planning for the unexpected</li> <li>• Reviewing what went well, how the team can improve next time</li> <li>• Evidence of implementing briefing, debriefing and the WHO checklist, and SBAR or another communication tool</li> </ul>
What systems and procedures need to be in place to support brief, WHO checklist, debrief and SBAR?	<ul style="list-style-type: none"> <li>• Mechanism for brief, debrief and WHO checklist to take place in theatre for every list</li> <li>• Data capture of key metrics to measure success</li> <li>• Frequent review of the glitches arising from debrief</li> <li>• Staff training and prompts in the department to support use of the tool</li> </ul>
What tools can improve the quality of communication within the team to deliver safer, more effective care to patients?	<ul style="list-style-type: none"> <li>• Understanding and applying SBAR or other structured communication tools such as PACE</li> </ul>



## ***9. Appendices***



# Appendix 1

## What do we mean by human factors in patient safety?

There are eight key human factor elements affecting patient safety in the operating theatre. Understanding and awareness of your own performance, and that of others, is critical to improve team-working.

### 1. Self-awareness

#### What is it?

Self-awareness is an understanding and appreciation of how we prefer to think and act, and how those we come into contact with prefer to think and act.

#### Why is it important?

By enhancing our understanding of ourselves and others we can act appropriately to help our fellow team members. It can also increase awareness of how stress, workload and fatigue can polarise peoples' actions and reactions. For example, outgoing expressive personalities may become insulting under stress or may become very quiet.

#### How can you do it?

For a full assessment of personality types, use Myers-Briggs (MBTI), or for more concise exercises by Merrill and Read in understanding and valuing differences see Improvement Leaders' Guide: Managing the human dimensions of change, chapter 5 (p39). Also available online at [www.institute.nhs.uk](http://www.institute.nhs.uk), searching for quality and service improvement tools.



## 2. Behaviour and conflict management

### What is it?

Behaviour and conflict management analyses how you act, what you are judged by; what others see of us.

### Why is it important?

- It helps us to recognise and accept that we can choose our behaviour, and that we are responsible for our behaviour.
- Behaviour breeds behaviour.
- It helps us understand how unintentional or unguarded behaviour – especially by those with leadership roles who can adversely affect the team and hence impair patient safety.

### How can you do it?

Using concepts from transactional analysis, you will understand that at any given time, each of us expresses our personality through a combination of behaviour, thoughts and feelings. According to transactional analysis, these fall into three categories adult, parent and child mode. The optimum way to communicate with each other is adult to adult mode.

**Adult** mode behaviour is associated with objective unemotional interaction, focusing on facts and issues, not personalities.

**Parent** mode behaviour: this is a state in which people copy their parents or other parental behaviour. Our parent mode is formed by external events and influences upon us as we grow through early childhood. Sometimes this could take the form of being overly critical or possibly too nurturing. Whichever side of our 'parental behaviour' you show will determine, the type of response you receive, usually invoking a child-like response. For example, in the theatre, an adult theatre matron may take on the parent role, and scold another adult colleague as though they were a child. This is not conducive to effective team-working.

**Child** mode takes control when we allow anger or despair to dominate reason. This is our reaction and feelings to external events that we use our childhood memories of things we saw, heard, and felt when we were children.

Parent / child communication is generally a less effective mode of communication.

For more on this see – Eric Berne 'Games People Play: Understanding the basic principles of Transactional Analysis'.

### 3. Communications

#### What is it?

How we communicate – verbally and non-verbally.

#### Why is it important?

- Too many misunderstandings create an unsafe environment. For example drug administration errors, wrong side surgery, poor handovers and wrong equipment.
- Poor assertion – hierarchy, result of inappropriate behaviour.

Professor Albert Mehrabian has pioneered the understanding of communications since the 1960's. He established this classic statistic for the effectiveness of spoken communications:

- 7% of meaning is in the words that are spoken
- 38% of meaning is in the way the words are said
- 55% of meaning is in facial expression and body language.

Working in the operating theatre environment severely restricts some members of the team in communicating in an effective manner whilst wearing gowns, masks etc. Therefore, theatre teams need to be extra careful with the words that are spoken, and the way that they are said. Try saying the following sentence seven times and each time placing the emphasis on the next word in the sentence!

'I never said he stole that money'. Notice how the meaning is different each time?

#### How can you do it?

**SBAR is an excellent tool to ensure effective concise unambiguous information is transmitted.**

Body language should not be relied upon, but as illustrated above it is what we use most of the time in our day-to-day work. Avoid inappropriate question types, the most dangerous being the *leading question* for example: 'this is the common bile duct – isn't it?'

Be aware of people's 'attention loop' and remember that while you are transmitting a message the person receiving it has to listen to the words, then make sense of them, and then formulate their response. Often it is a good idea to allow pauses between sentences. PACE is an excellent tool to aid assertiveness, gradually escalating from *prompt* right through to *emergency*.

## 4. Leadership

### What is it?

Leadership is a combination of personal qualities, drive and emotional intelligence.

Effective leaders:

- communicate task responsibilities
- balance legal responsibility / situational leadership
- involve and maximise all resources
- communicate expected standards
- establish authority
- model appropriate behaviour.

### Why is it important?

Excellent leadership skills are critical to high-performing teams, and carry a significant level of influence on the other seven elements of human factors within the team, and the outcome of the team's performance.

### How can you do it?

Each member of the theatre team has a leadership role. Everyone has a responsibility to practice good leadership skills, such as drive, management skills, motivation, situational and emotional intelligence.

Situational leadership – effective leaders balance all three needs of the team, task and individual appropriately.

Emotional intelligence – broadly this describes the ability to assess and manage your own emotions and those of others and particularly of teams.

Practical application of these skills might include leading the briefing and debriefing, and the WHO checklist.

Another example might be encouraging the use of common politeness, saying 'thank you', encouraging mutual respect, being self-aware and always using appropriate 'adult' behaviour.

## 5. Team-work

### What is it?

People working together towards a common goal in a supportive manner.

### Why do it?

Effective team-work is key to an efficient, safe and harmonious operating theatre.

### How can you do it?

Effective team members:

- are assertive when required
- admit overload
- keep calm under stress
- anticipate each other's needs
- put team needs before their own needs
- are supportive and exhibit many of the behaviours of the leader:
  - communicate effectively; thinking ahead; talking ahead; link to situation awareness
  - lead or are prepared to lead
  - work supportively; paying attention; avoiding distraction
  - handover briefings
  - include the patient as part of the team.

## 6. Information processing

### What is it?

The way the brain works – and how we can all make mistakes.

### Why is it important?

We are all fallible, the potential for error is always present, but we can also be the hero.

### How can we do it?

Our brain is like a very complex computer; we often become overly reliant on our short-term memory. It is important to recognise that we can only focus on one piece of information at a time.

Things to look out for:

- **Selective attention:** 'cocktail party' effect or distraction from the main task. If you are talking to someone and you hear your name mentioned by someone not in your conversation you will automatically divert some of your attention away from the person talking to you.
- **Divided attention:** this is often referred to as multi-tasking. We do not, in fact, multi-task, but some people are particularly skilled at switching from task to task very quickly.
- **Focused attention:** being unaware of other noises or things happening around you; becoming task-fixated.
- **Sustained attention:** human limitations make this difficult to do. For example, World War II radar controllers were expected to concentrate on their screen for long periods of time and often missed aircraft appearing on their screens because they had been concentrating too hard for too long on a single task.
- **Perception:** making sense of situations by comparing to your personal insights and observations.

## 7. Decision-making

### What is it?

Is the process of making a judgement about the best course of action to take in a particular situation.

### Why is it important?

The majority of decisions are made intuitively and may not be reliable due to insufficient information. Correct diagnosis of the situation in an operating theatre is crucial to a successful outcome. It is important for every team member to recognise that changing a decision in the light of new information is appropriate and is not indecision.

### How you can do it?

Most decision-making happens subconsciously and is based on pattern-matching from a previous experience.

You might improve your decision-making process by following this simple acronym:

- **Time:** do we have time or can we make time?
- **Diagnose the problem:** utilise all team members
- **Options available and associated risk:** involve the whole team
- **Decide what to do:** probably the lead clinician, although it may be delegated
- **Assign** tasks to team members
- **Review again:** can anyone come up with other options?



## 8. Situation awareness

### What is it?

Situation awareness is being aware of what is happening around you, to understand how your own actions will impact on your objectives, both now and in the near future.

### Why is it important?

A lack of situation awareness, for example fixation on a single task to the exclusion of all else, has been identified as one of the key factors in accidents attributed to human error. Consequently other complex, high risk industries such as aviation and the military focus attention on understanding and improving staff situational awareness skills.

### How can you do it?

It is relatively simple. We all have our unique mental picture of what is happening around us at any point in time. This mental picture or mental model is made up of all the information that is going into our brain that is being picked up by our five senses. It is our personal understanding of:

- noticing what is happening
- what others around us are doing
- foreseeing what will happen next
- what the implications might be and sharing them with the team.

The three main elements are:

- **patient:** most clues come from the state of the patient
- **procedure:** understanding the implications of the operation
- **people:** the experience / ability of team members and where can you get it from: experience, teaching, expectations, briefing.

**PDS\*II**

Polydioxanone  
violet monofil suture résorbable  
violeta monofilamento sutura absorvível

W9334T



24 unités / unidades

STERILE EO 2 ⚠

LOT AB5BSEN  
2013-06

**ETHICON\***



**1**

(4 Ph. Eur.)  
CTXB  
45 mm 100  
100 cm

**PDS\*II**

150 cm

**ETHICON**

W9132H

**PDS\*II**

Polydioxanone  
violet monofilament absorbable suture  
violeta monofilamento sutura absorbile



**4-0**

(1.5 Ph. Eur.)

SH-2 Plus  
25 mm 100  
100 cm

**PDS\*II**



*Scalix*

70 cm

STERILE EO  
STERILE EO

## Appendix 2

### References and further reading

Carthey J, Clarke J, *The 'How to' guide for implementing human factors in healthcare* Patient Safety First (2009) <http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/Intervention-support/Human%20Factors%20How-to%20Guide%20v1.2.pdf>

Clarke J (ed), *The 'How to' Guide for Reducing Harm in Perioperative Care* Patient safety first (2009) <http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/periopcareLATEST%206%20Oct.pdf>

Catchpole, K, Giddings, A, De Leval, M, Peek, G, Godden, P, Utley, M, Gallivan, S, Hirst, G, Dale, T (2006). Identification of systems failures in successful paediatric cardiac surgery. *Ergonomics* 49(5-6), pp.567-588.

Catchpole, K, Giddings, A, Wilkinson, M, Hirst, G, Dale, T, De Leval, M. (2007) Improving patient safety by identifying latent failures in successful operations. *Surgery* 142(1), pp.102-110.

Catchpole, K, Mishra, A, Handa, A, McCulloch, P (2008). Team-work and Error in the Operating Room: Analysis of Skills and Roles. *Annals of Surgery* 247(4), pp.699-706.

Flin R, O'Connor P, Crichton M. *Safety at the sharp end: a guide to non-technical skills* (2008)

Haynes A, Weiser T, Berry W, et al. A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population. *N Engl J Med* 2009;360:491-499

Lee B, Shannon D, Rutherford P, Peck C. *Transforming Care at the Bedside How-to Guide: Optimizing Communication and Team-work*. Cambridge, MA: Institute for Healthcare Improvement; 2008. Available at: <http://www.IHI.org>

McCulloch, P, Mishra, A, Handa, A, Dale, T, Hirst, G, Catchpole, K. (2009). The effects of Aviation-style non-technical skills training on technical performance and outcome in the operating theatre. *Quality and Safety in Healthcare* 18, pp. 109-115.

Mishra A., Catchpole, K, Dale, T, McCulloch, P. (2008). The influence of non-technical performance on technical performance in laparoscopic cholecystectomy. *Surgical Endoscopy and Other Interventional Techniques* 22(1), pp.68-73.

West M, Borrill C, et al. The link between the management of employees and patient mortality in acute hospitals *International Journal of Human Resource Management* 13 8.

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