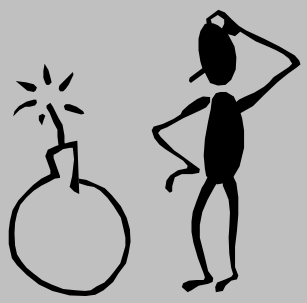
PATIENT SAFETY TRAINING

(or Swiss cheese, the fallibility of human beings and what we can do about it)



Course Reading (2nd Edition) 2017

CONTENTS

COURSE INFORMATION

Course director

Dr Nicola Cooper
Consultant Physician & Hon Clinical Associate Professor
Derby Teaching Hospitals NHS Foundation Trust

Course objectives

- Understand the scale and nature of error in healthcare
- Understand the importance of **systems** in patient safety
- Appreciate how human factors impact on safety
- Know what is meant by a 'just culture'
- Understand the importance of incident reporting and the principles of incident investigation

Course programme

Part one: the scale and nature of error in healthcare and the importance of systems in safety

Part two: lessons from psychology and the aviation industry – human factors, red flags and team communication

Part three: what to do about it all – incident reporting, incident investigation and doing small things

Acknowledgements

We would like to acknowledge Dr Jan Shaw, consultant cardiothoracic anaesthetist, and Mr Brian Prendergast, consultant cardiothoracic surgeon, Central Manchester and Manchester Children's University Hospitals NHS Trust, who started an innovative patient safety course in their own Trust in 2008 and gave Dr Nicola Cooper and Dr Kirsty Forrest the idea to start their own in Leeds in 2009.

INTRODUCTION

This course is designed to introduce key concepts in patient safety. It is interactive and multi-media, with time for discussion in small groups and sharing of personal experiences. Previous participants have found the course both enlightening and fun. Any stories you share during the patient safety training (PST) course are confidential.

If, by the end of the course, you find this is a subject that really interests you, we have listed further resources at the end of this manual. Perhaps you would like to learn how to run this course in your own area. We want others to join us in running this course so that more and more people can learn about patient safety. Please get in touch if this is something you are interested in. All the material is available for you to use, as long as you acknowledge its source.

The PST course is for everyone – nursing staff, healthcare assistants, porters, doctors, allied health professionals, theatre staff, ward clerks and managers. All these people are involved in patient care. All these people work together in a team. As you will see later, team communication is one important aspect of patient safety, which is why this course is for everyone.

Nicola Cooper
E-mail: nicola.cooper18@nhs.net

KEY CONCEPTS

Errors within the healthcare system are predictable and tend to repeat themselves in patterns. We should all expect and anticipate errors.

Errors are inevitable in a complex system such as healthcare.

When an adverse event occurs, it is easy to blame and 're-train' someone, but research shows that adverse events are rarely the result of one's person's actions at the frontline – and doing this will not stop the same thing from happening again.

'Human factors' is the science of the limitations of human performance. Human factors training involves training in situation awareness and team communication. Team human factors training can improve patient safety.

Reporting clinical incidents and near misses is the main way in which an organisation can learn and change. Incident investigations should focus on systems and root causes in order to understand how the accident happened.

Everyone has a part to play in making our systems safer. We can do this by adopting a continuous improvement mind set. Even doing small things can make a big difference to safety.

PART ONE: THE SCALE AND NATURE OF THE ERROR IN HEALTHCARE

'Good healthcare professionals are not those who do not make mistakes. Good healthcare professionals are those who expect to make mistakes and act on that expectation.' (James Reason, psychologist and patient safety expert, 2006).

Did you know that being admitted to hospital anywhere in the world can be dangerous? The patient safety training (PST) course is a half day course for all healthcare staff, which explains why and what we can do about it.

Introduction

The modern concept of patient safety is relatively new. It was born in the 1990's with the publication of the Harvard Medical Practice Study [1]. The authors looked at sue-able adverse events in a small group of hospitals and calculated that, if the incidence was the same in all US hospitals, the harm caused was the equivalent of a fatal jumbo jet crash every day. However, it took several years before healthcare organisations and governments began to accept that significant avoidable harm was a problem. The landmark publication, 'To err is human: building a safer health system' (US Institute of Medicine, 1999) [2] followed by the UK Government's 'An organisation with a memory' (Department of Health, 2000) [3] helped to kick start the global patient safety movement that exists today.

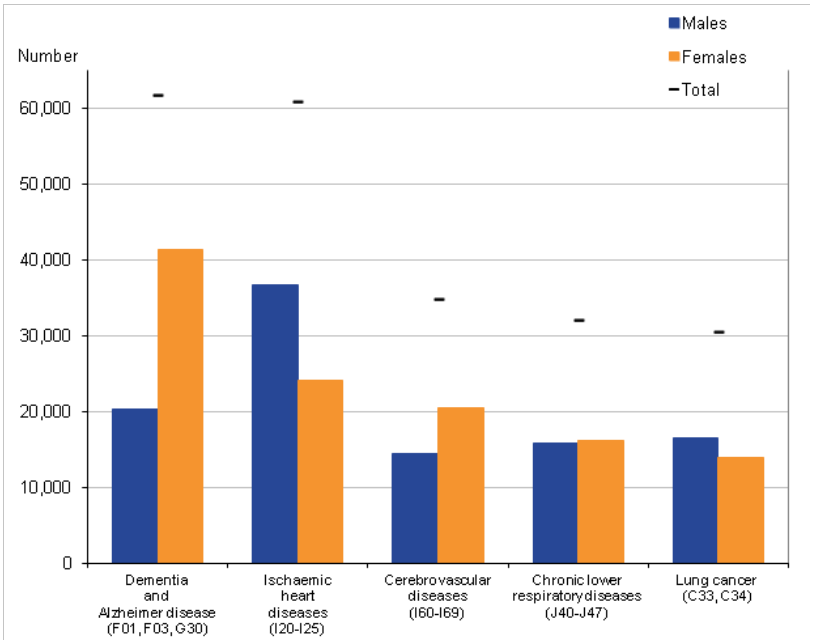
In 2001, a paper was published in the BMJ which found that adverse events occurred in 10% of UK hospital admissions, directly leading to death in 1% [4]. In other words, patients had a 1:100 chance of dying after admission to hospital from an *adverse event*. In the UK this would be around 72,000 deaths per year – see how this compares with deaths from other causes in the figure on the next page.

It is clear that healthcare professionals have a duty to ensure patient safety. Many of us can think of behaviours we need to adopt to protect individual patients (for example, washing our hands with soap and water after seeing a patient with diarrhoea and vomiting). However, the bigger picture is just as important. Healthcare professionals need to understand the science of patient safety and their responsibilities as part of a team, as part of a 'complex system', and a wider healthcare organisation, as this section will illustrate.

What IS 'patient safety'? – some definitions

The World Health Organisation defines patient safety this way: 'The simplest definition of patient safety is the prevention of errors and adverse events to patients associated with healthcare. While healthcare has become more effective it has also become more complex, with greater use of new technologies, medicines and treatments.'

Figure 1
Number of deaths in England and Wales (top 5 leading causes) 2015
Data from the Office of National Statistics



Errors and adverse events are not the same thing:

- An *error* is an unintended act (either of omission or commission) or one that does not achieve its intended outcome. This could be due to the failure of a planned action to be completed as intended (an error of execution), the use of a wrong plan to achieve an aim (an error of planning), or a deviation from the process of care
- An *adverse event* is what happens when an error results in harm to a patient. Patient harm can occur at an individual or system level.

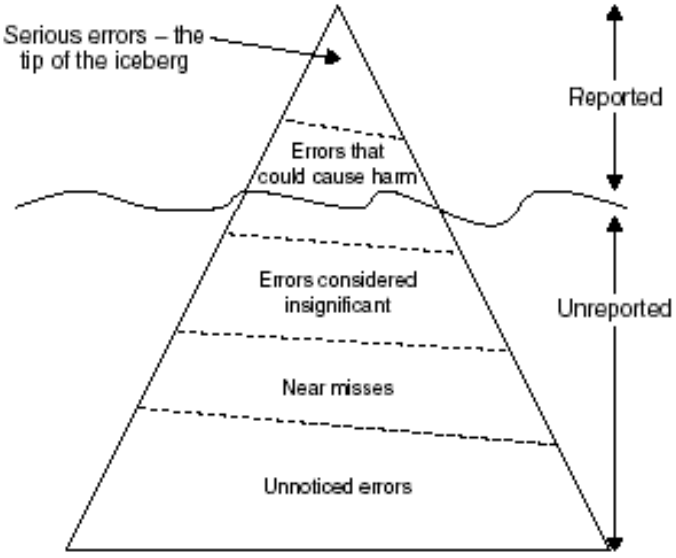
Errors are inevitable in a complex system such as healthcare. Even if a 600-bed hospital managed to eliminate errors by 99.9%, there would still be 4000 drug errors each year. The most important thing we need to understand about errors is that, to an extent, *they are predictable and tend to repeat themselves in patterns*. The system in which we work can either adapt for this and make errors (and resulting adverse events) less likely, or it can in fact create 'accidents waiting to happen.'

Pause for a minute to consider your own workplace …

Errors are unlikely to go reported when the patient has not come to any harm. In the 1930's it was estimated that for every 1 major injury, there are 29 minor injuries and 300 'no harm' accidents (Heinrich's Law – see figure below). Because many accidents share common root causes, addressing the causes of more commonplace incidents that cause

no injuries can prevent accidents that cause serious injuries. While things have certainly changed since that time, the idea that adverse events are just the tip of the iceberg has not changed. This is the reason why anonymous incident reporting is mandatory in the aviation industry and has contributed to a better understanding of how systems can be improved to make errors and adverse events less likely.

Figure 2
Heinrich's Law: for every 1 major injury, there are 29 minor injuries and 300 'no harm' accidents. Serious adverse events are just the tip of the iceberg.

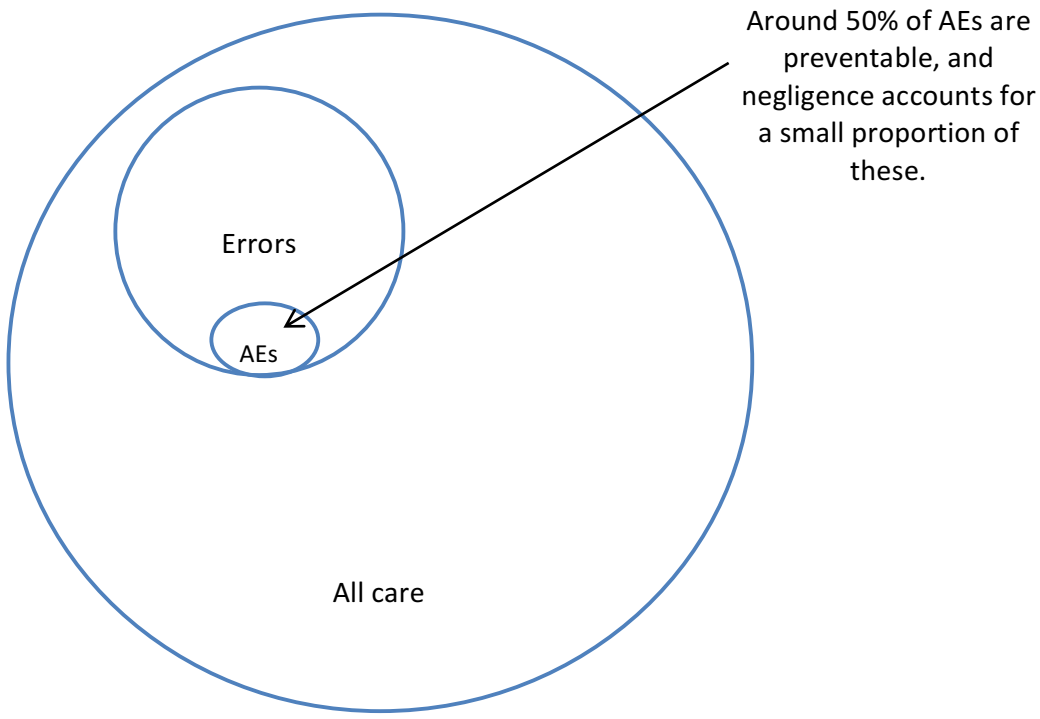


Not all adverse events are preventable. For example, if a patient with no known allergies suffers an allergic reaction to penicillin, that is an adverse event that could not have been prevented. But if a patient with a known allergy to penicillin is given a penicillin by accident and comes to harm, that *is* a preventable adverse event. Studies vary, but at least half of adverse events are considered to be preventable.

Research commissioned by the Department of Health estimated that preventable adverse events cost the NHS up to £2.5 billion each year, or 2.5% of England's NHS budget.

Figure 3, on the next page, illustrates the relationship between error, adverse events, preventable adverse events and negligence.

Figure 3
Error, adverse events (AEs), preventable AEs and negligence



Error chains

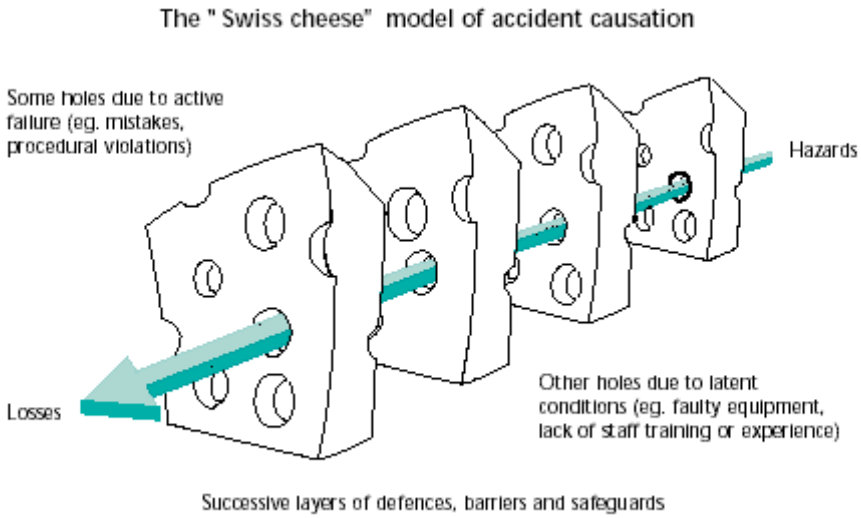
Serious adverse events tend to occur after a series of smaller things go wrong. This is referred to as an 'error chain' and has been famously described in the 'Swiss Cheese model of accident causation' (see figure on the next page). If we imagine blood transfusion as a common example, there are a series of defences, barriers and safeguards in place to prevent harm to patients – from selection of donors, to screening and treatment of blood products, labelling, storage, ordering and finally administration of the transfusion. If any of these procedures are faulty, or are not strictly followed – i.e. if there are 'holes' – then on any given day these could align and cause a serious patient safety incident.

This understanding of the nature of serious incidents – *how* things go wrong – has led to the concept of 'root cause analysis' in healthcare. There are frequently problems with systems and processes that make an accident likely to happen. Blaming an individual when something goes wrong is an inaccurate and damaging perspective, and more importantly does nothing to prevent the same thing from happening again.

As healthcare professionals, this understanding of error and harm helps us to understand why we have a duty to raise concerns about unsafe systems and processes, follow standard operating procedures that are designed to keep patients safe, and report incidents including near misses using our organisation's incident reporting system. A good understanding of error and harm also helps us to support colleagues who commit errors or who are involved in patient safety incidents.

During the PST course, we will study a famous non-clinical adverse event, the Herald of Free Enterprise ferry disaster in which 193 people lost their lives when a ferry sank off the port of Zeebrugge in calm waters in 1987. In small groups, you will look at what different issues in the system could have contributed to this disaster, which in the news at the time was blamed on the assistant boatswain leaving the bow doors open as the ship set sail.

Figure 4
'Swiss Cheese' model of accident causation
(Reproduced with permission from Reason J. Human Error. Cambridge University Press, 1991)



If we really want to stop an adverse event from happening again, we need to look at *all* the holes. For example, if you live near a swamp of mosquitoes, you will never stop being bitten by swatting individual mosquitoes every day. You need to figure out what to do about the swamp.

We also know from research that an organisation that knows how to deal with errors when they *do* occur is safer. A simple example is this: every clinical area that uses intravenous morphine should stock the 'antidote' naloxone as well, in case the patient's breathing is affected.

Look at the Swiss cheese model above. Can you think of an adverse event you know about and what the latent and active 'holes' were in that situation?

PART TWO: HUMAN FACTORS

'It was obvious to everyone that things were going seriously wrong, but no-one liked to mention it!' (From an air accident investigation).

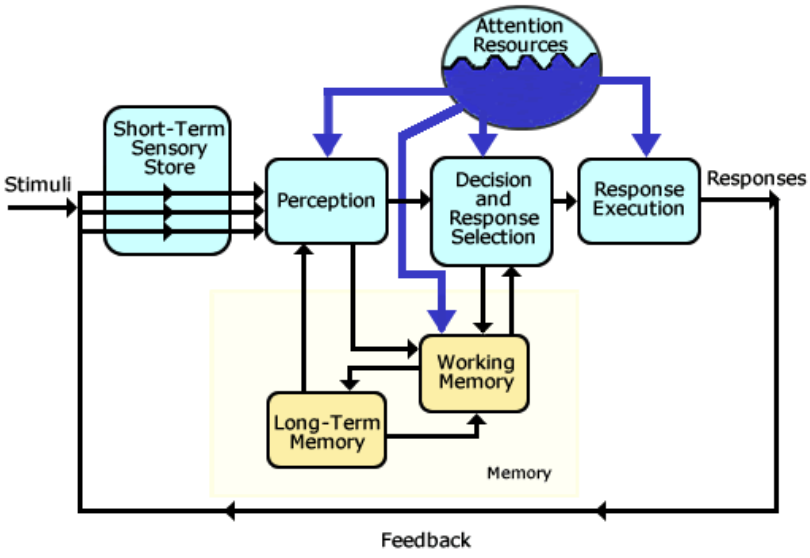
Introduction

'Human factors' is *the science of the limitations of human performance*. To err is human. Human factors engineering (i.e. design) and human factors training is to do with how medical equipment and technology, the work environment, and team communication can adapt to make errors less likely. Analyses of serious adverse events in clinical practice show that human factors and poor team communication played a significant role when things went wrong.

Research shows that many errors are beyond an individual's conscious control. Sometimes we know what we are doing but make a 'slip' (action not quite as planned) or a 'lapse' (missed action). Sometimes we make mistakes (we believe it is the right thing to do but it is not) – this could be related to our level of skill or knowledge, but it could also be due to incomplete information, or things that affect our thinking such as fatigue, cognitive overload and interruptions.

When was the last time you went to the fridge and then forgot why you were there? If you think about it, clinical work can be very complex. Look at the figure below, and think for a moment about a consultant doing a ward round, or operating on someone in theatre …

Figure 5
Wickens' model of human information processing [5]



In terms of thinking and decision making, humans spend most of their time in automatic – or intuitive – mode (also known as Type 1 thinking). In his book Human Error [6], psychologist James Reason argues that, 'Our propensity for certain types of error is the price we pay for the brain's remarkable ability to think and act intuitively – to sift quickly through the sensory information that constantly bombards us without wasting time trying to work through every situation anew.'

Human factors approaches the problem of 'to err is human' from a systems point of view. Research shows that errors are predictable and tend to repeat themselves in patterns. The systems in which we work, the processes that are in place, and how we communicate within teams can either adapt for this to make error less likely, or they can in fact create accidents waiting to happen.

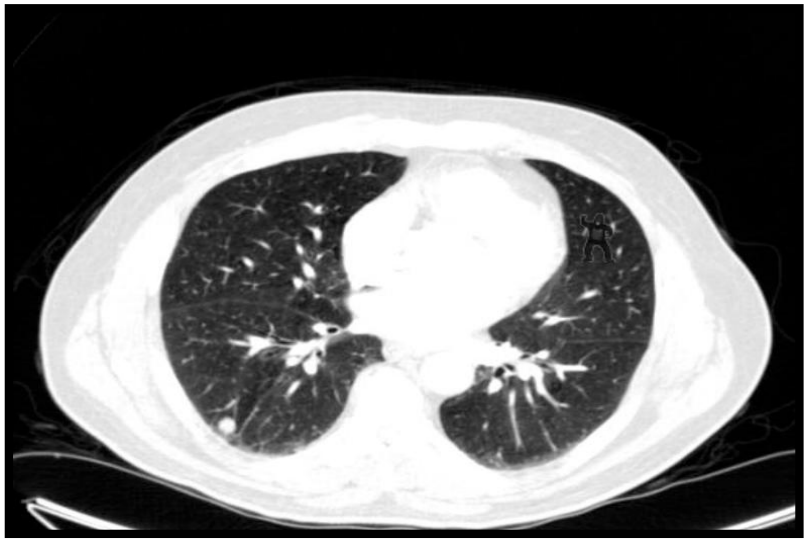
1. Human thinking and decision making is flawed

It does not matter how knowledgeable you are, or how much experience you have, extensive studies of human thinking and decision making show that the human brain has a tendency to:

- Miss things that are obvious
- Jump to conclusions
- See patterns that do not exist

For example, various experiments demonstrate that we focus our attention to filter out distractions. This is advantageous in many situations, but in focusing on what we are trying to see we may not notice the unexpected. Drew and colleagues from Harvard [7] asked 23 consultant radiologists to look at CT scans of the thorax specifically to look for lung nodules. They inserted a matchbox-sized image of a gorilla in some of the images (see below) and found that 83% of radiologists missed the gorilla, even though they looked directly at it.

Figure 6
Gorilla in the lung



Humans also tend to jump to conclusions. For example, take a few moments to look at this simple puzzle. Do not try to solve it but listen to your intuition:

A bat and ball costs £1.10
The bat costs £1 more than the ball. How much does the ball cost?

This puzzle is from the book, 'Thinking, fast and slow' by Nobel Laureate Daniel Kahneman [8]. He writes, 'A number came to you mind. The number, of course, is 10p. The distinctive mark of this easy puzzle is that it evokes an answer that is intuitive, appealing – *and wrong*. Do the maths, and you will see.' The correct answer is 5p.

The human brain is also wired to see patterns. But what you see may be completely different to what someone else sees. In the picture below, do you see the young lady or the old lady? Different people see different things. Yet we are all looking at the same thing.

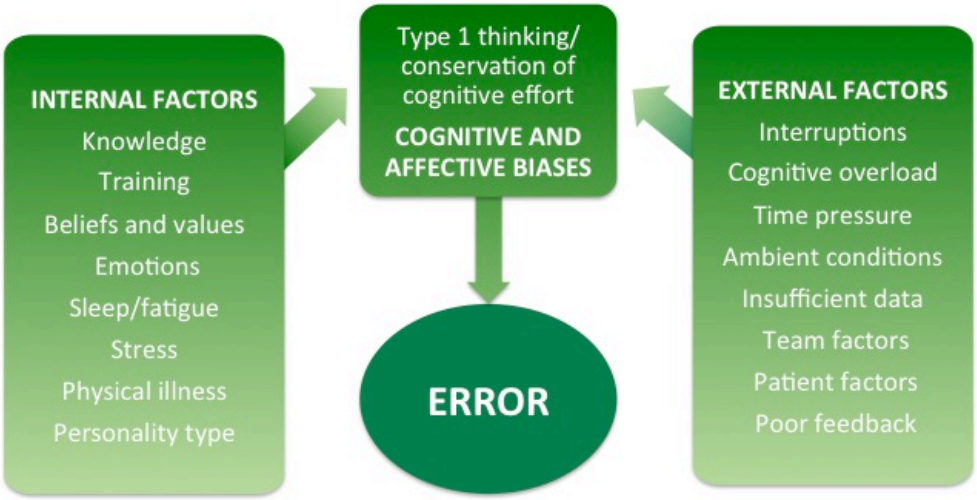
Figure 7
Whom do you see?

In clinical situations, it is easy to assume that something is so obvious to you that is must be obvious to everyone else. But that is not always the case, which is why the PST course teaches 'stating the obvious' as an important aspect of communication.

2. Human thinking can be affected by various factors

As if that were not bad enough, our thinking and decision making can be affected by internal and external factors, as shown in the figure on the next page. A simple thing like being stressed can significantly impair a person's thinking and decision making.

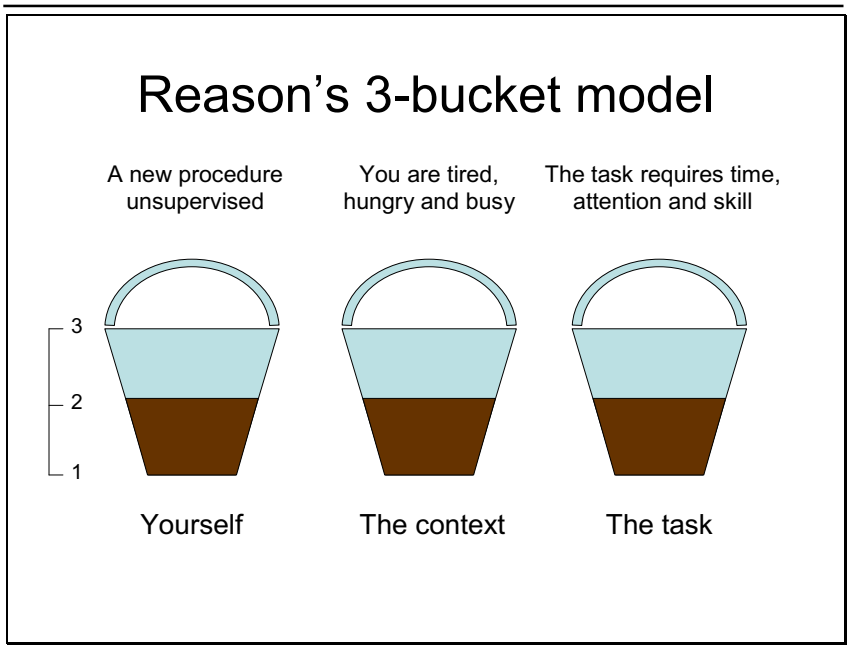
Figure 8
Internal and external factors that affect our thinking and decision making



Type 1 thinking = intuitive (non-analytical).

James Reason proposed a '3-bucket model' to help healthcare staff understand their own limitations before starting a new task. The figure below shows this. There are three factors to consider: yourself, the context and the task. If it is a new procedure unsupervised, you are tired, hungry and busy and the task requires a lot of time attention and skill – all your buckets are full and you are heading for trouble. Stop what you are doing to consider how to make the situation safer.

Figure 9
Reason's 3-bucket model



3. Human factors training can help

Clearly, work areas, clinical processes, staffing and rotas all need to be designed with human factors in mind. Equipment and technology needs to be easy to use and designed with humans in mind – like cashpoint machines that force us to take our card *before* taking our cash. But training in human factors can also help to reduce errors and adverse events.

Human factors play a significant part in the majority of accidents in aviation and in the majority of serious adverse events in healthcare. If you wanted to qualify as a pilot, you would have to take a human factors exam. Yet healthcare staff, who do a far more unpredictable job, receive almost no human factors training. Training covers:

- Understanding the patterns and causes of error
- Understanding the limitations of human performance
- Situation awareness
- Communication within teams

Situation awareness

Situation awareness involves knowing what is going on around you and being alert to potential problems. For example, take a look at this extract from a human factors training book for airline pilots:

A light aircraft is heading towards an airport surrounded by mountains. The captain has inadvertently descended below the minimum safe altitude and the aircraft is on a collision course with the mountain. It is the co-pilot's first day and he can see that the aircraft is headed towards the mountain. The captain is experienced and has flown this route many times before. He is bored and preoccupied with problems at home. The co-pilot reasons that such an experienced captain surely knows what he is doing. Is there any need to say anything?

Individuals can have situation awareness, just like the co-pilot, but teams also need situation awareness. Often a team's situation awareness is low because no-one communicates.

Situation awareness can be compromised by:

- Poor communication
- Confusion over roles and responsibilities
- Departure from standard procedures
- Distractions
- Inexperience
- Lack of training
- Poor interpersonal skills or attitude
- Fatigue or stress

Stating the obvious is important. If you do not speak up or ask for help, the team situation awareness remains low and your own may be getting smaller and smaller (referred to as 'tunnel vision') as you get more stressed.

Team members should try not to *assume* that a problem has been noticed by everyone else. Be aware that we can all be looking at the same thing, but seeing something totally different. It is therefore important to verbalise thoughts and concerns i.e. to state the obvious. You might save someone's life. If you do not believe this, take a look at this video reconstruction of a well known adverse event, and what happened when the people in the room who knew what to do did not feel able to speak up.

https://youtu.be/GDGMjbm24lM
Just a Routine Operation

Red flags

A 'red flag' is a term we use to mean a 'warning'. These often occur in the minutes leading up to an adverse event. Examples of red flags include:

- Confusion
- Conflicting information
- Lack of information
- Departure from standard procedure
- Unease
- Denial or irritability
- Inaction
- Alarms
- Alarming thoughts

Look at the list above. Have you ever experienced a 'red flag' moment?

A red flag is a *cue for action*. It means you have to stop to communicate with the rest of the team so that the situation can be re-assessed and a decision can be made on how to proceed. Doing nothing is not an option.

On the PST course we teach the 'PACE' system of how to communicate when you come across a red flag. P stands for probing, A stands for alerting, C stands for challenging and E stands for emergency stop. It is a way of communicating to the rest of the team, starting gently and becoming more assertive.

Pilots are almost unanimous in saying that junior members of a team should always question decisions made by senior members where safety is concerned. Unfortunately, the effect of hierarchy in healthcare means that we do not always have the same attitude, but this is changing.

Team communication

This is a true story … two large ships in a narrow strait in the USA crashed in to each other in the dark. The co-pilot saw the other ship approaching beforehand and said to the captain, 'Do you see that light?'. 'Yes' replied the captain. However, the ships collided before the captain realised the light was another ship coming towards them. When the co-pilot was asked why he did not state the obvious (for example, 'Do you see that light coming towards us? I believe it is a large ship. Do you agree?'), he said it would have been *'patronising'* to do so.

We have all experienced situations where what we said is not what the other person heard.

How can communication within teams be improved?

- Remember that nearly all adverse events involve failures in communication
- State the obvious
- Simply saying something is not enough – you need to ensure that the listener has also heard and understood it
- Do not use pronouns (he, she, it, that) or other ambiguous words
- Use 'readback' – the practice of repeating back information to ensure it is correct. For example, 'You would like me to prepare 10mg – that's one zero – of morphine…?'
- Clearly articulate safety concerns
- In theatre, the surgeon often announces that he is about to make the first incision. This is important to other members of the team. There are many other situations where we should verbalise our actions as we do them – can you think of any?

In aviation, it is common practice to repeat important instructions or information and captains are trained not to ignore standard phrases from other members of the team. For example, even if the most junior member of the team says, 'Are you aware that we are departing from standard procedure?' the captain must stop to evaluate this statement and respond accordingly.

Effective communication in teams involves:

- Confirming roles and responsibilities
- Co-operating
- Verbalising concerns
- Communicating plans
- Giving clear instructions
- Using readback
- Stating the obvious
- Calling for help if needed
- Listening to others
- Resolving conflicts in a non-confrontational manner

How can we adapt for the limitations of human performance? Healthcare staff routinely break rules and ignore reasonable procedures designed to ensure patient safety. One way of ensuring patient safety is by observing rules and conscientiously following standard procedures. We all have to take personal responsibility for our actions.

The flip side of this is that one of the advantages of having an adaptive human brain is that sometimes there are good clinical reasons to break a rule – people can be heroes too.

As well as things like infection control measures, one example of a reasonable procedure is the theatre team 'time out', part of the World Health Organisation surgical checklist. Before each operation, the theatre team stops while each member confirms they agree it is the correct patient and the correct site of surgery before proceeding. Investigations in to wrong site surgery have all found that there was at least one member of the theatre team who knew something may have been going wrong, but either felt unable to clearly articulate their concerns, or was not heard or listened to.

PART THREE: WHAT TO DO ABOUT IT ALL – INCIDENT REPORTING AND IMPROVING SYSTEMS

'How do you eat an elephant? One bite at a time.'
(A saying)

Introduction

Incident reporting is about understanding the system in which we work so we can make it safer. Remember Figure 2 on page 8? Heinrich's Law: for every 1 major injury, there are 29 minor injuries and 300 'no harm' accidents. Serious adverse events are just the tip of the iceberg. We can learn far more about our systems from the large number of near misses or minor injuries that occur than we can from the smaller number of serious adverse events that take place.

Here are some myths about human error and its management:

- Bad errors are made by bad people
- Errors are random and highly variable
- Practice makes perfect
- Errors by highly trained professionals are rare
- It is easier to change people than situations

In the past, before we really understood about the scale and nature of error, healthcare organisations tended to blame and re-train people when things went wrong. This approach is like swatting individual mosquitoes around a swamp, as described earlier. Healthcare is moving towards a new approach – a fair, reporting and learning culture which recognises *how* errors occur and how they can be prevented from happening again.

But before we talk more about incident reporting, let us look first at 'culture'.

Culture and patient safety

Since 2014, NHS professionals have had a legal duty of candour which means informing patients or their relatives about any incident, providing reasonable support, providing truthful information and an apology. The NHS Litigation Authority has produced guidance on the importance of saying sorry:

'Saying sorry when things go wrong is vital for the patient, their family and carers, as well as to support learning and improve safety. Of those that have suffered harm as a result of their healthcare, fifty percent wanted an apology and explanation. Patients, their families and carers should receive a meaningful apology – one that is a sincere expression of sorrow or regret for the harm that has occurred.'

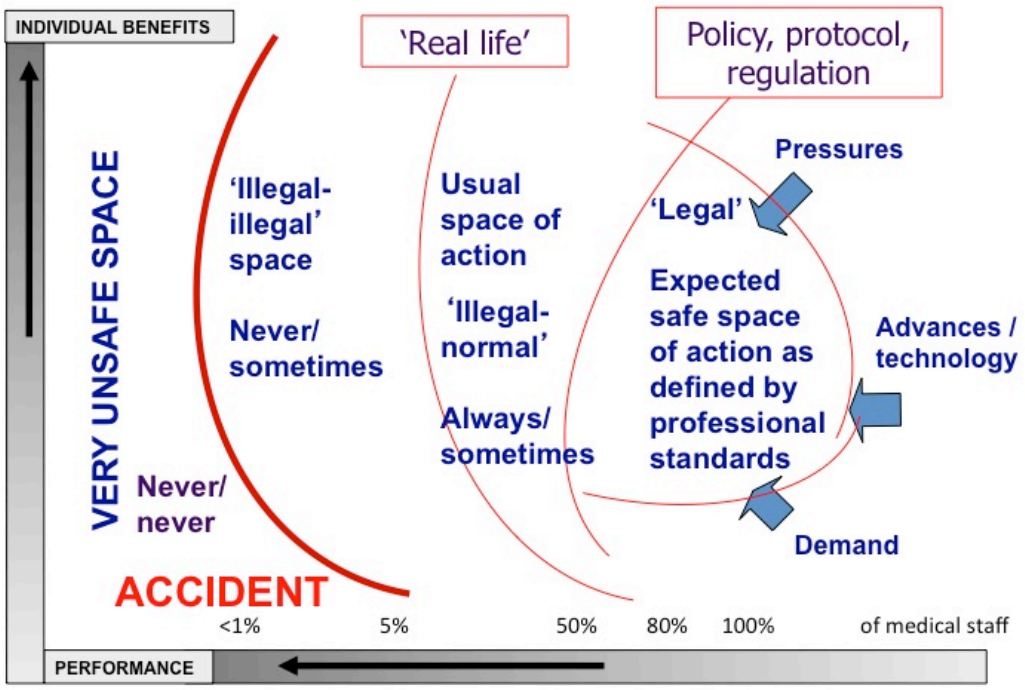
The guidance goes on to explain that poor communication makes it more likely that people will pursue a formal complaint or claim. 'Saying sorry is not an admission of liability; it is the right thing to do.'

Safety experts emphasise the importance of a 'just culture' and all healthcare professionals have a duty to nurture this. James Reason, psychologist and expert in human error wrote that, 'The term 'no-blame' culture flourished in the 1990's and still endures today. Compared to the largely punitive cultures it sought to replace, it was clearly a step in the right direction. It acknowledged that a large proportion of unsafe acts were 'honest errors' (the kinds of slips, lapses and mistakes that even the best people can make) and were not truly blameworthy, nor was there much in the way of remedial or preventative benefit to be had from punishing their perpetrators. But the 'no-blame' concept had two major weaknesses. First, it ignored – or at least, failed to confront – those individuals who wilfully (and often repeatedly) engaged in dangerous behaviours that most observers would recognise as being likely to increase the risk of a bad outcome. Second, it did not address the crucial business of distinguishing between culpable and non-culpable unsafe acts.'

A just culture is one in which front-line operators and others are not punished for actions, omissions or decisions taken by them which are commensurate with their experience and training and are the result of 'honest errors', but where gross negligence, wilful violations and destructive acts are not tolerated.

With any process, policy, protocol or regulation in healthcare there is the legal/expected safe space of action – the way things are supposed to be done. But there is frequently pressure, or demand that pushes us to take shortcuts and do things a little differently, occasionally for good clinical reasons. Normally, migration from standard procedures is limited to 'borderline tolerated conditions' (the 'illegal-normal' space in the figure below). Staff tacitly accept routine minor violations, while weighing the risks.

Figure 10
Systemic migration to boundaries [9]



Violations and migration from standard procedure occurs frequently in life and in all industries, even those with very good safety records. Violations are a complex phenomenon – they occur frequently and may save time and bring benefits. They may be tolerated and even encouraged if there is pressure to increase the throughput of patients, for example. *Incident reporting systems are poor at detecting them.*

However, depending on the organisational culture, staffing levels and attitudes to safety, violations may become so routine and normalised as to become invisible. This 'normalisation of deviance' can result in patient harm when a small number of individuals are willing to violate basic procedures to the point of recklessness. It could be argued that this was what was going on in the now well known Mid Staffordshire NHS Foundation Trust inquiry in which patients were harmed through neglect [10].

Policies and procedures do not prevent violations. The best method for doing this is for clinical leaders (e.g. ward managers and others) to be visible *and regularly observe what is going on*, to have conversations with staff, and regularly 'pull' practice back to what is expected.

Think about where you work for a moment. What common 'migrations' from proper procedures do you see? Does this matter?

Sometimes staff violate standard procedures for good reasons. It may be that the standard procedure has not been well designed and simply does not work. If this is the case, it needs to be re-written. But most of the time, staff do not adhere to 'boring' standard operating procedures, like aseptic no touch techniques (ANTT). Eventually, this becomes 'normal', and then it becomes potentially harmful to patients.

Incident reporting

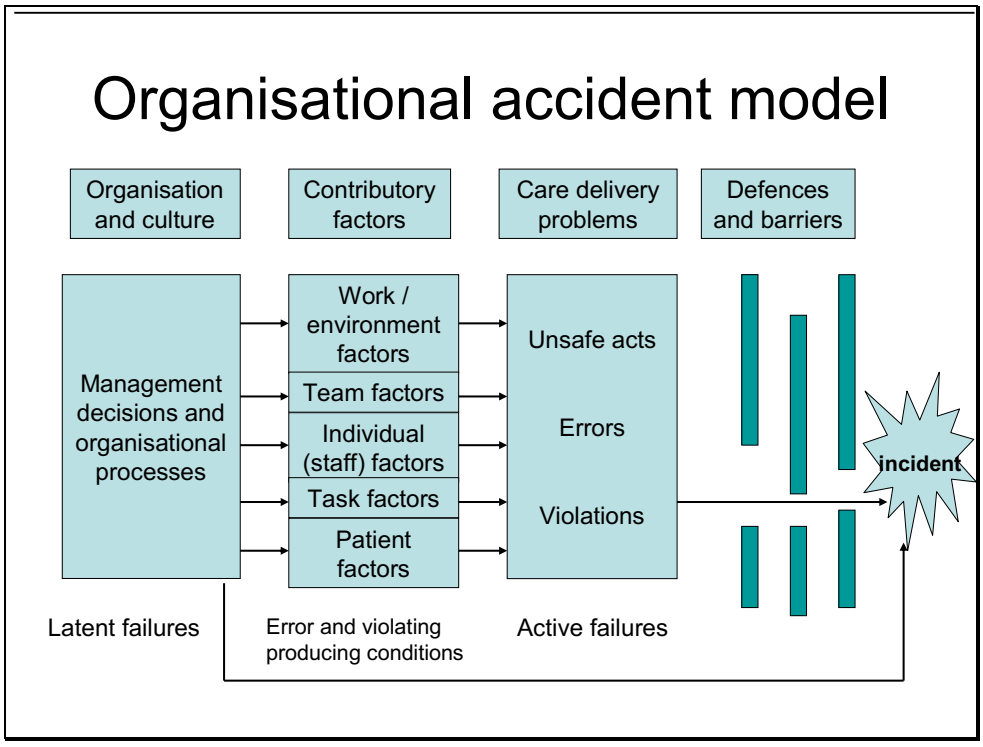
The diagram below is another way of looking at the 'Swiss cheese' model of accident causation. On the PST course, we will ask you to think about a clinical adverse event and in small groups get you to think of practical suggestions which could help prevent a similar incident from happening again. We will ask you to consider all the factors in the diagram on the next page.

There are two incident reporting systems in the NHS. One is the 'routine' clinical incident reporting system (IR-1 forms via Datix). The other is 'serious untoward incidents' (SUIs). SUIs have to be formally investigated and reported to the health authority with a comprehensive action plan. An SUI is an incident involving staff, patients or visitors which has serious consequences, for example:

- Death
- Serious injury
- Absconsion of a person detained under the Mental Health Act
- Part of a pattern of reduced standards of care
- Serious damage to property or disruption to services
- Fraud

When an SUI occurs, the risk management department appoints a lead investigator who will perform a 'root causes analysis' and submit a report and an action plan. A serious investigation should always include the people involved in the incident. A timeline of the incident is put together, and all the possible contributing factors analysed. Investigators ask themselves, 'Why did this happen?' several times to get to the bottom of things. Another method, but not the only one, of analysing contributing factors is using a 'fishbone analysis' (see figure 12).

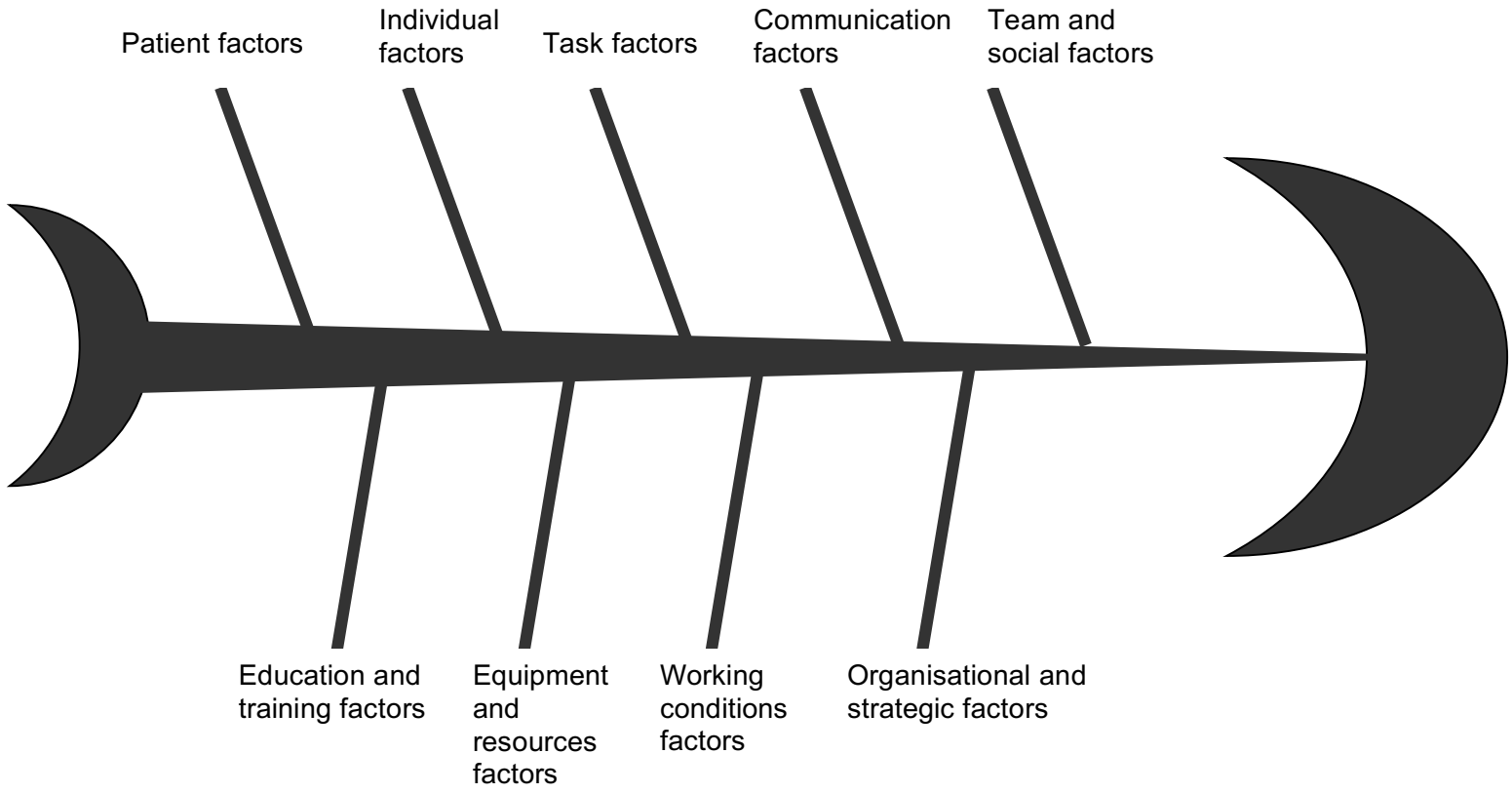
Figure 11
Organisational accident model



Routine incident reporting (via IR-1s or Datix) should be done for the following:

- Medication errors
- Adverse drug reactions (which should also be reported using the Yellow Card system in the back of the BNF)
- Equipment faults or equipment not available
- Patient injury as a result of a procedure (which may be a recognised complication, but still an adverse event)
- Care not as intended
- Patient care adversely affected for non-clinical reasons (eg ICU patients who are transferred due to lack of beds)
- Injuries (including falls and needlestick)
- Assault

Figure 12
Fishbone analysis



When was the last time you filled in an incident form?
When was the last time you could have filled in an incident form?
Why did you *not* fill in a form?

Improving systems to make things safer

Here is a story which you have probably seen pinned up near someone's desk:

> 'This is a little story about four people named Everybody, Somebody, Anybody, and Nobody. There was an important job to be done and Everybody was sure that Somebody would do it. Anybody could have done it, but Nobody did it. Somebody got angry about that because it was Everybody's job. Everybody thought that Anybody could do it, but Nobody realised that Everybody wouldn't do it. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done.'

Successful organisations use *improvement science* to create better systems. This means that everyone is expected to think of ways in which their job and their 'product' could be better. Small groups of front-line workers get together on a regular basis to discuss efficiency and quality issues. Because the system of 'continuous improvement' is so ingrained in these organisations, front line staff are *expected* to look for ways in which efficiency and quality can be improved and then put them in to practice. Managers are *expected* to facilitate this process as a major part of their role.

One way in which small changes are tested and put in to practice is called the 'PDSA' cycle: Plan, Do, Study, Act. Here is one example: staff on a Medical Admissions Unit wanted to prevent physiologically unstable or suicidal patients being moved in the middle of the night to a general ward. A junior doctor came up with the idea of a traffic light system – the nurse co-ordinator would be responsible for allocating patients red, amber or green Velcro dots during the board round which took place several times a day. This idea was discussed, tried for a few days, then studied to see if it worked, tweaked several times, and then implemented. It's a small scale change that made a big difference.

Continuous improvement:

- Is long term and undramatic
- Involves small steps
- Is continuous
- Involves everyone
- Requires a group effort / the whole organisation
- Focuses on processes
- Is common sense
- Requires little investment
- Is people orientated

This contrasts with how the NHS has traditionally functioned, where change is often:

- Short term and dramatic
- Involves big steps
- Is intermittent
- Involves only managers
- Involves individuals / single departments
- Focuses on targets
- Involves new theories
- Requires significant investment
- Is results orientated

In a large organisation such as the NHS, improving patient safety has to involve *everyone*. A 'continuous improvement' approach to patient safety is far more effective than a hierarchical mindset in which everyone expects managers to know what to do and be the only ones to do it.

After all, it is the people actually doing a job who can most clearly see what the problems are and what needs to be done about them.

TEN THINGS YOU SHOULD NOT BE THINKING

1. It will never happen to me
2. I presume they heard me
3. I knew that would happen
4. I'm too good to make a mistake
5. We made that mistake last time
6. It doesn't matter why it happened
7. My job is just to do my job properly
8. It's not my problem
9. Surely the boss must be aware of that
10. Senior colleagues who ask for an opinion are weak

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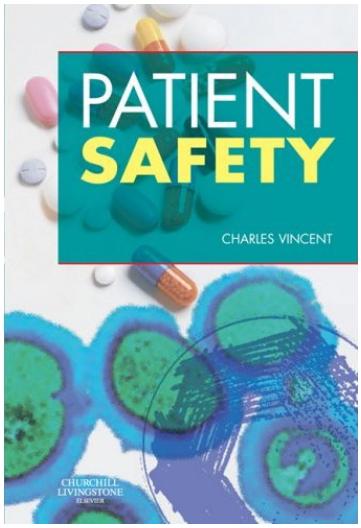
ESSENTIAL FURTHER READING



Charles Vincent. Patient Safety. Churchill Livingstone. London 2005. A really good introductory text.