Making judgements IN (and ON) the messy world of medicine

Prof Bryn Baxendale

Nottingham University Hospitals NHS Trust, UK

Bryn.Baxendale@nuh.nhs.uk

@gasmanbax

Anaesthetist

Professional practice
Adapting to change

Educator

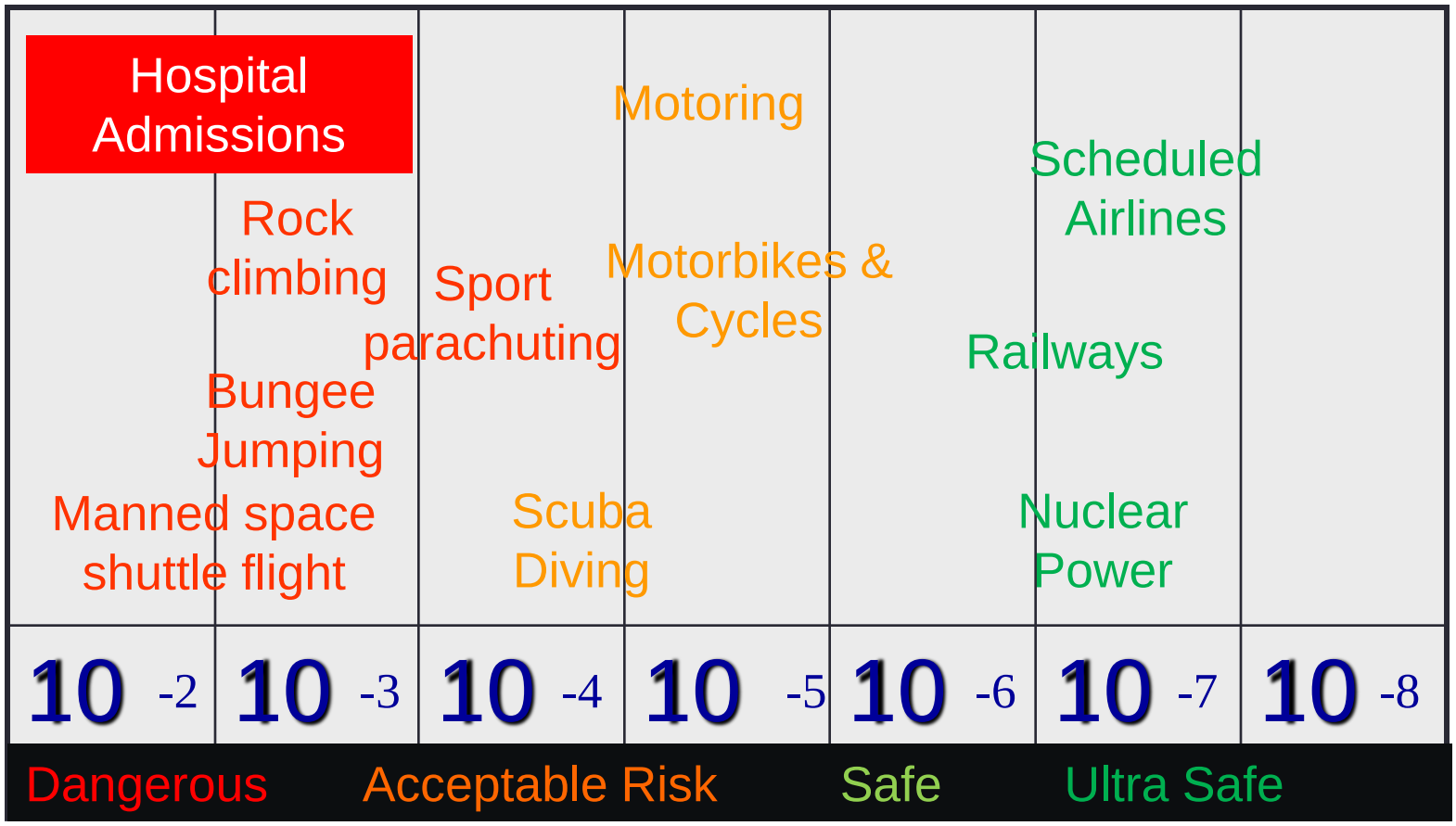
Applying knowledge
Technical skills
Non technical skills

Psychology

Human performance
Expertise & excellence
Organisational learning

How safe is healthcare?

Risk of Fatal Outcome per Exposure



Aviation Safety & Healthcare

- Strong appeal
- High face validity

Arguing pilots fly 150 miles past runway

Conversation about airline policy meant Northwest Airlines pilots 'lost situational awareness' says flight safety board

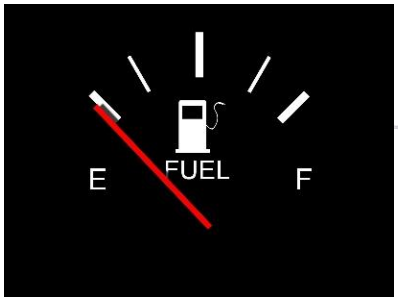
A Northwest Airlines plane in Minneapolis. Photograph: Craig Lassig/EPA

"They were in a heated discussion over airline policy and they lost situational awareness," the US National Transportation Safety Board (NTSB) explained.

Ground controllers lost contact with the pilots just before 7pm and radio contact was not re-established for more than an hour.

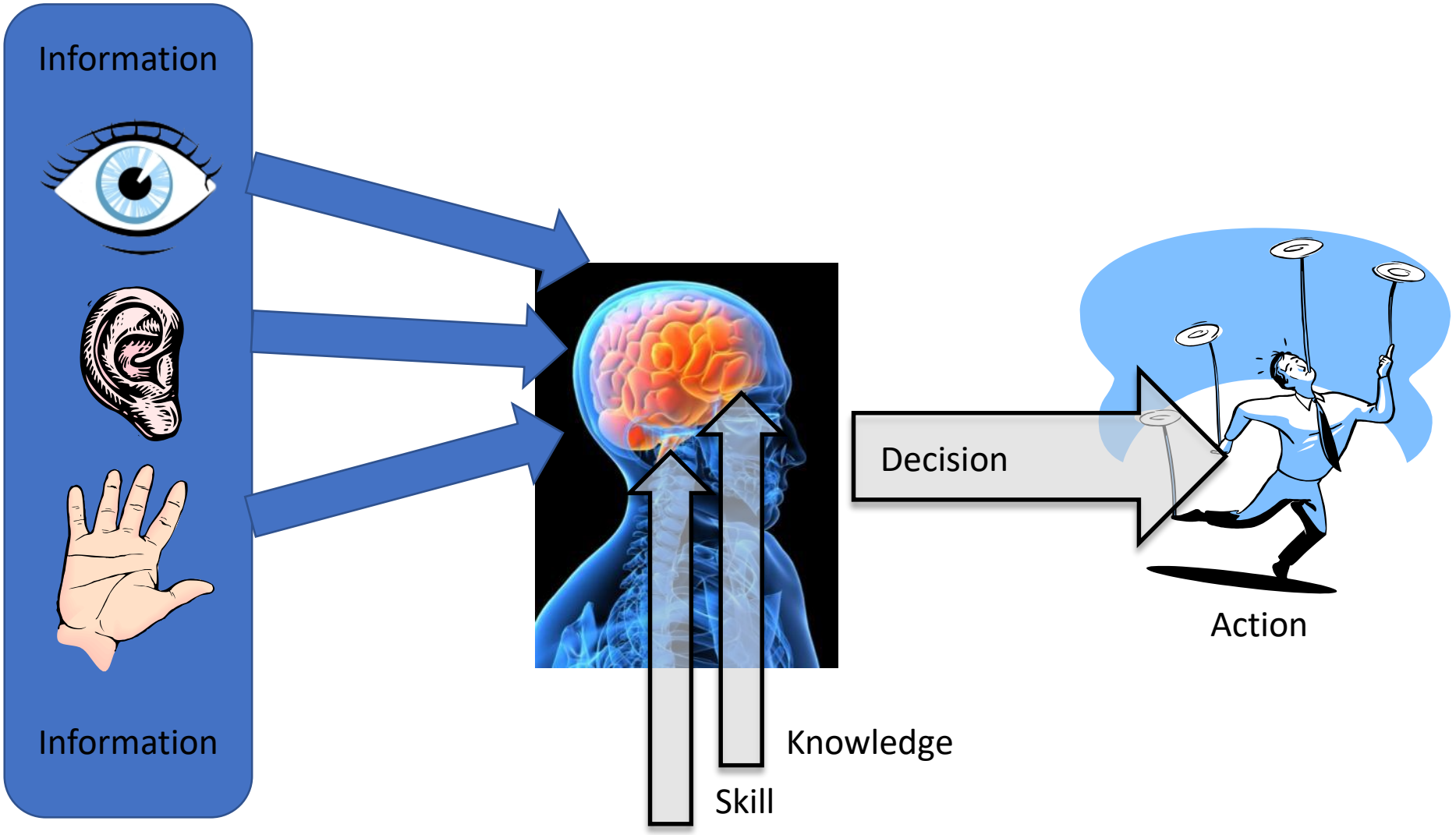
The Federal Aviation Administration notified the military, which put fighter jets on alert at two locations.

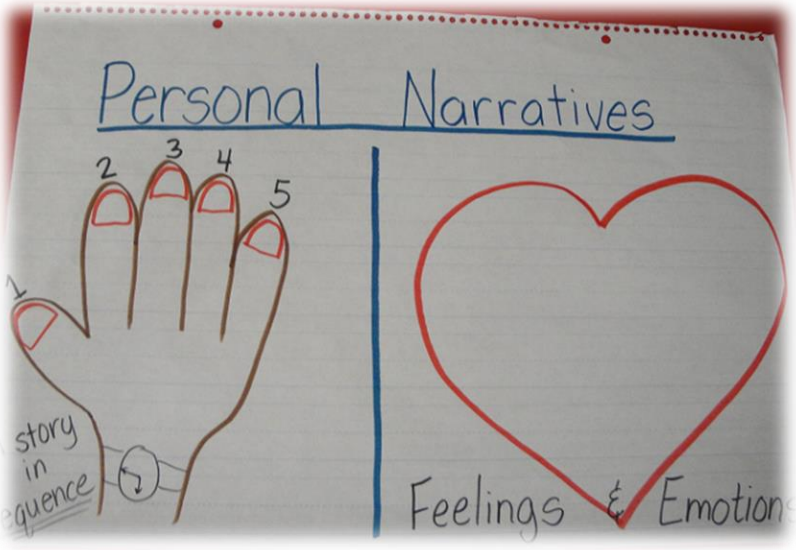
A trip on my budget airline.....




The Diagnostic Trajectory
SUCCESS IS A JOURNEY,
NOT A DESTINATION

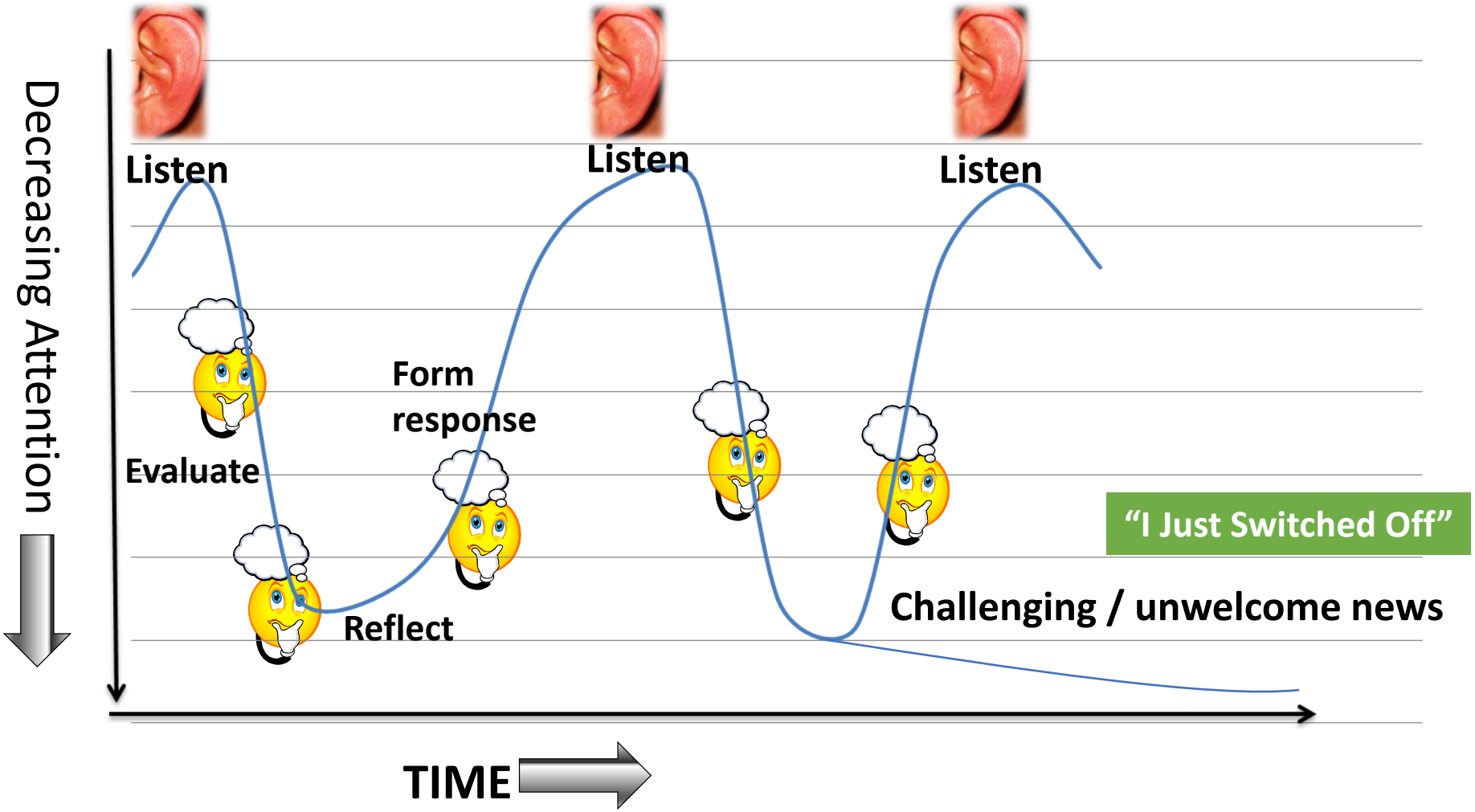
Conventional Wisdom?



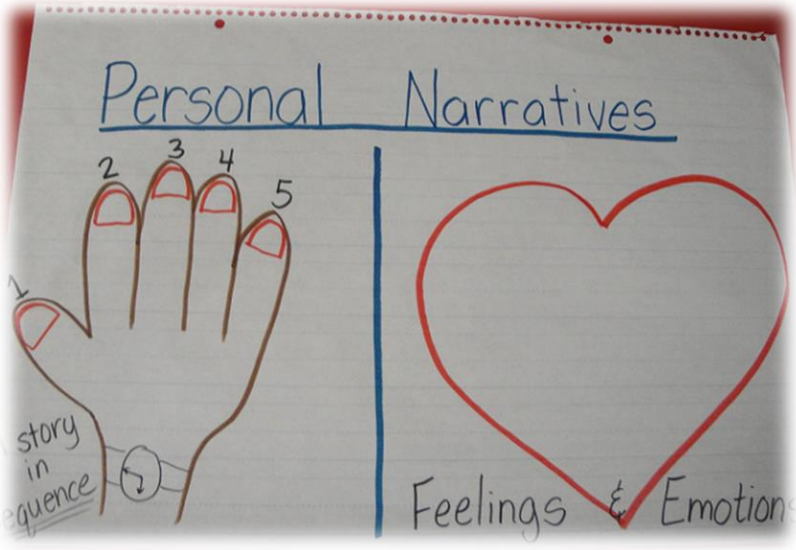


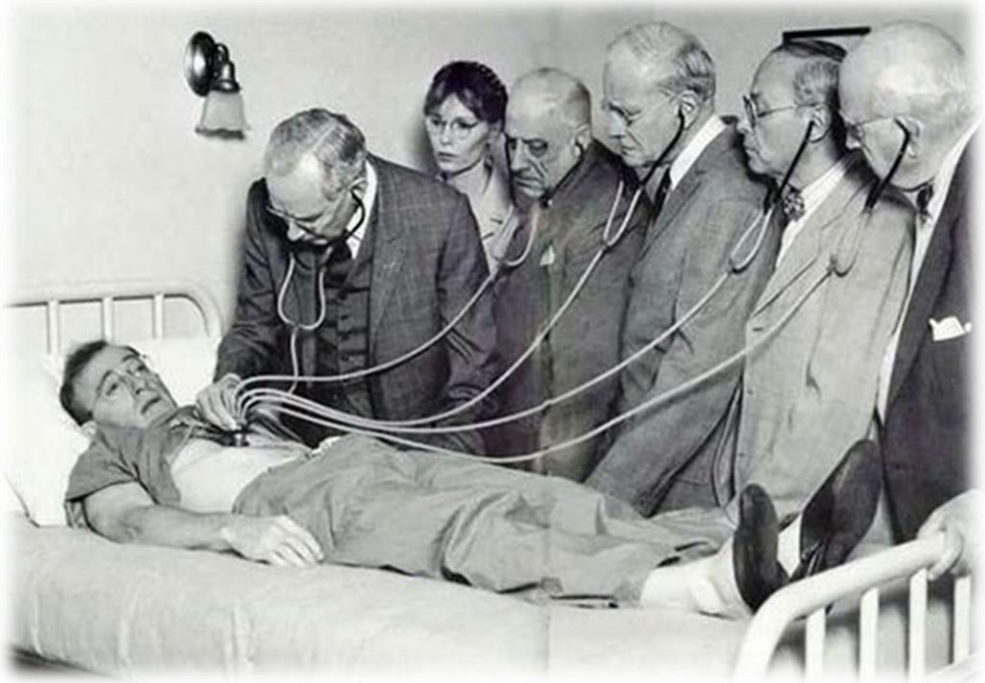
Taking a history

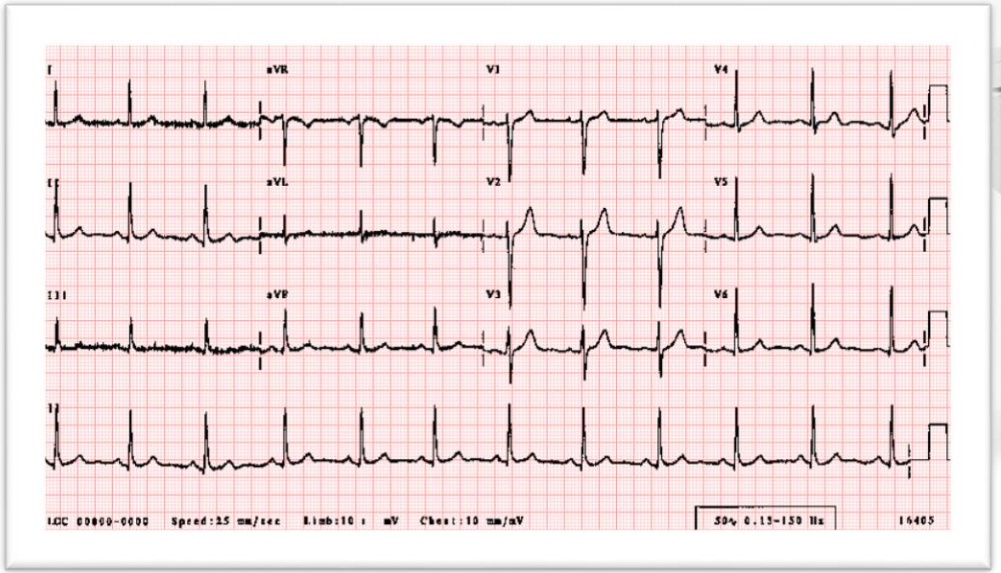
Attention loop & shared decision making

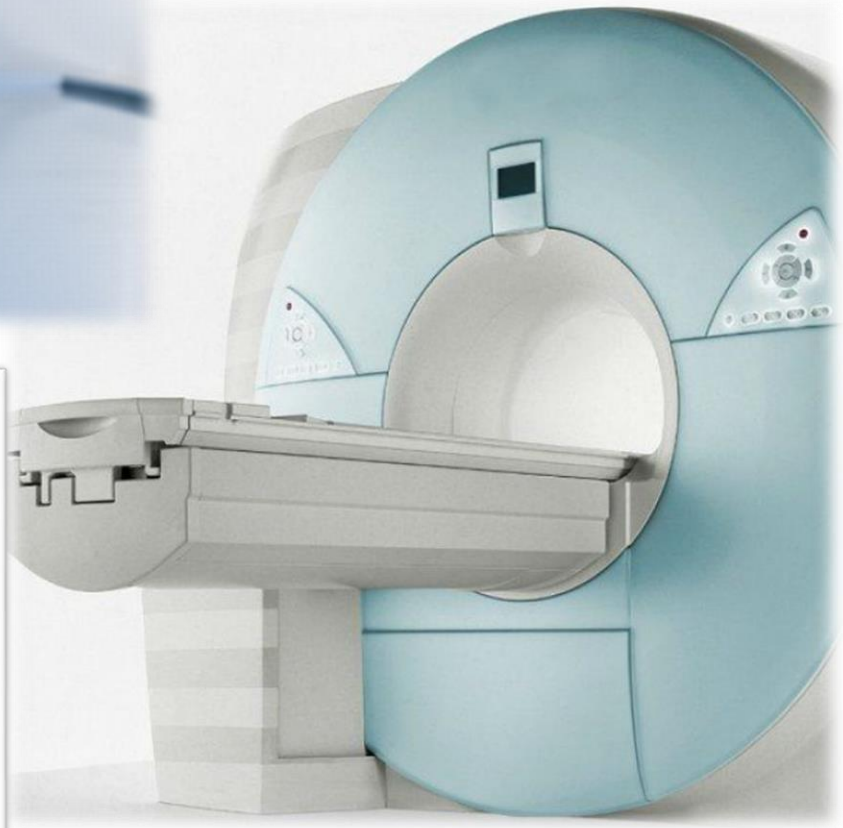


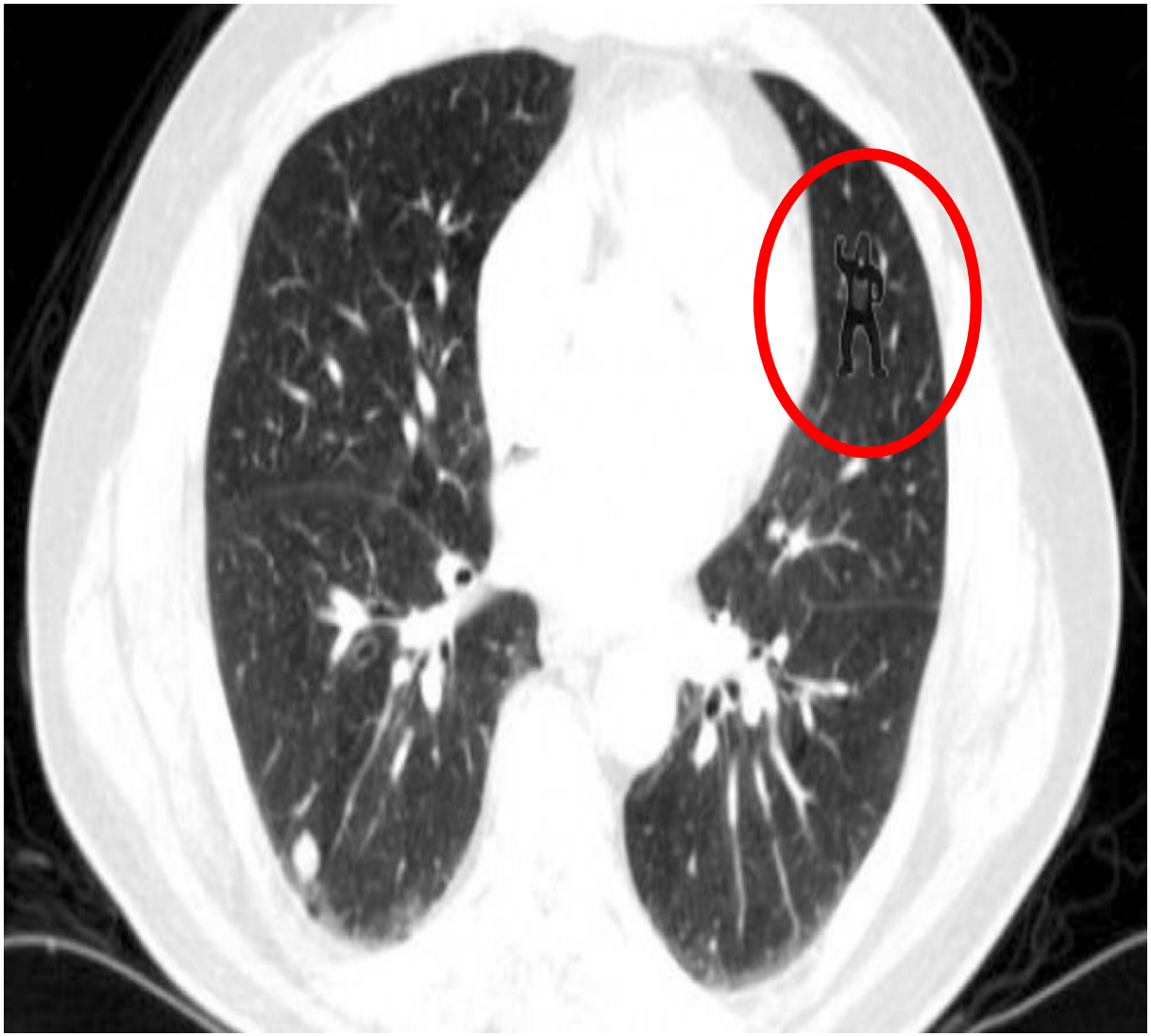

MEDICAL HISTORY FORM
Patient's name
DOB
Weight
ALLERGIES
If yes, please specify
Latex/Rubber/Eggs/Soybeans/Peanuts/Other
Please list all medications you are allegric to
CURRENT SYMPTOMS
Cough/Sputum > 3 weeks
Fever, unexplained
Weight loss / anorexia
Night sweats
Fatigue
Yes / No
MEDICAL HISTORY
Asthma
Cancer
Depression
Epilepsy
Ear throat
Ear problems
Heart disease
Liver disease
FAMILY HISTORY
SOCIAL HIS
WiseGEEK


Personal Narratives
1
2
3
4
5
Feelings & Emotions




aVR
V1
V4
aVL
V2
V5
aVF
V3
V6
Speed:25 mm/sec
Limb:10 mV
Chest:10 mm/mV
50Hz 0.15-150 Hz

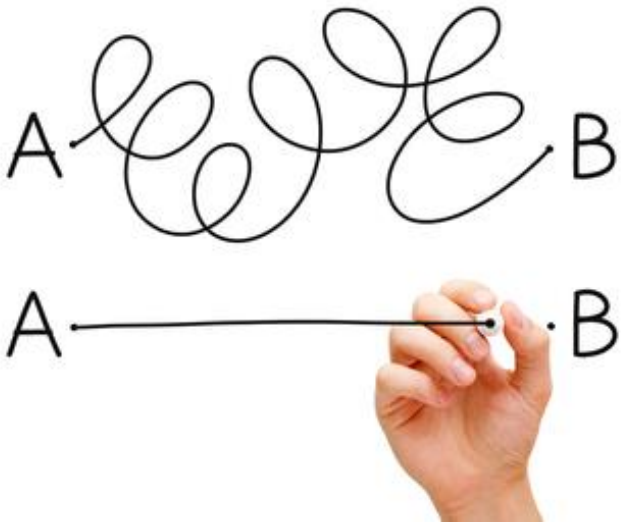




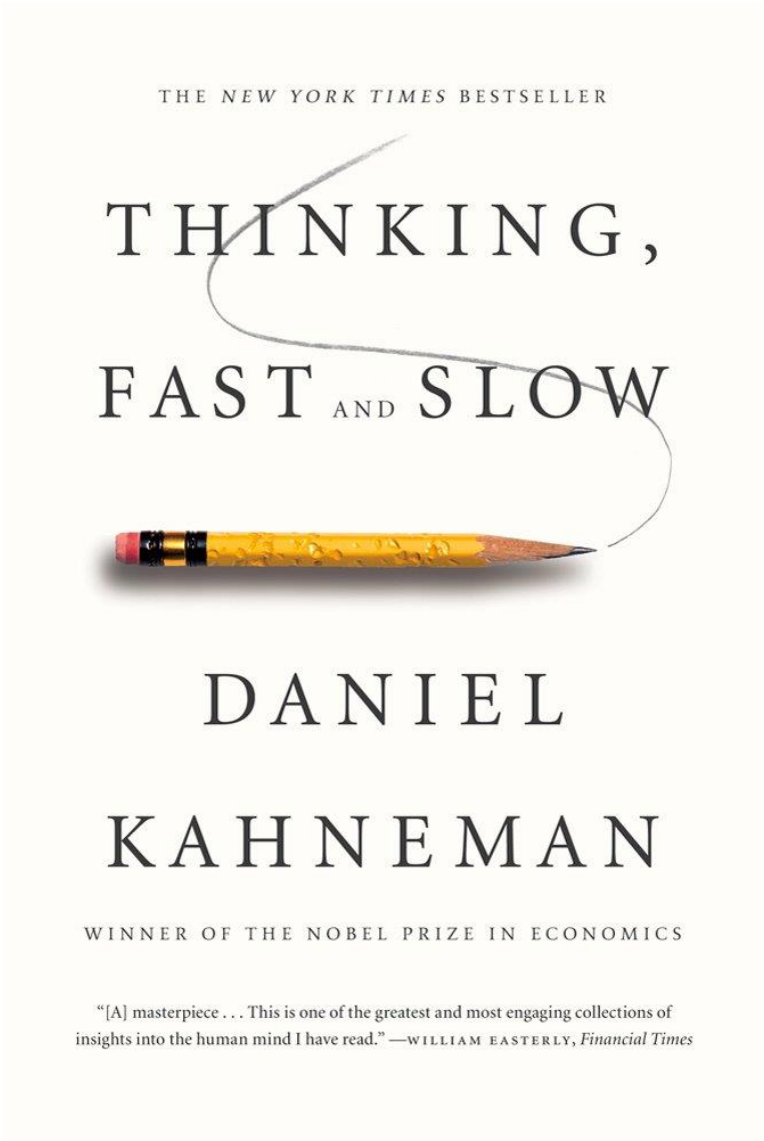
- 83% radiologists did not see the gorilla
- Gorilla = 48X size of nodule on a CT scan
- Don’t see what you are not expecting to see

Drew, Vo and Wolfe (2012)

Inattentional blindness

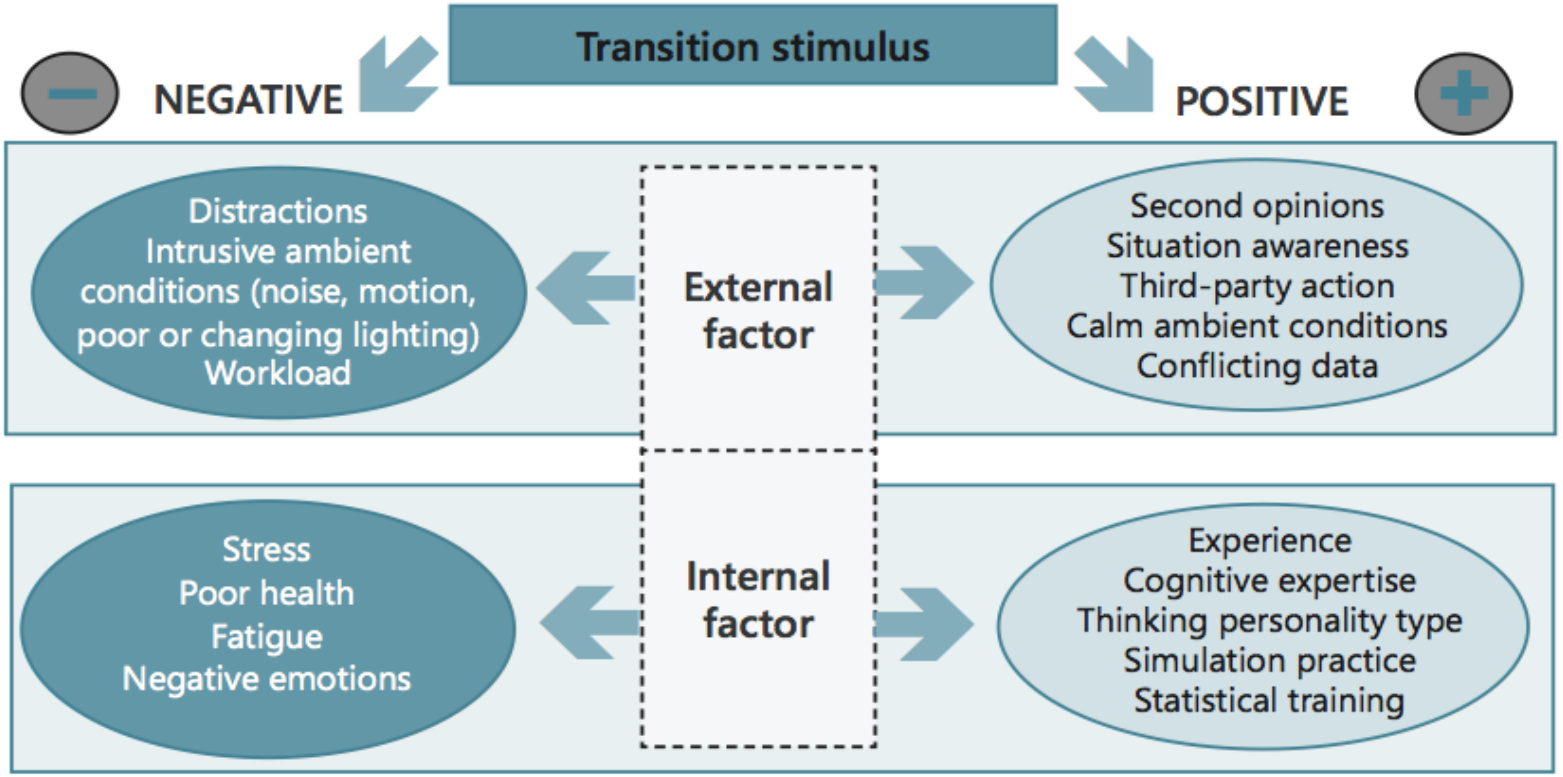


Planning the journey



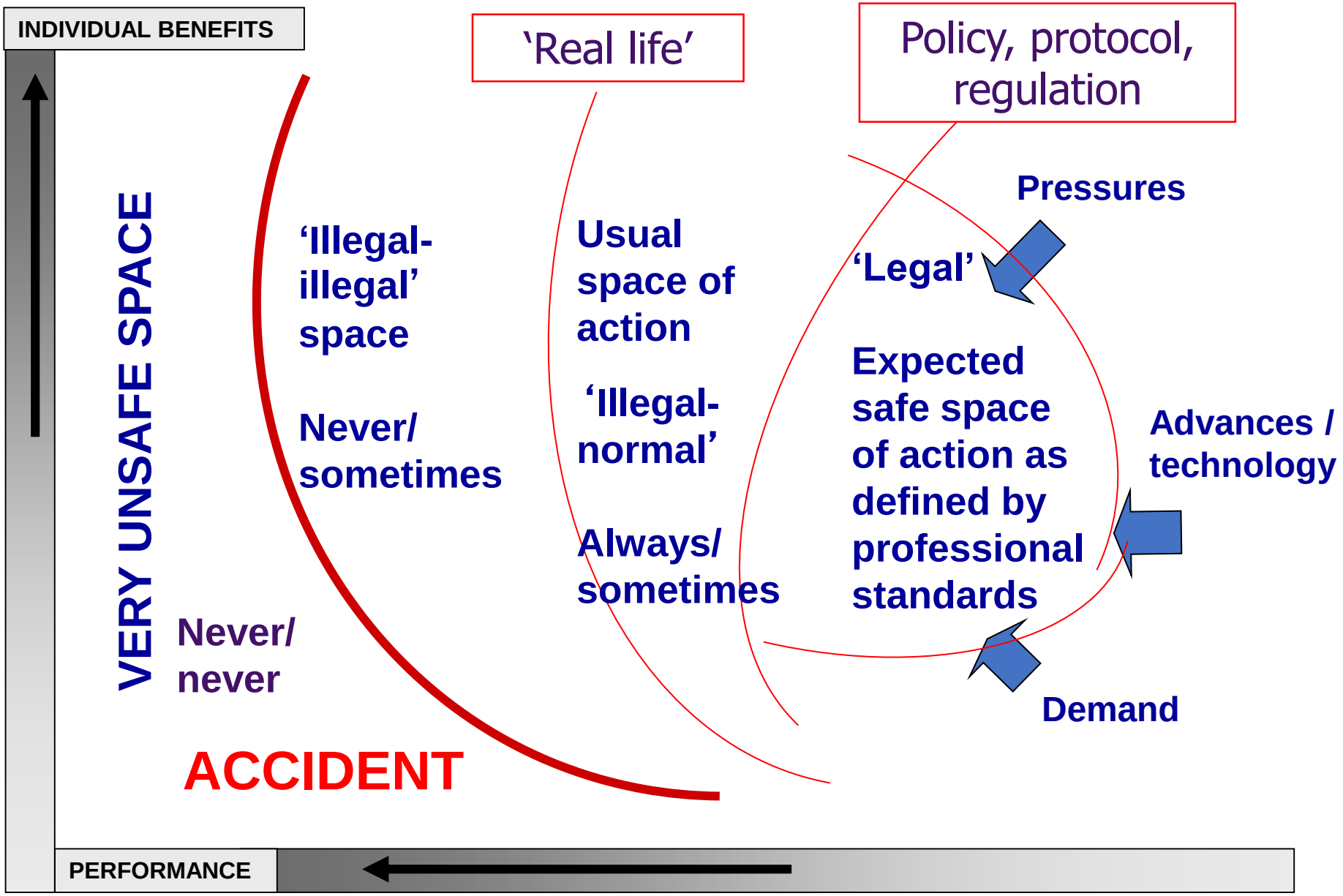
Rational versus Intuitive Decisions

Factors affecting the transition between systems I and II




Departure

Systemic migration to boundaries



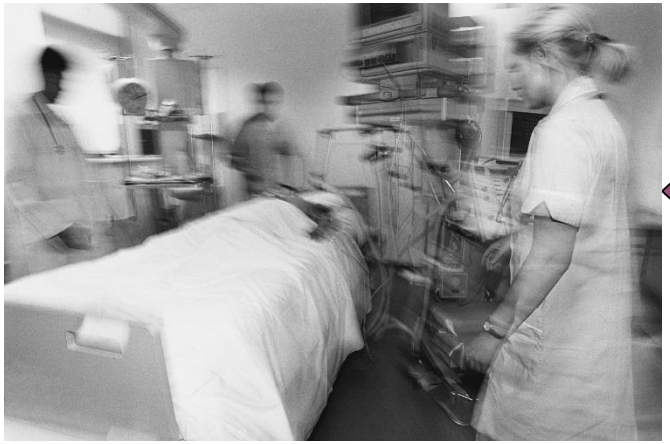
Work as imagined – describes the 'legal space' with boundaries defined by policy and regulations

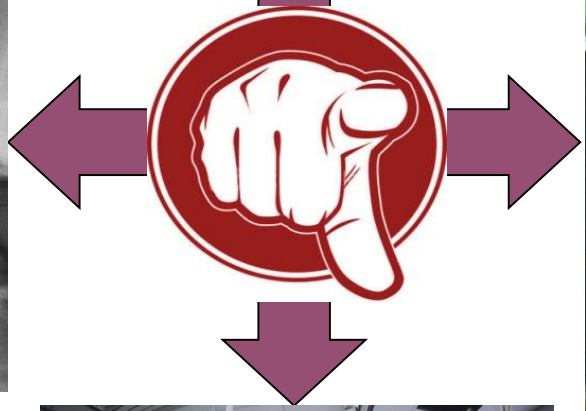
Real life – **work as done** – is the Messy Reality ('illegal normal') of everyday workarounds performed by staff to get things done

Gradual extension of this practice can allow us to slip closer to the final boundary beyond which patient harm can arise.

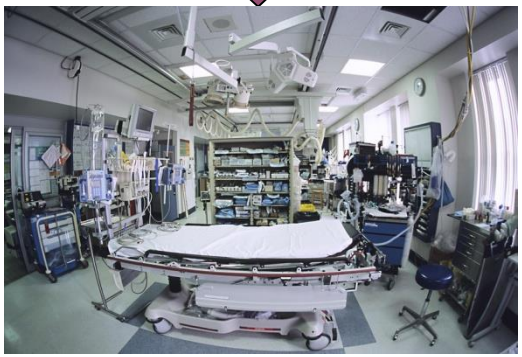
This is often followed by a response of **recalibration** which takes staff back to the safe space, but over time they will often begin to drift again and forget where edge of cliff is.


CHECK LIST






Options
Total Volume
Occlusion Alarm Setting
Primary
Rate
Volume to be Infused
Run
Hold
On/Off Charge
GRASEBY
500



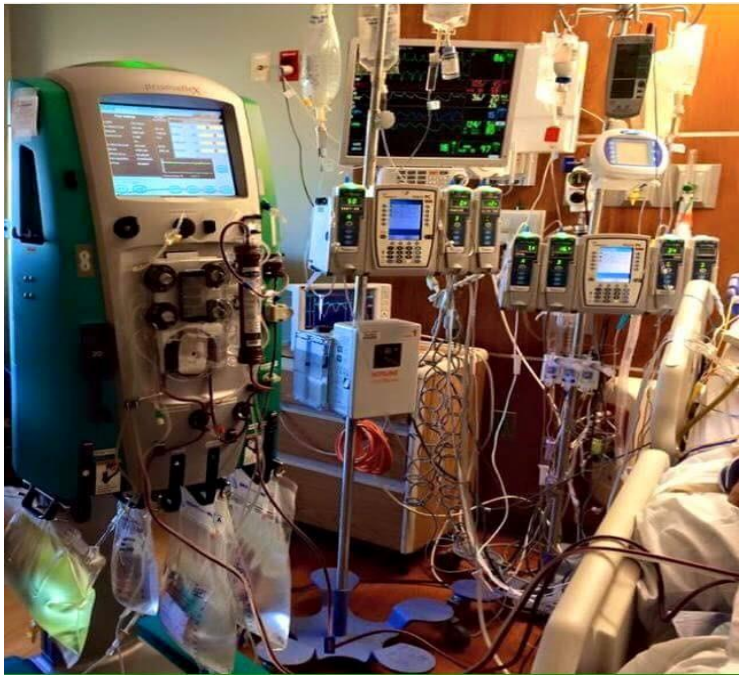
Optimal working environments?

- Often healthcare settings described as ‘ergonomic nightmares’

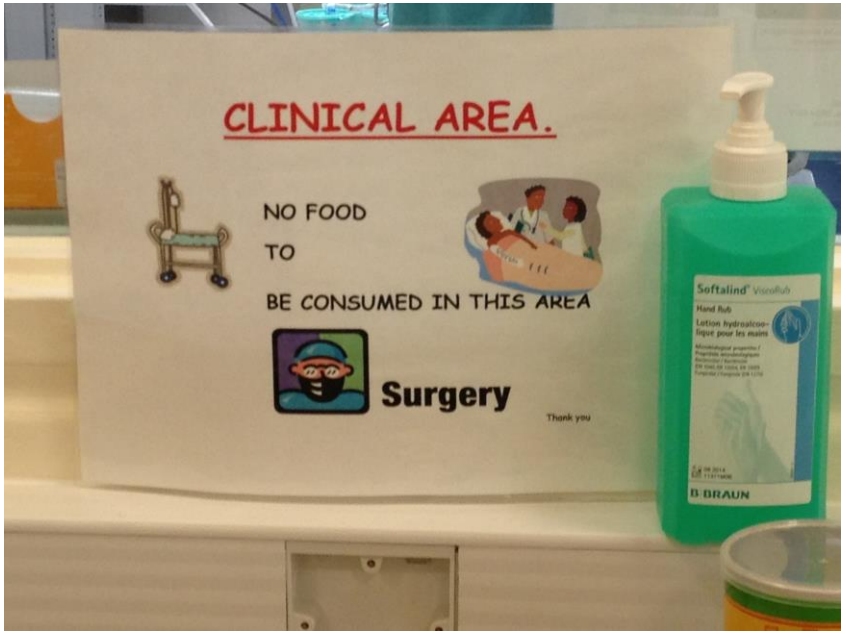
- Noise
- Distraction
- Layout
- Clutter and cables

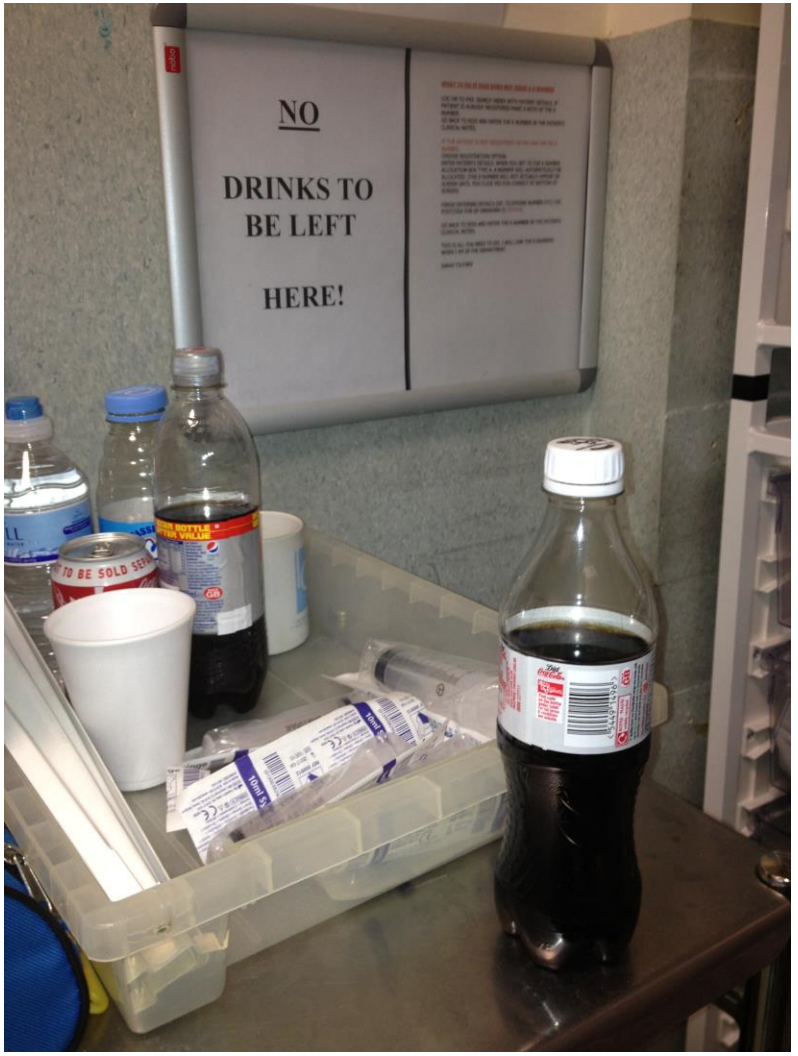

InfuseIT


Datex-Ohmeda
PSVPro
MORE MENUS
RATE
95
35.5
SENSOR
INFUSIONS




LARGE TROUSERS
MEDIUM TROUSERS


CLINICAL AREA.
NO FOOD
TO
BE CONSUMED IN THIS AREA
Surgery
Thank you
Softalind
B BRAUN


NO
DRINKS TO
BE LEFT
HERE!


CLINICAL AREA.
NO FOOD
TO
BE CONSUMED IN THIS AREA
Surgery


PRESS
TO EXIT
EMERGENCY
DOOR RELEASE

The law of unintended consequences

UHB Human Factors
@UHBHumanFactors
Following

Difficult problem - complex dynamic healthcare setting - resource constraints - high 'production' drive constantly pushing safety barriers

> **Mary Dixon-Woods** @MaryDixonWoods
> Nurses experience an extraordinarily high number of interruptions, and it's not straightforward to reduce. twitter.com/AskDrPhyllisRN...

5:43 PM - 26 Oct 2017

3 Retweets **2** Likes

3 2

The Telegraph

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Health News | Health Advice | Diet and Fitness | Wellbeing | Expat Health | Pets Health | Bri

HOME » HEALTH » HEALTH NEWS

Nurses wear 'do not disturb' signs during drug rounds

Nurses are wearing red "do not disturb" signs while they give out drugs to patients in a controversial attempt to reduce the number of mistakes made on hospital wards.

The survey found an absence of humanity on some NHS wards Photo: LES WILSON


BACK LIGHT
ALARM PUMPING ALERT
SILENCE
NEXT
TOT VOL STATUS
CLEAR TOT VOL
PRI RATE
PRI VTBI
PRI START
TIME
7 8 9
4 5 6
1 2 3
. 0 CLR
STOP
ON OFF CHARGE
SEC RATE
SEC VTBI
SEC START
OPTIONS
COMPUTER CONTROL
MONITOR
TO ENSURE PROPER SET LOADING:
. Load tubing from bottom to top.
. Ensure tubing is pulled taut in tubing guide channel.
. After starting infusion, watch drip chamber for at least 10 drops.
PUSH
Baxter
Flo-Gard® 6201
VOLUMETRIC INFUSION PUMP


125.0
B BRAUN


NO
YES


1655


Quality Certificate
Patient Name/ID:
Serial No.:
Product Type:
Cleaning and Disinfection
Performed by
Product Testing (Where applicable)
Electrical Safety Test
Performed by
Function Check
Performed by
Pressure Test
Performed by
This product has been disinfected and tested in line with manufacturers instructions
Print:
Signature:
Date:
AvantGuard
Hill-Rom

All,

On this Wednesday, 11th October, the PACS downtime planned for 26th September but postponed due to the Black Alert will take place.

- **There will be a two hour outage between 19:00 and 21:00**

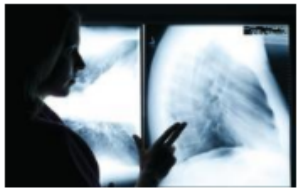
- **No imaging will be viewable outside of Radiology**

Radiology will continue to operate and all imaging services will be available, however we will be unable to distribute any new imaging or reports in the normal way and any historical imaging already held within PACS will not be available either.

The normal business continuity plan will apply. All images produced on the day will be available for viewing within the respective Radiology departments.

IEP transfers will not be available during this time. Please request image transfers via Notis as normal; They will be dealt with once the system is restored.

Apologies for the inconvenience this downtime will cause.



Teaching trust pulls out of trouble-hit vanguard IT project

University Hospitals of Leicester Trust has pulled out of the £30m East Midlands Radiology consortium amid mounting concerns for patient safety and repeated system failures.

Patient images sent by taxi after £30m IT system breaks down

Doctors have been forced to send images from patient scans on DVDs in taxis to neighbouring hospitals after a £30m IT system failed across eight hospitals.

Trust director promises action after 'significant' IT disruption

The medical director of Nottingham University Hospitals Trust has promised to act after the rollout of a digital record system caused widespread disruption.

Exclusive: Consultant backlash over patient record system 'disaster'

Outcry from dozens of senior consultants has forced one of the country's largest teaching hospitals to review its £14m digital patient record system amid fears over patient safety.

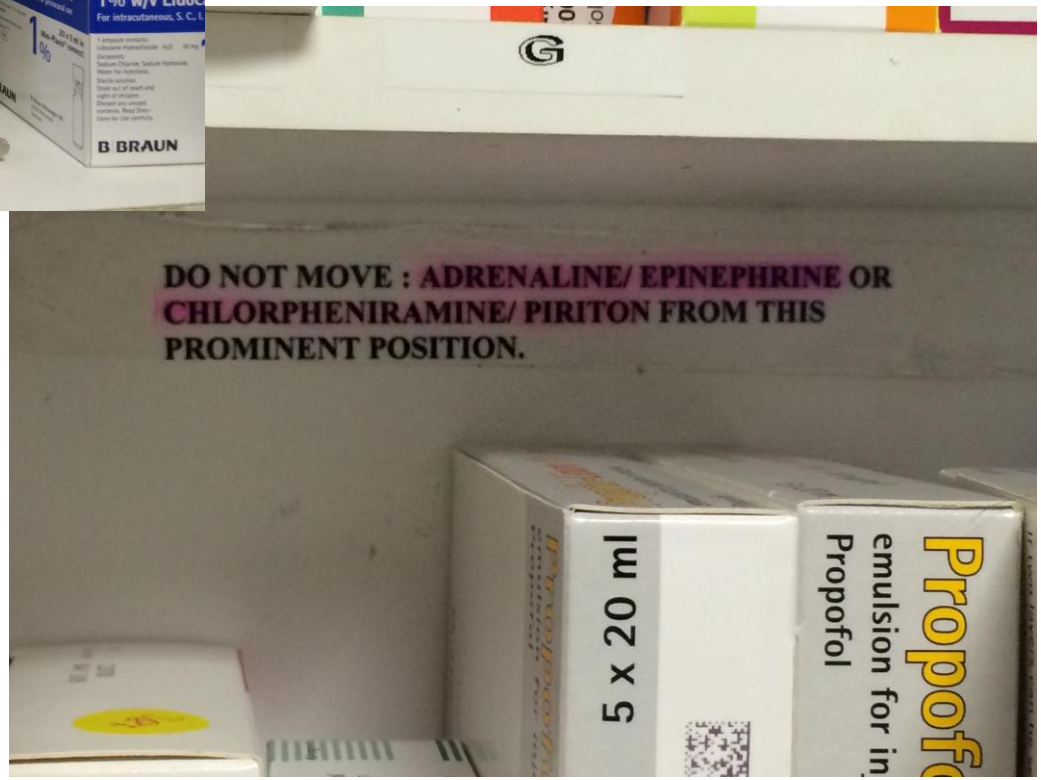
Revealed: 21 trusts consistently underperforming on A&E

There are 21 trusts whose performance against the four hour emergency target has been consistently below 85 per cent since April, HSJ analysis reveals.

Trust chief orders review into 'unfit' IT system

Nottingham University Hospitals Trust is to commission an external review into an electronic patient notes system described by the trust chief executive as "not fit for purpose".

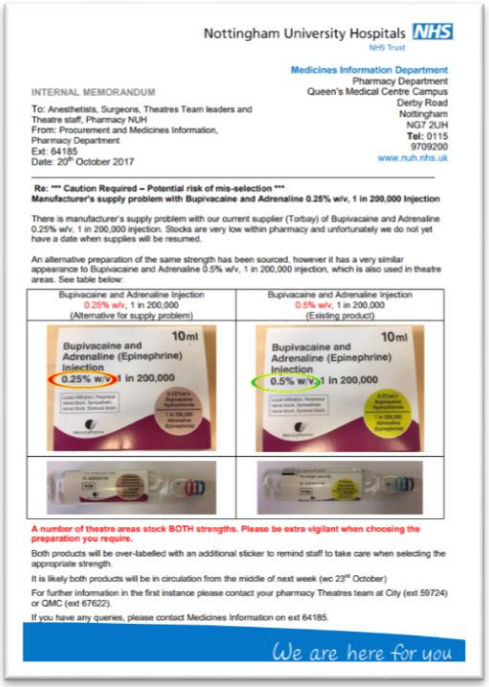

Dexamethasone 4 mg/ml Injectio
30mg in 1ml
600 micrograms in 3ml
Glycopyrronium Bromide 200 micrograms per ml Solution for Injection
Haloperidol
Heparin Sodium Flushing Solution
Heparin Sodium Preservative Free
Midazolam 1 mg/ml Solution for Injection or Infusion
DO NOT CHLOR PROMIN
Propofol–Lipuro 1% (10 mg/ml)
emulsion for injection or infusion.
Propofol
5 x 20 ml
1% w/v Lidocaine Injection
For intracutaneous, S. C., I. V., I. M. or perineural use
20 x 5 ml in Mini-Plasco® connect
1%
B BRAUN
Metaraminol Injection 10mg in 1ml
Solu-Medrone® 1 gram
Solu-Cortef® 100 mg
Hydrocortisone as the sodium succinate
100 mg
Powder for solution for injection
Nitronal
Nitrolingual
Pump spray
Flucloxacillin
1g


DO NOT MOVE : ADRENALINE/ EPINEPHRINE OR CHLORPHENIRAMINE/ PIRITON FROM THIS PROMINENT POSITION.
5 x 20 ml
Propofol
emulsion for in
Propofol


8 mg
Betahistine Dihydrochloride
8 mg tablets
16 mg
Betahistine Dihydrochloride
16 mg tablets
84 tablets
Bumetanide 1 mg Tablets
28 Tablets
1 mg
Bumetanide 1 mg Tablets
28 Tablets
1 mg
Bumetanide 1 mg Tablets
28 Tablets
1 mg
Spironolactone 25 mg Tablets
28 Tablets
25 mg
MA Holder:
TEVA UK Limited,
Eastbourne, BN22 9AG.
PL 00289/1441
88052-B
POM
UK Reg'd T.M.
5 017007 011002
Bisoprolol Fumarate


3.3 mg in 1 ml
Dexamethasone
3.3 mg/ml Injection
3.3 mg in 1 ml
Dexamethasone
3.3 mg/ml Injection
3.3 mg in 1 ml
1 mg in 1 ml
Adrenaline
(Epinephrine)
3.3 mg in 1 ml
Dexamethasone
3.3 mg/ml Injection

FINISHED FILES ARE THE RE-
SULT OF YEARS OF SCIENTIF-
IC STUDY COMBINED WITH THE
EXPERIENCE OF MANY YEARS.



Nottingham University Hospitals NHS
NHS Trust

Medicines Information Department
Pharmacy Department
Queen's Medical Centre Campus
Derby Road
Nottingham
NG7 2UH
Tel: 0115 9709200
www.nuh.nhs.uk

INTERNAL MEMORANDUM

To: Anesthetists, Surgeons, Theatres Team leaders and Theatre staff, Pharmacy NUH
From: Procurement and Medicines Information, Pharmacy Department
Ext: 64185
Date: 20th October 2017

Re: * Caution Required – Potential risk of mis-selection *****
Manufacturer's supply problem with Bupivacaine and Adrenaline 0.25% w/v, 1 in 200,000 Injection

There is manufacturer's supply problem with our current supplier (Torbay) of Bupivacaine and Adrenaline 0.25% w/v, 1 in 200,000 injection. Stocks are very low within pharmacy and unfortunately we do not yet have a date when supplies will be resumed.

An alternative preparation of the same strength has been sourced, however it has a very similar appearance to Bupivacaine and Adrenaline 0.5% w/v, 1 in 200,000 injection, which is also used in theatre areas. See table below:

Bupivacaine and Adrenaline Injection 0.25% w/v, 1 in 200,000 (Alternative for supply problem)	Bupivacaine and Adrenaline Injection 0.5% w/v, 1 in 200,000 (Existing product)
10ml Bupivacaine and Adrenaline (Epinephrine) Injection 0.25% w/v 1 in 200,000	10ml Bupivacaine and Adrenaline (Epinephrine) Injection 0.5% w/v 1 in 200,000

A number of theatre areas stock BOTH strengths. Please be extra vigilant when choosing the preparation you require.

Both products will be over-labelled with an additional sticker to remind staff to take care when selecting the appropriate strength.

It is likely both products will be in circulation from the middle of next week (wc 23rd October)

For further information in the first instance please contact your pharmacy Theatres team at City (ext 59724) or QMC (ext 67622).

If you have any queries, please contact Medicines Information on ext 64185.

We are here for you

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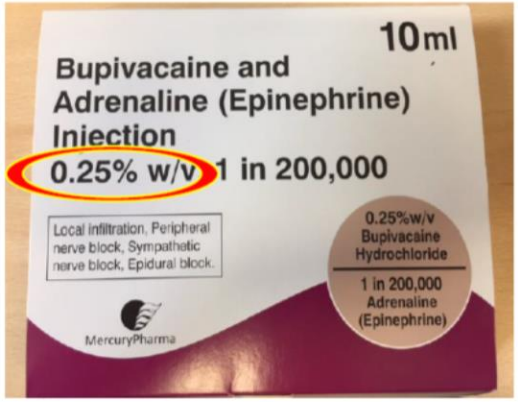	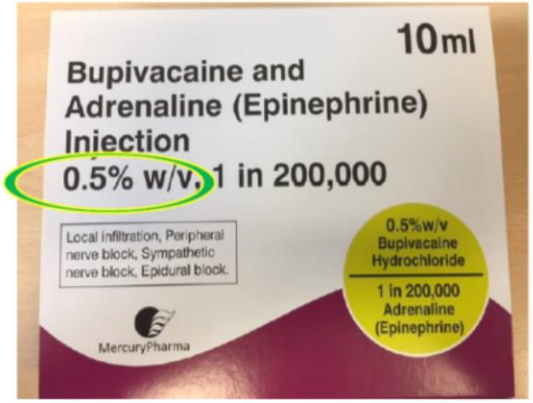
	

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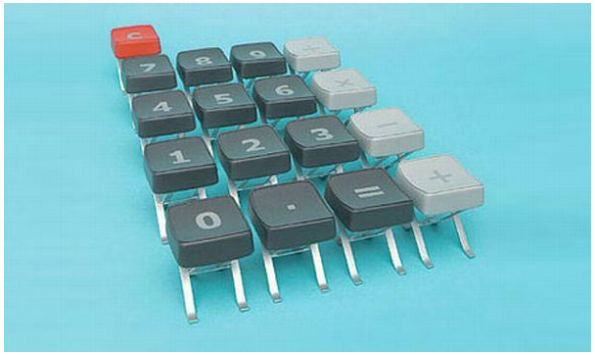

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Last Updated: Tuesday, 23 September, 2003, 19:28 GMT 20:28 UK

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Anger as fatal jab doctor freed

A father has called the legal system "ridiculous" after the doctor responsible for the injection which killed his son walked free from jail.

Wayne Jowett died a month after the mistake

Dr Feda Mulhem was sentenced to eight months after admitting unlawfully killing cancer patient Wayne Jowett and a further 10 months on five unrelated assault charges.

But having already served 11 months on remand - more than half his sentence - Mulhem, of Stanley Road, Leicester, was released from custody.

Mr Jowett, 18, died after a toxic cancer drug was wrongly injected into his spine at Nottingham's Queen's Medical Centre in 2001.

The teenager was undergoing treatment for a form of leukaemia when the mistake happened - and was actually in remission from the disease.

'Sour taste'

Mr Jowett's father, also called Wayne, said: "Eight months for the killing of my son is absolutely ridiculous.

"It leaves a sour taste in my mouth."

Delivering the sentence, Mr Justice Poole told Mulhem: "No sentence I impose can possibly compensate Wayne's family for their loss."

> **"No sentence I impose can possibly compensate Wayne's family for their loss"**
>
> Mr Justice Poole

Doctors' reaction to sentence

Mulhem apologised to the family.

In a statement issued after the sentence, he said: "I would like to give my deepest and heartfelt apologies to the family of Wayne Jowett who have suffered so much because of his death."

Wrong drug

Mulhem had ordered a junior doctor to administer the drug into the spine, even though neither had been formally trained in giving chemotherapy.

WATCH AND LISTEN

The BBC's Martin Popplewell

"Wayne's family say today's sentence for manslaughter isn't enough"

VIDEO

SEE ALSO:

- Doctors shocked by prison sentence
  23 Sep 03 | Health
- Family still 'numb' after son's death
  23 Sep 03 | Nottinghamshire
- Catalogue of blunders that led to death
  19 Apr 01 | Health
- 'Wayne was in a lot of pain'
  19 Apr 01 | Health

RELATED INTERNET LINKS:

- National Patient Safety Agency
- Queen's Medical Centre

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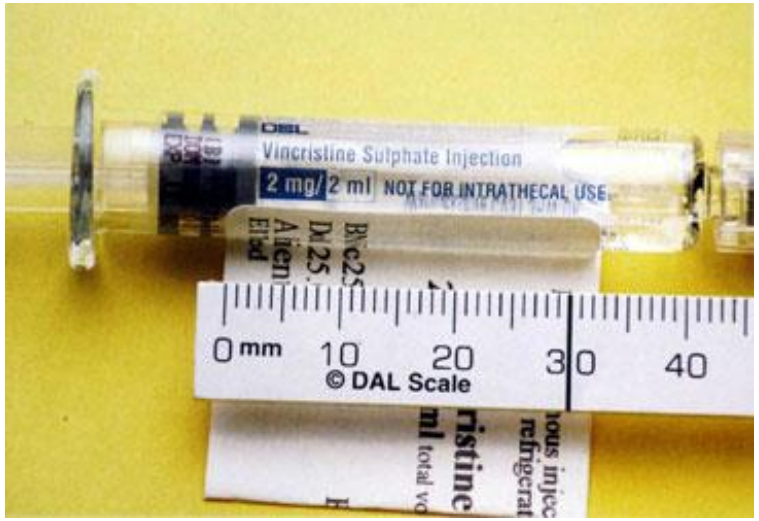
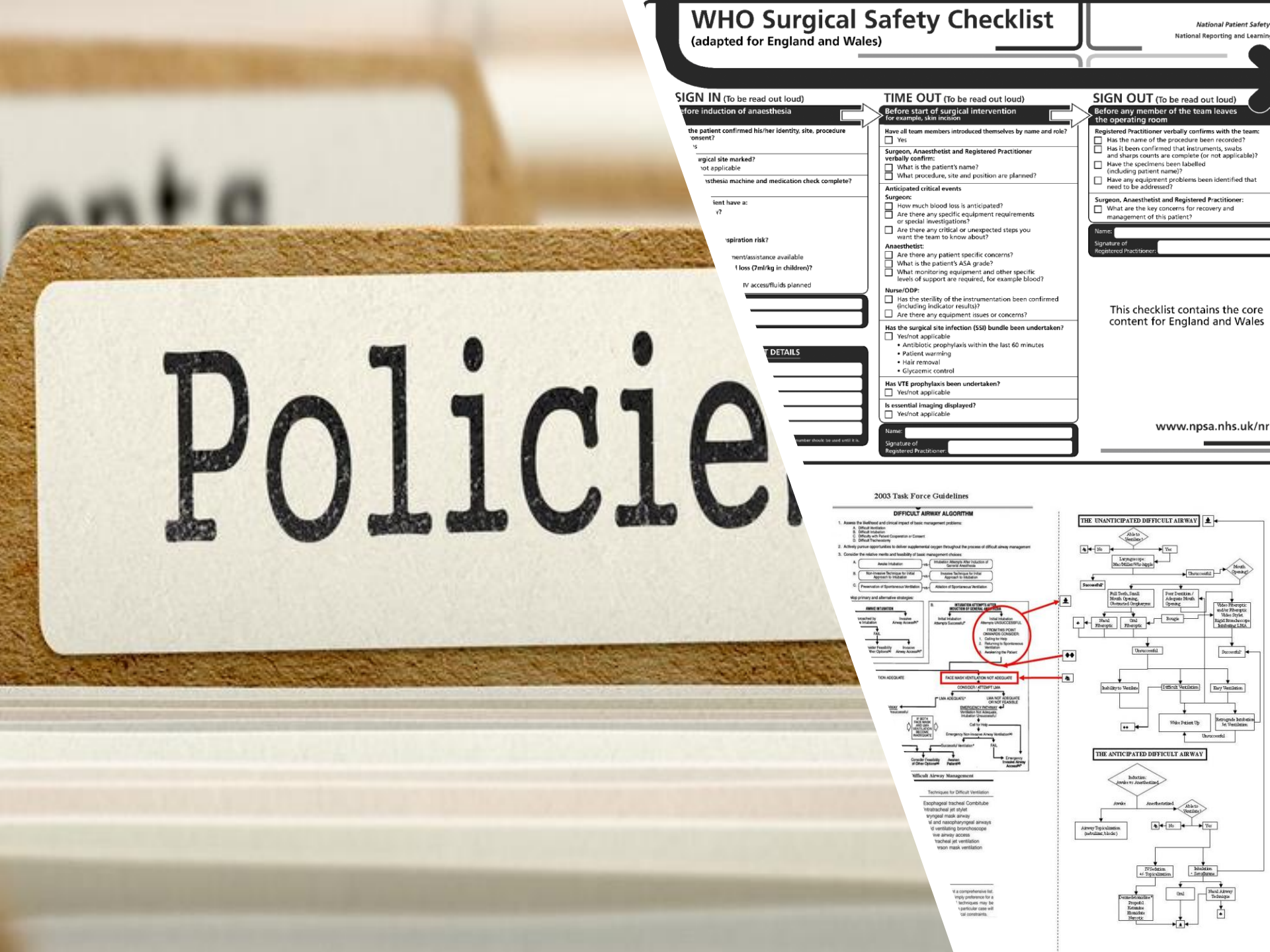
TOP HEALTH STORIES

- Hospitals 'eyeing private market'
- Stem cell method put to the test
- Stem cell 'hope' for arthritis

News feeds




WHO Surgical Safety Checklist
(adapted for England and Wales)
National Patient Safety
National Reporting and Learning
SIGN IN (To be read out loud)
Before induction of anaesthesia
TIME OUT (To be read out loud)
Before start of surgical intervention
for example, skin incision
SIGN OUT (To be read out loud)
Before any member of the team leaves
the operating room
Have all team members introduced themselves by name and role?
Yes
Surgeon, Anaesthetist and Registered Practitioner verbally confirm:
What is the patient's name?
What procedure, site and position are planned?
Anticipated critical events
Surgeon:
How much blood loss is anticipated?
Are there any specific equipment requirements or special investigations?
Are there any critical or unexpected steps you want the team to know about?
Anaesthetist:
Are there any patient specific concerns?
What is the patient's ASA grade?
What monitoring equipment and other specific levels of support are required, for example blood?
Nurse/ODP:
Has the sterility of the instrumentation been confirmed (including indicator results)?
Are there any equipment issues or concerns?
Has the surgical site infection (SSI) bundle been undertaken?
Yes/not applicable
Antibiotic prophylaxis within the last 60 minutes
Patient warming
Hair removal
Glycaemic control
Has VTE prophylaxis been undertaken?
Yes/not applicable
Is essential imaging displayed?
Yes/not applicable
Name:
Signature of Registered Practitioner:
Registered Practitioner verbally confirms with the team:
Has the name of the procedure been recorded?
Has it been confirmed that instruments, swabs and sharps counts are complete (or not applicable)?
Have the specimens been labelled (including patient name)?
Have any equipment problems been identified that need to be addressed?
Surgeon, Anaesthetist and Registered Practitioner:
What are the key concerns for recovery and management of this patient?
Name:
Signature of Registered Practitioner:
This checklist contains the core content for England and Wales
www.npsa.nhs.uk/nr
2003 Task Force Guidelines
DIFFICULT AIRWAY ALGORITHM
THE UNANTICIPATED DIFFICULT AIRWAY
THE ANTICIPATED DIFFICULT AIRWAY

The problem with checklists

Ken Catchpole,[1] Stephanie Russ[2]

[1]Department of Surgery, Cedars-Sinai Medical Center, Los Angeles, California, USA
[2]University of Aberdeen, Aberdeen, UK

Correspondence to
Dr Ken Catchpole, Department of Surgery, Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA; Ken.Catchpole@cshs.org

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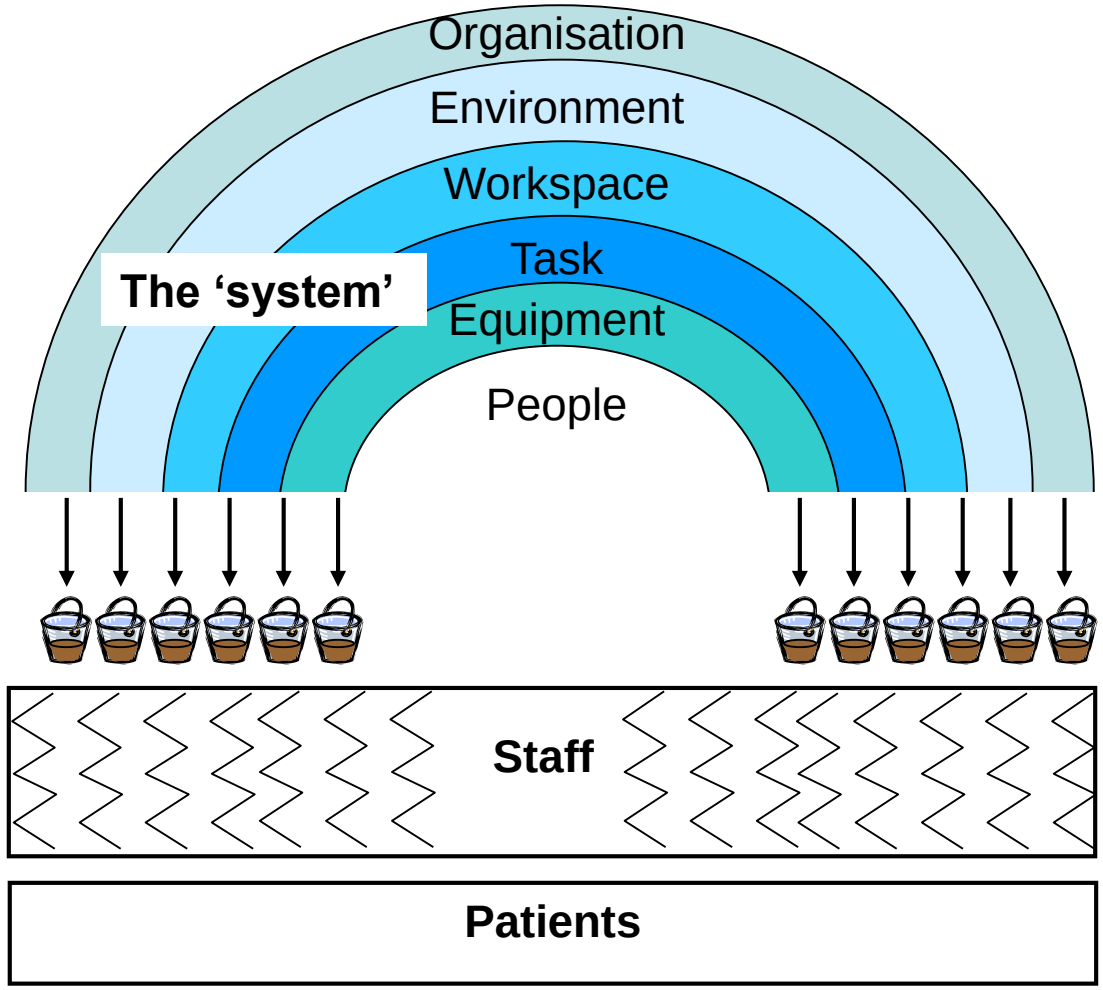
'The Problem with…' series covers controversial topics related to efforts to improve healthcare quality, including widely recommended but deceptively difficult strategies for improvement and pervasive problems that seem to resist solution.

Since the seminal studies by Gawande and colleagues[1] and Pronovost *et al*,[2] checklists have become the go-to solution for a vast range of patient safety and quality issues in healthcare. Some see them as a quick and obvious solution to a relatively straightforward problem. For others, they illustrate a

to mention the critical design changes that were also necessary ('complex'). For example, on the B-17 aircraft, flap and gear levers required redesign as they were easily confused, critically positioned and thus predisposing to accidents.[10]

We have often compared healthcare

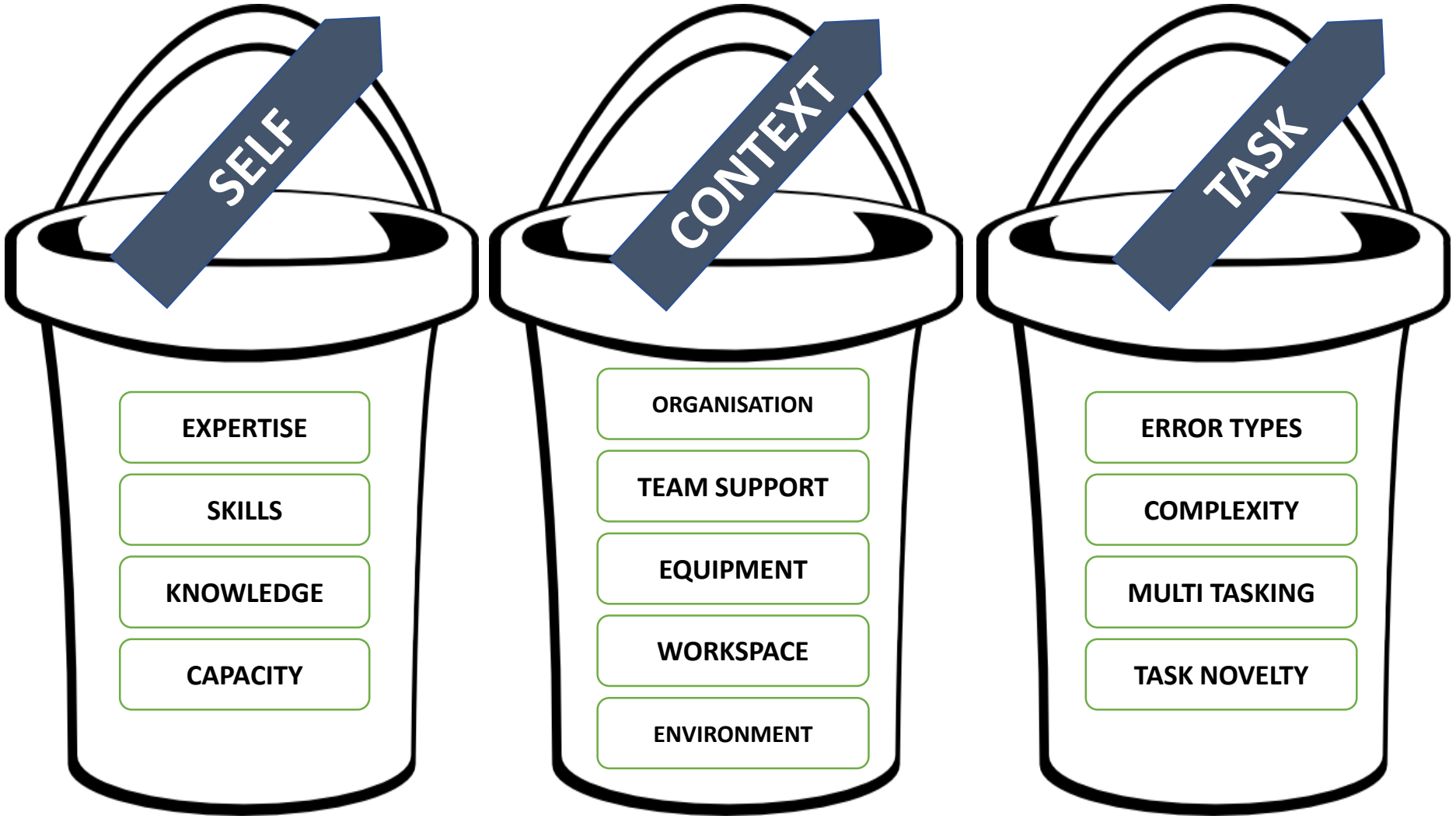
Purpose – Design – Implementation – Integration – Outcomes



Factors within the healthcare system that could potentially lead to harm

Staff act as harm absorbers

HOW FULL ARE YOUR BUCKETS?



Reason (2004)


Effective team?
Good risk management?
TOYOTA
KOMATSU
PATRIA 50

Surgeons 'ignored student's warning over fatal error'

By Richard Alleyne
12:00AM BST 13 Jun 2002

Two surgeons whose patient died after they took out the wrong kidney ignored a medical student who pointed out their mistake as they operated, a court heard yesterday.

John , 59, the consultant urologist in charge, and Dr , 39, who carried out the operation, had not checked their case notes correctly or properly cross-referenced to an X-ray, Cardiff Crown Court was told.

As a result they removed the one healthy kidney of Graham Reeves, 70, a veteran of the Korean war, instead of the diseased organ, leaving the patient without a chance of survival.

Victoria , a medical student observing, warned that she thought he was making a mistake during the operation after studying the X-rays in the operating theatre. But her opinion was ignored, the court was told.

Leighton Davies QC, prosecuting the surgeons for manslaughter, said: "She told Mr that she thought it was the right kidney that was not functioning and the left one was compensating for it. Mr told her she had got it wrong."

Mr Reeves's right kidney had been diseased for years, and, after it had been decided to remove it, he was admitted in January 2000 to Prince Philip Hospital in Llanelli, Carmarthenshire.

The surgeons removed his healthy left kidney by mistake after reading an incorrect theatre list.

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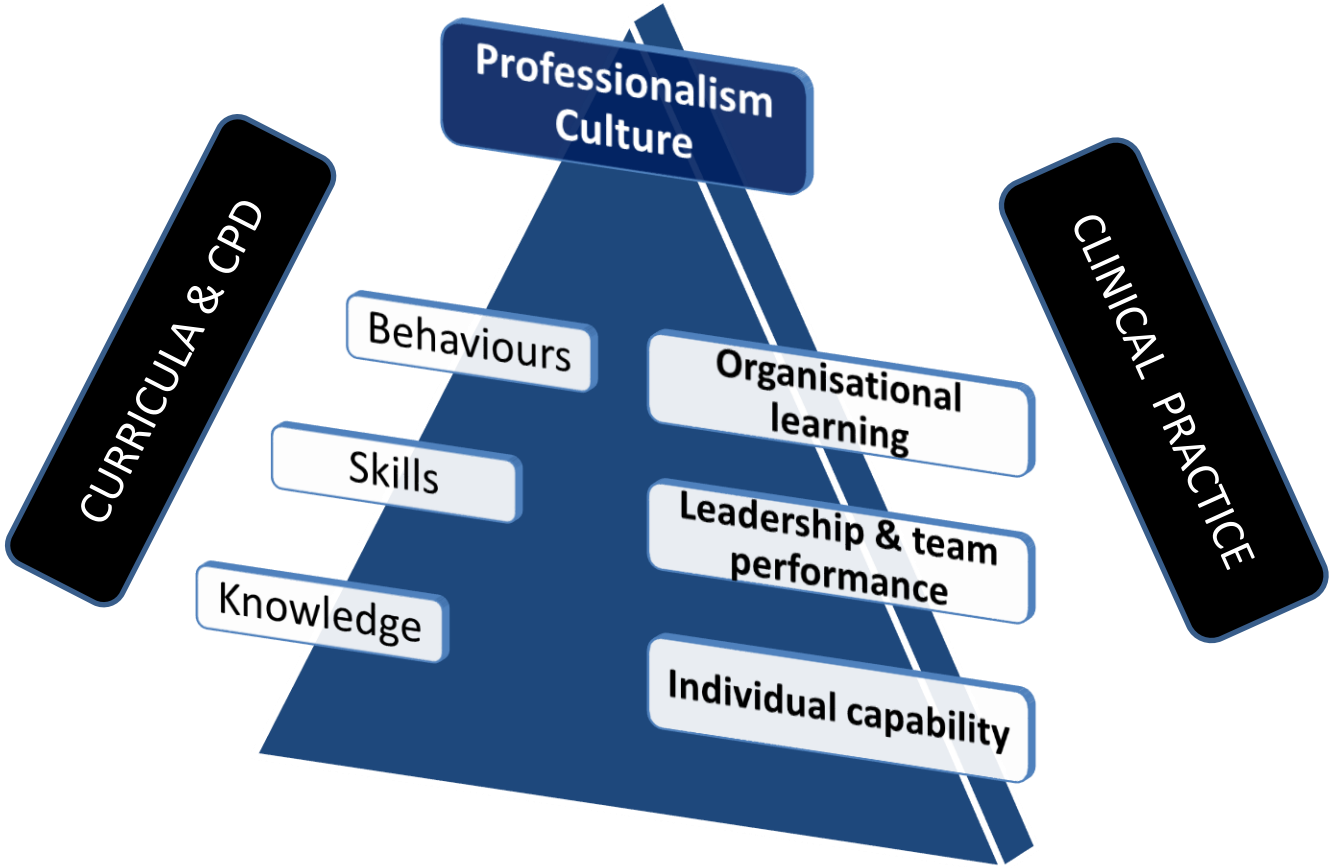
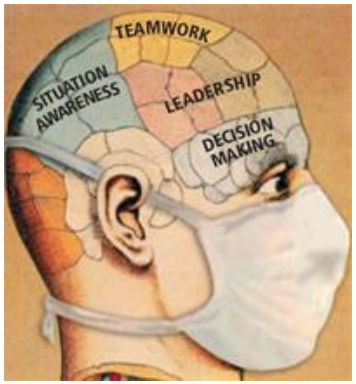
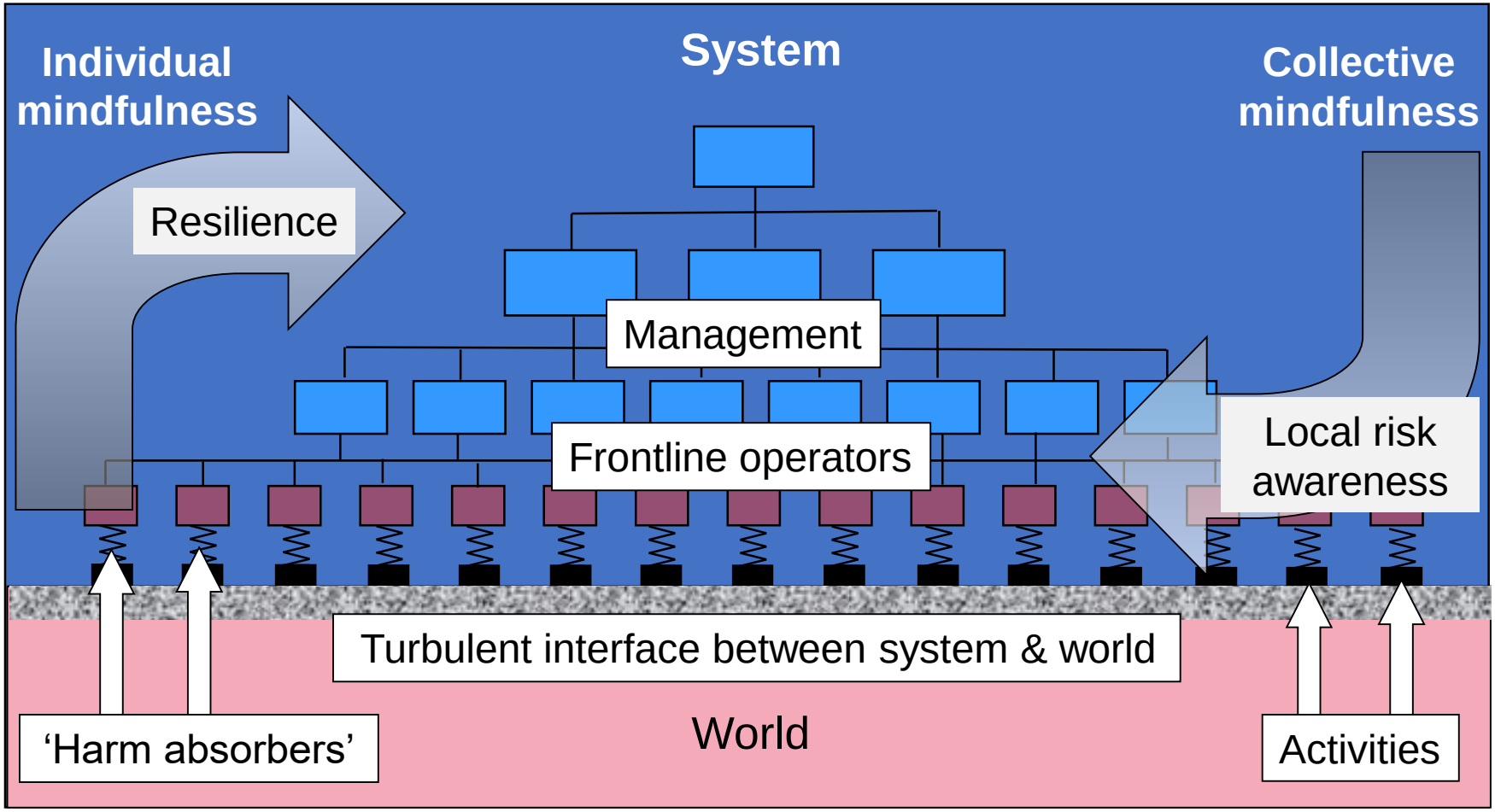

Professionalism
Culture
CURRICULA & CPD
CLINICAL PRACTICE
Behaviours
Skills
Knowledge
Organisational learning
Leadership & team performance
Individual capability


TEAMWORK
SITUATION AWARENESS
LEADERSHIP
DECISION MAKING


PERFORMANCE
Leadership
Communication
Situation Monitoring
Mutual Support
SKILLS
KNOWLEDGE
ATTITUDES
PATIENT CARE TEAM


FACTORS
HUMAN
How we think
People to people
How we see
WHAT
Physical function
Interrelationships
People issues
PLACE
SEE
RELATE
THINK
What are Human Factors
Physical



(Reason, 2006)

Individual & Organisational Resilience

Making judgements IN (and ON) the messy world of medicine

Prof Bryn Baxendale

Nottingham University Hospitals NHS Trust, UK

Bryn.Baxendale@nuh.nhs.uk

@gasmanbax