



Centre for  
Perioperative Care

## *NatSSIPs 2 - The CPOC perspective*

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patient  
safety  
learning }

# I have no conflicts of interest

-  pays  for ½ day of my time
- I donate payment from my  column to 
- I have/had voluntary roles with:



Academy of  
Medical Royal  
Colleges



Past me:



The Royal College of Surgeons - Council April 2012

# Perioperative care is:

from the moment surgery is contemplated  
- until full recovery

## The Perioperative Care Pathway



# CPOC is a partnership between:



[cpoc.org.uk](http://cpoc.org.uk) | [cpoc@rcoa.ac.uk](mailto:cpoc@rcoa.ac.uk)

- + patients/lay
- + health charities



# Silos?



## The Perioperative Care Pathway



2015



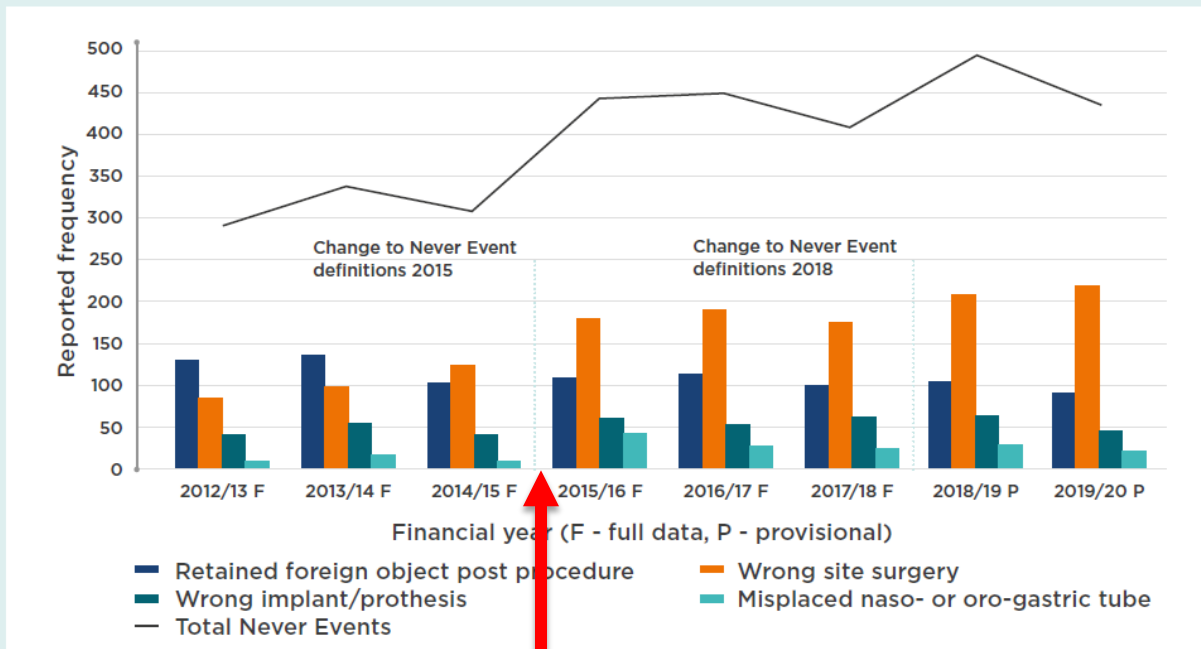
**National Safety Standards  
for Invasive Procedures  
(NatSSIPs)**

# NatSSIPs2 – why?

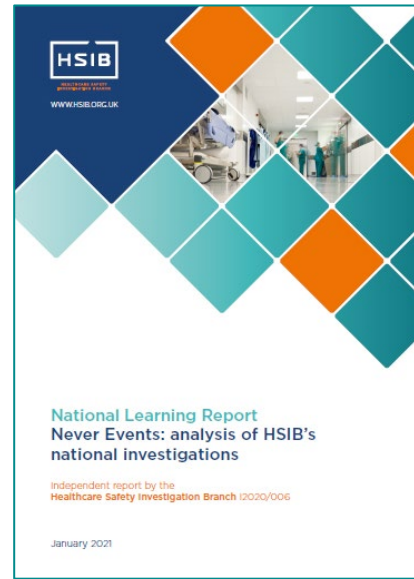
- Better for patient safety
- Understanding of human factors
- Better for team-working
- Nicer – sharing work, responsibilities, understanding



**Fig 1** The reported frequency of four selected Never Event types from 1 April 2012 to 29 February 2020



NatSSIPs1



# National Safety Standards for Invasive Procedures 2 (NatSSIPs)

January 2023



<https://cpoc.org.uk/guidelines-resources-guidelines/national-safety-standards-invasive-procedures-natssips>

## Organisational standards

- People
- Processes
- Performance

## Sequential standards

- For each patient
  - 8 steps

## NatSSIPs 2 in summary; Organisational and Sequential Standards

### Organisational Standards

#### People for safety

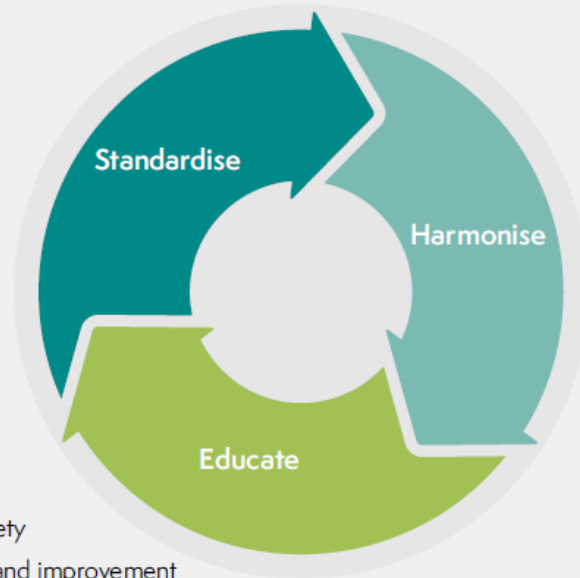
- Patients as partners
- Staff to deliver
- Roles in safety
- Training in safety
- Human factors understanding

#### Processes for safety

- Documentation
- Scheduling
- Induction
- Governance

#### Performance for safety

- Data for assurance and improvement
- External body engagement

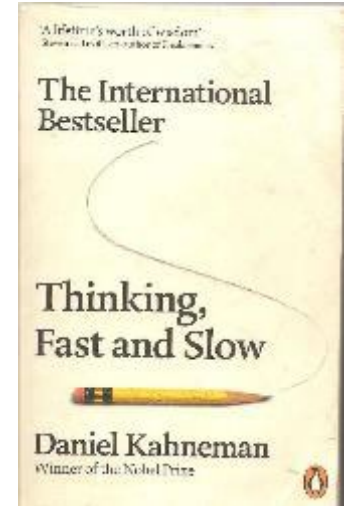


### Sequential Standards (‘The NatSSIPs 8’)

1. Consent and Procedural verification
2. Team Brief
3. Sign In
4. Time Out
5. Implant use
6. Reconciliation of items
7. Sign Out
8. Debrief/Handover

# NatSSIPs version 2

- Cognitive dissonance = knowing what you should do and not doing it.
- If too complex – people do workarounds.
- Using hindsight.
- Being clear about expectations.
- Getting people to work together.



# NatSSIPs version 2

- Standardise, educate, harmonise
- Proportionate (big ops + other procedures)
- Like: prep, stop, block
- Includes interventional radiology, etc.

# Organisational standards

- People
  - Patients = serious focus
  - Staff = education
  - Time and resource for multi-disciplinary in-person scenario teaching
  - Board member = responsibility
- Processes
  - Checklists
  - Scheduling
  - Induction
  - Risk assessment
  - “Dealing with muppets”
- Performance
  - Collect data
  - Inspections should look for it



### **Behaviours show**

Patient focus  
Teamwork  
Kindness  
Compassion  
Safety knowhow  
Understand HF  
Leadership



### **Strong communication**

Planning  
Teamwork  
Use of checklists  
Better handover  
Report excellence  
Report incidents



### **Team engaged in**

Solutions  
Audit  
Data  
Improvement  
Quality



# What should I do if my organisation is not delivering or engaging with NatSSIPs?

- Report NatSSIPs issues via your line manager, governance system, site and organisations safety teams/leadership,
- Speak Up Guardian, Health Services Safety Investigations Body (HSSIB; formerly HSIB), the national regulators and Colleges if you are concerned.

# Sequential standards = The NatSSIPs Eight steps

1	Consent, Procedural verification, and Site marking
2	Team Brief
3	Sign In
4	Time Out
5	Safe and efficient use of implants (Where relevant)
6	Reconciliation of items in the prevention of retained foreign objects
7	Sign Out
8	Handover/Debrief

# What's new in the sequential standards?

- **Minor vs. Major concept**
  - Combined Sign In/Time Out possible
  - Proportionate Count
- **Aligning with other safety work** eg. Prep Stop Block
- Harmonisation across specialties
- Systems thinking
- Learning from investigations eg HSIB
- Performance indicators (qualitative)
- Tables and appendices with detailed info

# Proportionate Count

When procedures are performed outside of theatres via **incisions too small** to retain objects; **via needle** punctures; or via natural orifices without the insertion of swabs, a **proportionate count** to confirm the presence of intact equipment and the removal of any **wire** and ancillary equipment such as sheathes may be sufficient: this will apply to the majority of radiology, cardiology, endoscopy, wards, outpatient areas, emergency department and minor procedures.

However, if a procedure in this area involves a cavity large enough to retain an item, such a proportionate count will be insufficient.

**The principal risk is the retention of guide wires** and the detachment of parts of instruments or other devices during use.

Verbal checks should be performed for an abbreviated count.

**THIS DOES NOT APPLY TO MATERNITY DELIVERY ROOMS**

# 1. **Site marking**, procedural verification and consent

- Who = operator or deputy (or Ortho trauma)
- When = before anaesthetic room
- How = arrow (may add circle)
- Where = visible

# Digits

Diagram 1: Right hand

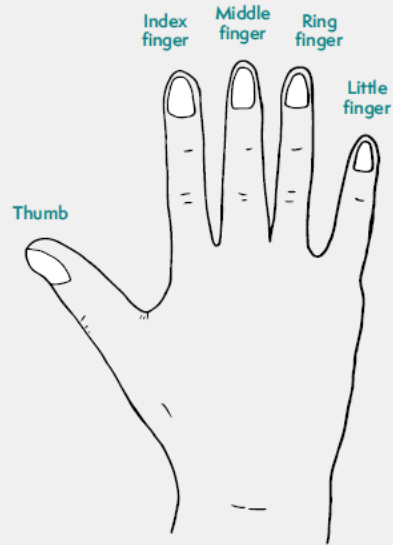
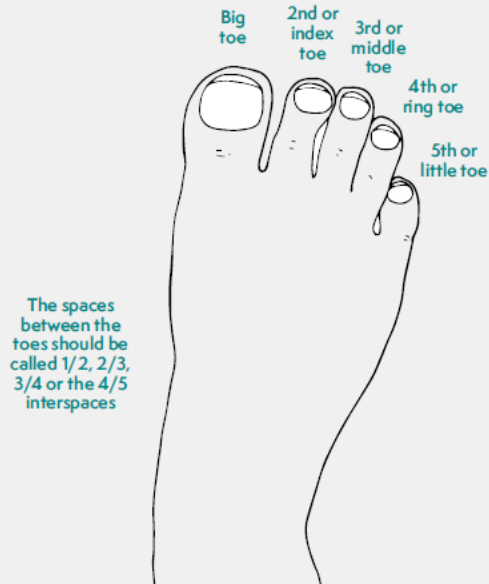


Diagram 2: Right foot



# 1. Consent, Procedural verification and Site Mark

- RIGHT and LEFT written out in full
- Consented and marked by an operator
- Photography advised for skin lesions (BAD)
- Mark with an arrow and an indelible marker
  - Visible after draping
  - Arrow plus circle for skin lesions
  - With digits mark digit and hand, name digits on consent
- Involve and explain to patients why marked and why checking



# Performance Standard

## Procedural Verification, Consent and Site Marking

### Organisational measures

Consent, Procedural Verification and site marking local standard in policy

Included at local induction, governance, education and performance review

### Sequential measures

Consent is taken or reconfirmed by surgeon who is present in theatre

Patient is marked before arriving in theatre

Patient understands need for mark

Marked by the primary surgeon

Marked with an indelible marker

Mark visible after draping

Emergency patients Sign In includes surgeon



## 2. Team Brief

### Team Brief

The procedural multidisciplinary Team Brief is a key element of practice in the delivery of safe patient care in invasive procedure pathways, and forms part of the WHO Surgical Safety Checklist<sup>2</sup> the Five Steps to Safer Surgery and now 'The NatSSIPs Eight'.

Engagement with the Team Brief is a required behaviour in the delivery of safe care and is a demonstration of mutual respect to the multidisciplinary team and an aspect of professionalism. It shows a commitment to the importance of communication for patients, staff and patient safety.

Good leadership will ensure all members of the team feel comfortable, valued and empowered so that any issues of safety can be volunteered and this will encourage an environment of openness and flattened hierarchy. Continuing with tasks and trying to listen is a distraction for the individual, it is a distraction for the rest of the team, and it is a poor example to the rest of the team.

# Team brief

- Names + roles (also on whiteboard)
- Surgeon capable of doing op must be at Team Brief
- General things
- Each patient
- Everything
  - Breaks
  - Kit
  - Implants /antibiotics etc

## Team Brief

### Organisational measures

Included in policy and at local induction, governance, education and performance review

#### Sequential measures

The Team Brief starts on time

The senior clinicians are present

All team members present

All team members are engaged in Team Brief 'Silent Focus'

A Team Brief record is kept

The Team Brief allows feedback of information for systems management

## 3. Sign-In

- Staff should treat the Sign In process as a safety critical moment. Completing other tasks, referring to the process as 'just some paperwork', 'more tick boxes' etc. is not reflective of a positive safety culture.
- Questions to the patient should be open, such as:
  - 'Can you confirm your name and date of birth?' Not 'Your name is XXX, is that correct?'
  - 'Tell us in your own words what procedure you are expecting and which side?' (where relevant) Not 'The form says we are fixing your right ankle, is that right?'
  - 'Do you have any allergies?' Not 'no allergies?'

# Patients

## Box 1: Patient involvement during the Pathway Checks.

1. Be part of the conversation and shared decision making
2. Ask questions if something is not clear
3. Speak up if you have concerns
4. The checks are there to protect you and you can be part of them
5. During checks be serious and avoid jokes
6. Behave with respect and kindness towards healthcare professionals

## 4. Time Out

- Final check
- Use the checklist
- Encourage MDT input
- Engage - don't scrub whilst doing Time Out

# 5. Implants

- Check before opening them and at time of implantation
  - Check compatibility, side, expiry etc
- Record appropriately



# Implant – timing of the decision

	First Implant	Second, third etc
<b>Known</b>	<ul style="list-style-type: none"><li>● Type of implant/prosthesis/device</li><li>● Laterality (when applicable)</li><li>● Size (all relevant dimensions)</li><li>● Expiry date</li><li>● Sterility</li></ul>	Compatibility (eg size 40 screw)
<b>Decided during op</b>		
<b>Unplanned or unexpected implant insertion</b>		
<b>Biologic</b>	Name date of birth and a unique number (NHS number or hospital number) cross-checked with the patient's identity band.	

The requested implant details should be written down in any situations where there is an appreciable time gap between request and implantation, or where implants are in a different physical location. Local units must agree on a process that meets these standards, taking into account local practices and environment.



## 6. Reconciliation of items

- Understand subsequent parts of new kit
- Count anything that enters the field
- Proportionate count in some areas
- Process for deliberately retained items
- Plan for pack removal with careful documentation of number and type

- Green swabs or gauze are used in anaesthesia for
  - pressure padding e.g around 3 way taps, BIS or tube ties
  - absorption e.g Failed cannulation, saliva, ultrasound gel
  - To stop a drape sticking to a ETT.



- Green swabs represent a risk as
  - they do not have a radio-opaque line
  - they can end up mixed in the count. There is no benefit to green swabs being having a radio-opaque line as they are not expected to be missing.



# First count

- Before closure of a cavity or major organs
- Before closure of the first layer of muscle, e.g. during spinal and joint replacement surgery
- Before wound closure begins

# Final count

- at the beginning of closure of the skin
- or before the end of the procedure.
- This point should be identified to the team (e.g. 'pause for gauze') as a point when the scrub team need time and concentration to count carefully.
- The end is when 'final count complete' is announced.

## 7. Sign Out

- Never leave before Sign Out complete
- Confirm operation performed
- Confirm count, samples labelled
- If missing items Xray in theatre, not recovery
- Plan post op
- Plan discussion with patient/family

# 8. Handover & Debrief

- Handover key information
- Celebrate success
- Learn from issues

# Handover & debrief - Organisational measures

- Included in policy and at local induction, governance, education and performance review
- Governance includes systems analysis for incidents and learning from excellence related to debrief and handover

# NatSSIPs 8

1		Consent, Procedural verification and Site marking
2	Team Brief	
3	Sign In	
4	Time Out	
5		Implant
6		Reconciliation (no retained foreign objects)
7	Sign Out	
8	Debrief	Handover

# LocSSIPs?

- **Local standards for invasive procedures (LocSSIPs)**
- In the original NatSSIPs, organisations were required to write LocSSIPs for each procedure.
- There is a risk of over-complicating checklists and introducing bureaucracy.
- NatSSIPs now recommends that Standard Operating Procedures or LocSSIPs may be developed, based on this long version of NatSSIPs 2. These should be based on the local system and align where appropriate through standardisation, harmonisation and education.
- LocSSIPs should include sequential and organisational review to be effective.
- For many procedures and contexts there will be no need to create completely new or bespoke standards or processes.



# Over to you... Implementation

- Organisational standards
  - Education
  - Audit
- Sequential standards = every patient
- We'll need your help!
- We need buy-in
- Clinician led
- Standardised working
- Must have stops



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Why do we need NatSSIPs?  
Why is team-working so bad?

# Teamwork

[www.rcseng.ac.uk](http://www.rcseng.ac.uk)

Poor teamwork in 76 of 100 reviews.

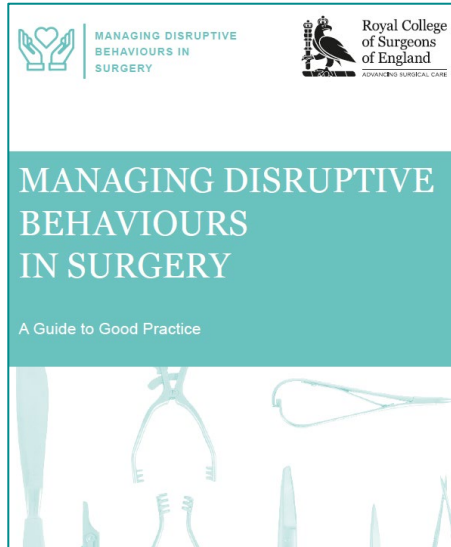
- Not meeting regularly or effectively as a team.
- The absence of agreed working practices



<https://www.rcseng.ac.uk/standards-and-research/support-for-surgeons-and-services/irm/improving-professionalism/>

# Teamwork

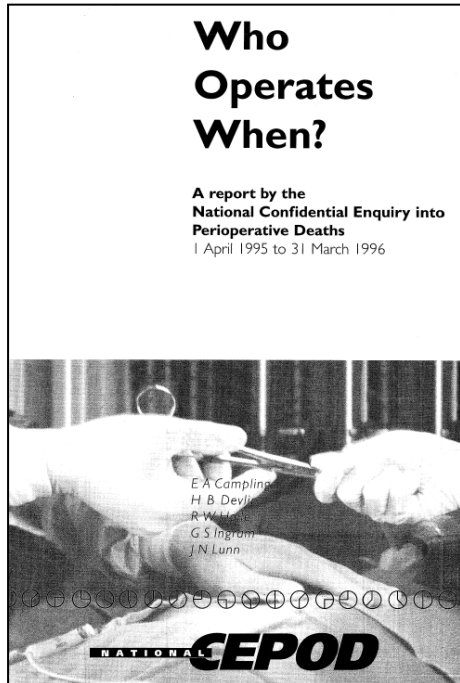
[www.rcseng.ac.uk](http://www.rcseng.ac.uk)



<https://www.rcseng.ac.uk/standards-and-research/standards-and-guidance/good-practice-guides/managing-disruptive-behaviours/>

In 1990s we surgeons had to be heroic.

Now, the work persona is for 48 hours/week of work



In 1996:

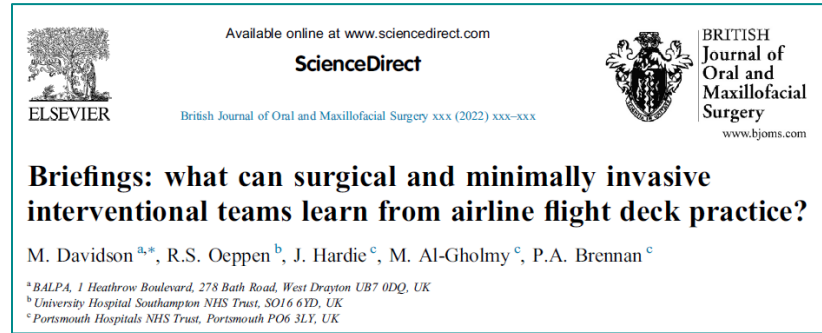
Emergency procedures:  
41% at evenings, nights

Many at weekends

Now, we have CEPOD lists + trauma lists

# Human factors (Peter Brennan)

- Airline
- Nuclear



- “sometimes rushed or seen as a “tick box” that delays the list
- Lowering authority gradient
- Stop if: HALT = Hungry, Angry, Late or Tired
- “Sterile cockpit”
- “What-ifs”

# Checklists

- Change of culture in airline industry
- Checklists reduce human error
  - Organisational
  - Personal
  - Environment
    - Stress
    - Noise
    - Distractions



## EDUCATION AND TRAINING

Ann R Coll Surg Engl 2022; 104: 510-516  
doi:10.1308/rscann.2021.0234

### How to WHO: lessons from aviation in checklists and debriefs

IA Guy<sup>1</sup>, RL Kerstein<sup>2</sup>, PA Brennan<sup>3</sup>

<sup>1</sup>University Hospitals Birmingham NHS Foundation Trust, UK

<sup>2</sup>Oxford University Hospitals NHS Foundation Trust, UK

<sup>3</sup>Portsmouth Hospitals University NHS Trust, UK

#### ABSTRACT

**Introduction** The World Health Organization (WHO) surgical safety checklist (SSC) has had an overall positive impact; however, it has not completely prevented adverse events and compliance with the checklist varies. The aviation industry is considered to have better engagement with their safety checklists, reporting not only safety improvements, but also a cultural shift in their checklist philosophy over recent years.

**Methods** We explored the personal attitudes of pilots working in the aviation industry to identify principles of an effective checklist philosophy that could be transposed to the healthcare setting to empower more effective, consistent and ultimately successful implementation of the WHO SSC. A questionnaire was developed by the authors. Three airline pilots were interviewed via telephone, and asked questions regarding the logistics of and attitudes to checklists in the aviation industry.

**Results** Several key factors for successful checklist implementation were identified. These include regular training and education on human factors and the checklist's purpose, and institution of an atmosphere that is receptive, engaged and welcoming. Much can be learned from the aviation industry, where not only has the incidence of adverse events decreased, but the attitudes of people working in the industry have also transformed.

**Conclusion** The WHO SSC is an invaluable tool used in healthcare settings worldwide. However, it is not a standalone commodity. To be effective, it necessitates steadfast engagement from the team members involved in its implementation. Human and checklist must work in partnership, using each other's strengths and fallibilities, to optimise outcomes and prevent risks to patient safety.



LET'S OPERATE WITH RESPECT

Find out more: [www.surgeons.org/respect](http://www.surgeons.org/respect)

- Australian surgery has/had bullying problem
- 48% surgeons in training had witnessed it
- They recommend: "Call it out"
  
- Most alleged perpetrators (Australian surgeons) didn't realise how they were perceived.





# We are not all perfect every day. Help us value good enough

- 50% senior surgeons have burnout
- 42% of marriages end in divorce ([www.ons.gov.uk](http://www.ons.gov.uk))
- 9% of over-65s are living with dementia – ?parent
- 17% of 6-16 year olds have mental health problem - ?child
- 20% of known pregnancies end in miscarriage ([www.tommys.org](http://www.tommys.org))
- IVF has only 14% success rate aged 40 ([www.hefa.gov.uk](http://www.hefa.gov.uk))
- 10-15% operations will have a complication
- There are only 168 hours in a week

# We need:

- Minimum standard
- Aspirational standard
- To use every person in the team

Equality	Equal standard at the point of selection / exam Every individual to have opportunity
Diversity	Embracing difference. Asking what else is needed. How to get the individual to be the best that they can be. Eg if you are their supervisor
Inclusion	
Belonging	



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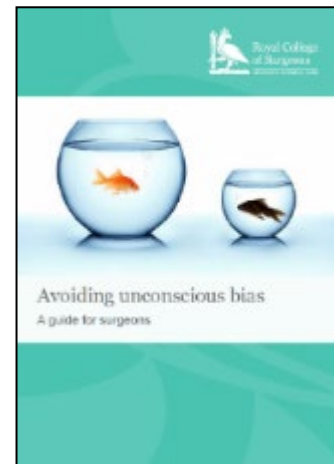
# How to get behaviour change

- Data
- Images
- Stories
- Trigger
- **Practicalities** - #ThisGirlCan / [www.movingmedicine.ac.uk](http://www.movingmedicine.ac.uk)
- “Normalising”
- Carrot + Stick



# Tackling unconscious bias

- We all have unconscious bias
- Start by NOT saying the first thing that comes into your head
- Start by saying hello and looking welcoming
- Try to find common ground
- Focus on the task not the individual (say what you'd say to another)
- Have systems to reduce your stress
- **Fake it till you make it** (what we say can become what we believe)
- Be clear about the expectations



# Actions for allies / bystanders

1. Why?
2. What/how?

# Stopping bad things

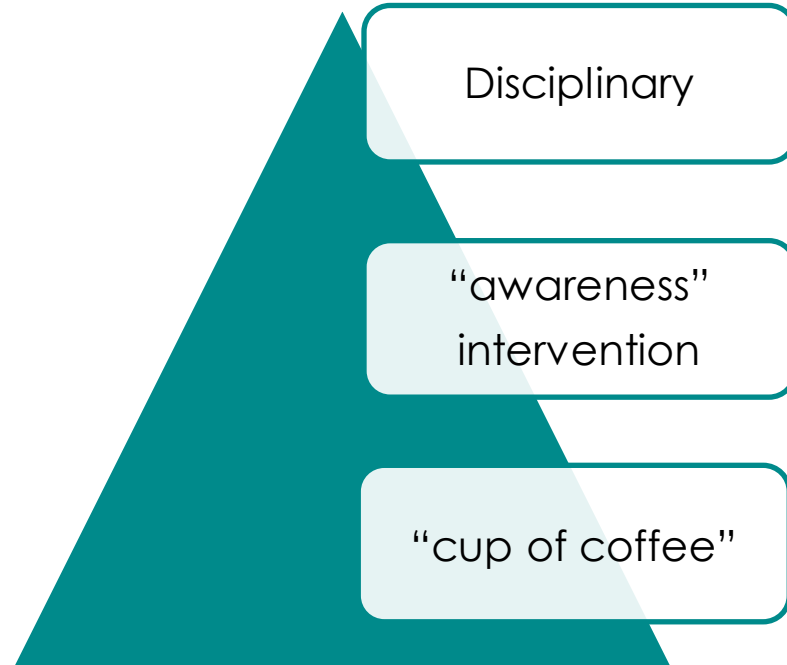


Association  
of Anaesthetists



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# Bad behaviours and “vanderbilt cup of coffee”





# Vanderbilt cup of coffee skills:

- Your role: To report an event; To let colleague know the behavior/action was noticed
- Ask: “Are you OK?”
- It’s not a control contest. (“I am coming to you as a colleague...”)
- Don’t expect thanks (acknowledgement)
- Know message and “stay on message”
- Know your natural default (your communication style; your “buttons”)
- Offer appreciation (if you can): “You’re important, if you weren’t, I wouldn’t be here.”
- Use “I” statements: “I heard...” “I saw...” “I received...”
- Review incident, provide appropriate specifics
- Ask for colleague's view...pause...
- Respond briefly to questions, concerns...



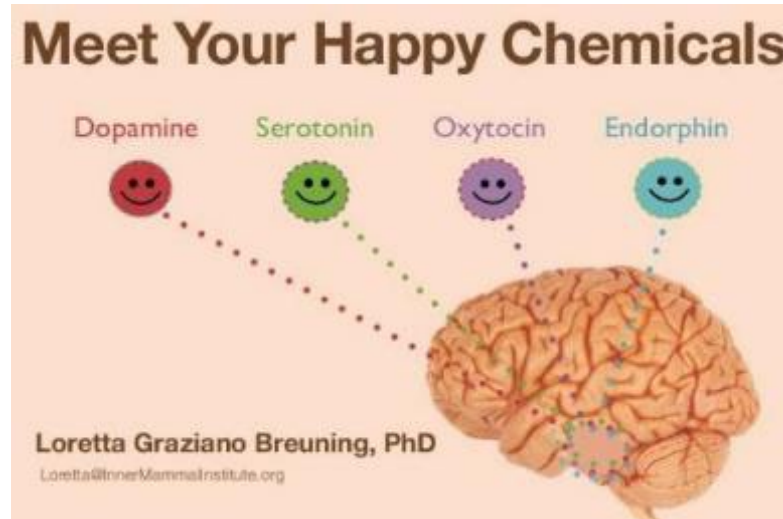
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# Positive team-building

- Value each person
- Make them feel included
- Do stuff together

# Why do we ever do anything?

1. **Dopamine**: set goals, mini-rewards (vs. procrastinate)
2. **Serotonin**: be included + sun/UV **Sign up for charity walk/run/cycle!**
3. **Oxytocin**: gifts, hugs, sex, memories, doing a good deed
4. **Endorphins**: exercise, comedy, laughter **TAKES 20 minutes to work!**



# Teams

- Value each person – be aware different types of people
- Feedback on task not person
- Slow down
- Avoid being perfect
- Ask for views
- See what the real problem is



# Use the serotonin from being together

- Value each human. Do stuff. Team together
- Eastbourne D.G.H. A&E - 5km walk/run for cancer charities 11.11.17




# Teams – from AoMRC

Multi-Disciplinary Team = risk of silos

**Trans-Disciplinary** = doing part of others' roles

- Common goal
- Understand roles
- Share skills
- Empower staff
- Identify others' unique skills
- Meet regularly
- Value all team members
- Use data

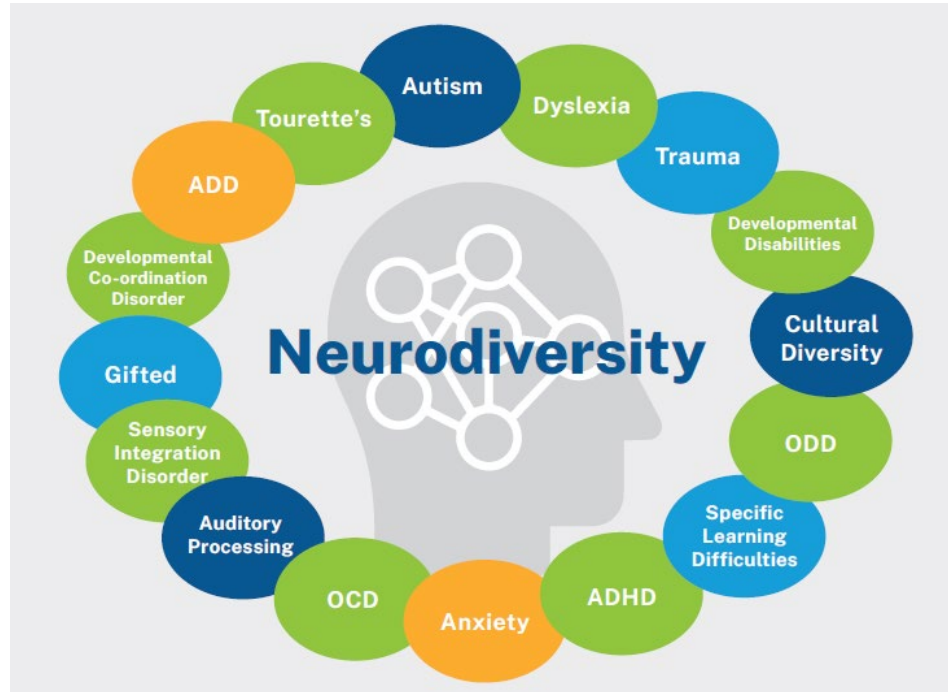
Academy of  
Medical Royal  
Colleges



Developing  
professional identity  
in multi-  
professional teams

[https://www.aomrc.org.uk/wp-content/uploads/2020/05/Developing\\_professional\\_identity\\_in\\_multi-professional\\_teams\\_0520.pdf](https://www.aomrc.org.uk/wp-content/uploads/2020/05/Developing_professional_identity_in_multi-professional_teams_0520.pdf)

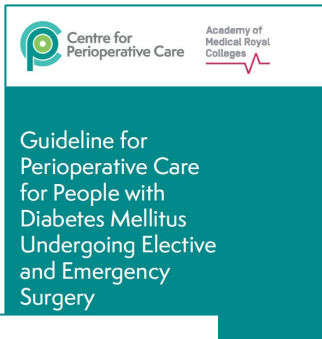
# Everyone has different strengths



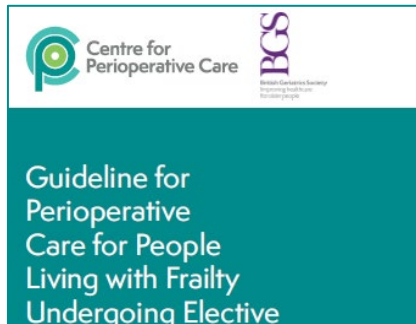
RCN 2022 <https://www.rcn.org.uk/-/media/Royal-College-Of-Nursing/Documents/Publications/2022/May/010-156.pdf>

# Using the new CPOC guidance:

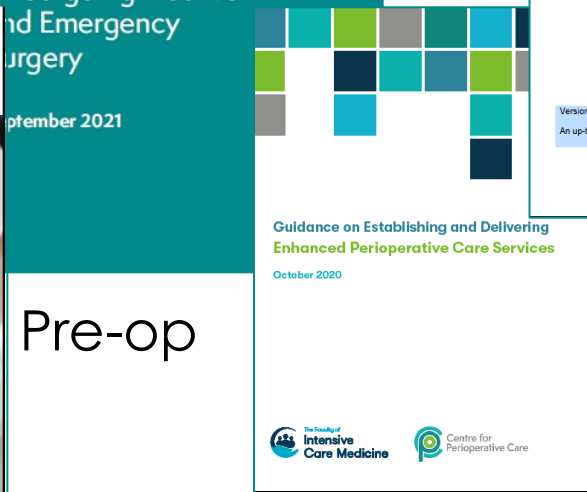
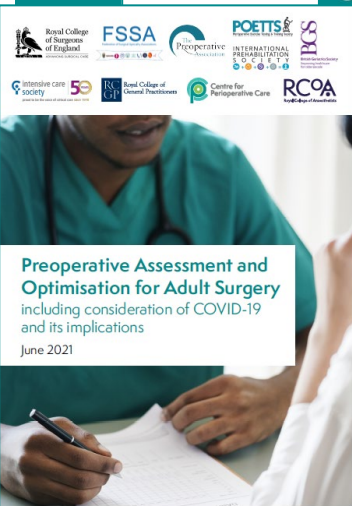
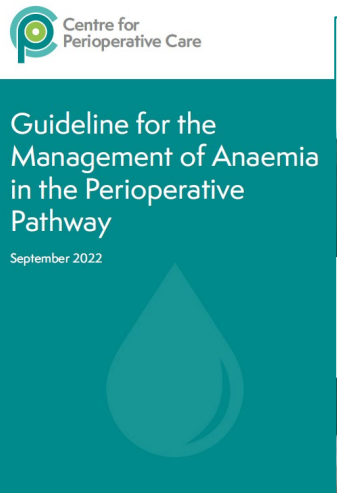
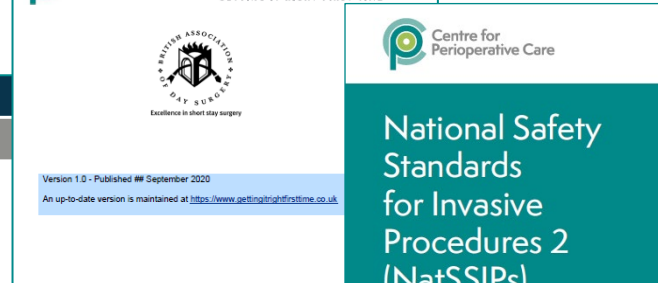
## Diabetes



## Frailty



## Day surgery





# Go to others' audit meetings

- A little bit of data
- Acknowledge their problems
- A little solution

# NatSSIPs 8

1		Consent, Procedural verification, Site marking
2	Team Brief	
3	Sign In	
4	Time Out	
5		Implant
6		Reconciliation (no retained foreign objects)
7	Sign Out	
8	Debrief	Handover

- Implant – before, at team brief, at implantation.
- Marking – only arrow or defined

<https://cpoc.org.uk/guidelines-resources-guidelines/national-safety-standards-invasive-procedures-natssips>



National Safety  
Standards  
for Invasive  
Procedures 2  
(NatSSIPs)

January 2023

# Perioperative care is better:

- Better for patients
- Better for costs
- Better for staff



- NatSSIPs = organisational + sequential 8
- Stop moments
- Team-building
- Value everyone
- Be clear



[www.scarlettmcnally.co.uk](http://www.scarlettmcnally.co.uk)  
[@scarlettmcnally](https://twitter.com/scarlettmcnally)  
[scarlett.mcnally@nhs.net](mailto:scarlett.mcnally@nhs.net)



[www.cpoc.org.uk](http://www.cpoc.org.uk)  
[@CPOC\\_news](https://twitter.com/CPOC_news)