

**EM Vienna**  
EUROPEAN SOCIETY FOR EMERGENCY MEDICINE  
**EuSEM 2016**  
10<sup>th</sup> EUROPEAN CONGRESS ON EMERGENCY MEDICINE

*1-5 October 2016*

HOFBURG CONGRESS CENTRE VIENNA

[www.eusemcongress.org](http://www.eusemcongress.org)



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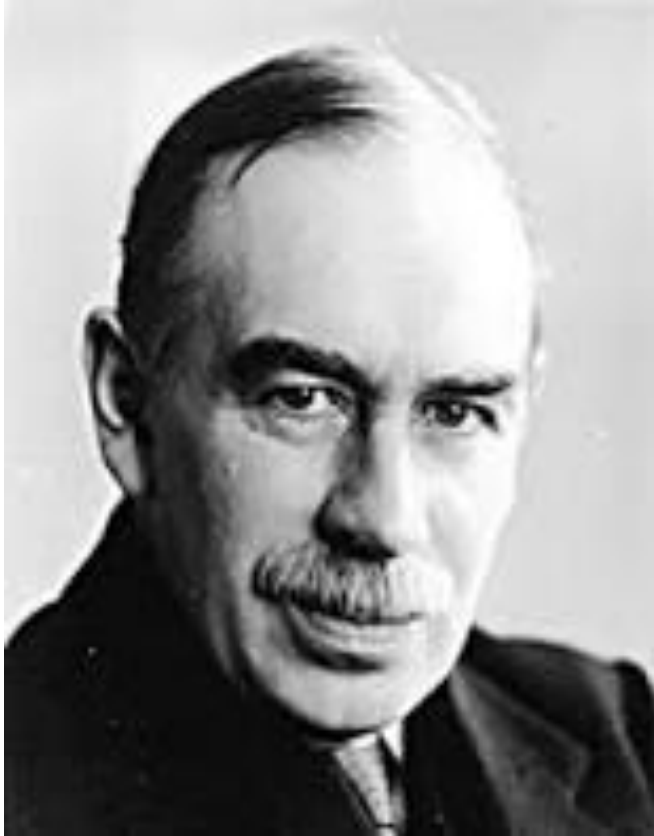
**HEMS Consultant Nurse**  
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# A team is made up of individuals



## Each individual has learning needs to be an **EFFECTIVE** member of that team



“The hardest thing  
is not to get people  
to accept the new ideas,  
it is to get them  
to forget the old ones!”

John Maynard-Keynes  
British Economist  
1883-1946

# NCEPOD report 2007

## Trauma: Who cares?



A report of the National Confidential Enquiry into Patient Outcome and Death (2007)

- 795 patients
- 75% male
- Mean age 40, mode age 18
- 56% RTA, 17% falls, 9% assault
- **60% had substandard care**
- Only 17 hospitals had range of necessary specialties



# Medical care at Camp Bastion

Many of the techniques and processes developed by UK Armed Forces medical personnel are now saving lives in the NHS

**300**

doctors, nurses and support personnel at the hospital

**450**

personnel evacuated by the Critical Care Air Support Team to the UK

**14,000**

UK personnel seen at Role 3 Hospital

**39,000**

CT scans

**50,000**

X-rays

**15,500**

litres of blood transfused to

**2,600**

trauma patients

**6,500**

cases transferred to Bastion by Chinook Medical Emergency Response Team

Bastion's Role 3 Hospital opened in 2006 and became one of the world's leading trauma care facilities

Figures are approximate

# Military Trauma Care Systems

**Battlefield self-treatment to stop bleeding**



**BATLS intervention awaiting transport**



**Rapid transport: treatment in the air**



**Aggressive timely assessment**

**Early blood products**



**Damage Control Surgery**



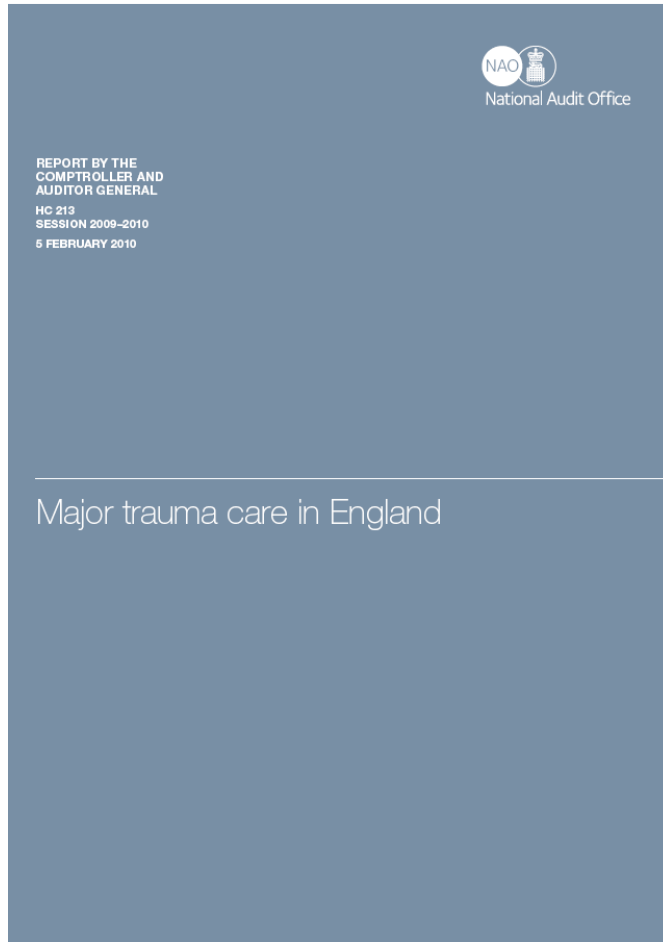
Slide after Major Paul  
Moore

**ITU / CCAST**

**Further surgery /  
Rehab**



# NAO Report 2010



- >20,000 cases
- 5400 deaths
- NHS costs £0.3 billion
- Total cost £3.3-3.7 billion
- Networks would save 450-600 lives /annum



# Major Trauma Centres



April 2012

## Adult and Children's Major Trauma Centres

- 1 Addenbrooke's Hospital Cambridge
- 2 Frenchay Hospital Bristol
- 3 James Cook University Hospital Middlesbrough
- 4 John Radcliffe Hospital Oxford
- 5 King's College Hospital London
- 6 Leeds General Infirmary
- 7 Queen's Medical Centre Nottingham
- 8 Royal London Hospital
- 9 Royal Victoria Infirmary Newcastle
- 10 St Mary's Hospital London
- 11 St George's Hospital London
- 12 Southampton General Hospital

## Adult Major Trauma Centres

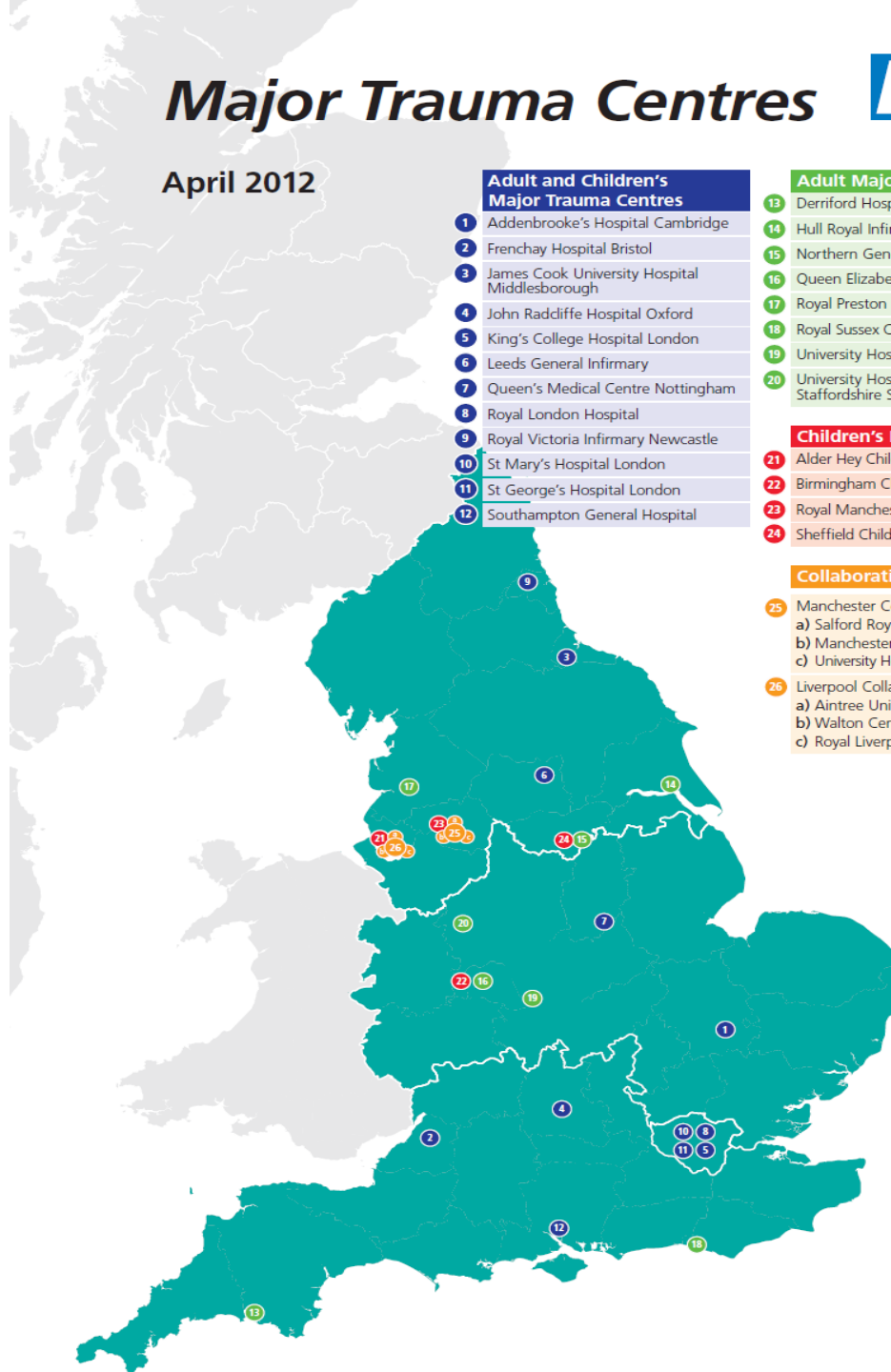
- 13 Derriford Hospital Plymouth
- 14 Hull Royal Infirmary
- 15 Northern General Hospital Sheffield
- 16 Queen Elizabeth Hospital Birmingham
- 17 Royal Preston Hospital
- 18 Royal Sussex County Hospital Brighton
- 19 University Hospital Coventry
- 20 University Hospital of North Staffordshire Stoke on Trent

## Children's MTCs

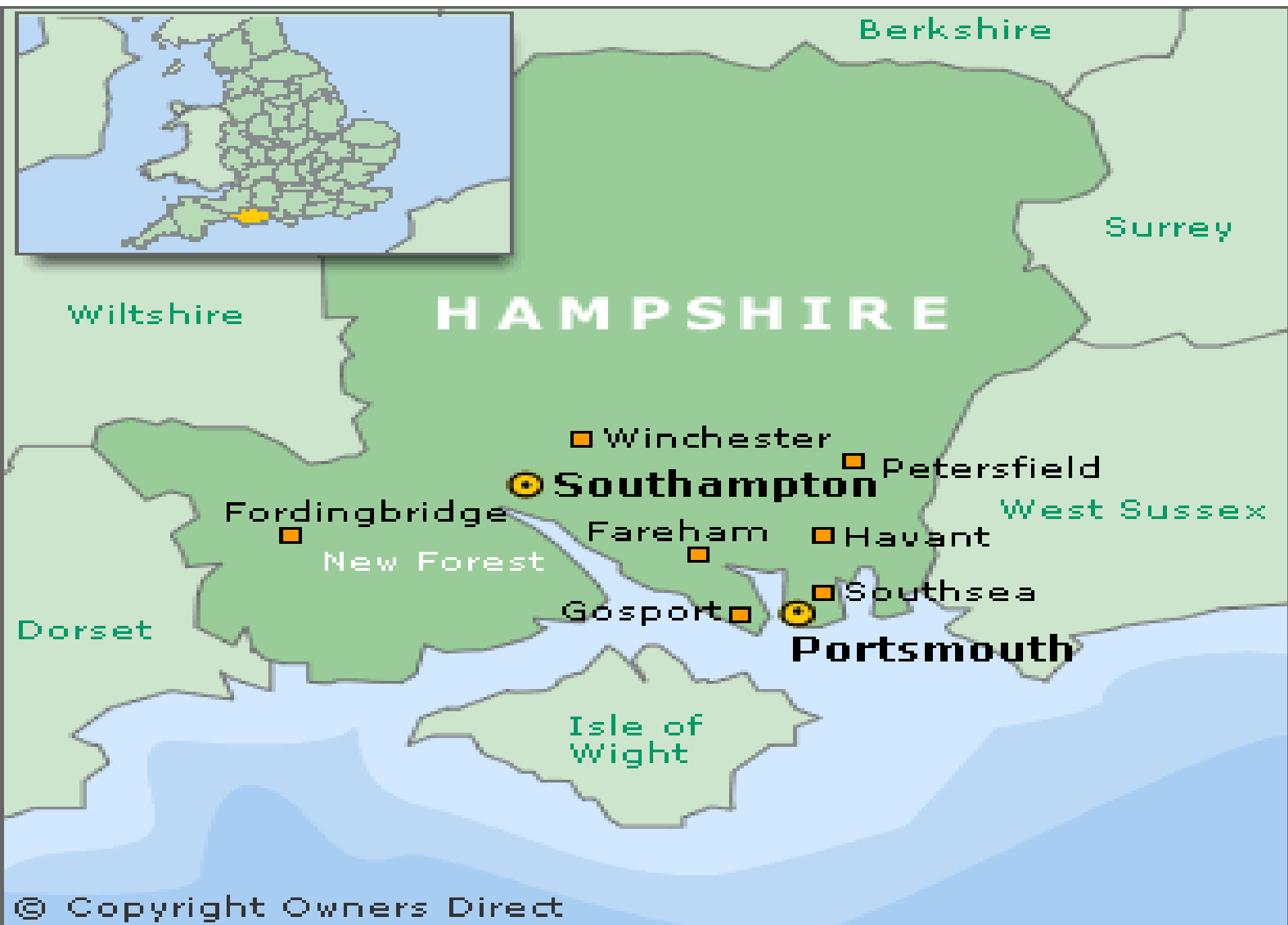
- 21 Alder Hey Children's Hospital Liverpool
- 22 Birmingham Children's Hospital
- 23 Royal Manchester Children's Hospital
- 24 Sheffield Children's Hospital

## Collaborative

- 25 Manchester Collaborative MTC
  - a) Salford Royal NHS Trust
  - b) Manchester Royal Infirmary
  - c) University Hospital South Manchester
- 26 Liverpool Collaborative MTC
  - a) Aintree University Hospital
  - b) Walton Centre
  - c) Royal Liverpool University Hospital










(c) babyroutes.co.uk

# Hampshire - Key facts

- Population 3.3 million
- Covers 1,400 sq miles
- 85% rural
- Over 65 yrs  21%

# The scale of Major Trauma in the Wessex Trauma Network

	2012	2015	%
=====			
Immediate			
Life Threatening	272	571	48%
Injuries			
Potentially			
Life Threatening	226	419	54%
Injuries			

# **UK Trauma Audit & Research Network** **([www.tarn.ac.uk](http://www.tarn.ac.uk))**

Critically Injured patients now have a 63% better chance of survival

With 0.7 additional survivors for ever 100 patients treated in the Wessex Trauma Network

**This equates to 4 additional survivors**

**Fri 23<sup>rd</sup> September 2016**

# Its all about the team...



Dr. Andy Eynon



Dr. Jo Mountfield



Dr. Sanjay Ramamoorthy



# Wessex Trauma Network

## Serving a population of 3.3million

# 1 Major Trauma Centre (Adult & Children)

## 6 Trauma Units

## 2 Local Emergency Units

## 2 Ambulance Services

## 24/7 Helipad

## 4 Air Ambulances

# 1 Coast Guard Helicopter









# Challenges Faced.....

- ☒ Major Trauma Policies & Procedures
- ☒ Established Major Trauma Team
- ☒ Workforce – requires education & training
- ☒ Safe & effective use of equipment

- Emergency Department – Major Trauma Team Leader days
  - All ED Consultants have participated
- Trauma Intermediate Life Support Course – Multidisciplinary day runs monthly
  - Rolled out to each Trauma Unit in the region and shared Nationally
  - Peer Reviewed, published and presented Nationally & Internationally
  - @TILSuk
- Trauma & Orthopaedic Major Trauma days
  - All on call trauma orthopaedic consultants have attended
- Surgical Major Trauma days
  - All on call surgical consultants have attended
- ITU Major trauma days
  - Multidisciplinary days covering general, cardiac and neurosciences intensive cares



- **Children's Major Trauma Days**

- Multidisciplinary regional days

- **Resuscitative Thoracotomy Course**

- Multidisciplinary regional days

- **Regional Trauma Team Leaders Course**

- Multidisciplinary regional day based on MTC team leaders day

- **Major Trauma Breakfasts**

- Major trauma meeting covering key themes open to all regionally by video link

- **Major Trauma Mortality and Morbidity meetings x every fortnight**

- Key cases reviewed and discussed.
- This feeds into the Major Trauma Clinical Governance Group

- **Monthly major trauma simulations in the clinical areas of ED (Adult & Children)**

# **Crew Resource Management (CRM)**

**System promoting optimal use of all  
available resources:**

**people, equipment, and procedures  
to promote the best possible outcomes**

# Sharing & Learning to be the BEST

Westli H et al Department of Psychosocial Science, University of Bergen, Norway.

Skills, shared models and performance in simulated trauma teams:

An independent group design

Scand J Trauma Resus Emerg Med 2010 18:47

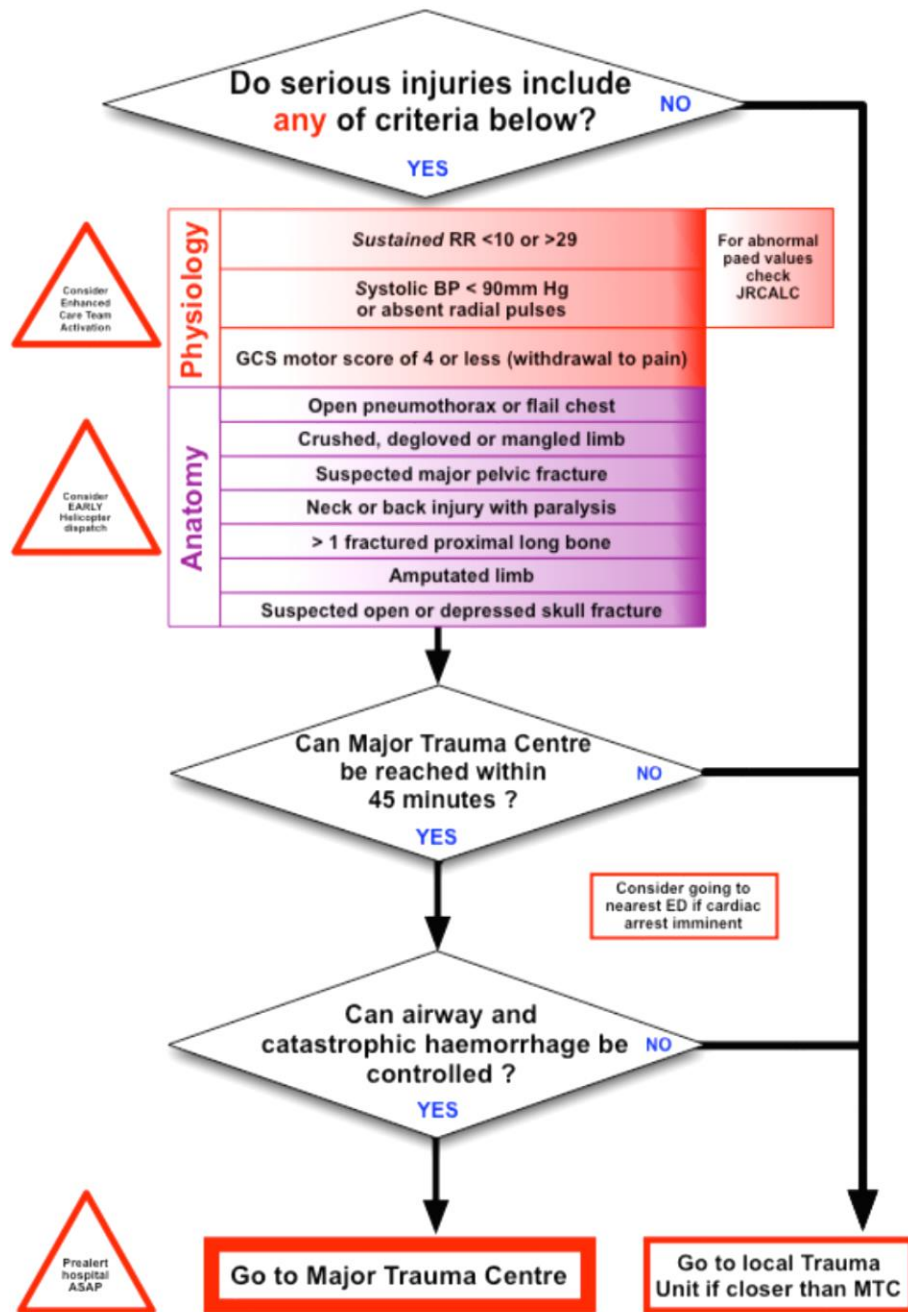


**Simulation**



**Real life**

## Trauma Unit Bypass Tool



## Trauma 1 or 2.....?

- **T**eam Brief
- **E**xplain roles
- **A**ssess drug & Equipment needs
- **M**ission rehearsal for injuries:
  - <C> Control
    - Code Red
  - Airway, C-spine & Head
  - Chest
  - Abdomen
  - Pelvis
  - Long Bones
  - Long spine
- Are “WE” ready?

# Arrival in Resus: A T M I S T



Age

Time of injury

Mechanism

Injuries

Signs

Treatment

**HANDS OFF AND LISTEN unless.....**

**<C>**

**Compromised airway**

**CPR in progress**



# Catastrophic Haemorrhage Control









T-POD (Olive Drab)  
NSN 6515 01 526 1175

T-POD (Orange)  
NSN 6515 01 526 2768





# Safer practice notice 01



## Notice

20 May 2004

Issue 1

### Improving infusion device safety

Fifteen million infusions are performed in the NHS every year. The vast majority are delivered safely. However, at least 700 unsafe incidents are reported each year, of which 19 per cent are attributed to user error.

A National Patient Safety Agency (NPSA) pilot study has helped to confirm the root causes of those incidents where no fault with the equipment has been identified. These are:

- 1 trusts have a wider range of infusion device types than they need and too many with a higher specification than is necessary;
- 2 staff training is not a priority or competency-based;
- 3 devices of the same type have multiple configurations and react differently under the same circumstances.

### Action for the NHS

To reduce the risk of patient safety incidents involving infusion devices, NHS acute trusts in England and Wales are advised to take the following steps within the NHS financial year 2004/5:

- 1 review how purchasing decisions are made;
- 2 evaluate the necessity for an infusion device before it is purchased;
- 3 reduce the range of infusion device types in use and, within each type, have agreed default configurations;
- 4 investigate the benefits of a centralised equipment library.

The NPSA has developed a toolkit to help trusts review their existing device management systems, as well as assess the potential for significant cost benefits and improved patient safety.

#### For response by:

- NHS acute trusts in England and Wales

#### For action by:

- Safety Alert Broadcast System liaison officers (England) and clinical governance leads (Wales) - to distribute to:
- Heads of clinical/medical engineering departments

#### We recommend you also inform:

- Finance directors
- Board member with responsibility for device management

- Nursing directors
- Medical directors
- Medical device liaison officers
- Risk managers
- Procurement managers
- Communications leads
- PALS officers (England)

#### The NPSA has also sent to:

- Chief executives of NHS acute trusts in England and Wales
- Chief executives/regional directors and clinical governance leads of strategic

health authorities (England) and regional offices (Wales)

- Medicines and Healthcare products Regulatory Agency (MHRA)
- The Independent Healthcare Forum (IHF)
- The Healthcare Commission (CHAI)
- Royal College of Nursing/Midwives/Physicians/Anaesthetists
- Community Health Councils (Wales)
- Healthcare Inspectorate Wales (HIW)
- Welsh Health Supplies
- Infusion device manufacturers

• Medicines Healthcare Products Regulatory Agency

• 700 reports / yr  
Infusion devices

• 10 deaths reported

• 19% Human error

B | BRAUN

B | BRAUN  
SERVICED BY N. W. JOSE  
DATE 23-5-19  
NEXT DUE MAY 2019

SET ONE

B | BRAUN

Attention  
Repeat syringe change  
OK Confirm

Perfusor® Space





# Trauma Checklist

Team leader must read aloud and completed for **every trauma** patient before leaving ED Resus.

Date: Time:

	YES	N/A
<b>Tx</b>	<input type="checkbox"/> Analgesia adequate	<input type="checkbox"/> Abx/Tetanus given
	<input type="checkbox"/> CD book signed	<input type="checkbox"/> Urinary Catheter
	<input type="checkbox"/> IV Cannula x2	<input type="checkbox"/> Tranexamic Acid
	<input type="checkbox"/> Temperature Management	<input type="checkbox"/> Fluids given (L)
	<input type="checkbox"/> Blood given (Units)	

<b>Transfer</b>	<b>Monitoring</b>	<input type="checkbox"/> ID Bracelet x2
	<input type="checkbox"/> SpO2	<input type="checkbox"/> Suction & Oxygen checked
	<input type="checkbox"/> EtCO2	<input type="checkbox"/> Transfer Bag
	<input type="checkbox"/> ECG	<input type="checkbox"/> Transfer drugs & Fluids
	<input type="checkbox"/> BP	<input type="checkbox"/> Crossmatch ..... (units)
	<input type="checkbox"/> CT/XR Request	Location .....
	<input type="checkbox"/> Notes Printed +/- completed	<input type="checkbox"/> Group & Save

<b>Destination</b>	<b>Planned destination is:</b> (and has been notified)	
	<input type="checkbox"/> C level CT	<input type="checkbox"/> Neuro ICU
	<input type="checkbox"/> B level CT	<input type="checkbox"/> GICU
	<input type="checkbox"/> Theatre	<input type="checkbox"/> Other .....

<b>Issues/ Concerns</b>	<b>Areas that need addressing</b>	
	<input type="checkbox"/> Equipment	.....
	<input type="checkbox"/> Staffing	.....
	<input type="checkbox"/> Other	.....

**Signed**

and printed

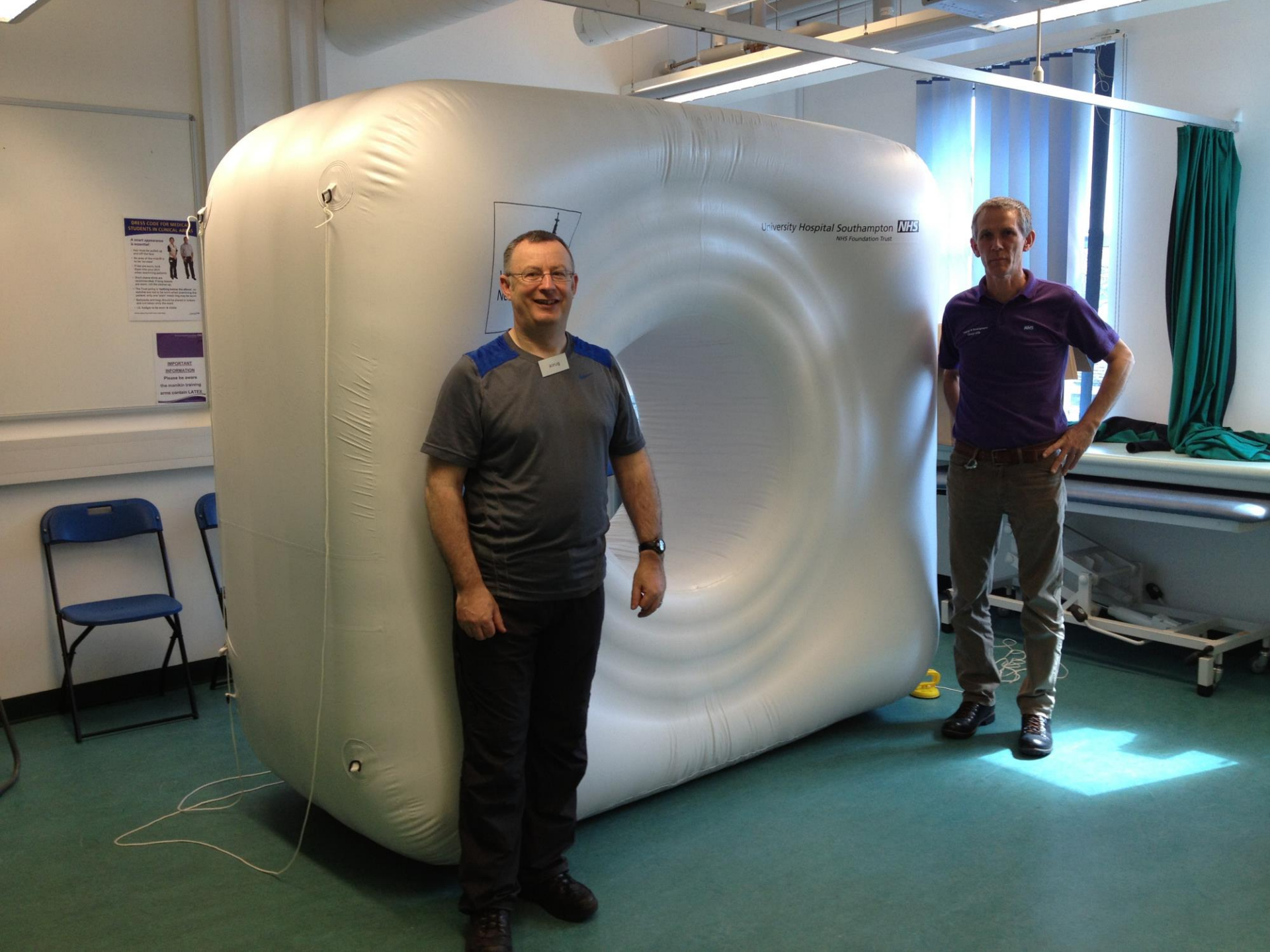
Trauma Leader

Trauma Nurse

## Packaging & Moving

**MUST** be  
planned & rehearsed  
**NOT** an afterthought!







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Funded / dedicated clinical education is essential & not an add on!

### Team Training

- Leadership & Followership skills
- Crew Resource Management & Human Factors

Safe & effective use of equipment in major trauma care



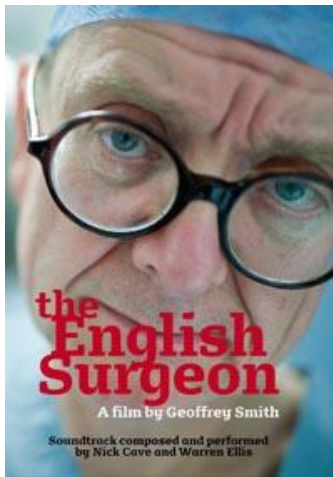
“Every (clinician) carries within themselves a small cemetery, where from time to time they go to pray – a place of bitterness and regret, where they must look for an explanation for his failures.”

Adapted.....Rene Leriche

1951

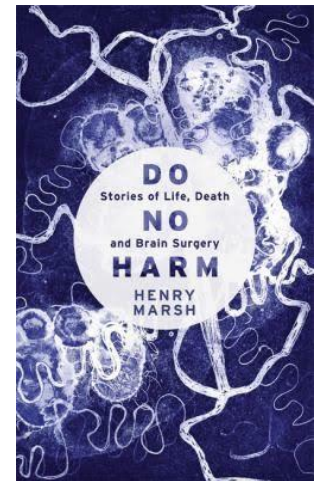
Hope is more important than anything else in life

What are we, if we don't try to help others?



We are nothing at all.

Henry Marsh CBE FRCS  
Consultant Neurosurgeon  
St. Georges, London.



# 1<sup>st</sup> Wessex Major Trauma Injury Prevention Conference

## Conference Timetable

0900-0930	Registration and coffee	Bruce Armstrong, Major Trauma Centre Lead for Education, UHS; Dr Sanjay Ramamoorthy, Consultant in Emergency Medicine and Medical Education Lead, UHS; and Dr Andy Eynon, Director of Major Trauma, Consultant in Neurosciences Intensive Care, Honorary Senior Clinical Lecturer, UHS
0930-0945	Welcome	
0945-1015	Public Health Perspective of Injury Prevention	Dr James Mapstone, Deputy Regional Director Public Health England (South)
1015-1045	National Perspective of Injury Prevention	Dr Rod Mackenzie, Consultant in Emergency Medicine, Addenbrooke's Hospital, Cambridge
1045-1115	Regional Perspective of Injury Prevention	Dr Rob Torok, Consultant in Emergency Medicine, Dorset County Hospital
1115-1130	Morning Coffee	Mike Eddie & Ilana Delroy-Buelles, Medical Students, University of Southampton
1130-1200	Trauma Data - Who Cares?	
1200-1230	Developing a National Injury Prevention Programme - Getting Children to wear Cycle Helmets	Angela Lee, Consultant Nurse, Royal Berkshire Hospital, Reading
1230-1240	Injury Prevention and the Media	Sally Taylor, BBC South Today Presenter
1240-1300	Police Perspectives of Injury Prevention and Enforcement	
1300-1400	Lunch	Sgt Gabe Snuggs, Roads Policing Unit, Hampshire Constabulary
1400-1430	Domestic Violence/Injury Prevention Strategies	
1430-1500	Mental Health, Substance Misuse and Injury Prevention	Janet Youd, Nurse Consultant for Emergency Care & Chair of the Emergency Care Association at the Royal College of Nursing
1500-1530	Community Safety for the Coast	
1530-1540	Using Research to Influence Change of Practice	Sarah Charters, Consultant Nurse, Emergency Care (Vulnerable Adults), UHS
1540-1600	Summary and Close	

Brian Robson, Regional Incident Reduction Manager and Keith Colwell, Community Incident Reduction Manager, English Channel Division, RNLI

Professor Rob Crouch, Consultant Nurse, Emergency Department, UHS

Dr Sanjay Ramamoorthy and Dr Andy Eynon



# AIMS & OBJECTIVES

- Background to our role & function
- Describe the risks we all faced
- Identify specific challenges
- Share solutions to some of these challenges