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NICE Trauma guidelines: Impact on transfusion service delivery

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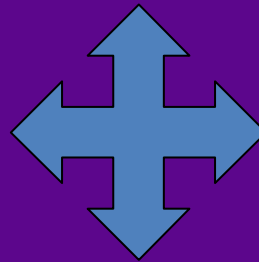
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Where do we start?

NICE, BSQR, BCSH, SABTO, NHSBT, Specific eg
RCOG and AAGBI guidance

Clinical Practice
Existing methods
New process



Infrastructure
IT systems
LIMs, PAS

Evidenced solutions or Compromise?

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Networks: Common Practice v Local Need

Trauma
MTC
TU

Pathology
Hub
Spoke

?NHSBT?



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Trauma Guideline Suite

**Fractures (complex): assessment and management (NG37)
February 2016**

**Fractures (non-complex): assessment and management
(NG38) February 2016**

**Major trauma: assessment and initial management (NG39)
February 2016**

Major trauma: service delivery (NG40) February 2016

**Spinal injury: assessment and initial management (NG41)
February 2016**

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Points to note:

Interventional Radiology and theatres: transfers

Trauma team roles and documentation

Training for interventions (Blood collection/administration)

Hospital documentation standardised across a network

Importance of clinical audit and review

Research recommendations: PoC (TEG/ROTEM), Lactate levels.

Discharge documentation (written summary to GP within 24 hours)

Co-morbidities

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Key points:

NG39: 1.5: Management of Haemorrhage in Pre and Hospital settings.

Haemostatic agents pre and in Hospital

Anticoagulant reversal in Hospital settings

Activating Major Haemorrhage protocols

Volume resuscitation pre and hospital settings

Fluid replacement pre and hospital settings

Haemorrhage Protocols

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Haemostatic agents pre and in Hospital: Tranexamic acid



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Anticoagulant reversal:

Rapid reversal

Rapid identification of patients on anti coagulants

Availability of PCC (Octaplex/Beriplex)

In ED, in Laboratory, in Pharmacy (traceability)

Does it require sanction pre issue?

Availability of other reversing agents

Can vary across networks

Availability of Haematology Consultant

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Tracking emergency components



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Activating Major Haemorrhage Protocols:

Use physiological criteria that include the patient's haemodynamic status and their response to immediate volume resuscitation to activate the major haemorrhage protocol.

Do not rely on a haemorrhagic risk tool applied at a single time point to determine the need for major haemorrhage protocol activation.



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Activating Major Haemorrhage Protocols:



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Haemorrhage Protocols:

Hospital trusts should have specific major haemorrhage protocols for adults (16 or over) and children (under 16s).

Trauma/Obstetric/Surgical/Non urgent

For patients with active bleeding, start with a fixed-ratio protocol for blood components and change to a protocol guided by laboratory coagulation results at the earliest opportunity.

Availability of components

Pre hospital transfusion

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Haemorrhage Protocols:

MHP pack A



MHP pack B



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Volume resuscitation:

For patients with active bleeding use a restrictive approach to volume resuscitation until definitive early control of bleeding has been achieved.

In pre-hospital settings, titrate volume resuscitation to maintain a palpable central pulse (carotid or femoral).

In hospital settings, move rapidly to haemorrhage control, titrating volume resuscitation to maintain central circulation until control is achieved.

For patients who have haemorrhagic shock and a traumatic brain injury:
if haemorrhagic shock is the dominant condition, continue restrictive volume resuscitation or

if traumatic brain injury is the dominant condition, use a less restrictive volume resuscitation approach to maintain cerebral perfusion

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Fluid replacement pre and hospital setting:

In pre-hospital settings only use crystalloids to replace fluid volume in patients with active bleeding if blood components are not available.

In hospital settings do not use crystalloids for patients with active bleeding. See the section on resuscitation in the NICE guideline 'Intravenous fluid therapy in adults in hospital' and the section on fluid resuscitation in the NICE guideline 'Intravenous fluid therapy in children and young people in hospital' for advice on tetrastarches.

For adults (16 or over) use a ratio of 1 unit of plasma to 1 unit of red blood cells to replace fluid volume.

For children (under 16s) use a ratio of 1 part plasma to 1 part red blood cells, and base the volume on the child's weight.

From the PROPPR trial.

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Challenges:

Pre Hospital transfusion:



Blood only



Blood and FFP



Blood and freeze dried plasma

Or crystalloids!

But! One to one ratio pre may encourage 1:1 on admission

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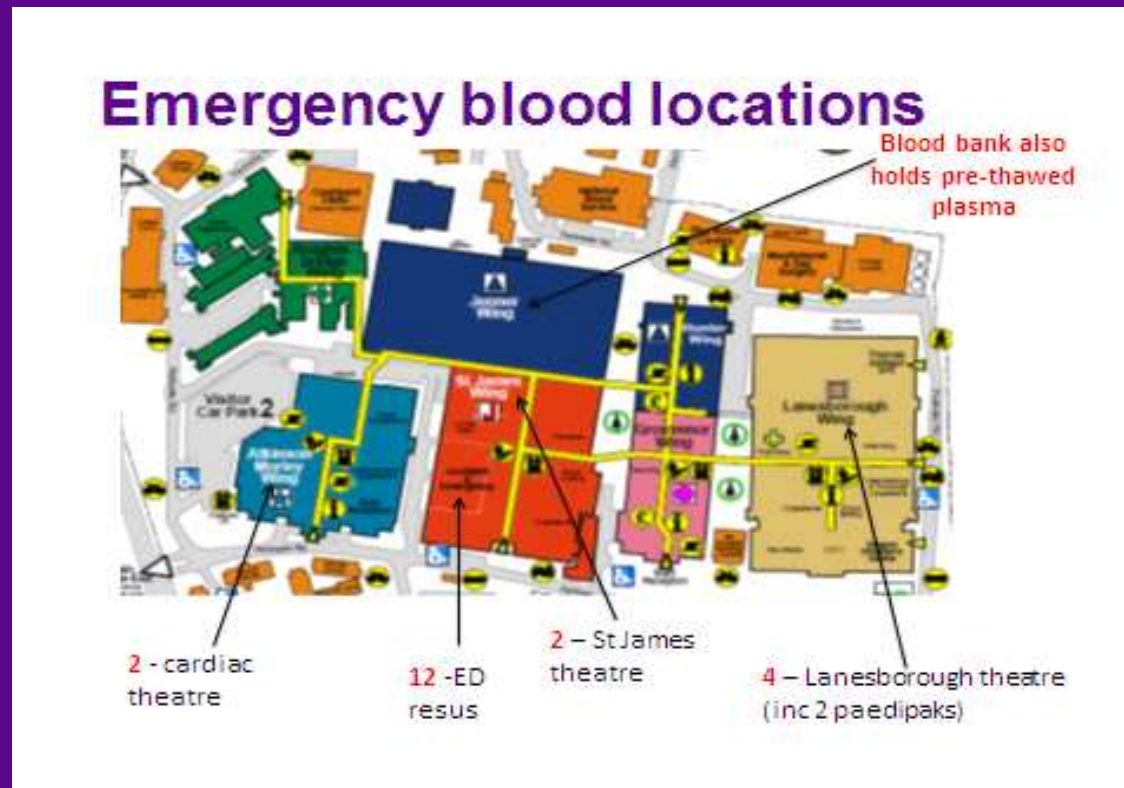
Challenges:

Red cells easily available
Blood fridge in ED



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Red cell availability:



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Challenges:

Plasma availability:

Minimum 20 minute thaw time plus retrieval/labelling/issue

'Old fashioned' water baths not BSQR compliant.

Pre thawed FFP requires 'reservoir' of other candidates to minimise wastage

Five day plasma requires a more managed approach

Do we need 'never frozen' plasma?

30 minute removal from storage

Move to early release of Pack B (plus cryoprecipitate and platelets) could lead to wastage

Mix and match blood groups

Group A FFP in area with high group B population

Plasma for class of 1996 (Octaplas)

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Challenges:

Laboratory process:

The 15 minute full blood group

Manual group v manual with automated reader v automated

Automated potentiated v non potentiated



Two samples?

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Audit:

MTC data: April 2016 to present.

ED Code Reds 79 plus (28 Obstetric and 24 surgical/other)

19 patients in ED used emergency group O but no Code

Of these: 8 = 1 unit only, only 3 used FFP

Better compliance with 1:1 ratio

Less 'catch up' over 24 hours

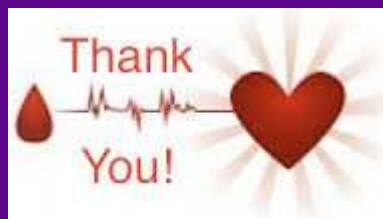
Good compliance with group O Positive and male patients

Can we save O Negative rbcs in the female population?

40 emergency group O- issued, 17 to patients > 50 years old

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