

# UNEXPECTED ADULT INTRA-OPERATIVE LIFE THREATENING HAEMORRHAGE PROTOCOL

NATIONAL CLINICAL EFFECTIVENESS COMMITTEE

CLINICAL CONCERN FOR LIFE THREATENING BLEEDING THEN ACTIVATE **CODE RED IMMEDIATELY**



**SENIOR CLINICIAN**  
STATE - I am activating the Life Threatening Haemorrhage Protocol, **CODE RED**

**IDENTIFY EMERGENCY COORDINATOR**  
Co-ordinator function, Delegate & assign roles, Mobilise resources

## STOP THE BLEEDING

- › Identify bleed
- › Source instruments
- › Midline laparotomy
- › Damage control via
  - Direct pressure
  - Packing
  - Clamping

## RESUSCITATE

### Airways/Breathing/Circulation

- › Large bore IV access  
2 x 14 gauge
- › Supply appropriate  $f_iO_2$  to maintain good oxygenation
- › Continuous cardiovascular monitoring
- › Active/passive warming – environment, fluids, blanket

Identify if anti-coagulated, on anti-platelet meds and discuss reversal with Haematologist

## MANAGE METABOLIC RISKS

Hypoxia, Hypothermia, Hypocalcaemia, Acidosis, Hyperkalaemia

## IDENTIFY COMMUNICATION LEAD

- Keep Emergency Coordinator informed
- Identify yourself and your contact number

## CALL FOR HELP

State Life Threatening Haemorrhage Protocol activated **CODE RED** in location xxxxx for patient yyyy

- › Switchboard TEL/EXT:
- › Surgeon
- › Anaesthesiologist
- › Laboratories - Blood Transfusion, Haematology, Biochemistry TEL/EXT:
- › Porter
- › Assistant Director of Nursing
- › Haematologist as required
- › Additional Support/ External Help if needed (e.g. Vascular surgery or Interventional Radiology)

TEL:

## CONTACT TRANSFUSION LAB, PLAN BLOOD SAMPLES AND TRANSFUSION SUPPORT

- › Identify sample requirements and blood component availability
- › Take bloods and send to laboratory/ Near Patient Testing (NPT)
  - Blood group & antibody screen, FBC, U&E, Calcium, coag screen inc. fibrinogen, lactate, ABG

## PAUSE AND REVIEW

## REPEAT BLOODS

- › Repeat FBC, U&E, calcium (Ca), coag screen, fibrinogen at 30 mins then hourly
- › Inform laboratory of NPT results

## STAND DOWN

Inform Lab / Return unused components / Complete traceability & documentation / Start thromboprophylaxis / Plan de-brief

## INITIAL EMPIRIC BLOOD MANAGEMENT

**TRANEXAMIC ACID** - 1g IV bolus over 10 mins  
Consider cell salvage - if in regular use

**IMMEDIATE RED CELL TRANSFUSION**  
**TRANSFUSE** Emergency Group O (or patient specific blood order if available) from nearby blood fridge/ transporter

## EMPIRIC BLOOD MANAGEMENT (THEN TRANSFUSE GUIDED BY LABORATORY/NEAR PATIENT TESTING)

**ORDER MASSIVE HAEMORRHAGE PACK**  
4 units of red cells  
4 units of Plasma

**ORDER 4g fibrinogen** for every blood volume loss

**REQUEST PLATELETS TO BE AVAILABLE ON STANDBY - TRANSFUSE 1 UNIT (ADULT DOSE) OF PLATELETS FOR 1.5 BLOOD VOLUME LOSS OR GUIDED BY PLATELET COUNT TO KEEP PLATELETS > 50x10<sup>9</sup>L**

**PAUSE AND REVIEW**

**IF BLEEDING CONTINUES REASSESS AND CONTACT HAEMATOLOGIST**

Consider 10 mls 10% Calcium gluconate

Order additional Massive Haemorrhage Packs/transfuse guided by test results and repeat monitoring until bleeding controlled

**TREATMENT TARGETS**  
Hb 7-9g/dL / Platelets > 50x10<sup>9</sup>L,  
PT/APTT < 1.5 x mean control / Fibrinogen >1.5g/L, iCa<sup>++</sup> > 1 mmol/L

NEAREST EMERGENCY GROUP O	BLOOD FRIDGE/ TRANSPORTER	RED CELL COMPONENTS	PLATELETS	PLASMA	FIBRINOGEN	TRANEXAMIC ACID (TXA)	PROTHROMBIN COMPLEX CONCENTRATE	DIRECT ORAL ANTICOAGULANT (DOAC) REVERSAL AGENTS (GUIDED BY HAEMATOLOGIST)
Location		Time to availability Patient's own group	Location	Location	Location	Location	Location	For reversal anti-FXa (specify location)
Minimum contents		Cross matched	Time to availability	Time to availability	Time to availability	Time to availability	Time to availability	For reversal Direct thrombin inhibitor (specify location)

Supplied as Available

For Anticoagulated Patient

Date Hospital Specific Information updated

NATIONAL TRANSFUSION ADVISORY GROUP (NTAG)  
<https://www.gov.ie/en/publication/05800-unexpected-intraoperative-life-threatening-haemorrhage/>