Western Health and Social Care Trust

EMERGENCY BLOOD MANAGEMENT PLAN

For Shortages of Red Cells & Platelets

December 2012

Title	Emergency Blood Management Plan for Shortages of Red Cells & Platelets
Reference Number	Acute12/001
Implementation Date	February 2012 This plan was approved at the WHSCT Corporate Management Team meeting on 24.01.13 (following on from Desk Top Exercise on 10.10.12)
Revised Date	January 2013
Review Date	December 2015 (every 3 years unless changes in legislation)
Responsible Officer	Haemovigilance Practitioner on behalf of the Director of Acute Services

This plan replaces the WHSCT Emergency Blood Management Plan for Red Cells & Platelets (February 2012).

This plan has been developed within the context of Equality and Human Rights statutory obligations and requirements.

Contents **Page Number**

Summary:

This plan: -

- Discusses how the Western Health & Social Care Trust (WHSCT) will manage Red Cell and Platelet Shortages.
- Is linked to the 'management of Blood (red cell component) Shortages and Platelet Shortages' issued by the DHSSPS, November 2012[1].
- Describes three phases dependent on Northern Ireland Blood Transfusion Service (NIBTS) stock levels – **Green**, **Amber** and **Red**. The **Green** phase describes the normal operation when red cells and platelets should only be prescribed according to approved agreed clinical guidelines.
- Helps to prioritise patients who should be treated, as shortages become more severe, by identifying three broad patient categories (See Appendix One and Two).
- Provides details of who should be contacted should the plan have to be initiated (See Action Cards Appendix Three).

This Emergency Blood Management Plan (EBMP) details the actions to be taken in, Amber and Red phases and how these phases should be activated or deactivated, when advised by NIBTS.

Green Phase – 'Normal' circumstances where supply meets demand

Amber Phase – Reduced availability of blood for a short period

Red Phase – Severe, prolonged shortages

Activation/Deactivation of Amber or Red Phase of the Emergency Blood Management Plan for Shortages of Red Cells and/or Platelets

Aim:

- To alert all relevant hospital staff of the requirement to implement the Amber or Red phase of the Emergency Blood Management Plan (EBMP) by the most efficient means possible, when advised by the NIBTS.
- This may apply to one or more Blood Group types.

Implementation Process:

1. **Northern Ireland Blood Transfusion Service (NIBTS)**
   - Will advise WHSCT Blood Banks in Altnagelvin and South West Acute Hospital (SWAH) by telephone and fax or email to activate (or deactivate) Amber or Red phase for one or more Blood Group types.

Hospital	Telephone Number	Fax Number	Email Address
Altnagelvin			
SWAH			

2. The Senior Blood Bank Biomedical Scientist on duty

- Will inform the following staff of activation/deactivation of Amber or Red phase:

During office hours (9am - 5pm)

Job Title / Location	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Haemovigilance Practitioner	*Mrs Mary P. Mc Nicholl	
Haemovigilance Practitioner	Mrs Josephine Monaghan	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	
Medical Director	*Dr Anne Kilgallen	
Director of Acute Services	*Mrs Geraldine Hillick	
Chair of Hospital Transfusion Committee	*Dr Geoff Nesbitt	
Clinical Director, Emergency Care & Medicine	*Mr Alan McKinney	
Clinical Director, Surgery & Anaesthetics	*Dr Paul McSorley	
Clinical Director, Obstetrics & Gynaecology	*Dr Michael Parker	
Director of Women & Children's Service	*Mr Kieran Downey	
Executive Director of Nursing / Director of Primary Care & Older People	* Mr Alan Corry Finn	
Head of Quality & Safety	*Mrs Therese Brown	
Foyle Hospice	Nurse in Charge	
Healthcare at Home	Oncall Nurse	
North West Independent Hospital	Nurse in Charge, Surgical Ward Sr Finola Carmichael, Ward Manager	
Rapid Response Team	Londonderry/Limavady/Strabane Omagh/Enniskillen	

Out of office hours
(Monday to Friday 5pm - 9am, Saturday, Sunday & Bank Holidays)

Job Title	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	Via switchboard
General Manager on call		Via switchboard

*Emergency Blood Management Group (EBMG)

Job Title	Staff Member
Medical Director (CHAIR)	Dr Anne Kilgallen
Lead BMS	Ms Geraldine McIlwaine
Consultant Haematologist	Dr Feargal McNicholl
Haemovigilance Practitioner	Mrs Mary P. Mc Nicholl
Director of Acute Services	Mrs Geraldine Hillick
Chair of Hospital Transfusion Committee	Dr Geoff Nesbitt
Clinical Director of Emergency Care & Medicine	Mr Alan McKinney
Clinical Director of Surgery & Anaesthetics	Dr Paul McSorley
Clinical Director of Obstetrics & Gynaecology	Dr Michael Parker
Director of Women & Children's Service	Mr Kieran Downey
Executive Director of Nursing / Director of Primary Care & Older People	Mr Alan Corry Finn
Head of Quality & Safety	Mrs Therese Brown

Role of the Emergency Blood Management Group (EBMG)

- To ensure that the Amber or Red phase activation (or deactivation) is implemented and monitored (see Action Card 1 and 2).
- Office of Medical Director (Chair) will be responsible for calling meeting of EBMG and to identify note takers fro debriefs.
- To make strategic decisions (operational staff eg Bed Managers will ensure cascading of relevant information).
- All members will attend initial meeting within two hours of activation of the Amber or Red phase of the Emergency Blood Management Plan.
- Attend further meetings of EBMG if there are any changes (NIBTS would communicate these to Lead/Senior BMS who would in turn inform Chair of EBMG). In the Red phase, there may be a need to increase the number of meetings (which should take place at approximately 13.00hrs to facilitate planning for next day theatre lists etc).
- Clinical Directors - involved in areas where elective surgery may need to be cancelled if transfusion anticipated during surgery (see MSBOS – Appendix Four) must:-
  - Meet with own Teams (Consultants, Theatre Manager, Midwifery Manager) to review Theatre Lists on Theatre Management System (General and Specialist Surgery) or Share Point (Obstetrics & Gynaecology) to ascertain surgery that requires to be cancelled.
  - Ensure information relating to cancelled surgery is reported to EBMG.
  - Ensure that patient's Consultant (if patient already an inpatient) or Consultants secretary (if patient not yet admitted) informs patient regarding cancellation of surgery.
- To meet for 'Hot Debrief' immediately after deactivation of Plan and to meet within two weeks (date decided at 'Hot Debrief') for 'Cold Debrief'.
- A formal post-shortage review report should be prepared for the Hospital Transfusion Committee and shared with NIBTS to facilitate any learning possible.

Role of the Bed Manager

- To ensure information regarding activation (or deactivation) of the Amber or Red phase of the Emergency Blood Management Plan is cascaded to all Clinical Areas (see Action Card 3 and 4).
- To inform the Chair of the Emergency Blood Management Group of Clinical Areas contacted regarding activation of the Amber or Red phase.

Role of the Ward Manager / Deputy Manager

- To ensure information regarding activation (or deactivation) of the Amber or Red phase of the Emergency Blood Management Plan is cascaded to all Nursing and Medical Staff working in the Clinical Areas (see Action Card 5).

Role of the General Manager on Call

- To be aware that the Emergency Blood Management Plan has been activated (see Action Card 6).

Role of all Service Groups

- To monitor any reduction in clinical activity resulting from the Emergency Blood Management Plan activation.

Categorisation of Patient Types – Red Cells

The following table identifies three broad patient categories that can be applied to prioritise the management of patients in times of blood shortage.

Category 1	Category 2	Category 3
Resuscitation Resuscitation of life-threatening / on-going blood loss including trauma.		
Surgical Support Emergency surgery* including cardiac and vascular surgery** and organ transplantation. Cancer surgery (probably curative).	**Surgery/Obstetrics** Cancer surgery (palliative). Symptomatic but not life-threatening post-operative or post-partum anaemia. Urgent*** (but not emergency) surgery	**Surgery** Elective surgery which is likely to require donor blood support (patients with > 20% chance of needing 2 or more units of blood).
Non-surgical anaemias Life-threatening anaemia and high dependency care / NNICU. Stem cell transplantation or chemotherapy**** Severe bone marrow failure.	**Non-surgical anaemias** Symptomatic but not life-threatening anaemia	

* Emergency – patient likely to die within 24 hours without surgery
** With the exception of poor risk aortic aneurysm patients who rarely survive but who may require large volumes of blood
*** Urgent – patient likely to have major morbidity if surgery not carried out
**** Planned stem cell transplant or chemotherapy should be deferred if possible.

MANAGEMENT OF RED CELL SHORTAGES

Aim:

- To reduce transfusion of red cells in the event of a regional or national shortage of donated blood.
- This may apply to one or more blood group types for a short or prolonged period.

Pre-requisites:

1) The Hospital Transfusion Committee will continue to promote and monitor the implementation of BBT3 NI[2] document and promote a hospital strategy to reduce the ordering of and transfusion of red cells. This activity comprises the "Green Phase" of the Trust's EBMP and will be in effect, unless the Amber or Red phase is activated.
2) All WHSCT staff should strive to implement the recommendations of the BBT3 NI[2] document and a hospital strategy to reduce the ordering of and transfusion of red cells.
3) Each clinical specialty will classify invasive medical / surgical procedures according to degree of urgency and likelihood of blood transfusion requirement, based on Categories 1, 2 and 3 (see Appendix One).
4) Lead clinicians should strive to ensure that patients who are awaiting elective or urgent major surgical / other invasive procedures have blood grouping and screening undertaken at the time of booking. This will facilitate patient selection for major surgical procedures during Amber phase activation of the EBMP.
5) An Emergency Blood Management Group (EBMG) will be identified, the members of which will ensure that the Amber or Red phase of the EBMP is activated and implemented appropriately, when advised by the NIBTS.

Ultimate responsibility for the activation and implementation of the EBMP is that of the Medical Director and Chief Executive.

6) Liaison and communication links will continue to be facilitated between WHSCT and NIBTS and between WHSCT and other hospitals in Northern Ireland. The Regional Blood Stocks Management scheme may facilitate the inter-hospital transfer of red blood cells as appropriate.

Green Phase for use of Red Cells

- This will be in operation unless NIBTS advises implementation of Amber or Red phases.
- Red cells should only be transfused when the benefits outweigh the risks and alternative measures would be inadequate.

The following objectives should be targeted: -

1) Pre-optimisation of patients for elective / urgent surgery or other invasive procedures

i) Patients scheduled for elective surgery should have a blood count and blood group and antibody screen at booking, preferably at least 5-6 weeks before anticipated date of surgery.

ii) Preoperative haemoglobin should be increased to 12 g/dl, by the oral / intravenous iron therapy, as appropriate.

iii) Consult senior haematologist regarding use of recombinant erythropoietin therapy.

iv) All patients should have a repeat blood group and antibody screen within 7 days of surgery, to facilitate cross matching at surgery.

2) Transfusion protocols

i) GAIN guidelines on transfusion triggers should be followed (see Trust Intranet under Guidelines, Procedures and Protocols, Blood Transfusion Guidelines).

3) Maximum Surgical Blood Ordering Schedule (MSBOS)

i) All surgical units and other clinical specialties that undertake invasive procedures must have a MSBOS (Appendix Four), which is reviewed on a regular basis.

ii) Requests for red cells that exceed the MSBOS for a particular procedure should be authorised on an individual patient basis by a clinician of specialist registrar or higher level.

iii) Red cell orders for patients who require HDU / ICU care postoperatively should be delayed until the day of surgery is confirmed.

iv) Clinical units should inform the hospital blood bank when red cells are no longer required for individual patients.

4) **Cross-matching red cells**
   If a patient has been transfused more than 72 hrs previously a new blood group and antibody screen should be undertaken, in accordance with current national guidelines.
5) **Reduction in wastage of red cells**
   Units of red cells should not be removed from a designated blood fridge for longer than 30 minutes.
6) **Documentation of blood component transfusion episodes**
7) **Education / training in transfusion medicine**
8) **Intraoperative cell salvage** (not yet available in WHSCT)

Amber Phase for Red Cells

WHSCT Blood Banks will :

1. Reduce blood stockholding to the level notified by NIBTS.
2. Inform medical and nursing staff if the reservation period for units of red cells is to be reduced from the usual 72 hours.
3. Monitor the ordering and transfusion of all blood components.
4. Liaise regularly with NIBTS and other hospitals to review existing blood supply.

All Medical and Nursing staff will :

1. Group & Screen **all** patients scheduled for major surgery / other major invasive procedures as early as possible (preferably at outpatient booking).
2. Correct anaemia antenatally or pre surgery whenever possible.
3. **Defer elective surgery / other invasive procedures (Category 3 patients) that are associated with > 20% likelihood of allogenic blood transfusion for patients with blood group type(s) in short supply.**
4. Inform Blood Bank as soon as possible of
   – Patients who require urgent cancer surgery or other urgent invasive procedure that might require blood transfusion (Category 2 patients).
   – Patients who require emergency major surgery, or have active major bleeding or life-threatening anaemia (Category 1 patients).
5. Request all units of red cells by SpR grade doctor or above.
6. Minimise blood orders.
7. Inform WHSCT Blood Bank of any units of red cells that are no longer required and return these components immediately.
8. Minimise blood sample testing to reduce risk of iatrogenic anaemia.
9. Avoid top up transfusion for anaemia in asymptomatic patients
   – Treat with oral / parenteral iron as appropriate.
10. Adhere to transfusion trigger of Hb < 7.0 g/dl for patients who do not have significant cardiopulmonary compromise or symptoms of anaemia
    – One unit of red cells may be sufficient to treat symptoms of anaemia.
11. Contact the Consultant Haematologist (via switchboard)
    - Prior to transfusion of a patient outside of the above criteria.
    - In all cases of actual or potential massive blood loss as soon as possible.

Red Phase for Red Cells

As for Amber phase (see page 12). In addition:

WHSCT Blood Bank will:

1. Liaise daily with NIBTS and other hospitals to review blood supply.

2. Endeavour to provide red cells that are in short supply on an as need basis.

Senior clinicians (Staff grade or above) must:

For patients with blood group(s) in short supply:

1. Defer all elective major surgical or medical procedure (Category 3 patients).

2. Defer all non-curative major cancer surgery, and any other urgent major surgical or medical procedure that may result in blood transfusion (Category 2 patients).

3. Endeavour to secure haemostasis, correct clotting factor deficiencies and thrombocytopenia to minimise the number of red cells required in the treatment of active major bleeding or life-threatening bleeding (Category 1 patients).

4. Contact the Consultant Haematologist prior to transfusion of a patient outside of the above criteria.

Summary of Green, Amber & Red Phases for use of Red Cells

Green Phase: Normal service

1. Pre-optimisation / classification of patients for major surgery
    - At booking - preferably 5-6 weeks before surgery:
        - Haemoglobin & blood group and antibody screen.
        - Classify patient (Urgent = Category 2; Elective = Category 3).
        - Increase haemoglobin to 12 g/dl by oral / intravenous iron therapy.
        - Consult Haematologist regarding use of recombinant erythropoietin therapy.
2. Cross-matching red cells
    - Repeat blood group and antibody screen:
        - Within 7 days of surgery, to facilitate cross matching at surgery.
    - Follow MSBOS (Maximum Surgical Blood Ordering Schedule) – available on Trust Intranet under Guidelines, Procedures and Protocols, Blood Transfusion Guidelines).
3. Transfusion protocols
    - Follow GAIN guidelines on transfusion triggers (available on Trust Intranet under Guidelines, Procedures and Protocols, Blood Transfusion Guidelines).
4. Reduce red cell wastage
    - Red cell transfusion should commence within 30 minutes of removal from designated blood fridge.

Amber Phase: Restricted service

1. All red cells to be requested by SpR grade doctor or above
2. Defer elective procedures (Category 3 patients) associated with > 20% likelihood of requiring blood transfusion for patients with blood group type(s) in short supply
3. Inform Blood Bank as soon as possible of actual or potential massive blood loss
    - Category 2 patients (urgent surgery) that might require blood transfusion.
    - Category 1 patients (emergency major surgery, active major bleeding or life-threatening anaemia).
4. Reduce red cell wastage
    - Minimise blood sample testing to reduce iatrogenic anaemia.
    - Minimise blood orders.
    - Immediately inform Blood Bank of blood components that are not required.
    - Adhere to transfusion trigger of Hb < 7.0 g/dl for patients who do not have significant cardiopulmonary compromise or symptoms of anaemia.

Red Phase: Emergency service only

Senior Clinicians (Staff grade or above) for patients with blood group(s) in short supply must: -

1. Defer all elective major surgical or medical procedures (Category 3 patients)
2. Defer all non-curative major cancer / urgent major surgery, or procedure that may result in blood transfusion (Category 2 patients)
3. Endeavour to secure haemostasis, correct clotting factor deficiencies and thrombocytopenia to minimise the number of red cells required in the treatment of active major bleeding or life-threatening bleeding (Category 1 patients)

NOTE

- Discuss with Consultant Haematologist if you feel a patient requires a transfusion outside of the above criteria.

MANAGEMENT OF PLATELET SHORTAGES

The platelet plan operates in a similar way to the red cell plan describing three phases dependent on NIBTS stock levels – Green, Amber and Red. The Green Phase describes the normal operation when platelets should only be prescribed according to approved agreed clinical guidelines. To help prioritise patients who should be treated, as shortages become more severe, three broad patient categories are identified (see Appendix Two).

Aim:

- To ensure that the WHSCT work within a consistent integrated framework to provide equal access for patients to avail of platelets on the basis of clinical need.
- To ensure that those patients most in need will receive the available supply and that any reduction in usage is made from those patients who will be least affected.

Green, Amber & Red Phases for use of Platelets

Green Phase: Normal service

- This will be in operation unless NIBTS advises implementation of Amber or Red phases.
- Platelets should only be transfused when the benefits outweigh the risks and alternative measures would be inadequate.
- The WHSCT will work towards ensuring safe and appropriate use of all platelets.
- Regular audits undertaken against agreed guidelines with a focus on appropriate use.
- Development of protocols of transfusion thresholds for all platelet transfusions.
- Education/training sessions for staff at all levels on appropriate platelet transfusion practice.
- Blood Bank participation in the Blood Stock Management Scheme (BSMS).
- Development of arrangements for the movement of stock between Blood Bank sites.

Amber Phase for Platelets: Reduced availability

WHSCT Blood Bank will: -

- Reduce platelet stockholding to the level notified by NIBTS.
- Monitor the ordering and transfusion of platelets. Platelets will only be ordered where there is a specified identified requirement for an immediate platelet transfusion or for a unit of platelets to be on standby to cover a procedure which cannot be deferred.
- Liaise regularly with NIBTS and other hospitals to review existing platelet supply.
- If a reduction in usage is required, restrictions to supply will be limited to Categories 1 and 2 (See Appendix Two).
- All requests for units of platelets must be authorised by a named senior hospital doctor.
- Be aware that they will be asked to accept pooled platelets substituted for apheresis platelets depending upon balance of stocks.
- Where available children under sixteen will be given apheresis platelets.
- Be aware that they cannot request long dated platelet units.
- Identify possible alternatives to transfusion of platelets.
- Be asked to accept: -

  - Platelets of a different ABO group (in line with BCSH adults and paediatric guidelines[3, 4]).
  - Leucodepleted platelets instead of CMV antibody negative platelets.
  - RhD positive platelet units where RhD negative are not available and administer anti-D immunoglobulin prophylaxis where applicable.

Red Phase for Platelets: Severe Shortage

As for Amber Phase (see above).

In addition: -

- Usage will be restricted to patients in Category 1 (See Appendix Two).
- All requests for units of platelets must be made via a named senior doctor, such as a Consultant Haematologist.
- Requests to NIBTS will be referred to an NIBTS Consultant who may discuss the requirement with the hospital.
- Requests for units of platelets must be accompanied by the following dataset: -
  - Patient identifier (first name, last name, date of birth, patient identification number)
  - Clinical indication for transfusion
  - Requesting Consultant's name
  - Patient category (See Appendix Two)
  - Patient ABO blood group and RhD type
- Hospitals will be requested to track closely the fate of each unit of platelets delivered to them. The NIBTS will request information on each unit of platelets at regular intervals so that, if the unit is not used, it can be recalled and reissued to an alternative hospital as appropriate.

References:

1. Management of Blood (red cell component) Shortages and Platelet Shortages. Department of Health, Social Services and Public Safety (DHSSPS) Circular HSC (PHD) 01/12 Communication November 2012.
2. Better Blood Transfusion (BBT3 NI). Department of Health, Social Services and Public Safety (DHSSPS) Circular HSS(MD) 17.2011 August 2011.
3. British Committee for Standards in Haematology (2003) Guidelines for the use of platelet transfusion. British Journal of Haematology 122: 10 – 23
4. British Committee for Standards in Haematology (2004) Transfusion guidelines for neonatal and older children. British Journal of Haematology 124: 433 - 453

Appendix One

Categorisation of Patient Types – Red Cells

The following table provides general guidance for the use of red cell transfusions in the context of reduced availability. Category 1 patients are those with the greatest clinical need for red cell support and therefore should be given priority when considering allocation of red cells. Category 2 and 3 patients should be given lower priority.

Category 1	Category 2	Category 3
Resuscitation Resuscitation of life-threatening / on-going blood loss including trauma.		
Surgical Support Emergency surgery* including cardiac and vascular surgery** and organ transplantation. Cancer surgery (probably curative).	**Surgery/Obstetrics** Cancer surgery (palliative). Symptomatic but not life-threatening post-operative or post-partum anaemia. Urgent*** (but not emergency) surgery	**Surgery** Elective surgery which is likely to require donor blood support (patients with > 20% chance of needing 2 or more units of blood).
Non-surgical anaemias Life-threatening anaemia and high dependency care / NNICU. Stem cell transplantation or chemotherapy**** Severe bone marrow failure.	**Non-surgical anaemias** Symptomatic but not life-threatening anaemia	

* Emergency – patient likely to die within 24 hours without surgery
** With the exception of poor risk aortic aneurysm patients who rarely survive but who may require large volumes of blood
*** Urgent – patient likely to have major morbidity if surgery not carried out
**** Planned stem cell transplant or chemotherapy should be deferred if possible.

Appendix Two

Categorisation of Patient Types – Platelets

The following table provides general guidance for the use of platelet transfusions in the context of reduced availability. Category 1 patients are those with the greatest clinical need for platelet support and therefore should be given priority when considering allocation of platelets. Category 2 and 3 patients should be given lower priority.

The use of platelets should be considered as one element in the overall management of these patients. Use should be guided by the clinical condition of the patient and laboratory/near patient testing. Additional measures should be considered in patients with, or at risk of, massive bleeding including aprotinin and recombinant V11a.

Category 1 (Patients to be treated in Red Phase)	**Category 2** (Patients to be treated in Red & Amber Phase)	**Category 3**
Massive Haemorrhage & Critical Care Massive transfusion for any condition including obstetrics, emergency surgery and trauma, with on-going bleeding, maintain > 50 x 10^9/l. Aim for > 100 x 10^9/l if multiple trauma or CNS trauma Sepsis/acute DIC, maintain > 50 x 10^9/l	**Critical Care** Patients resuscitated following massive transfusion with no ongoing active bleeding, maintain > 50 x 10^9/l **Surgery** Urgent but not emergency surgery for a patient requiring platelet support **Transfusion triggers for invasive procedures** Invasive monitoring or biopsy work, maintain platelet count > 50 x 10^9/l General surgery – maintain count > 50 x 10^9/l Operations in critical sites such as brain or eyes maintain > 100 x 10^9/l	**Surgery** Elective, non-urgent surgery likely to required platelet support for thrombocytopenia or congenital/ acquired platelet defects
Bone marrow failure and immune thrombocytopenia Active bleeding associated with severe thrombocytopenia or functional platelet defects	**Bone marrow failure** Prophylactic transfusion for thrombocytopenia (platelet count < 10 x 10^9/l) in patients who are not infected and haemodynamically stable. For haemorrhage – e.g. sepsis, consider support if < 20 x 10^9/l	
Neonate For neonatal alloimmune thrombocytopenia or severe thrombocytopenia in an otherwise well neonate, platelet transfusions are required when the platelet count falls to between 20 – 30 x 10^9/l. Higher target levels should be maintained if extremely low birth weight or unwell/bleeding or intracranial haemorrhage suspected/ confirmed.		

Appendix Three

ACTION CARDS FOR ACTIVATION OF AMBER OR RED PHASES OF THE EMERGENCY BLOOD MANAGEMENT PLAN

ACTION CARD 1

SENIOR WHSCT BLOOD BANK BIOMEDICAL SCIENTIST (BMS)

Responsibility:- To activate/deactivate WHSCT Emergency Blood Management Plan.

When advised by the NIBTS to activate (or deactivate) the Amber or Red phase of the Emergency Blood Management Plan (EBMP), the Senior BMS in Blood Bank will inform the following staff by telephone of activation (or deactivation) of the Amber or Red phase: -

During office hours (9am –5pm)

* Emergency Blood Management Group

Job Title / Location	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Haemovigilance Practitioner	*Mrs Mary P. Mc Nicholl	
Haemovigilance Practitioner	Mrs Josephine Monaghan	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	
Medical Director	*Dr Anne Kilgallen	
Director of Acute Services	*Mrs Geraldine Hillick	
Chair of Hospital Transfusion Committee	*Dr Geoff Nesbitt	
Clinical Director, Emergency Care & Medicine	*Mr Alan McKinney	
Clinical Director, Surgery & Anaesthetics	*Dr Paul McSorley	
Clinical Director, Obstetrics & Gynaecology	*Dr Michael Parker	
Director of Women & Children's Service	*Mr Kieran Downey	
Executive Director of Nursing/ Director of Primary Care & Older People	* Mr Alan Corry Finn	
Head of Quality & Safety	*Mrs Therese Brown	
Foyle Hospice	Nurse in Charge	
Healthcare at Home	Oncall Nurse	
North West Independent Hospital	Nurse in Charge, Surgical Ward Sr Finola Carmichael, Ward Manager	
Rapid Response Team	Londonderry/Limavady/Strabane Omagh/Enniskillen	

Out of office hours
(Monday to Friday 5pm - 9am, Saturday, Sunday & Bank Holidays)

Job Title	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	
General Manager on call		

Other responsibilities of the Senior BMS in Blood Bank:

- Reduce blood stockholding to the level notified by NIBTS.
- Inform medical and nursing staff if the reservation period for units of red cells is to be reduced from the usual 72 hours.
- Monitor the ordering and transfusion of all red cells.
- Liaise regularly with NIBTS and other hospitals to review existing blood supply.

ACTION CARD 2

Stand Down of the Emergency Blood Management Plan

To **Stand Down** the Emergency Blood Management Plan the **Senior BMS in Blood Bank** will inform the following staff by telephone of deactivation (Stand Down) of Amber or Red phase:

During office hours (9am – 5pm)
* Emergency Blood Management Group

Job Title / Location	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Haemovigilance Practitioner	*Mrs Mary P. Mc Nicholl	
Haemovigilance Practitioner	Mrs Josephine Monaghan	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	
Medical Director	*Dr Anne Kilgallen	
Director of Acute Services	*Mrs Geraldine Hillick	
Chair of Hospital Transfusion Committee	*Dr Geoff Nesbitt	
Clinical Director, Emergency Care & Medicine	*Mr Alan McKinney	
Clinical Director, Surgery & Anaesthetics	*Dr Paul McSorley	
Clinical Director, Obstetrics & Gynaecology	*Dr Michael Parker	
Director of Women & Children's Service	*Mr Kieran Downey	
Executive Director of Nursing/ Director of Primary Care & Older People	* Mr Alan Corry Finn	
Head of Quality & Safety	*Mrs Therese Brown	
Foyle Hospice	Nurse in Charge	
Healthcare at Home	Oncall Nurse	
North West Independent Hospital	Nurse in Charge, Surgical Ward Sr Finola Carmichael, Ward Manager	
Rapid Response Team	Londonderry/Limavady/Strabane Omagh/Enniskillen	

Out of office hours
(Monday to Friday 5pm - 9am, Saturday, Sunday & Bank Holidays)

Job Title	Staff Member	Telephone Number
Lead BMS	*Ms Geraldine McIlwaine	
Consultant Haematologist	*Dr Feargal McNicholl	
Bed Managers	Bed Manager / Bleep Sister Mon to Sun 8am – 8pm (including Bank Holidays) Hospital Services Manager / Night Sister Mon to Sun 8pm – 8am (including Bank Holidays)	
General Manager on call		

ALTNAGELVIN AREA HOSPITAL

ACTION CARD 3

Bed Manager / Night Services Manager

Responsibility:

- To communicate activation and stand down of the Emergency Blood Management Plan to relevant Nursing Leads for cascade throughout the Trust.

IMMEDIATE ACTION:

On instruction by the Senior BMS in Blood Bank to restrict blood use in either Amber or Red Phases, an attempt to contact the following staff must occur to inform them of activation of the **Amber**/**Red** status:

IN HOURS - BED MANAGER CASCADE
Monday to Friday 9am – 5pm (excluding Bank Holidays)

Department
Services Manager for General Surgery (Mrs Louise O'Dalaigh)*
Services Manager for Anaesthetics, Theatres & Intensive Care Services (Ms Jackie Mc Grellis)*
Nursing Services Manager for Urology (Mrs Karen Phelan)*
Nursing Services Manager for Trauma & Orthopaedics (Ms Mary Lafferty)*
Lead Nurse (Ms Elizabeth England), Haematology Services
Lead Nurse (Mrs Maeve Brown)/ Nurse in Charge, Emergency Care & Medicine
Lead Nurse (Mrs Judy Houlahan) / Nurse in Charge, Older People Services
Nurse in Charge, Emergency Department
Labour Ward Coordinator*

***** Must liaise with relevant Clinical Director regarding any planned major surgical procedures that may require cancellation.

OUT OF HOURS –
BED MANAGER / NIGHT SERVICES MANAGER CASCADE
(Monday to Friday 5pm – 9am, Saturday, Sunday & Bank Holidays)

Department
General Manager on call
Nurse in Charge, Emergency Department
Nurse in Charge, Theatres
Nurse in Charge Trauma & Orthopaedics
Nurse in Charge, ICU
Nurse in Charge, Ward 43
Labour Ward Coordinator

Information given by the Bed Manager / Night Services Manager:

The **Amber** Phase of the Emergency Blood Management Plan has been activated by the Northern Ireland Blood Transfusion Service (NIBTS).

- There is a restricted service due to reduced stock of red cells.
- Limit requests to necessary transfusions.
- Refer staff to Action Card 5 of the Emergency Blood Management Plan on the Trust Intranet (Guidelines, Procedures & Protocols, Blood Transfusion Guidelines).

OR

The **Red** Phase of the Emergency Blood Management Plan has been activated by the Northern Ireland Blood Transfusion Service (NIBTS).

- There is a severe shortage of red cells.
- Blood use will be restricted to essential transfusions only.
- Refer staff to Action Card 5 of the Emergency Blood Management Plan on the Trust Intranet (Guidelines, Procedures & Protocols, Blood Transfusion Guidelines).

OR

The Amber (or Red Phase) of the Emergency Blood Management Plan has been **deactivated** by the Northern Ireland Blood Transfusion Service (NIBTS).

SWAH HOSPITAL

ACTION CARD 4

Bed Manager / Bleep Sister / Night Sister

Responsibility:

- To communicate activation and stand down of the Emergency Blood Management Plan to relevant Nursing Leads for cascade throughout the Trust.

IMMEDIATE ACTION:
The following staff will be notified of the Amber/ Red status:
On instruction by the Senior Biomedical Scientist to restrict blood use in either Amber or Red Phases, an attempt to contact the following staff must occur:

IN HOURS - BED MANAGER CASCADE

Monday to Friday 9am – 5pm (excluding Bank Holidays)

Department
Assistant Nursing Services Manager for Surgery & Anaesthetics (Mrs Mary Melley)*
Nurse in Charge, Emergency Department
Nurse in Charge, Outpatient Department
Labour Ward Coordinator*

* Must liaise with relevant Clinical Director regarding any planned major surgical procedures that may require cancellation.

OUT OF HOURS – BED MANAGER / BLEEP SISTER / NIGHT SISTER CASCADE

(Monday to Friday 5pm – 9am, Saturday, Sunday & Bank Holidays)

Department
Nurse in Charge, Emergency Department
Nurse in Charge, Theatres
Nurse in Charge, ICU
Labour Ward Coordinator

Information given by the Bed Manager / Bleep Sister / Night Sister:

The **Amber** Phase of the Emergency Blood Management Plan has been activated by the Northern Ireland Blood Transfusion Service (NIBTS).

- There is a restricted service due to reduced stock of red cells.
- Limit requests to necessary transfusions.
- Refer staff to Action Card 5 of the Emergency Blood Management Plan on the Trust Intranet (Guidelines, Procedures & Protocols, Blood Transfusion Guidelines).

OR

The **Red** Phase of the Emergency Blood Management Plan has been activated by the Northern Ireland Blood Transfusion Service (NIBTS).

- There is a severe shortage of red cells.
- Blood use will be restricted to essential transfusions only.
- Refer staff to Action Card 5 of the Emergency Blood Management Plan on the Trust Intranet (Guidelines, Procedures & Protocols, Blood Transfusion Guidelines).

OR

The Amber (or Red Phase) of the Emergency Blood Management Plan has been **deactivated** by the Northern Ireland Blood Transfusion Service (NIBTS).

Ward Manager / Deputy Ward Manager

ACTION CARD 5

Responsibility:

- To communicate activation and stand down of the Emergency Blood Management Plan to all relevant medical and nursing staff and implications of same.

Amber Phase activated:-

As Blood stocks are at Amber Level:

1. All red cells to be requested by SpR Grade Doctor or above.
2. Defer elective procedures (Category 3 patients) associated with > 20% likelihood of requiring blood transfusion for patients with blood group type(s) in short supply.
3. Inform Blood Bank as soon as possible of actual or potential massive blood loss
    - Category 2 patients (urgent surgery) that might require blood transfusion.
    - Category 1 patients (emergency major surgery, active major bleeding or life-threatening anaemia).
4. Reduce red cell wastage
    - Minimise blood sample testing to reduce iatrogenic anaemia.
    - Minimise blood orders.
    - Immediately inform Blood Bank of blood components that are not required.
    - Adhere to transfusion trigger of Hb < 7.0 g/dl for patients who do not have significant cardiopulmonary compromise or symptoms of anaemia.

Red Phase activated:-

As Blood stocks are at Red Level:
Senior Clinicians (Staff grade or above) for patients with blood group(s) in short supply must: -

1. Defer all elective major surgical or medical procedures (Category 3 patients).
2. Defer all non-curative major cancer / urgent major surgery, or procedure that may result in blood transfusion (Category 2 patients) .
3. Endeavour to secure haemostasis, correct clotting factor deficiencies and thrombocytopenia to minimise the number of red cells required in the treatment of active major bleeding or life-threatening bleeding (Category 1 patients).
4. Discuss with Consultant Haematologist if you feel a patient requires a transfusion outside of the above criteria.

Categorisation of Patient Types – Red Cells

The following table provides general guidance for the use of red cell transfusions in the context of reduced availability. Category 1 patients are those with the greatest clinical need for red cell support and therefore should be given priority when considering allocation of red cells. Category 2 and 3 patients should be given lower priority.

Category 1	Category 2	Category 3
Resuscitation Resuscitation of life-threatening / on-going blood loss including trauma.		
Surgical Support Emergency surgery* including cardiac and vascular surgery** and organ transplantation. Cancer surgery (probably curative).	**Surgery/Obstetrics** Cancer surgery (palliative). Symptomatic but not life-threatening post-operative or post-partum anaemia. Urgent*** (but not emergency) surgery	**Surgery** Elective surgery which is likely to require donor blood support (patients with > 20% chance of needing 2 or more units of blood).
Non-surgical anaemias Life-threatening anaemia and high dependency care / NNICU. Stem cell transplantation or chemotherapy**** Severe bone marrow failure.	**Non-surgical anaemias** Symptomatic but not life-threatening anaemia	

* Emergency – patient likely to die within 24 hours without surgery
** With the exception of poor risk aortic aneurysm patients who rarely survive but who may require large volumes of blood
*** Urgent – patient likely to have major morbidity if surgery not carried out
**** Planned stem cell transplant or chemotherapy should be deferred if possible.

General Manager on call

ACTION CARD 5

Responsibility:

- To be aware that the Emergency Blood Management Plan has been activated.
- To communicate with the Night Services Manager / Night Sister to ensure appropriate cascade of information regarding activation of the Emergency Blood Management Plan.
- To communicate with Clinical Lead on call as relevant.

Amber Phase activated:-

As Blood stocks are at Amber Level:

1. All red cells to be requested by SpR Grade Doctor or above.
2. Defer elective procedures (Category 3 patients) associated with > 20% likelihood of requiring blood transfusion for patients with blood group type(s) in short supply.
3. Inform Blood Bank as soon as possible of actual or potential massive blood loss
    - Category 2 patients (urgent surgery) that might require blood transfusion.
    - Category 1 patients (emergency major surgery, active major bleeding or life-threatening anaemia).
4. Reduce red cell wastage
    - Minimise blood sample testing to reduce iatrogenic anaemia.
    - Minimise blood orders.
    - Immediately inform Blood Bank of blood components that are not required.
    - Adhere to transfusion trigger of Hb < 7.0 g/dl for patients who do not have significant cardiopulmonary compromise or symptoms of anaemia.

Red Phase activated:-

As Blood stocks are at Red Level:
Senior Clinicians (Staff grade or above) for patients with blood group(s) in short supply must: -

5. Defer all elective major surgical or medical procedures (Category 3 patients).
6. Defer all non-curative major cancer / urgent major surgery, or procedure that may result in blood transfusion (Category 2 patients) .
7. Endeavour to secure haemostasis, correct clotting factor deficiencies and thrombocytopenia to minimise the number of red cells required in the treatment of active major bleeding or life-threatening bleeding (Category 1 patients).
8. Discuss with Consultant Haematologist if you feel a patient requires a transfusion outside of the above criteria.

Appendix Four – Maximum Surgical Blood Ordering Schedule (MSBOS)

PROCEDURE	MSBOS
OBSTETRICS	
Caesarian Section	G&S
Removal of Placenta	G&S
Major Placenta Praevia	4 units
Significant acute Antepartum, Intrapartum or Postpartum Haemorrhage	6 units
Ectopic Pregnancy	G&S
Anaemia in labour (Hb<10)	G&S
Previous Postpartum Haemorrhage	G&S
Trial of Vacuum/Forceps in theatre	G&S
3rd Degree tear	G&S
Multiple Birth	G&S
Breech presentation	G&S
GYNAECOLOGY	
Hysterectomy	G&S
Myomectomy	2 units
Vaginal Repair	G&S
Salpingectomy/Oopherectomy	G&S
Colposuspension	G&S
Evacuation of Uterus	G&S
Operative Laparoscopic Procedure	G&S
Omentectomy	G&S
ORTHOPAEDIC SURGERY	
Fixation fracture of femur (Hb<10.4)	2 units
Fixation fracture of femur (Hb>10.4)	G&S
Total Hip Replacement	G&S
Fractured Tibia	G&S
Total Knee Replacement	G&S
Revision of Total Hip Replacement	2 units
Revision Knee Replacement	2 units
Shoulder/Elbow/Ankle Replacement	G&S
Hemi Arthroplasty to Hip/Shoulder	G&S
VASCULAR SURGERY	
Aortic Aneurysm Repair	6 units
Aortobifemoral Bypass	2 units
Femoral Bypass	G&S
Carotid Endarterectomy	G&S

PROCEDURE	MSBOS
ENT/ORAL MAXILLOFACIAL SURGERY	
Mandilectomy	G&S
Laryngectomy	2 units
Tracheostomy with neck dissection	2 units
Parotid Surgery (involving reconstruction or splitting of mandible)	2 units
Le Fort Maxillary Fracture	G&S
Thyroid Surgery	G&S
Parotid Surgery (with potential for complications)	G&S
Major neck dissection	G&S
Osteotomy	2 units
UP3 – uvuloplasty	G&S
Excision of submandibular gland	G&S
Revision of clipping of pharyngeal pouch	G&S
GENERAL SURGERY	
Amputation	G&S
Mastectomy	G&S
Excision of Breast Lesion	G&S
Cholecystectomy (Open or Laparoscopic)	G&S
ERCP	G&S
Liver Biopsy	G&S
Splenectomy	G&S
Emergency Laparotomy (Discuss with senior clinician as crossmatch x 2 units may be required)	G&S
Abdominal-Perineal resection of Rectum	2 units
Right Hemi-Colectomy	G&S
Sigmoid Colectomy	G&S
Total Abdominal Colectomy	2 units
Anterior Resection	2 units
Thyroidectomy	G&S
Laparoscopic Hernia Repair	G&S
Laparoscopic Appendicectomy	G&S
UROLOGY	
Nephrectomy (Open or Laparoscopic)	G&S
Percutaneous Renal Surgery (PCNL)	G&S
Prostatectomy (TURP)	G&S
Resection of Bladder Tumour	G&S
Urethroplasty	G&S
Renal Biopsy	G&S
Renal Parathyroidectomy	G&S

If a request is being made that does not correspond with the MSBOS, please indicate rationale on NI Hospital Transfusion Request Form & contact Blood Bank: - Altnagelvin Ext 213830; SWAH Ext 252421

Summary of the Role of the WHSCT Emergency Blood Management Group

There is a variety of situations which may result in the NIBTS activating the Emergency Blood Management Plan:-

- Short term shortages – bad weather, influenza outbreak, local major incident that results in short term local blood supply shortage.
- Prolonged shortages – the introduction of further measures to reduce the risk of disease transmission by transfusion.

The WHSCT Emergency Blood Management Group is responsible for:-

- Reviewing communication from the NIBTS.
- Actively managing Emergency Blood Shortages situations.
- Ensuring that actions taken to reduce blood usage meet requirements (all transfusions to strictly comply with Trust Guidelines).
- Implementing actions required for postponement of certain operations (review of theatre lists, cancellation of elective surgery – use of MSBOS to determine procedures to be cancelled).
- Reviewing impact of shortages depending on duration and phase activated.

Emergency Blood Management Plan
Communication Flowchart

Northern Ireland Blood Transfusion Service (NIBTS) alert WHSCT (via Blood Bank Altnagelvin & SWAH) to Amber or Red Status

ALTNAGELVIN HOSPITAL

Call received to Blood Bank
In Hours:
Senior Biomedical Scientist (BMS)

Out of Hours:
Blood Bank

Senior BMS contacts: -
In Hours:
- Lead BMS
- Consultant Haematologist
- Haemovigilance Practitioner
- Bed Manager
- Emergency Blood Management Group
- Foyle Hospice
- Healthcare at Home
- North West Independent Hospital
- Rapid Response Team

Out of Hours:
- Lead BMS
- Consultant Haematologist
- Night Services Manager
- General Manager on call

Bed Manager / Night Services Manager contacts: -
Clinical Areas as per **ACTION CARD 3**

SWAH HOSPITAL

Call received to Blood Bank
In Hours:
Senior Biomedical Scientist (BMS)

Out of Hours:
Blood Bank

Senior BMS contacts: -
In Hours:
Bed Manager / Bleep 57 Sister

Out of Hours:
Night Sister

Bed Manager / Bleep 57 Sister / Night Sister contacts: -
Clinical Areas as per **ACTION CARD 4**

Ensure information disseminated to Senior Medical & Nursing staff

Inform Chair of the Emergency Blood Management Group regarding Clinical Areas contacted.