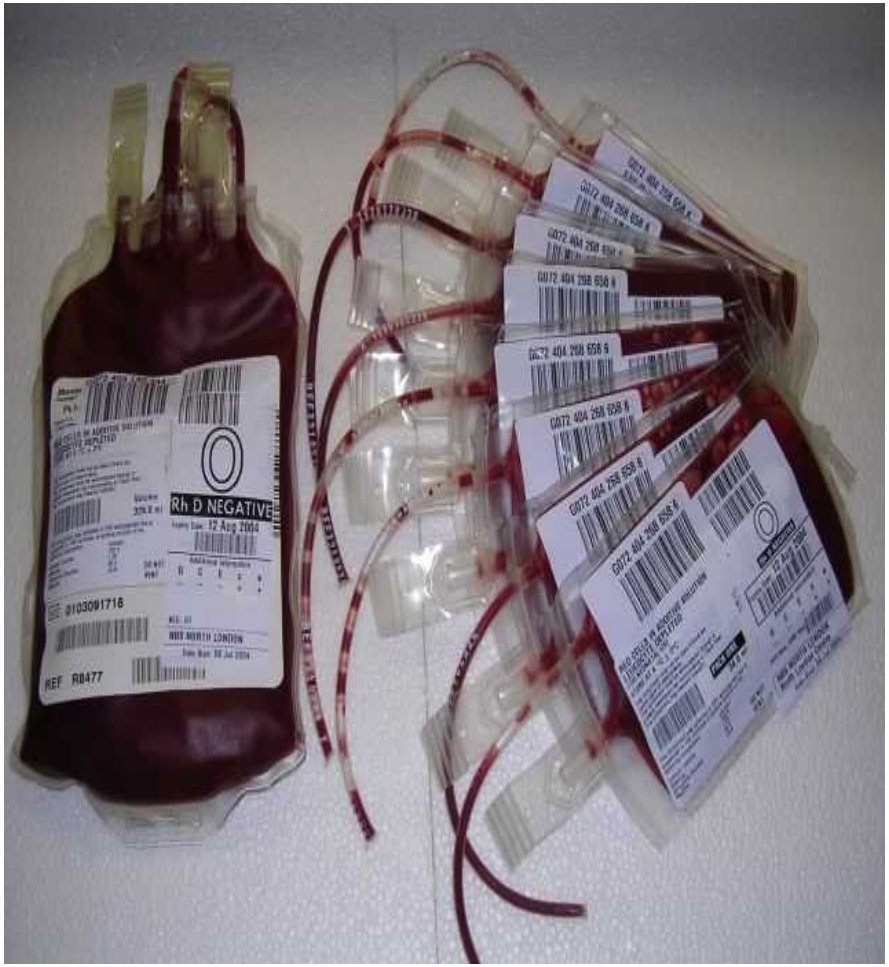
BLOOD TRANSFUSION



www.transfusionguidelines.org.uk

Home | Latest Updates | Accessibility | Contact us | Help | Links

UK Blood Transfusion & Tissue Transplantation Guidelines

Welcome

- This site presents the guidelines for the Blood Transfusion Services in the United Kingdom, covering the whole transfusion chain from donor selection to clinical use of blood components and donor selection, testing and processing of tissues.
  By using this site you signify your acceptance of the conditions of use. Click here to read the "conditions of use" page.


General Information


Guidelines for the Blood Transfusion Services in the UK


New Regulations Implementation


Document Library


Donor Selection Guidelines

Better Blood Transfusion

DH Department of Health Toolkit


JPAC Resources

Members Area


Handbook of Transfusion Medicine


Systematic Review Initiative

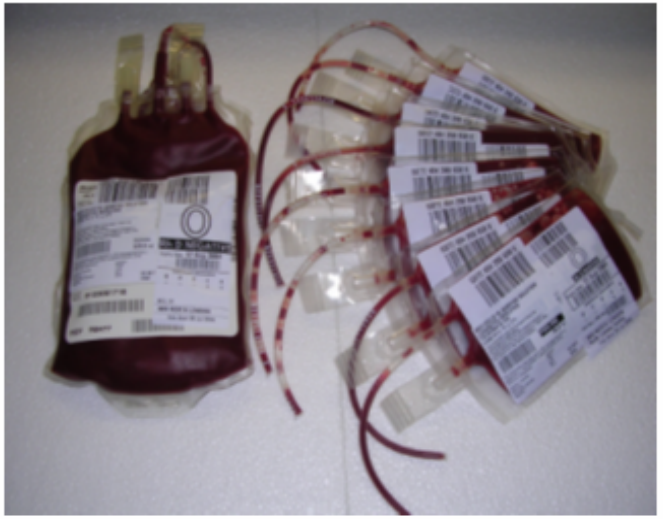
NHS | National Blood Service | NIBSC

Updated Blood Product Transfusion policy & procedure on Intranet

University College London Hospitals NHS
NHS Foundation Trust

Blood Component Transfusion Policy & Procedure

May 2007
Version 3.0



University College London Hospitals NHS
NHS Foundation Trust

Blood Component Transfusion Policy & Procedure

Policy ✓ Procedure … Guideline …
This Trust ✓ Local …

Document Control Summary

Approved by & date	Clinical Guidelines Committee
Date of publication	May 2007
Review Date	May 2009
Creator & telephone details	• Dr Amit Nathwani: Transfusion Consultant, ext 9638, e-mail: a.nathwani@ucl.ac.uk • Jenny Berryman: BMS3 Transfusion, ext. 8522/3, e-mail: jennifer.berryman@uclh.org • Sasha Wilson: Blood Transfusion CNS, ext. 8096 bleep 7131 e-mail sasha.wilson@uclh.nhs.uk
Distribution/availability	Trust Intranet Pages
Related documents/policies	• Control of Infection Manual • Incidents, Serious Untoward Incidents and Near Misses Policy • Waste Management Policy • Aseptic Non Touch Technique Guidelines • Management of Massive Obstetric Haemorrhage Guidelines
Implications of the Race Equality duties for this policy/strategy	This policy must be implemented fairly and without prejudice whether on the grounds of race, gender, sexual orientation or religion.

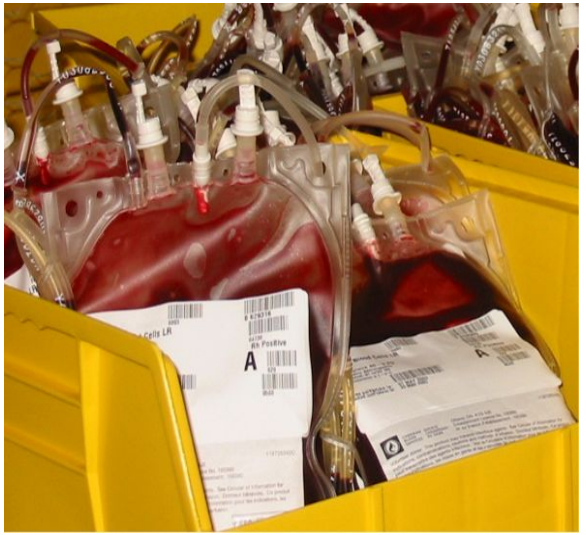
Version Control Summary

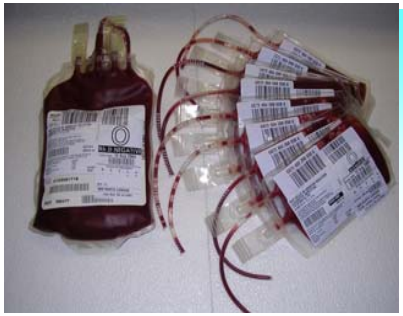
Version	Date	Status	Comments/Changes
V3	May 2007	Approved	Clinical Guidelines Committee – May 2007 Minor changes only

UCL Hospitals is an NHS Foundation Trust incorporating the Eastman Dental Hospital, Elizabeth Garrett Anderson & Obstetric Hospital, The Heart Hospital, Hospital for Tropical Diseases, The Middlesex Hospital, National Hospital for Neurology & Neurosurgery, The Royal London Homoeopathic Hospital and University College Hospital

COMMUNICATION WITH BLOOD BANK

- Blood Bank is located on in The Doctors Laboratory in Whitfield Street.
- Routine service 09.00-17.00 Mon-Fri, 09.00-13.00 Sat (but fewer staff).
- Routine requests should not be made outside these hours.
- Sample reception.
- Major Haemorrhage/ Acute bleeding

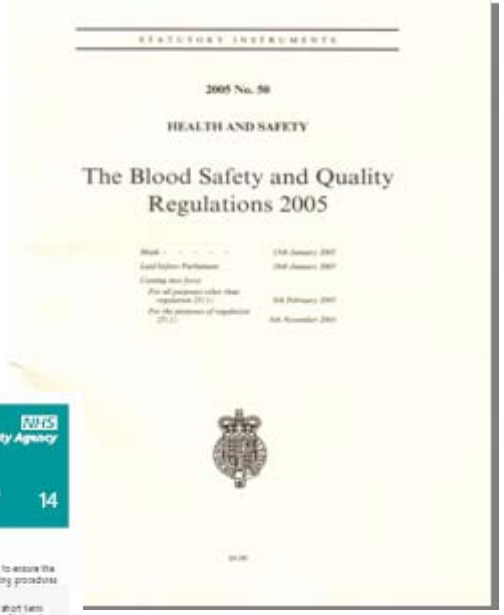




SAFE BLOOD TRANSFUSION TRAINING

- **Why we need safe blood transfusion training?**

- **Legal Requirements**
- **Mandatory requirements**
- **Patient Safety**



2005 No. 50

HEALTH AND SAFETY

The Blood Safety and Quality Regulations 2005

NHS National Patient Safety Agency

SHOT

Safer practice notice 14

Right patient, right blood

N

Notice

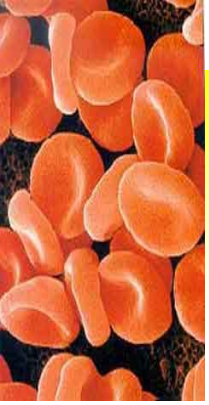
9 November 2006

Action for the NHS and the independent sector

SERIOUS HAZARDS OF TRANSFUSION SHOT

The Cost of Blood Products 2007/08

- Standard red cells £133.99
- Platelets £208.46
- Premium for HLA matched + £147.59
- Premium for CMV Neg + £6.86
- Standard FFP £32.69 (£130.76 4 bags)
- Pooled Cryoprecipitate £219.87



SERIOUS HAZARDS OF TRANSFUSION REPORT & RISK MANAGEMENT

In Safety information

- Safety warnings, alerts and recalls
- General safety information and advice
- How we monitor the safety of products
- Reporting safety problems
  - › Medicines
  - › Devices
  - › Blood

Reporting safety problems

This section provides access to information on how to report suspected safety problems with medicines, medical devices, blood and blood components.

Medicines

Report a suspected adverse reaction or defect

The MHRA collects information on suspected adverse drug reactions and suspected defects in medicinal products.

Devices

Report an adverse incident

Any adverse incident involving a medical device or its instructions for use should be reported to the MHRA, especially if it lead to, or could have lead to, death, life-threatening illness or injury.

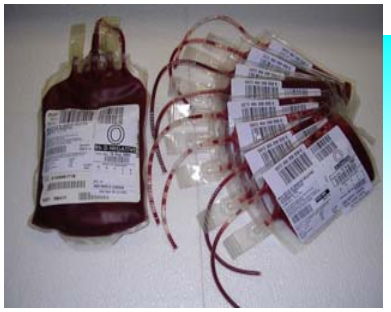
Blood

Report an adverse event or reaction

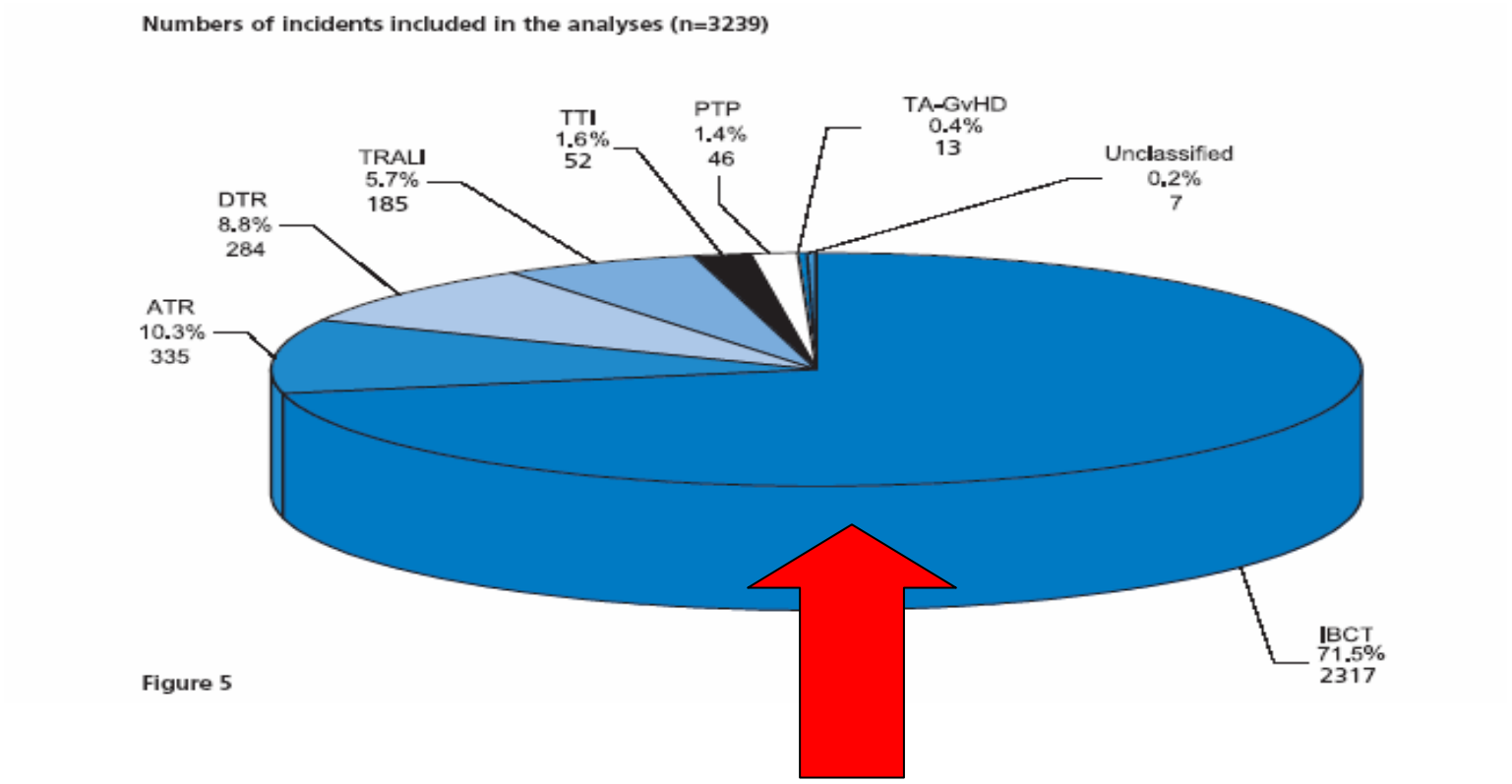
From 8 November 2005 the EU Blood Safety Directive will require that serious adverse events and serious adverse reactions related to blood and blood components are reported to the MHRA, the UK Competent Authority for blood safety.

SERIOUS HAZARDS OF TRANSFUSION REPORT

- Serious Hazards of Transfusion (SHOT) is a UK confidential enquiry it was launched in 1996.
- Transfusion errors, near miss events and serious adverse incidents are reported to SHOT. The National data is analysed and an annual report is published.
- Now in it's 11th year the SHOT enquiry provides an increasingly authoritative analysis of serious transfusion complications in the UK.
- Incorrect blood component transfused remains the most frequent transfusion hazard in the 2003/04 report, as in all previous years.



SERIOUS HAZARDS OF TRANSFUSION REPORT



The patient got the wrong blood

FILM
RESTAURANTS
PUBS & BARS
THEATRE & COMEDY
MUSIC
ARTS & EXHIBITIONS
EVENTS
CLUBBING
SHOWBIZ
NEWS
News in brief
Real-time Tube map
SPORT
HAVE YOUR SAY
BLOGS
LOCAL LISTINGS
Add your own listing

GRAN DIES AFTER BEING GIVEN WRONG BLOOD TYPE

22.05.07

Add your view

A great-grandmother died after being given the wrong type of blood during a hospital transfusion.

Margaret Davies, 67, was given type A instead of type O when her case notes are believed to have been mixed up with those of another patient with the same name.

Scroll down for more

CRITICS' CHOICE

MUSIC
CHRIS ELWELL-SUTTON

"50 Cent wrapped his music up in an irresistibly appealing package"

50 Cent »

THEATRE & COMEDY

london.co.uk/news/article-23397629-details/Transfusion%20blunder%20'killed%20grandmother'/article.do

The Last Confession »

MUSIC
JOHN AIZLEWOOD

"Reed didn't merely replay Berlin, he re-imagined and re-created it"

Lou Reed »

READER REVIEWS

THEATRE & COMEDY
Victoria, London

"Shylock was played as a victim as much as the aggressor. I would recommend this production to anyone."

The Merchant Of Venice »

MUSIC
Lisa, London

"Great songs and great venue, but the guy has no personality!"

Snow Patrol »

PUBS & BARS
Alison, London

"One of my favourite pubs. Looking forward to going back to see what it's like now it's smoke-free"

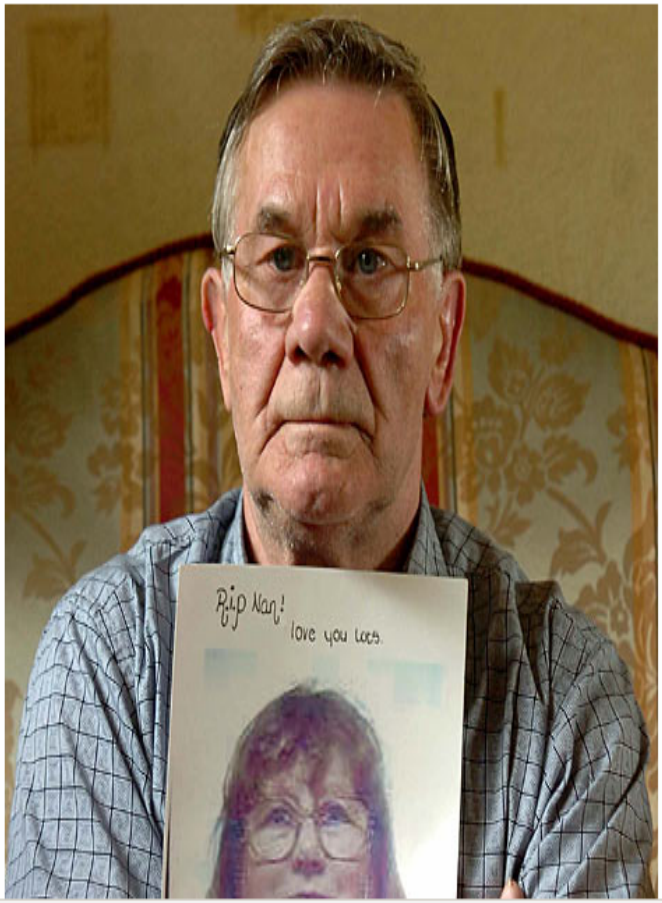
She died the following day. Three nurses have been suspended and police have launched an investigation into the death at Whiston Hospital, Merseyside.

Her devastated husband, Malcolm, also 67, said he would be taking legal action.

"It was like giving her a lethal injection,' he said.

"It is unbelievable. My wife was a beautiful woman who lived for her family. She deserved better than this."

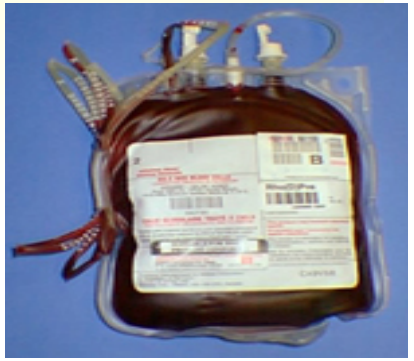
Scroll down for more



SERIOUS HAZARDS OF TRANSFUSION REPORT: Wrong Blood examples.

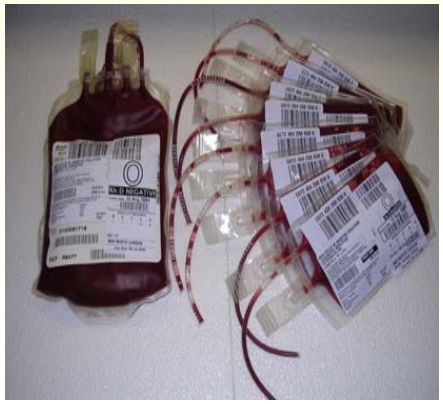
- **Case 1:**
- Patient, first on operating list, was second but order changed.
- Blood for original first patient collected from fridge but not checked thoroughly.
- Unit was transfused.

- When second unit was collected from fridge, the error was discovered.
- Patient was group O. Transfused with one unit group B.
- Patient died.



SERIOUS HAZARDS OF TRANSFUSION REPORT & RISK MANAGEMENT

SAFER PRACTISE TAKES MINUTES!



RISK OF TRANSFUSION TRANSMITTED INFECTION IN UK

- The risk of catching hepatitis from a blood transfusion is very low – about 1 in 900,000 for hepatitis B (in fact, you are more likely to be struck by lightning).
- Less than 1 in 30 million for hepatitis C following the introduction of PCR testing.
- The chance of HIV infection is less than 1 in several million.
- As yet, we don't know the level of risk of new variant Creutzfeldt-Jakob Disease (vCJD) being transmitted by blood. However, a number of precautions have been introduced to minimise the risk.

Label Change to all UK Blood Components

NHS Blood and Transplant

The labels on all UK Blood Components will change to contain the following wording:

Always check patient/component compatibility/identity
Inspect pack for signs of deterioration or damage
Risk of adverse reaction/infection, including vCJD

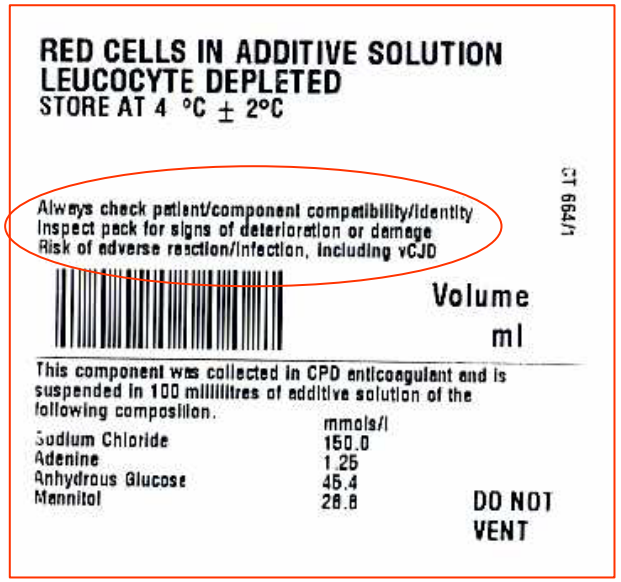
See example label with advice circled in red shown below.

Who requested this change?

The UK Forum i.e. the Medical Directors and Chief Executives from the 4 UK blood services. The Forum meets regularly to help ensure a common approach to all aspects of quality and safety relating to the blood supply.

When will the labels change?

The implementation date is 1st July 2007



Is anything being removed from the label?
The filter administration information is not a label requirement and will therefore be removed

Will all labels change at the same time?
The change will be prospective not retrospective so, for example, we will not be re-labelling frozen components. Consequently you will see both the old and new label format for some time.

Why is vCJD specifically mentioned?
This was in response to legal advice because the magnitude of risk for vCJD is unknown compared to other known infectious risks such as HIV or HCV.

19th June 07

Please cut and past link into your web browser for the latest position statement on vCJD - http://www.transfusionguidelines.org.uk/index.asp?pageid=794&Section=12&Publication=DL&highlight=position%20statement

Blood Transfusion In Emergencies

- Unmatched emergency group O: In all satellite fridges except haematology.
- Unmatched group O blood should only be used when the **patients life would be at risk** if there were any delays in giving blood.
- Blood should always be carefully crossmatched except in extreme emergencies.

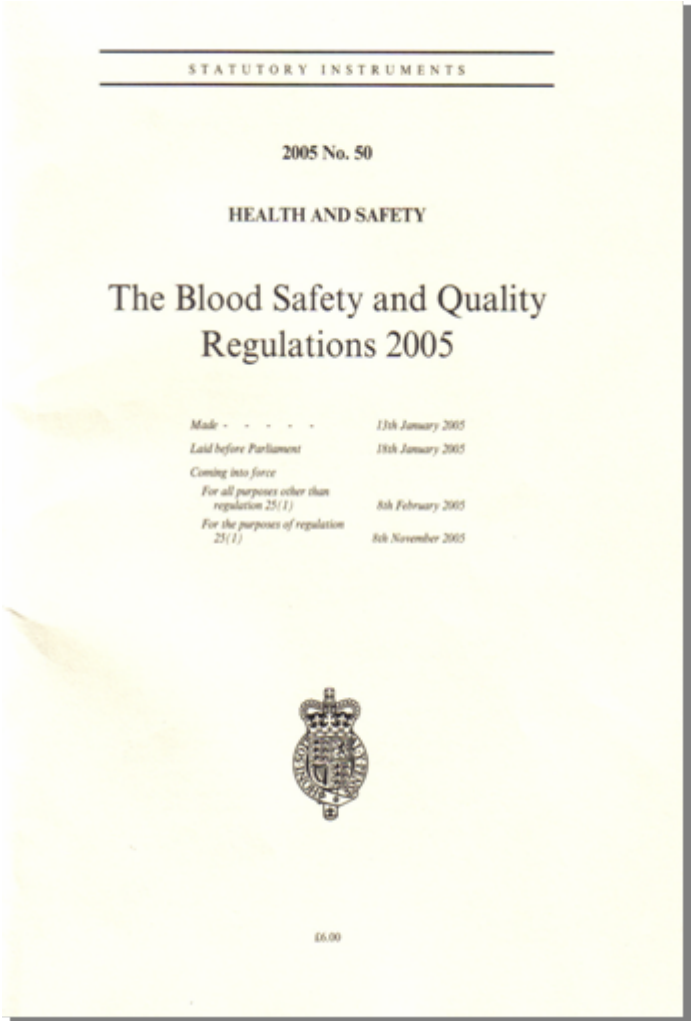
- **O Rh D negative** blood is often referred to as the 'Universal donor' in practise this term is dangerous and misleading. There are many patients with red cell antibodies that may cause transfusion problems.
- Unmatched **Group O Rh D positive** can be given to men > 40 or post menopausal women > 50

E.U. Directive: Blood Safety & Quality Regulations 2005

Traceability requirements:

Regulation 9 (1) (e) requires hospital blood banks to:

'maintain, for not less than 30 years, the data needed to ensure full traceability of blood and blood components, from the point of receipt of the blood or blood component by the hospital blood bank.'



STATUTORY INSTRUMENTS

2005 No. 50

HEALTH AND SAFETY

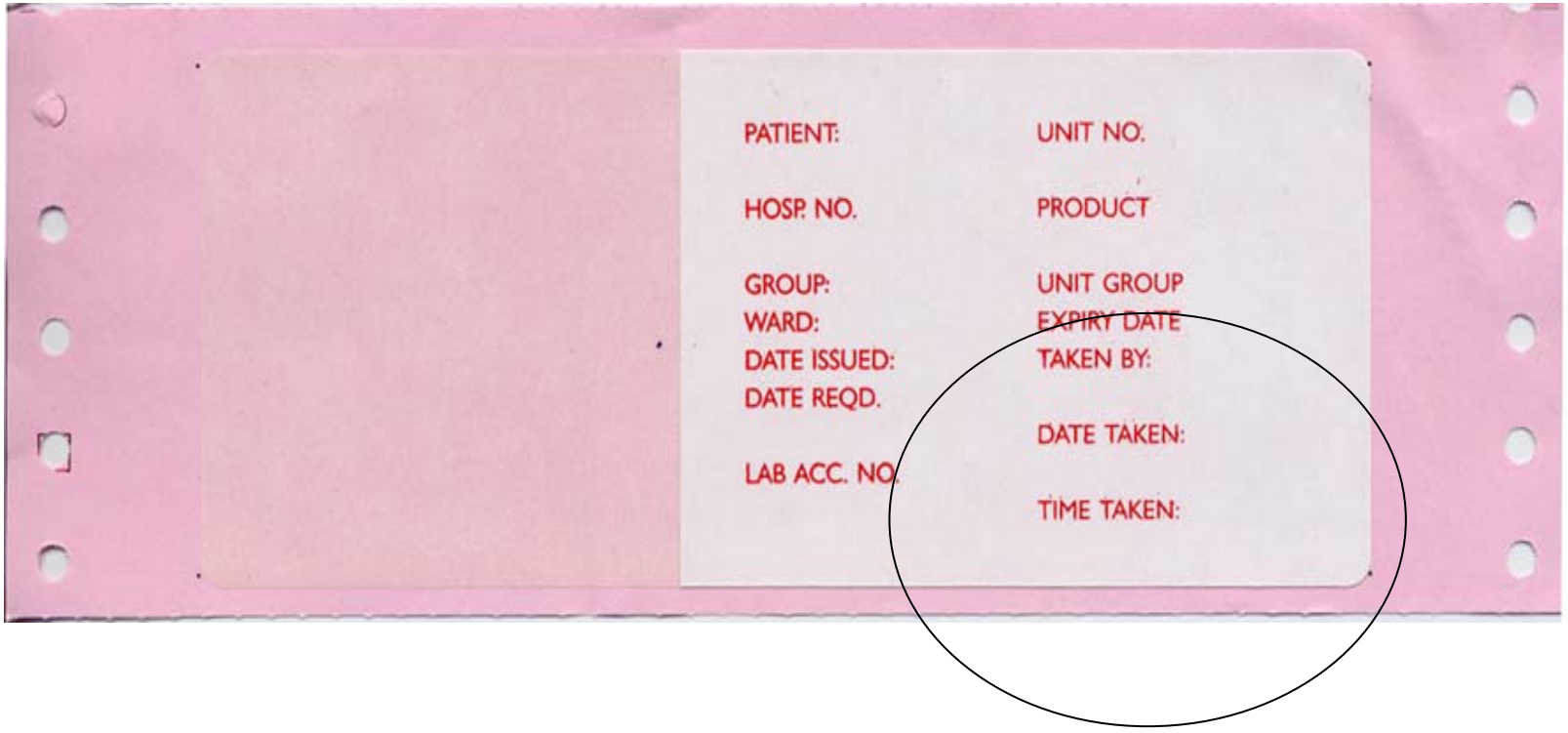
The Blood Safety and Quality Regulations 2005

Made - - - - -	*13th January 2005*
Laid before Parliament	*18th January 2005*
Coming into force	
For all purposes other than regulation 25(1)	*8th February 2005*
For the purposes of regulation 25(1)	*8th November 2005*

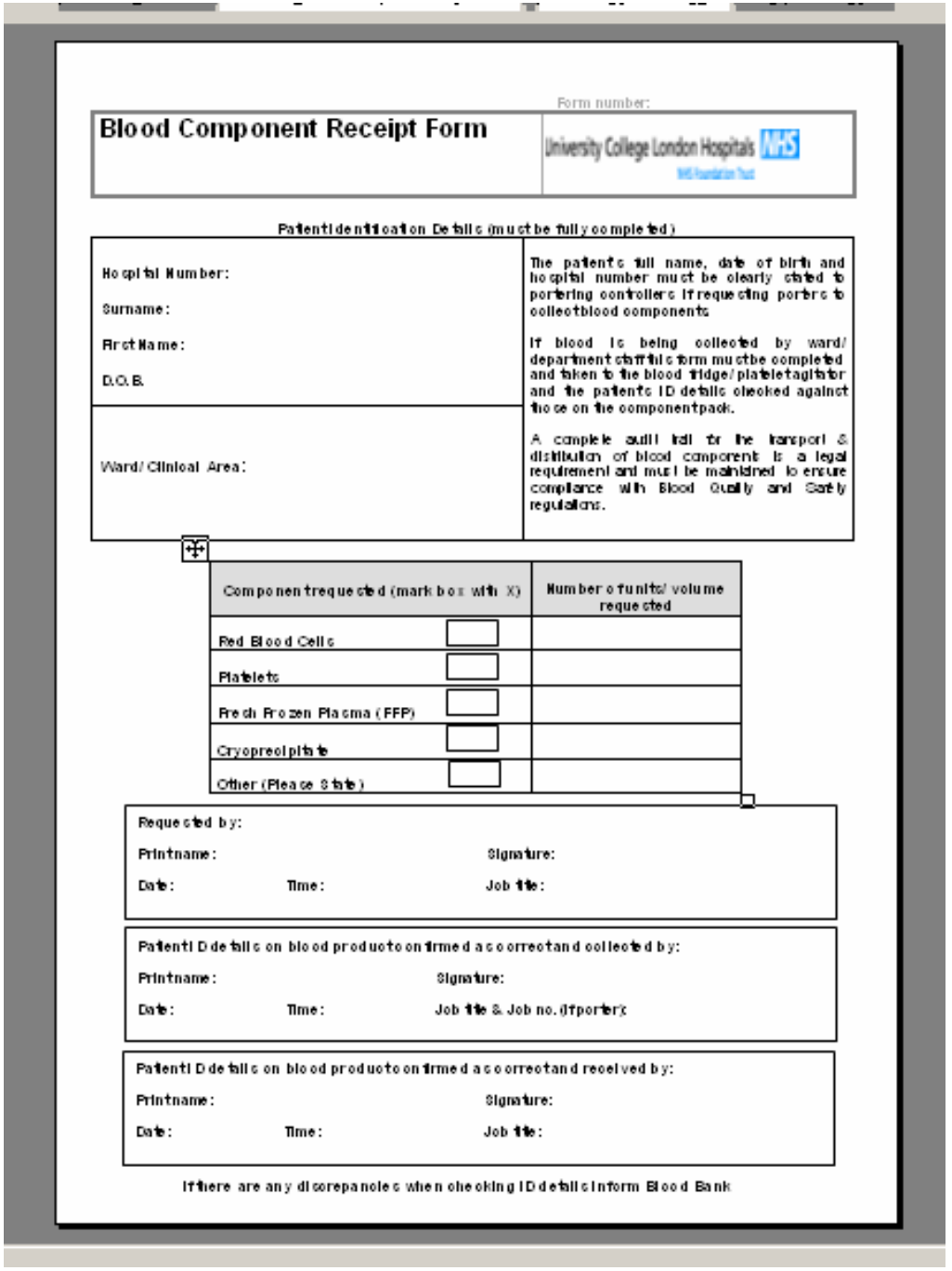
£6.00

Traceability

Slip must be signed and returned – only after you have confirmed identity of recipient



- Blood location
- Requesting blood products - porters
- Blood Fridges
- Blood Register
- Blood Receipt



Form number:

Blood Component Receipt Form

University College London Hospitals NHS

Patient identification Details (must be fully completed)

Hospital Number:

Surname:

First Name:

D.O.B.

Ward/ Clinical Area:

The patient's full name, date of birth and hospital number must be clearly stated to portering controllers if requesting porters to collect blood components

If blood is being collected by ward/ department staff this form must be completed and taken to the blood fridge/ platelet agitator and the patient's ID details checked against those on the component pack.

A complete audit trail for the transport & distribution of blood component is a legal requirement and must be maintained to ensure compliance with Blood Quality and Safety regulations.

Component requested (mark box with X)		Number of units/ volume requested
Red Blood Cells		
Platelets		
Fresh Frozen Plasma (FFP)		
Cryoprecipitate		
Other (Please State)		

Requested by:

Print name: Signature:

Date: Time: Job title:

Patient ID details on blood product confirmed as correct and collected by:

Print name: Signature:

Date: Time: Job title & Job no. of porter:

Patient ID details on blood product confirmed as correct and received by:

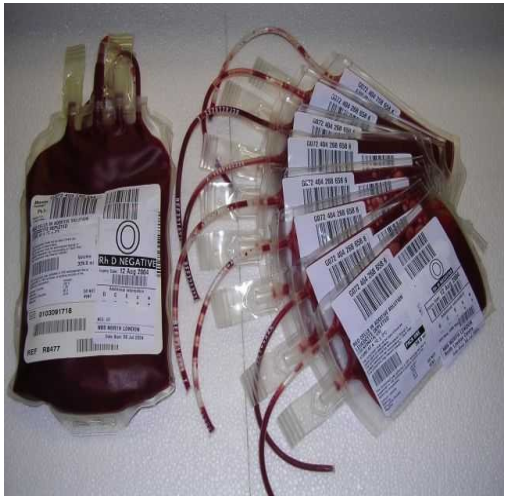
Print name: Signature:

Date: Time: Job title:

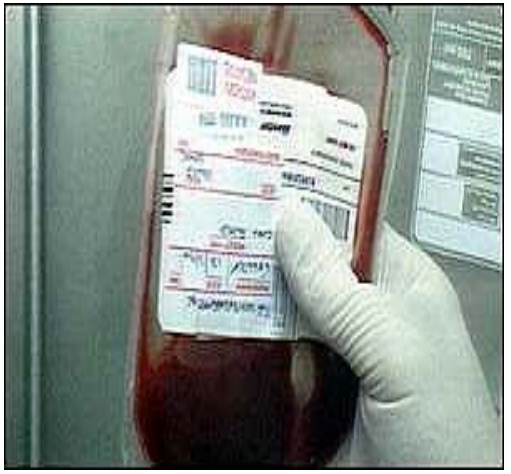
If there are any discrepancies when checking ID details inform Blood Bank

BLOOD PRODUCT REGISTER

THE MOVEMENT OF ALL BLOOD PRODUCTS INTO AND OUT OF THE BLOOD FRIDGE MUST BE RECORDED AT ALL TIMES.



A COMPLETE AUDIT TRAIL IS REQUIRED FOR COMPLIANCE WITH THE BLOOD QUALITY AND SAFETY REGULATIONS 2005



NEVER RETURN BLOOD TO THE FRIDGE WHICH HAS BEEN OUT FOR MORE THAN 30mins WITHOUT INFORMING THE LAB

BLOOD FRIDGES

- Blood that has been out of a blood fridge for more than 30 mins must never be put back in a blood fridge without labelling “not for transfusion” & informing Blood Bank.
- If the blood transfusion can’t be completed within 4hrs after removal, the blood is not safe for transfusion and Blood Bank must be informed so the unit can be fated and destroyed.

- Remember to check all patients details!
- Platelets must never go in a fridge.

Administration

- The final check for any blood product must be the patients wristband against details on pack; no wristband, no transfusion.
- Observations must be recorded, pre-transfusion, 15mins into, transfusion and post transfusion, even if on continuous monitoring.

- Red cell transfusion should not exceed 4 hours: Blood should remain in a blood fridge until ready to. check and transfuse.
- All blood products must be given through a set which has a 170-200 micron screen filter.
- Cryoprecipitate and FFP should be transfused rapidly: approx 10mls/min.

CMV NEGATIVE
COMPONENTS REQUIRED

Sig:

IRRADIATED
COMPONENTS REQUIRED

Sig:

IRRAD/CMV NEGATIVE
COMPONENTS REQUIRED

Sig:

Does your patient need blood with special requirements?

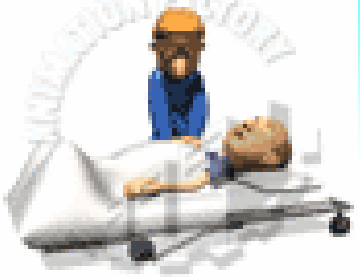
- CMV negative blood components help minimise the risk of cytomegalovirus (CMV) transmission
- Irradiated blood components are needed to prevent development of transfusion-associated graft-versus-host disease (TA-GvHD)
- Antigen negative red cells are required to prevent haemolytic transfusion reactions in patients with red cell antibodies

Label before irradiation

To show the blood product has been irradiated, the 'NOT' part of the label will disappear

Additional blood group information is detailed here

If the blood product is CMV Negative it will be stated here



ACUTE MASSIVE BLOOD LOSS

- **Complications of major blood loss and massive transfusion may jeopardize the survival of patients from many specialities. Avoidable deaths of patients with major haemorrhage are well recognised.**
- **Massive blood loss is normally defined as the loss of one blood volume in 24 hrs (normal blood volume approx 7% IBW adults & 8-9% in children). An alternative definition is loss of 50% blood volume in 3hrs and/or >150mls/min. (Adult - approx EBV 70mls/kg)**

ACUTE MASSIVE BLOOD LOSS

- **ANTICIPATE THE NEED FOR & ORDER COMPONENTS EARLY** additional platelets may need to be ordered from.

- Early and clear communication essential for optimal management – state ‘major haemorrhage’ when communicating with blood bank.

ACUTE MASSIVE BLOOD LOSS

- Blood loss is usually underestimated, haemoglobin and haematocrit values to not fall for some while after acute haemorrhage.
- Red cell transfusion is likely to be required when 30-40% of blood volume is lost; the loss of >40% blood volume is immediately life threatening.

ACUTE MASSIVE BLOOD LOSS

- Blood clotting factors may be severely diminished by blood loss and red cell transfusion alone will not replace.
- Disseminated intravascular coagulation may (D.I.C.) may occur.
- Recombinant Factor VIIa may be a consideration.

- REMEMBER DOCUMENTATION AND IDENTIFICATION

ACUTE MASSIVE BLOOD LOSS

- **Red cells**
  - **(In 70 Kg adult) : One unit of packed cells increases Hb by 1g/dl. 500ml loss represents 10% loss [approx.1g fall in Hb], 2000mls represents 40% loss [approx. 4g-5g fall in Hb]**
  - **a: Blood needed immediately: Group O RhD neg (Rh D pos may be suitable): Hb =<5g/dl (Emergency Stock). 40 -50% EBV Loss.**
  - **b: Blood needed within 20 to 45 minutes. Uncrossmatched group specific. (Hb =<8g/dl and ongoing blood loss)**
  - **c: Blood needed in 60 minutes: Full crossmatch.**

ACUTE MASSIVE BLOOD LOSS

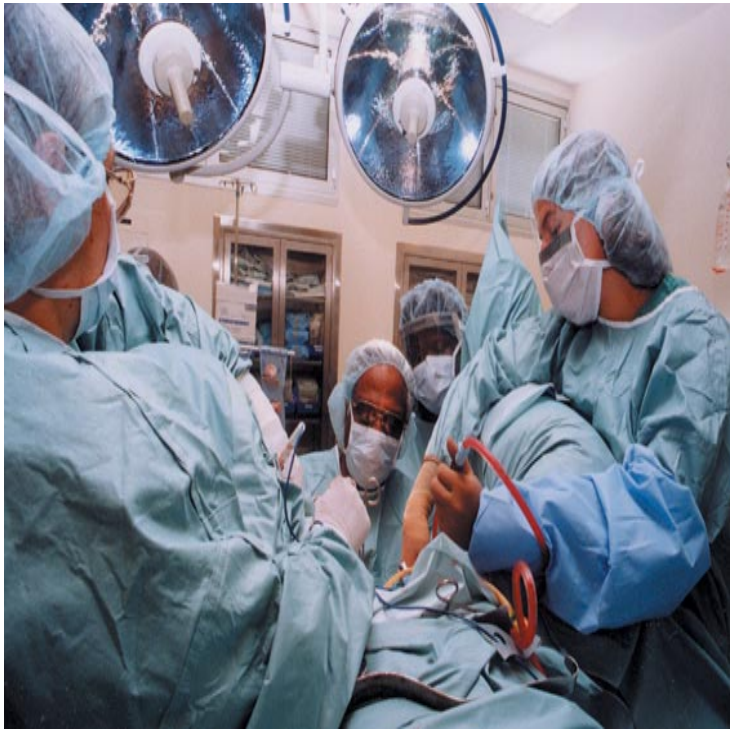
- **Platelets**
- **A platelet count of 50x10^9/L should be anticipated after approx 2 blood volumes have been replaced.**
- **Be prepared to request platelets in advance of need, if there is multiple trauma, head injury, abnormal platelet function (aspirin) or persistent active bleeding.**
- **Target values: 50 x 10^9/L *but* 100 x 10^9/L if multiple or CNS trauma or abnormal platelet function.**
- **Dosage: 1 -2 pooled packs of platelets for an adult.**

ACUTE MASSIVE BLOOD LOSS

- **Fresh frozen Plasma (FFP):**
  - **Anticipate coagulation factor deficiency after blood loss replacement > 1.5 EBV loss.**
  - **N.B.: Fluid resuscitation will further reduce coagulation factor levels because of dilution. FFP may be required early (>0.5 EBV) if there is ongoing blood loss and fluid replacement. FFP : Indicated if PT/aPTT > 1.5 x control. Dosage: 12 -15 mls/Kg body weight (4 packs for an adult).**
  - **Empirical treatment may be necessary if evidence of generalised bleeding and coagulation tests are not available**

ACUTE MASSIVE BLOOD LOSS

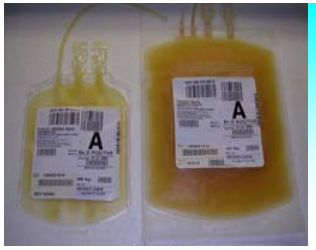
- **Cryoprecipitate:**
  - **Fibrinogen deficiency may develop when > 1 EBV replaced. Treat if Fibrinogen levels < 1.0g/dl.**
  - **Dosage: 1 unit /5 Kg body weight (10 -15 units for an adult – since November 2005 pooled product now 5 units per bag)**



PRESCRIBING

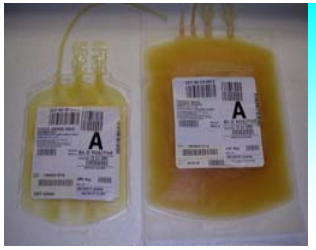
- The decision to transfuse should be made on an individual patient basis.
- Transfusion of allogeneic blood should not be carried out just to achieve normal Hb.
- Essential where Hb is 5gm/dl or below
- Strongly indicated where Hb below 7 gm/dl
- Can be required below 8gm/dl

- Cause of anaemia should be investigated esp. prior to routine surgery. RCT should not be used where effective alternatives exist.
- A normal red cell transfusion can be given in 2-3 hrs.
- Platelets should given over not more than 30 mins.



PRESCRIBING

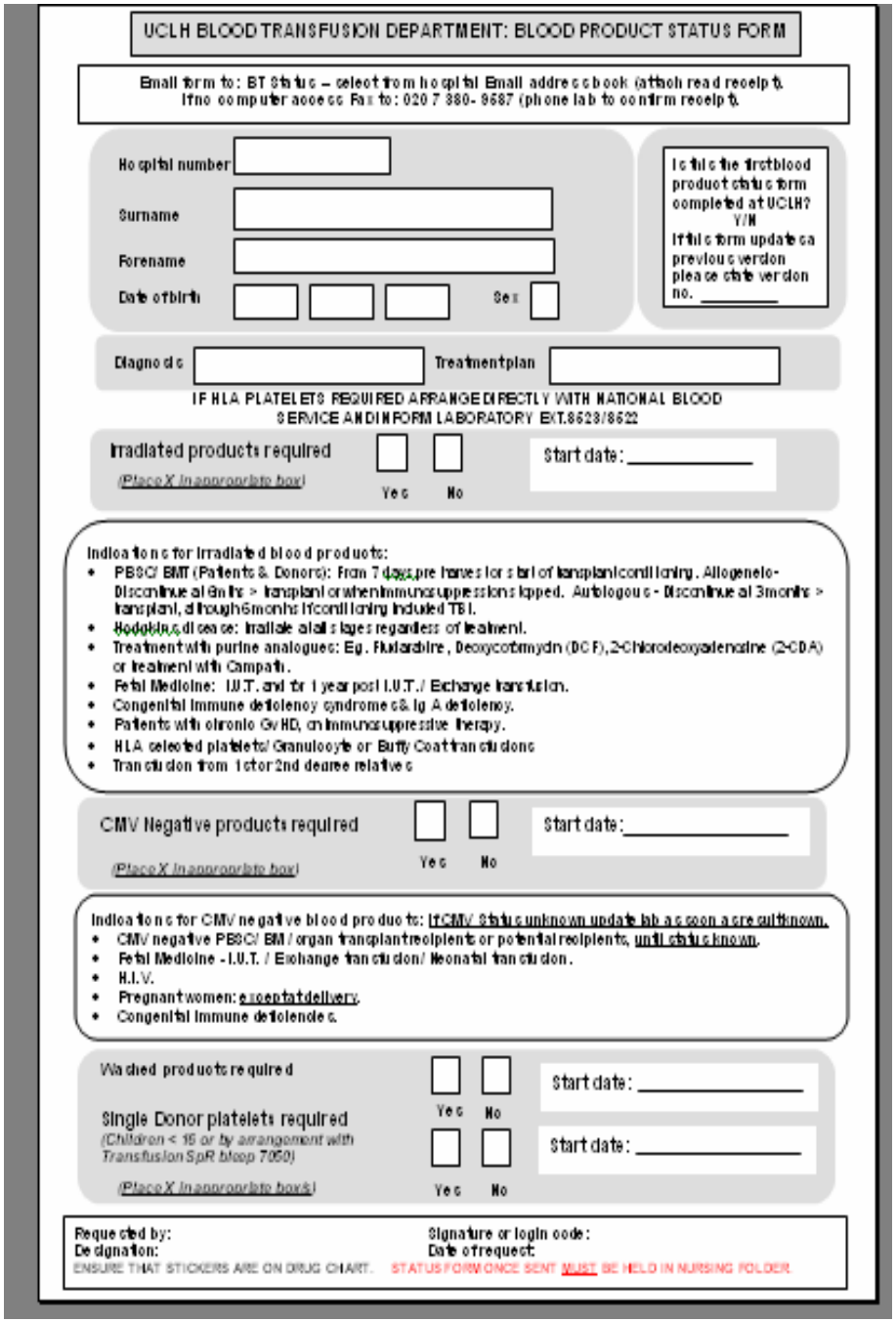
- **Platelets**
- **Dose: usually one pool**
- **Patient actively bleeding: indicated where**
  - **count <50 x 10^9/L**
  - **platelet function defect**
  - **acute DIC**
- **Patient NOT bleeding: indicated when**
  - **<10 x 10^9/L if temporary myelosuppression, (<20 x 10^9/L if fever or minor haemorrhagic signs)**
  - **<100 x 10^9/L if surgery on critical areas (brain,eye)**
  - **<50 x 10^9/L if patient is having lumbar puncture, transbronchial biopsy, insertion of indwelling catheter, liver biopsy etc**
  - **post cardiopulmonary bypass**



PRESCRIBING FFP

- **What is the patient's PT/APTT?**
- **Starting dose**: 12-15ml/Kg body weight **(approx. 4 bags in adult patient - often under prescribed)**
- **Indicated for**:
  - patients with DIC
  - patients with TTP (Octoplas now indicated first line)
  - Haemorrhage with coagulation abnormalities
  - Immediate reversal of Warfarin (pre-op) but MUST consider Vitamin K
  - Inherited deficiencies of coagulation (in absence of specific concentrates)
- **<u>May</u> be needed for**:
  - massive transfusion
  - bleeding or proposed surgery with Liver disease

- Patient Blood Transfusion Status forms must be sent to Blood Transfusion **BEFORE** blood products are requested.
- Email to **BT status** (attach a read receipt).
- If faxing ring the laboratory to confirm receipt.
- Print a copy of the form and the **current** copy must be kept in the patients folder.
- Review CMV status if unknown & amend status as soon as known if +ve



UCLH BLOOD TRANSFUSION DEPARTMENT: BLOOD PRODUCT STATUS FORM

Email form to: BT Status – select from hospital Email address book (attach read receipt).
If no computer access Fax to: 020 7 380- 9687 (phone lab to confirm receipt).

Hospital number
Surname
Forename
Date of birth
Sex

Is this the first blood product status form completed at UCLH? Y/N
If this form updates a previous version please state version no. _____

Diagnosis
Treatment plan

IF HLA PLATELETS REQUIRED ARRANGE DIRECTLY WITH NATIONAL BLOOD SERVICE AND INFORM LABORATORY EXT.8623/8622

Irradiated products required (Place X in appropriate box) Yes No Start date: _____

Indications for irradiated blood products:
- PBSC/ BMT (Patients & Donors): From 7 days pre harvest or start of transplant conditioning. Allogeneic - Discontinue all Units > transplant or when immunosuppression stopped. Autologous - Discontinue all 3 months > transplant, although 6 months if conditioning included TBI.
- Hodgkin's disease: Irradiate all cellular stages regardless of treatment.
- Treatment with purine analogues: Eg. Fludarabine, Deoxycoformycin (DCF), 2-Chlorodeoxyadenosine (2-CDA) or treatment with Campath.
- Fetal Medicine: I.U.T. and for 1 year post I.U.T./ Exchange transfusion.
- Congenital immune deficiency syndromes & Ig A deficiency.
- Patients with chronic GvHD, on immunosuppressive therapy.
- HLA selected platelets/ Granulocyte or Buffy Coat transfusions
- Transfusion from 1 or 2nd degree relatives

CMV Negative products required (Place X in appropriate box) Yes No Start date: _____

Indications for CMV negative blood products: If CMV Status unknown update lab as soon as result known.
- CMV negative PBSC/ BM / organ transplant recipients or potential recipients, until status known.
- Fetal Medicine - I.U.T. / Exchange transfusion/ Neonatal transfusion.
- H.I.V.
- Pregnant women: except at delivery.
- Congenital immune deficiencies.

Washed products required Yes No Start date: _____

Single Donor platelets required (Children < 16 or by arrangement with Transfusion SpR bleep 7050) Yes No Start date: _____

(Place X in appropriate box(s))

Requested by:
Designation:
Signature or login code:
Date of request:
ENSURE THAT STICKERS ARE ON DRUG CHART. STATUS FORM ONCE SENT MUST BE HELD IN NURSING FOLDER