Basildon and Thurrock University Hospitals NHS
NHS Foundation Trust

Document Title:	**Irradiated blood products - Pathway for requesting**
Document Purpose:	To provide healthcare professionals with clear guidance on the use of irradiated blood products.
Document Statement:	To provide a pathway for identifying patients with irradiated blood product requirements and ensure adequate documentation and safety flags are in place on the Blood Bank database.
Document Application:	All clinical areas and Blood Bank
Responsible for Implementation:	Hospital Transfusion Team, Hospital Transfusion Committee, Divisional Clinical Directors, General Managers, Heads of Nursing and Quality plus Laboratory Management and Laboratory Staff.

Main imperatives of this document are:

1. Patients considered for irradiated blood products should be flagged in the Blood bank data base.
2. Patients' special requirement for blood product transfusion must be made explicit in the clinical notes.
3. Patients should be advised of their need for irradiated blood products and provided with alert cards and information leaflets.

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Sponsor:		**Expiry Date:**	October 2022

Associated Documents

1. Transfusion guidelines on Procedure for the issue of blood components
2. Blood component requesting procedure including emergency requests.

APPROVAL RECORD

Validated by Facilitator:	Document Control Group	**Date:** Aug 2012
Agreed by Specialist Group:	Hospital Transfusion Committee	**Date:** Sept 2012
Agreed by Board Sub-Committee:		**Date:**
Approved:		**Date:**

DOCUMENT HISTORY

Revision History

Revision Date	Previous Revision Date	Summary of Changes	Changes marked
		New document	
March 2013	October 2012	Addition of procedure for shared care and referral letter in appendix 2 (minor change – forms approved by HTC and formal approval of document updated not required)	

Pathway for requesting Irradiated blood products

1. INTRODUCTION

Transfusion associated graft versus Host disease (TA-GVHD) is a very rare but usually fatal complication following transfusion of lymphocyte –containing blood components. The minimum number of transfused lymphocytes necessary to provoke a GVHD reaction is unknown and varies with clinical setting.

Gamma irradiation of cellular blood components has been the mainstay of TA-GVHD prevention and the practice was standardized in the UK following publication of the 1996 BCSH guidelines.

The risk associated with an individual transfusion depends on the number and viability of contaminating lymphocytes and the susceptibility of the recipient's immune system to their engraftment and degree of immunological disparity between patient and donor.

2. DEFINITIONS

This guideline describes the indications for the use of irradiated blood products and the pathway to ensure the early identification of the patients who require these products and to ensure appropriate measures are taken to prevent inadvertent administration of non-irradiated blood products.

3. ROLES AND RESPONSIBILITIES

Chief Executive:
The Chief Executive as the Accounting Officer has overall responsibility for the quality and safety of services provided by the Trust. In this respect, he/she is responsible for ensuring that the infrastructure required to support the delivery and implementation of this document is available. He/she will delegate the full implementation of this document to a relevant Executive Director.

Medical Director:
The Medical Director is responsible for ensuring that the necessary systems, processes, training and competency assessment (where appropriate) are available to ensure that all medical and dental staff are able to comply with the contents of this document. In addition, he/she is responsible for ensuring that the monitoring and audit of this document is undertaken and reported in the appropriate forum as indicated in the document.

Director of Nursing:
The Director of Nursing is responsible for ensuring that the necessary systems, processes, training and competency assessment (where appropriate) are available to ensure that all non-medical staff (nurses, midwives and allied health professionals) are able to comply with the contents of this document.

Divisional Clinical Directors:
The Divisional Clinical Directors are responsible for ensuring that systems and processes are in place throughout the Divisions to ensure that this document is disseminated appropriately and that monitoring of compliance is undertaken, with remedial action implemented as appropriate. In addition, the Divisional Clinical Directors are responsible for ensuring that all medical and dental staff comply with the contents of the document.

Divisional General Managers
The Divisional General Managers are responsible for implementing the systems and processes required throughout the Divisions to ensure that this document is disseminated appropriately and that monitoring of compliance is undertaken, with remedial action implemented as appropriate.

Heads of Nursing and Quality:
The Heads of Nursing/Midwifery and Quality (HoNQs) are responsible for ensuring that this document is fully implemented at ward and department level. This will include making sure all relevant and necessary training is given and received, that the introduction of the document is monitored and therefore assessing the impact this is having on service delivery. In addition, the HoNQs are responsible for ensuring that the required monitoring and audit are undertaken, with the resources provided to support this.

Clinical Service Unit Clinical Leads/ Unit Managers:
Clinical Service Unit Clinical Leads and Unit Managers are responsible for implementing this document in the Clinical Service Unit and for monitoring and reporting compliance with the document. They are accountable to the Divisional Clinical Director and General Manager in this respect.

Supervisors of Midwives:
The SoM is statutorily responsible for document development, implementation and compliance monitoring across the midwifery spectrum. They are accountable to the LSMO for all elements of midwifery professional performance.

Lead Nurses:
Lead Nurses are responsible for ensuring that all nursing staff (including Nurse Specialists, Practitioners/Advisors) within the Clinical Service Unit comply with the contents of this document and for taking action when this is not the case.

Medical Staff
The Consultant holds ultimate responsibility for ensuring that all members of the medical team follow the document contained within this document.

Senior Sisters/Nursing Staff
The Senior Sister/nurse in charge is accountable for the safe care and management of patient on the ward. They are therefore responsible for ensuring that all staff within the ward comply with this document and for implementing a system to provide assurance that is the case.

Laboratory Management
The Laboratory Management must ensure all laboratory staff involved in the blood transfusion process are adequately trained. This includes yearly training and competency assessment in duties associated with the issuing of blood products, including taking requests for blood, recording information provided and Good Manufacturing Practice (GMP) training.

The Blood Transfusion Laboratory Staff
Blood Transfusion Laboratory staff are responsible for ensuring that blood products/components are made available at the request of medical staff in accordance with this policy. Staff must ensure that blood components are suitable for the relevant patient as identified on the supplied pre transfusion blood sample and that safe working practises are adhered to.

All staff involved in blood transfusion practice
All staff involved in blood transfusion practice are responsible for ensuring that they update their knowledge, are conversant with current Trust policies and procedures, have successfully completed relevant training and are authorised to undertake these duties.
Individual members of staff must ensure they are aware of their responsibilities and the key role they play in the delivery of a safe and effective blood transfusion service.

The Hospital Transfusion Committee (HTC)
The HTC is responsible for monitoring and reviewing blood transfusion practice throughout the Trust for the safe and appropriate use of blood products and for agreeing changes in practice to improve its safety and efficacy. This also includes reviewing policies, local protocols and practices for requesting and obtaining blood in both routine and emergency situations (inc. out of hours), ensuring that they include all the actions required by clinical teams, laboratories and support services, e.g. portering and transport staff/drivers and any specific action pertinent to sites without an on-site transfusion laboratory.

The Hospital Transfusion Team (HTT)
The HTT is responsible for ensuring that all aspects of transfusion practice are audited, appropriate corrective actions implemented and reported to the HTC.

4.0 Procedure and Actions

NOTE: Doctors who prescribe blood products, Blood bank staffs who issue the blood products and authorised Nurses who administer the blood transfusions are responsible for correctly following and applying this policy.

4.1 Haematologists and all clinicians who prescribe blood products should be aware that patients with haematological disorders may have special blood transfusion requirements. This is to prevent TA-GVHD in patients with certain clinical situation.

4.2 These patients should be identified at the earliest opportunity (at the time of diagnosis such as in Hodgkin's disease or at the time of treatment initiation with certain chemotherapy agents or when they require transfusion of blood or its cellular components).

4.3 Once identified, the Haematologist should complete the chemotherapy referral form with this specific requirement completed and handover to the Chemo Trained Nurses (CTN) in the Haematology Day Unit (HDU).

4.4 Chemo Trained Nurse in the HDU completes the special requirement form and takes it to the blood bank and waits whilst the blood bank staff update the patient's computer records.

4.5 The blood bank staff then add the flag the patient record on the Blood Bank computer data base as 'patient require irradiated blood product'.

4.6 Blood bank staff then writes on the form that the flag has been added and sign and date the form.

4.7 The Blood bank staff photocopies the form and hands the original back to the CTN and leaves the photocopied form on the Chief Biomedical Sciences (BMS) desk. This will alert the Chief BMS to update the database of patients requiring special blood products.

4.8 Chemo trained Nurse then files these forms in the special folder in Haematology Day Unit. CTN also places the alert stickers in the patient's healthcare records.

4.9 CTN provides the information leaflets and the alert cards and verbal information to the patient along with induction counselling at the initiation of chemotherapy.

4.10 Patients who are shared care with the Tertiary Centres or those who are not known to local Haematologist should be checked for any special requirements at the time of each transfusion episode by the clinician prescribing the blood product (see appendix 2).

5. Indications for Irradiated Blood Products

The use of Irradiated blood / products is indicated in the following incidences:

- **Allogeneic bone marrow recipients** (from time of conditioning with chemo or radiotherapy)
- **Allogeneic bone marrow and stem cell donors** (one month prior to harvest and until harvest(s) completed)
- **Autologous bone marrow or peripheral blood-stem cell transplant recipients** (from 7 days prior to harvest)
- **All donations from HLA matched donors or first or second degree relatives**
- **Hodgkin's Disease Patients – all age groups**
- **Aplastic Anaemia Patients receiving ATG**
- **Alemtuzumab** Treated Patients (Campath-IH/anti-CD52)
- **Patients treated with purine analogue drugs such as fludarabine, 2deoxycoformycin, cladribine, clofarabine, bendamustine**
- **Congenital immunodeficiency state patients**
- **Exchange transfusions for neonates**
- **Intrauterine / foetal transfusion**
- **Neonates that have received Intrauterine / foetal transfusion (**9 months from birth).

Details of Blood components:

Please note irradiation of blood and components is only required for Packed Red Cells, Granulocyte and platelet transfusions.

Fresh Frozen plasma and Cryoprecipitate do not require irradiation process**.**

IT IS THE RESPONSIBILITY OF THE PHYSICIAN REQUESTING BLOOD TO ENSURE THAT THE LABORATORY IS NOTIFIED IF SPECIAL PRODUCTS ARE REQUIRED. IF IN DOUBT, DISCUSS WITH CONSULTANT HAEMATOLOGIST OR CONTACT THE BLOOD BANK.

6. Training and Education

All laboratory staff involved in the blood transfusion process must be adequately trained. This includes yearly training and competency assessment in duties associated with the issuing of blood products, including taking requests for blood, recording information provided and Good Manufacturing Practice (GMP) training.

7. Approval Route

The procedure will be agreed with the Hospital Transfusion Committee.

8. Implementation

All staff can access the procedure electronically via the HUB and hard copies will be available in the hard copy document libraries

9. Monitoring and Audit arrangements

Compliance with respect to Blood Transfusion clinical practice is monitored through clinical audit, where appropriate by the Hospital Transfusion Team and the Hospital Transfusion Committee and results disseminated to users.

Compliance with respect to Blood Transfusion laboratory practice is monitored by regularly auditing the successful completion of Laboratory training and competency assessments. The training and competency assessments focus on areas of blood requesting / issuing associated with clinical risk. Laboratory staff are required to participate in an annual blood transfusion competency exercise which covers bench based competency and also includes the successful completion of a questionnaire which cover areas of concern and high risk such as patients who require irradiated blood products.

Blood Transfusion clinical incidents (undesirable outcomes of transfusion) are reported via the Trust Clinical Incident reporting system investigated and reviewed at HTC meetings; outcomes along with recommendations for change must be fed back to staff.

The effectiveness of the Blood request procedure will be measured by:

- A reduction in the number of reported blood transfusion related clinical incidents
- A reduction in the number of adverse reactions, events and near misses reported to SABRE or SHOT (the Serious Hazards of Transfusion) reporting schemes
- Continuous improvement in practice as demonstrated through participation in local and National Blood Transfusion audit.

10. AUTHOR AND CONTENT CONTRIBUTORS

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11. REFERENCES

British Committee for standards in Haematology (Guidelines on the use of irradiated blood components published in 2010 BJH 152, 35-51**.**

APPENDIX 1 **Procedure for Requesting Irradiated Blood Products**

Haematologist

Identifies Patient's need for irradiated blood

Complete special requirement section in the chemotherapy referral form

Hand over the form to Chemo trained Nurse (CTN) in Haematology Day unit (HDU)

Chemo trained Nurse (CTN) completes the special blood requirement Form, Place alert stickers in notes and give/send patient information leaflets and alert cards

CTN hand the form to Blood bank Staff (BBS)

Blood Bank staff Flag the patient computer data as **"Patient requires irradiated blood products"**

Blood Bank staff return the form to Haematology Day Unit with acknowledgement (signature)

Haematology CTN to file it in the special folder for future reference

All clinicians

When requesting blood products for patients with haematological disorders, the clinician should check with patient/notes/haematologist need for special requirements

Blood Bank staff should routinely ask all clinicians requesting blood products for patients with haematological disorders for any special requirements

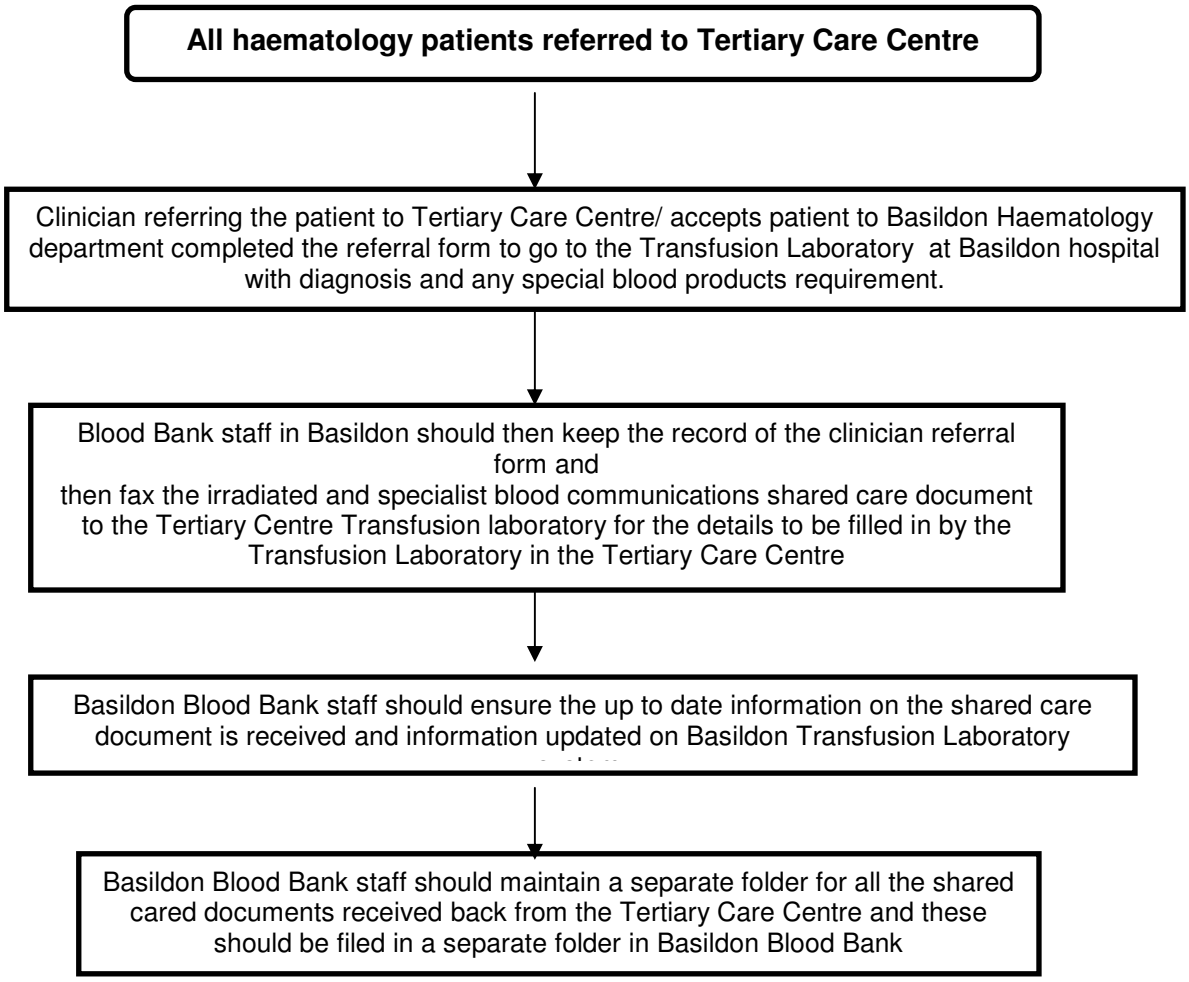
Clinicians then inform the blood bank staff who can issue appropriate blood products and f**lag the patient computer database as "Patient requires irradiated blood products**

When new patients not known to Basildon Hospital haematologists are added on to database, Blood bank staff should inform Consultant haematologist on-call via email and ensure appropriateness is assessed at the earliest opportunity and necessary forms are completed.

APPENDIX 2

SOP for Ensuring Shared care form received to our blood bank when a haematology patient is referred to the Tertiary Care Centre or accepted by the Haematology Department at Basildon Hospital.

- There is an existing yellow coloured form for sharing information across the Blood Transfusion laboratories.
- This is prepared for the entire region.
- Steps to be followed when a haematology patient is referred to Tertiary Care Centre Trust or accepted by Haematology Department at Basildon hospital.



- Blood Transfusion Managers should ensure there is a good supply of the shared care documents in the Transfusion Laboratory for the laboratory staff to fax it across to the Tertiary Trust to send the necessary information

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Referral letter to the Blood Transfusion Laboratory for haematology patients referred to the Tertiary Care Centre for further treatment

Date-……

Dear Transfusion Laboratory Basildon Hospital

Name of Patient-……

Hospital Number……

NHS Number ……..

Date of Birth-……

Male / Female

Haematological diagnosis……..

Basildon Consultant Haematologist……

Tertiary Care centre Referred to……

…….

Special Blood product requirement

Irradiated products –Yes/ No

CMV negative—Yes / No

Sickle cell disease/ trait-Red cell phenotype……..

Thank you

Signature…….
Name of the Clinician/ Nurse……