



Information for  
patients needing  
irradiated blood



This information sheet has been prepared to help answer questions that may be raised by patients who need irradiated blood products, their parents or relatives.

Your hospital will keep a record that you, your child or relative, need irradiated blood, but the enclosed card is an additional safeguard in case the relevant records are not available or if you are being treated at another hospital. You should show the card to the doctor if you, your child or relative (as appropriate) needs a transfusion in the future.

## Why is irradiated blood needed?

Irradiated blood is given to prevent a rare complication of transfusion called transfusion-associated graft-versus-host disease (TA-GvHD).

## What is TA-GvHD?

TA-GvHD is a rare but serious complication of blood transfusion caused by white blood cells (lymphocytes) in the blood transfused. Even a very small number of lymphocytes may recognise the patient receiving the blood as 'foreign', and cause a severe illness or even death.

## Which patients are at increased risk of TA-GvHD?

Some patients are at particular risk of TA-GvHD. These include:

- patients receiving transfusions from family members or HLA-matched donors
- patients with inherited deficiencies in immunity
- patients with acquired deficiencies in immunity, either because of a disease such as Hodgkin's disease or because of treatment with 'purine analogue' drugs such as fludarabine, cladribine or deoxycoformycin or because they have undergone procedures such as bone marrow/stem cell transplantation
- unborn babies and babies needing exchange transfusions who have been transfused in utero

Some patients remain at increased risk of TA-GvHD for a short period, but some are at increased risk life-long e.g. patients with inherited immune deficiencies and patients with Hodgkin's disease.

Some hospitals recommend that patients who have had an allogeneic bone marrow/stem cell transplant should have irradiated blood for a limited period, and some recommend that it should be used for the rest of the patient's life. Your doctor will advise you whether you, your child or relative will need irradiated blood for a limited period or indefinitely.

## How does irradiation work?

Gamma-irradiation of blood prevents lymphocytes dividing and causing harm.

## Do all types of blood need to be irradiated?

Red cell (blood) and platelet transfusions are not routinely irradiated for all patients, and need to be irradiated 'on demand' for specific patients. It is important that doctors are aware if their patients need irradiated blood as they need to order it specially.

All granulocyte (white cell) transfusions are routinely irradiated. Plasma products such as fresh frozen plasma, anti-D, albumin, immunoglobulin do not need to be irradiated.

## Does irradiation damage the blood?

It is not thought to cause any significant damage. The blood does not become 'radioactive' and will not harm you or anyone around you.

## What if blood is needed in an emergency?

Although irradiated blood is recommended, the risk of TA-GvHD is very small. In emergencies, there may not be time to arrange for irradiated blood to be provided. There may be occasions when it is more important to provide blood quickly than to wait for irradiated blood. The doctor treating you will judge the balance of these risks.

If you have any further questions, please ask the doctor treating you.



**THIS PATIENT IS AT RISK OF  
TRANSFUSION-ASSOCIATED  
GRAFT- VERSUS-HOST  
DISEASE**

If this patient needs to have a blood  
transfusion, cellular blood components  
(Red Cells and Platelets) must be **GAMMA-IRRADIATED**



*Please inform your blood  
transfusion laboratory*

Please detach the card, complete the details  
on the reverse and hand to the patient.



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*Please inform your blood  
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Please attach this sticker to the patient's notes.



This leaflet and card were prepared by the British  
Committee for Standards in Haematology in collaboration  
with the National Blood Service Clinical Policies Group