

## Information for patients needing irradiated blood

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Irradiated blood refers to blood that has been treated with radiation such as x-rays or other types of radioactivity to prevent a condition called Transfusion-Associated Graft-Versus-Host Disease (TA-GvHD).

### What is TA-GvHD?

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TA-GvHD is a blood transfusion complication caused by lymphocytes in transfused blood. Lymphocytes are a specific type of white blood cell. TA-GvHD occurs when lymphocytes engraft and attack the host. While TV-GvHD is a rare disease, it can be a serious complication of blood transfusion. It only takes a small number of lymphocytes from the donated blood to recognise the patient receiving the blood as 'foreign' which can cause severe illness or death.

### How does irradiation work?

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Irradiation of the blood components prevents the white cells from the donor from replicating and mounting an immune response against a vulnerable patient.

### Who is at increased risk of TA-GvHD?

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Some patients are more susceptible to TA-GvHD. Some such patients are:

- Transfusions between family members, tissue-type matched donors or granulocyte donors. (Granulocytes are a type of white blood cell)
- Patients who have a hereditary immune system disorder
- Patients with Hodgkin's disease
- Patients who have developed immune system disorders due to treatment with certain drugs or have received a bone marrow/stem cell transplant.
- An unborn baby or baby who needs exchange transfusions.

The risk of TA-GvHD can either be temporary or remain a life-long problem for some patients. Patients with immune system disorders or Hodgkin's disease are at a higher risk of developing TA-GvHD for an extended period.

The period of risk for TA-GvHD is not always known. Our doctor will make recommendations that are best suited to your case.

If you are at risk of TA-GvHD, you must inform your medical team that you need irradiated blood products.

## Is all blood routinely irradiated?

Both red cell and platelet transfusions are not routinely irradiated. Our doctors will request for irradiated blood products if you are at risk.

On the other hand, granulocyte and tissue type matched transfusions are routinely irradiated. Fresh frozen plasma and plasma products such as anti-D, albumin and immunoglobulin do not contain lymphocytes or cause TA-GvHD. Therefore, there is no need for them to be irradiated.

## Does irradiation damage my blood?

Irradiated blood does not become radioactive or pose any risk to you or anyone around you. Irradiation of the blood does not cause any significant damage.

## What if I need blood in an emergency?

While irradiated blood is best, receiving non-irradiated blood poses only a small risk of TA-GvHD. In an emergency, time constraints may mean there is not enough time to acquire irradiated blood. The doctor treating you in an emergency may determine that it is more crucial for your body to receive blood quickly.

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