

Fresh Frozen Plasma (FFP) and Cryoprecipitate

Patient information



What are Fresh Frozen Plasma (FFP) and Cryoprecipitate?

FFP and Cryoprecipitate (often just called 'cryo') are both blood components made from plasma. Plasma is the yellow liquid that carries red cells, white cells and platelets within the blood vessels around the body. It contains vital proteins known as clotting factors. These clotting factors help to control bleeding and work together with platelets to ensure that blood clots effectively when needed, for example when you cut yourself.

FFP is made from plasma which is separated from donor blood and frozen to minus 35° Centigrade to preserve it.

Cryo is made from FFP which is frozen and repeatedly thawed in a laboratory to produce a source of concentrated clotting factors including Factor VIII, von Willebrand factor and fibrinogen.

FFP and cryo are stored as frozen packs until needed. They are then thawed in the laboratory before being sent to the ward. Both these blood components are yellow in colour.

What are FFP and cryo used for?

FFP and cryo can be used to treat a number of different conditions and diseases where clotting is a problem. For example, they can be given alongside red cells and platelets when patients have lost a large amount of blood or have problems with the way their blood is clotting.

FFP can also be used as a treatment for patients who lack specific clotting factors, these are known by the Roman Numerals II, V, VII, IX, X, and XI. Some people are born without one or more of these clotting factors or develop diseases that destroy them in the body. If this is the case, they need to have them replaced by transfusions of FFP in some situations or with an alternative medicine where it is available.



Like all medical treatments, FFP or cryo should only be given if it is essential. Where possible, your doctor, nurse or midwife (or other healthcare professional) should discuss the risks and possible alternatives with you, before obtaining your consent for the procedure.

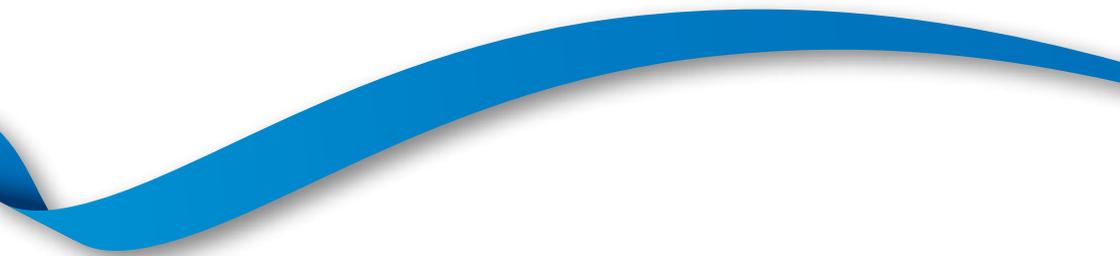
Risks associated with FFP and cryo transfusions

The risk that FFP or cryo will cause severe harm or even death is very low but this should be discussed with your healthcare professional. One of the most important checks for a safe transfusion is to make sure you get the right component. You can help reduce the small risk of being given the wrong one by asking your healthcare professional to check that it is the right bag for you.

You must be correctly identified at each stage of the transfusion to make sure that you get the right component, including when blood samples are taken before the transfusion. **If you are an in-patient, wearing an identification band with your correct details is essential.** You will be asked to state your full name and date of birth and this will be checked against your identification band. If you have your blood samples taken as an out-patient, you will not usually be given an identification band to wear, but it is still important that the staff ask you your full name and date of birth to confirm they are taking the samples from the right person. It is **alright** to remind the healthcare professional to ask you for this information.

Compared to other everyday risks, the likelihood of getting an infection from a transfusion of FFP or cryo is very low. All blood donors are unpaid volunteers and the risk of an infected unit entering the UK blood supply continues to decrease¹. Donors and blood donations are screened for a number of infections which can be transmitted through blood, but it is not practical or even possible to screen all donations for all infections, therefore there will always be a small risk associated with having a transfusion.

The risk of getting variant Creutzfeldt-Jakob Disease (vCJD) from a transfusion is extremely low. Each year, approximately 2.6 million blood components are transfused in the United Kingdom and there have been only a handful of cases where patients are known to have become infected with vCJD.



More information on vCJD can be found on the NHS Choices website:
<http://www.nhs.uk/conditions/Creutzfeldt-Jakob-disease/Pages/Introduction.aspx>

Further information on the risks of transfusion can be found at:
<http://www.shotuk.org/home/>

How will a transfusion of FFP or cryo be given and how will I feel?

These frozen components are thawed in the laboratory before being sent to the ward and are usually given to patients through a tiny tube directly into a vein in the arm. Most people do not feel anything unusual during a blood transfusion. You will be observed before, during and after your blood transfusion; if you feel unwell during or after it you should inform your healthcare professional immediately. Some people may develop a temperature, chills, a rash or breathing difficulties. These reactions are usually mild and are easily treated with medicines such as paracetamol and antihistamines, or by slowing down or stopping the blood transfusion. Severe reactions to blood transfusions are extremely rare. If they do occur, staff are trained to recognise and treat them.

Each pack of FFP contains 200-300mL and takes around 30 minutes to transfuse.

Each pack of cryo contains approximately 200mL and also takes around 30 minutes to transfuse.

You may be given more than one pack as part of your treatment.

What if I have worries about receiving a transfusion of FFP or cryo?

If you are worried or have any questions, please talk to your healthcare professional. They may also discuss with you the use of other alternatives to replace clotting factors if they are suitable for you. Many hospitals have a dedicated Hospital Transfusion Team and if appropriate, they may be able to come and discuss your concerns with you.



Patient Blood Management (PBM)

PBM is a standard of care that focuses on measures to reduce or avoid the need for a blood transfusion if possible. However, if a transfusion is needed, it makes sure that patients are given only what they really need and that the transfusion is given safely. There is a NHS Blood and Transplant (NHSBT) PBM Patient Information Leaflet available that explains things in more detail so please ask your nurse or doctor for a copy.

Recent studies suggest that if PBM is followed and transfusion is reduced or avoided, patients have fewer complications, faster recoveries and shorter stays in hospital.

During your treatment, a transfusion of red cells or other blood component such as platelets may be required. If so, there are other patient information leaflets available from NHSBT such as *"Will I need a blood transfusion?"* that may help explain things for you. Please ask your healthcare professional for a copy of the other leaflets that are suitable for your proposed treatment pathway.

Additional Information

As a precautionary measure to reduce the risk of transmitting vCJD, people who have received a transfusion of blood or any blood component since 1980 are currently unable to donate blood or blood components.

Further information on red cells, platelets and PBM is available in other patient information leaflets. Please ask your healthcare professional if you would like a copy of these.

If you are interested in finding out more about transfusion and have access to the internet, you may find the following websites useful:

NHS Choices:

www.nhs.uk/Conditions/Blood-transfusion/Pages/Introduction.aspx

NHS Blood and Transplant:

www.nhsbt.nhs.uk/what-we-do/blood-transfusion/

Reference

1. Public Health England (2014) Bloodborne infections in blood, tissue and organ donors (BIBD): guidance, data and analysis.

See: www.gov.uk/government/collections/bloodborne-infections-in-blood-and-tissue-donors-bibd-guidance-data-and-analysis

We would welcome your feedback and comments on this leaflet.
You can contact us in the following ways:

By post to:

Customer Services, NHS Blood and Transplant, Part Academic Block – Level 2,
John Radcliffe Hospital, Headley Way, Headington, Oxford, OX3 9BQ

By email to: nhsbt.customerservice@nhsbt.nhs.uk

Or by phone: 01865 381010.

This leaflet was prepared by NHS Blood and Transplant in collaboration with the National Blood Transfusion Committee. Further supplies can be obtained by accessing <https://hospital.nhsbtleaflets.co.uk>

Individual copies of this leaflet can be obtained by calling **01865 381010**.

NHS Blood and Transplant (NHSBT) is a Special Health Authority within the NHS and provides the blood that patients receive. In order to plan for future blood demands, information about which patients receive blood needs to be gathered. We may ask a hospital or GP to provide limited medical information on a sample of patients who have received blood transfusions.

Any information that is passed on to NHSBT is held securely and the rights of these patients are protected under the Data Protection Act (1998).

NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe and reliable supply of blood components, organs, stem cells, tissues and related services to the NHS and other UK health services.

We manage the UK-wide voluntary donation system for blood, tissues, organs and stem cells, and turn these donations into products that can be used safely to save lives or radically improve the quality of people's lives.

We rely on thousands of members of the public who voluntarily donate their blood, organs, tissues and stem cells. Their generosity means each year we're able to supply around 2 million units of blood to hospitals in England and 7,500 organ and tissue donations within the UK, which save or improve thousands more people's lives.

For more information

Visit nhsbt.nhs.uk

Email enquiries@nhsbt.nhs.uk

Call **0300 123 23 23**