

Hepatitis E virus (HEV) negative blood components

Information for Healthcare Professionals

What is hepatitis E virus?

The hepatitis E virus (HEV) is found throughout the world in both humans and animals, especially pigs. It is a RNA virus and has 4 genotypes: the one commonly found in the UK is genotype 3.

The most common route of infection in the UK is from eating raw or undercooked meat (particularly pork products) and shellfish; however, HEV can be transmitted via blood transfusion and solid organ transplantation.

Incidence of HEV in the UK has been increasing considerably since 2011. It is likely that as many as 100,000 persons may suffer acute infections each year and that less than 1 in 100 will have any illness at all¹. The majority of people who become infected with HEV have no symptoms and the infection clears completely within a couple of months. HEV may pose a risk of harm to immunocompromised patients; they may be unable to clear the infection, which may then become persistent, potentially leading to chronic inflammation of the liver and cirrhosis.

HEV and blood transfusion

A study carried out in 2012/13 showed that approximately 1 in 3000 blood donors in the south of England had HEV at the time of donation.

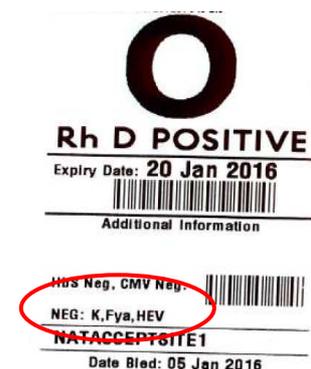
HEV is not easily transmitted from person to person and although it can be passed on through blood transfusion and solid organ transplantation, transfusion/transplantation-transmitted HEV infection rarely causes acute morbidity. While the risk of HEV to the general population is negligible, the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) has now recommended that certain patient groups who are immunocompromised/immunosuppressed should receive HEV negative blood components. Unlike screening for cytomegalovirus (CMV), this recommendation is being applied to both cellular components (i.e. red cells, platelets and granulocytes) and plasma components (fresh frozen plasma and cryoprecipitate).

What are HEV negative blood components?

HEV negative components are manufactured from donations that have been tested and confirmed as negative for HEV. All NHS Blood and Transplant (NHSBT) components can be requested as HEV negative. This will not be performed universally, but will be carried out on a selected proportion of blood components.

However, the following NHSBT components will be provided as HEV negative as standard:

- Red cells for neonatal use
- Platelets for neonatal use
- Red cells for intrauterine transfusion
- Platelets for intrauterine transfusion
- Red cells in additive solution for large volume transfusion
- Red cells, irradiated, for exchange transfusion (neonatal)
- Pooled granulocytes, irradiated



How will I know if the blood components are HEV negative?

All components tested by NHSBT and confirmed negative will be labelled 'NEG: HEV'. See specimen blood pack label above.

Non-UK plasma components issued by NHSBT, i.e. methylene blue (MB) FFP and MB Cryoprecipitate, will have already been tested and confirmed as HEV negative in the country of donation (Austria); these components do not show 'NEG:HEV' on the blood pack label.

All MB FFP and MB Cryoprecipitate components are HEV negative.

Which patients need to receive HEV negative blood components?

- Patients awaiting solid organ transplant (SOT) – from 3 months prior to date of planned elective SOT or from the date of listing.
- Patients who have had SOT – for as long as the patient is taking immunosuppressants.
- Patients with acute leukaemia – from diagnosis (unless/until a decision is made not to proceed with stem cell transplant).
- Patients awaiting allogeneic stem cell transplant – from 3 months prior to the date of planned transplant and up to 6 months following transplant, or for as long as the patient is immunosuppressed.
- Extra corporeal procedures – only included if within above indications.

In addition, NHSBT will provide HEV negative components for neonates and infants under the age of one year.

Note: If you are ordering an adult component for a neonate or infant under the age of one year then you will need to specify that this needs to be HEV negative at the time of request.

For some patients, HEV negative blood components may only be needed for a short period of time, usually until the immune system is back to working as normal.

Any transfusion request for these patients should include the requirement for HEV negative blood components in the clinical information.

Who should you inform if your patient requires HEV negative blood components?

It is vital that you inform your hospital transfusion laboratory of your patient's requirement for HEV negative components as soon as it is identified, as well as the nursing team looking after the patient, and also any other hospital you might be sharing care of the patient with. You should also discuss the requirement for HEV negative components with the patient. *Hepatitis E Virus - Factsheet for Patients* is available to download from the Hospitals and Science website and can be used in conjunction with this document to inform the patient.

What if HEV negative blood components are not available?

In an urgent/emergency situation, you should liaise with the transfusion laboratory regarding how long it will take them to issue HEV negative components for your patient. If this requirement cannot be met in time, you should discuss other options with the laboratory and the patient, if appropriate, as you may need to use components not confirmed as HEV negative. If blood components not confirmed as HEV negative are given, you should manage the patient as if they have potentially been exposed to HEV.

For further information please consult your Hospitals Blood Transfusion Policy or contact a member of your Hospital Transfusion Team.

NHSBT is a Special Health Authority within the NHS, and provides the blood that patients receive.

The information provided here has been sourced from NHSBT transfusion experts.

NHSBT Customer Services Patient Blood Management Practitioner Team does not accept any legal liability for errors or omissions.

References:

1. SaBTO (2015) HEV SCT Clinician Letter draft v0.3i
http://hospital.blood.co.uk/media/27890/sabto-hev-clinician-letter-sct-12_08_15.pdf (accessed 28.06.2016)