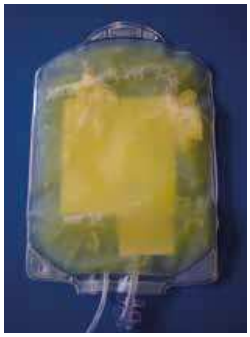
Email: shot@nhsbt.nhs.uk **Telephone:** 0161 423 4208 **Website:** www.shotuk.org

A recipient has had a reaction during a transfusion – could it be due to bacteria in the pack? Yes bacterial contamination is a factor to be considered, there has been one bacterial TTI reported since 2009.

- Screening of platelets will not prevent all units with bacteria present entering the supply. Platelets are released as negative-to-date. Bacterial transmissions may occur via red cells, which are not screened for bacteria
- Visual inspection of packs before issue and use remains a crucial safety step in minimising risk of bacterial transfusion transmitted infection as it can alert staff to signs of bacterial growth



- Swift reporting of a suspected contaminated pack allows recall to occur before any associated* packs are used

  *Note: There may be associated packs produced from the same donation which have been issued perhaps to different hospitals who will be unaware of the potential problem. Clumps may not appear in the associated pack. Both apheresis and pooled platelets may have associated packs. An apheresis donation is made by a single donor and may be split into several platelet packs. A pooled platelet pack is currently made from the whole blood donations from four donors whose donations are also used to make red cell packs

After transfusion: report promptly to Blood Service, retain and return pack

- Report a suspected bacterial transfusion transmitted infection (TTI) promptly to the Blood Service to allow recall of any associated packs for testing
- Retain suspected bacterially contaminated packs, even if near empty, for possible return to the Blood Service as the residue can be washed out and cultured
- If you are sampling packs locally for bacterial testing, use ports rather than breaching the pack to minimise environmental contamination of the pack

Advice on clinical management and investigation of serious adverse reactions can be obtained from the hospital consultant responsible for blood transfusion and the British Committee for Standards in Haematology (BCSH) guideline on investigation and management of acute transfusion reactions (BCSH Tinegate et al. 2012).

A recipient of a blood transfusion(s) has been found to have a viral infection – could it be the blood? Yes, although very rare and other sources should be explored

- The risk of transfusion-transmitted HBV, HCV or HIV is very low in the UK
- Clinicians investigating suspected viral TTIs should explore all possible risk exposures in parallel with the Blood Service investigations, in order to determine the patient's most likely source of infection. HEV is commonly transmitted by food for example. Investigation includes

checking records and testing samples taken prior to the implicated transfusion(s) to check that the recipient was not infected prior to transfusion

A transfusion investigation will not commence until the infection status of the recipient has been clarified

- Investigation of possible HCV transmission in individuals who are HCV polymerase chain reaction (PCR) negative, HCV antibody reactive, will not commence unless HCV antibody reactivity has been confirmed using two different assays, because of the possibility of non-specific antibody reactivity. If not locally available, the Blood Service can perform the required testing
- Cytomegalovirus (CMV) seroconversion should be demonstrated by testing samples from before and after transfusion in parallel by the same laboratory
- Immunoglobulin therapy can lead to passive transfer of antibodies which may be confused with infection (Parker et al. 2014). Careful review of the markers and timing can rule out infection before a report is made to the UK Blood Services
- The local microbiologist/virologist should be consulted for advice.

Archive samples kept by hospitals and the Blood Service help verify infection status, timing and source

- Hospitals and Blood Services investigating a possible viral TTI are reminded of the importance of locating any archived recipient samples (transfusion-related or not) for testing. It is important that laboratories facilitate access to those samples (with due consent of appropriate parties including the patient)
- The large number of donors to investigate in some cases, and the retrospective nature of some investigations, emphasises the importance of UK Blood Services maintaining an easily accessible system for archive samples

How do I report a suspected TTI for investigation by the Blood Service?

- Hospitals can seek advice from their local Blood Centre about how to report an incident. All UK Blood Services have their own procedures which may include the need to return packs for investigation.
- For hospital served by NHSBT forms and supporting information about how to report can be found on the Requests for Investigation of Adverse Events & Reactions page at: http://hospital.blood.co.uk/diagnostic-services/reporting-adverse-events/

Do I need to report potential TTIs to MHRA and SHOT?
Yes, report as soon as practical to both systems and remember to update the outcome

- Clinical staff requesting an investigation into a possible transfusion-transmitted infection (TTI) by the UK Blood Services are reminded to report as soon as practical to Serious Adverse Blood Reactions and Events (SABRE) and SHOT
- Reporters should update their report once the outcome of the UK Blood Services investigation is known
- Even if bacterial TTI is excluded in a case of transfusion reaction, the case should still be reported to SHOT and the MHRA as an ATR if necessary

Cases of suspected transmission of infection should be reported even if not currently screened for by the Blood Service.