**Diagnostics Directorate**
**Department of Laboratory Medicine**

NHS
Greater Glasgow and Clyde

# POLICY FOR STORAGE AND LABELLING OF BLOOD TRANSFUSION SAMPLES

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## 1. Introduction

NHS GG&C Laboratory Directorate has agreed a policy for the storage and retention of Blood Transfusion samples for patients across all sectors. The duration of storage for transfusion samples will be a minimum of 7 days. If a pre-op sample is received for future surgery and transfusion history of the patient allows it, the sample can be retained frozen for up to 14 days.
NOTE: this requirement must be clearly stated on the request form.

## 2. Requests

The patient request form **must** clearly indicate clinical history, reason for transfusion, special requirements and if pre-operative, the location and date of the operation.

The patient transfusion history must be recorded on the form: It is the responsibility of the requesting clinician to detail whether the patient has been transfused or has been pregnant within the last 3 months.

**The receiving laboratory must forward the request to the Blood Transfusion laboratory responsible for the provision of blood and blood products at the site of possible transfusion/operation.**

## 3. Validity and Storage Of Samples

The following table details sample validity criteria and available storage within GG&C Laboratories, as per the BSH guidelines:

| **PATIENT Type** | **Sample Type** | | |
|---|---|---|---|
| | **Whole Blood at room temperature** | **Whole blood at 2-8$^{o}$C** | **Plasma at - 30$^{O}$C** |
| Patient transfused or pregnant in last 3 months | Up to 48 hrs | Up to 3 days ***** | N/A |
| Patient not transfused and not pregnant in last 3 months | Up to 48 hours | Up to 7 days | Up to 14 days |
| ***** This is the time between the sample being taken and the subsequent transfusion | | | |

It is recommended that sample storage should be at 2-8$^{O}$C for up to 7 days then frozen and stored at -30$^{0}$C for a further 7 as required.

**For Pre-Op Samples more than 7 days hence:**

- If there is no date of operation on the form, the normal sample retention time will be applied and the sample will be discarded after 7 days, as is the usual process for all Group and Save (G&S) samples
- If the date of operation is planned for greater that 7 but less than 14 days, the sample will be frozen for 14 days and thereafter will be not valid for use and discarded.
- If the operation is planned for a date greater than 14 days, the sample is treated as a normal G&S and will be discarded after 7 days. A subsequent sample will be required to cover surgery, if applicable.
- If the date of the operation is not yet determined but likely to be within 14 days - please state 'possible surgery within 14 days, please retain' on the form, and the sample will be frozen and then discarded after 14 days.

**Note:** If the patient has been transfused or pregnant within last 3 months then the sample is not valid after 72 hours.

## 4. Methodology for Freezing Samples

### 4.1. Physical Separators

If samples are to be frozen, physical separators should be used. These devices:

- Provide a physical barrier between red cells and plasma thus preserve the plasma for serological testing
- Allow retention of the original sample bottle for subsequent checking of the patient information and previously applied laboratory barcode.

The method used to thaw frozen samples must ensure that the patient demographic details and specimen barcode label are not compromised.

### 4.2 Manual Separation of Samples

This process is **not** recommended due to the increased risk for error, however if samples must be separated in in this way, the process used must minimise this risk:

Ideally samples for separation should be dealt with on an individual basis and if part of a batch, removed to another rack, one at a time for aliquoting.

Frozen samples should adhere to the following guidelines for labelling:

The sample tube must be labelled using labels suitable for storage at -30$^{O}$C and subsequent thawing at 37$^{0}$C, with the following information:

a) Laboratory Sample Identification Number (Barcoded and eye readable)

b) Patients: a) Identification Number (CHI, Hospital number)
b) Surname
c) Forename
d) Date of Birth
e) Date of separation

## 5. Storage of cross matched samples

Recommendations from the BSH guideline on pre-transfusion compatibility procedures are as follows:

- A pre-transfusion sample should be retained for at least 3 days post-transfusion, to ensure that repeat ABO grouping of the pre-transfusion sample can be performed in the event of an acute transfusion reaction.

- It is also suggested that it useful to keep plasma available for 7–14 days post-transfusion for investigation of delayed transfusion reactions. **Note**: Samples within GGC will be kept for a minimum of 7 days; this has been subject to risk assessment which includes the ability to retrieve pre transfusion test results and images from the analyser.

- The laboratory should have processes in place to prevent stored samples from being used inappropriately for blood component issue out with sample validity requirements.

## 6. References

Serious Hazards of Transfusion Annual Report
http://www.shotuk.org/

British Society for Haematology – Guidelines for Pre-transfusion Compatibility Procedures in Blood Transfusion Laboratories

## Appendix A

Concessionary release of blood components or blood products, or acting contrary to an SOP, is sometimes the necessary and appropriate course of action in the best interest of patients. To act contrary to an SOP requires prior authorisation, or justifiable authorisation as soon after as is practicable, preferably by a Haematologist or other suitably competent person who should discuss the clinical consequences with the clinicians in charge of the patient.

| **Section A – Patient Details and concession information** | | |
|---|---|---|
| First Name | Last Name | NHS Number/Hospital Number |
| Date Of Birth | Ward/Location | Consultant |
| Brief description of reason for concession including justification: | | |
| Completed by:<br>Name: Signature: Date/Time | | |

| **Section B-Blood component or blood product details** | |
|---|---|
| Description of component/product for Concessionary issue | Donation number or batch numbers(s) |
| | |
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| **Section C- Is the concession justifiable in the best interests of the patient?** |
|---|
| Haematologist authorisation:<br><br>Name: Signature: Designation<br><br>Date Time |
| **Section D- Informing patient's clinical team** |
| Name of the doctor on the clinical team who has agreed to accept this concession for this patient:<br><br>Name: Designation: |
| **Section E – Confirmation of concessionary issue** |
| Issuing BMS:<br><br>Name: Signature: Designation<br><br>Date Time |
| **Section F – Review of documentation of the event** |
| Signature and designation of person reviewing this concession ( usually TLM or QM) |