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## 1.0 Technical/Managerial Responsibility

The relevant local hospital transfusion laboratory (HTL) is responsible for all managerial and technical aspects of the fridges including alarm activations.

- RIE fridges are managed according to a standardised laboratory procedure (SOP EDIS BB 029) which is held in RIE HTL. The local HTL for the RIE blood fridges is the RIE Blood Bank (ext 27501/27502)
- WGH fridges are managed according to BBank 23 and BBank 26. The local HTL for the WGH blood fridges is the WGH Blood Bank (ext 31912)

## 2.0 Emergency O Negative Blood

Location	No of Units Held
RIE Emergency Dept	4
RIE Obstetrics Theatre	2

- Unused units will be replaced every 7-14 days by HTL staff; unused units are circulated back in to usable stock for their remaining shelf life
- The Designated Responsible Individual (DRI) (or deputy) is responsible for ensuring that all members of staff within the clinical area served by these two fridges are aware that they contain emergency O negative units, and the procedure to follow when they are used. This includes the critical importance of informing the transfusion laboratory as soon as any of these units are removed so that they are replenished without delay
- When an emergency O negative unit is used, details of the unit(s) removed must be recorded in the In/Out register; if the unit is not transfused and is returned unused, details of its return must be recorded in the In/Out register

All O negative units are stored within HTL at the WGH site.

All O negative units are stored within HTL at the SJH site.

## 3.0 Transport of Blood from Local HTL and Receipt in Clinical Area

Only staff members who have completed the necessary training (Learn Blood Transfusion (LBT) 'Safe Transfusion Practice' or LBT 'Blood Collection Pathway' (depending on role) available at [www.learnbloodtransfusion.org.uk](http://www.learnbloodtransfusion.org.uk) or via LearnPro) can collect blood from the laboratory. It is a legal requirement for any member of staff who collects blood from a laboratory or a satellite blood fridge to be formally competency assessed. Please contact local competency assessor/s or transfusion practitioner for advice.

### RIE

Blood will be delivered by porter to the clinical area as requested by the individual placing the blood order. On arrival, the blood will be handed over to a member of staff and delivery slip signed by member of staff receiving the delivery. The signed delivery slip will be held by the porters.

**WGH**

Blood will be delivered by porter or a member of the clinical staff to the clinical area as requested by the individual placing the blood order, using blood collection slip. On arrival, the blood will be handed over to a member of staff. Member of staff must check the issued time on transit bag to ensure transit time has not exceeded 30 minutes. If it has, blood cannot be placed in fridge and HTL should be contacted.

## 4.0 Local Monitoring of Satellite Fridges

**RIE**

There is no requirement for local recording of the fridge temperature as the fridge temperatures are continually recorded electronically via the TREND system which is located in RIE Blood Bank and managed by SEBTS. The RIE Blood Bank staff will check the fridge thermometers daily and remove the Comark dataloggers weekly for downloading by the blood bank supervisor.

**WGH**

There is no requirement for local recording of the fridge temperature as the fridge temperatures are continually recorded electronically via the Comark system which is located in WGH Blood Bank and managed by the laboratory team.

## 5.0 Loading of Fridge by Clinical Staff

Only staff members who have completed the necessary training (Learn Blood Transfusion (LBT) 'Safe Transfusion Practice' or LBT 'Blood Collection Pathway' (depending on role), available at [www.learnbloodtransfusion.org.uk](http://www.learnbloodtransfusion.org.uk) or via LearnPro) can load blood into the satellite fridge.

**RIE**

Blood will be placed in the fridge immediately on receipt by the individual taking the delivery. Details of all units placed in the fridge **must** be recorded in the In/Out register using the 24 hour clock.

**WGH**

Unless blood is required immediately, it will be placed in the fridge immediately on receipt by the individual taking the delivery. Details of all units placed in the fridge **must** be recorded in the In/Out register using the 24 hour clock. The time of issue (written on the transit bag at time of collection) must be checked to ensure the transit time has not exceeded 30 minutes. If it has, the blood cannot be placed in the fridge and the Blood Bank should be contacted.

## 6.0 Removal of Blood from Fridge for Clinical Use

Only staff members who have completed the necessary training (Learn Blood Transfusion (LBT) 'Safe Transfusion Practice' or LBT 'Blood Collection Pathway' (depending on role) available at [www.learnbloodtransfusion.org.uk](http://www.learnbloodtransfusion.org.uk) or via LearnPro) can remove blood from the satellite fridge. It is a legal requirement for any member of staff who collects blood from a laboratory or a satellite blood fridge to be formally competency assessed. Please contact local competency assessor/s or transfusion practitioner for advice.

**RIE**

When blood is removed from the fridge for clinical use, the date and time of removal must be documented against the relevant unit 'G' number in the In/Out register, in the column provided. Only one unit should be removed at a time, unless there is a life-threatening haemorrhage occurring, and only blood for one patient should be removed at any one time. The patient's documented minimum identification data set that is taken to the fridge must be checked against the unit to ensure the correct unit is being removed. If the unit is removed from the fridge but not used, it must be returned to the fridge as soon as possible, and details of its return recorded in the In/Out register.

**However:**

- If a unit is removed from the fridge for transfusion and is out of the fridge for more than 30 minutes before the transfusion starts, the unit can still be given to the patient as long as the time from the unit being removed from the fridge to the end of the transfusion is no more than 4 hours. For example, if a unit is removed at 10.00 and the transfusion does not start until 10.50, the transfusion must be finished by 14.00, or the unit taken down at 14.00 if the transfusion isn't finished;
- If a unit is removed from the fridge for transfusion and is out of the fridge for more than 30 minutes and then the transfusion is cancelled, it must not be returned to the fridge. It must be marked 'Out of fridge for more than 30 minutes – do not transfuse' and then returned to the RIE HTL for disposal;
- If, from the details on the In/Out register, it is realised that a unit has been returned to the fridge in error after it had been out for more than 30 minutes in total, it must not be used, it must be marked 'Out of fridge for more than 30 minutes – do not transfuse' and then returned to the RIE HTL for disposal.

**WGH**

When blood is removed from the fridge for clinical use, the date and time of removal must be documented against the relevant unit 'G' number in the In/Out register, in the column provided. Only one unit should be removed at a time, unless there is a life-threatening haemorrhage occurring, and only blood for one patient should be removed at any one time. The patient's documented minimum identification data set that is taken to the fridge must be checked against the unit to ensure the correct unit is being removed. If the unit is removed from the fridge but not used, it should be returned to the fridge as soon as possible, and details of its return recorded in the In/Out register.

**However:**

- If a unit is removed from the fridge for transfusion and is out of the fridge for more than 30 minutes before the transfusion starts, the unit can still be given to the patient so long as the time from the unit being removed from the fridge to the end of the transfusion is no more than 4 hours. For example, if a unit is removed at 10.00 and the transfusion does not start until 10.50, the transfusion must be finished by 14.00, or the unit taken down at 14.00 if the transfusion isn't finished;
- If a unit is removed from the fridge for transfusion and is out of the fridge for more than 30 minutes and then the transfusion is cancelled, it must not be returned to the

fridge. It must be marked 'Out of fridge for more than 30 minutes – do not transfuse' and then returned to the WGH HTL for disposal;

- if, from the details on the In/Out register, it is realised that a unit has been returned to the fridge in error after it had been out for more than 30 minutes in total, it must not be used, it must be marked 'Out of fridge for more than 30 minutes – do not transfuse' and then returned to the WGH HTL for disposal.

## 7.0 Return of Unused Blood to the Hospital Transfusion Laboratory

### RIE

All unused units in the fridges will be removed by the RIE HTL staff 24 hours after delivery, except the Emergency O Negative units, which will be removed and replaced by the RIE HTL staff every 7-14 days.

When blood is removed from the fridge for return to the HTL, the time and date must be documented against the relevant unit number in the [In/Out register](#) in the column provided.

### WGH

Ward 7: all unused units will be returned to the WGH HTL at the end of each working day. The DRI (or deputy) will arrange for return of unused units to the WGH HTL. When blood is removed from fridge for return to the HTL, the time and date must be documented against the relevant unit number in the [In/Out register](#) in the column provided. Units returned to the HTL should be accompanied with a note of the time/s they were signed into and out of the fridge.

Main Theatres: all unused units for each patient will be returned to the WGH HTL when the patient leaves Recovery. The DRI (or deputy) will be responsible for ensuring the fridge is empty at the end of each working day, and for arranging return of unused units to the HTL. When blood is removed from fridge for return to the HTL, the time and date must be documented against the relevant unit number in the [In/Out register](#) in the column provided. Units returned to the HTL should be accompanied with a note of the time/s they were signed into and out of the fridge.

## 7.1 In/Out Register

The DRI (or deputy) is responsible for ensuring there is 100% compliance with use of the In/Out register, for facilitating regular audit of compliance, and for putting corrective actions in place if compliance is found to be less than 100%. Details of all units loaded into the fridge, removed for clinical use, returned unused, and removed for return to the local HTL **must** be recorded in the [In/Out register](#) using the 24 hour clock. If a written error in the register requires correction, the error should have a single line drawn through it, initialled and the correct information written along side. Any blood found in the satellite blood fridge and not documented in the fridge register must be removed and returned to the HTL for discard. RIE completed In/Out registers must be returned to the RIE transfusion practitioner at the end of every month for data analysis and long-term storage. WGH completed In/Out registers must be returned to the WGH HTL. Additional In/Out registers for the RIE site can be obtained from RIE blood bank ext 27501/27502. Additional In/Out registers for WGH site can be obtained from the WGH blood bank on ext 31912.

## 7.2 Retention Time

The retention time for blood in all satellite blood fridges is 24 hours, except for:

- Emergency O Negative units in RIE ED and Obstetric Theatre fridges – these will be replaced every 7-14 days by the RIE HTL staff;
- unused units from Ward 7 and Main Theatres, WGH – these will be returned at the end of each working day, if not before. Emergency O negative blood is not stored in these blood fridges and can be obtained directly from the laboratory.
- In accordance with the BSH (British Society for Haematology) pre-transfusion compatibility guidelines, a transfusion sample is only valid for 72 hours from the time the patient is bled, if the patient has either been transfused or pregnant within the last 3 months. In order to avoid the risk of red cells that have been issued to satellite fridges inadvertently being transfused beyond the 72 hour period for individuals in this group, a label will be attached to the overwrap bag of all red cells issued to satellite fridges at RIE indicating the date and time by which that particular unit must be transfused in order not to surpass the 72 hour period. If a unit cannot be safely and completely transfused within that time frame, then it should **not** be used. A new crossmatch sample should be sent to blood bank so a fresh unit of red cells can be issued. Transfusing blood to a patient, who has been transfused or pregnant within the last 3 months, more than 72 hours following sampling may expose that patient to the risk of a haemolytic transfusion reaction due to new antibodies that may have developed as a result of the recent transfusion/pregnancy – such reactions can be life-threatening.

## 8.0 Power Failure/Breakdown Procedure

All staff in the clinical area served by the satellite fridge must be aware of the procedure to follow in the event of a fridge power failure or breakdown. An explicit account of the procedure to follow in each event must be clearly displayed on the outside of each fridge (as per the site specific Troubleshooting Guides as referenced in Section 10 of this procedure. The DRI (or deputy) must document fully the relevant details of each power failure or breakdown, and the corrective action taken, on the Datix incident reporting system.

### 8.1 If there is a power failure affecting the fridge

- If the power failure was scheduled ('Black Start'), the downtime will have been no more than a few minutes. Check the fridge is working and is within safe temperature limits. If so, no action is required
- In the event of a prolonged unscheduled power failure, contact the local HTL immediately and speak to the supervisor (RIE fridges - ext 27501/27502, WGH fridges – ext 31912):
  - Ask whether blood stock needs to be returned to the HTL. If blood has to be returned, do so immediately. The local HTL will advise on the best way of returning the units
  - Remember to complete the [In/Out register](#) for all units returned to the HTL
  - If in doubt, contact the local HTL for advice

- Once the power has been reinstated and the fridge temperature is within specification, required units can be returned to the fridge. Contact the local HTL who will arrange transfer of the required units back to the fridges
- The [In/Out register](#) must be completed for all units returned to the fridge.

## 8.2 If there is an obvious fault such as smoke or noise coming from the fridge

1. Switch off the fridge if safe to do so.
2. If risk of fire, follow the local Fire Policy and evacuate the area if necessary.
3. Contact the local HTL immediately and speak to the supervisor (RIE fridges ext 27501/27502, WGH fridges – ext 31912). The HTL will contact the fridge maintenance/servicing contractors.

Ask whether blood stock needs to be returned to the HTL. If blood has to be returned, do so immediately. The local HTL will advise on the best way of returning the units. Place a prominent notice on the fridge telling users that the fridge is not in use, and that blood is available from the local HTL (RIE fridges - ext 27501/27502, WGH fridges – ext 31912).

- Remember to complete the [In/Out register](#) for all units returned to the HTL
- Once the fault has been repaired and the fridge temperature is within specification, required units can be returned to the fridge. Contact the local HTL who will arrange transfer of the required units back to the fridge
- The [In/Out register](#) must be completed for all units returned to the fridge

## 8.3 Response to Alarm

All staff in the clinical area served by the satellite fridge must be aware of the procedure to follow in the event of a fridge alarm sounding. An explicit account of the procedure to follow must be clearly displayed on the outside of each fridge as referenced in the site specific Troubleshooting Guides in Section 10 of this procedure. The DRI (or deputy) must document fully the relevant details of each alarm sounding, and the corrective action taken, on the Datix Incident Reporting System. For RIE a hard copy of the report must be forwarded to the local HTL.

### **If the alarm is sounding but there is no obvious fault:**

1. Mute the audible alarm if possible; do **not** switch fridge or alarm off
2. Check the door is closed, and for any obvious fault
3. Check the temperature display: if this shows a temperature of lower than 2°C or higher than 6°C, the stored blood may have to be returned to the HTL
4. Contact the local HTL immediately and speak to the supervisor (RIE fridges - ext 27501/27502, WGH fridges – ext 31912). Tell them when the alarm was first heard, the fridge temperature and the length of time it has been at this temperature (visible from chart recorder). They will then advise whether or not the blood needs to be returned to the HTL
5. If blood has to be returned, do so immediately. The local HTL will advise on the best way of returning the units

6. Remember to complete the [In/Out register](#) for all units returned to the HTL
7. **If in doubt, contact the local HTL for advice**
8. If there is no obvious cause for the alarm sounding (i.e. the door was not open), the local HTL will contact the fridge maintenance/servicing contractors and arrange for the fridge to be assessed
9. Once the fault has been rectified and the fridge temperature is within specification, required units can be returned to the fridge. Contact the local HTL who will arrange transfer of the required units back to the fridge
10. **Remember to put the audible alarm back on once the fault has been rectified**
11. The [In/Out register](#) must be completed for all units returned to the fridge

## 9.0 Cleaning of Fridges

Defrost operation - all blood fridges have an automatic defrost function.

### RIE Fridges

A [Cleaning Record Log](#) should be kept by the DRI (or deputy). This should detail the cleaning that has taken place (i.e. exterior, interior, and blood spillages), the date and time of the cleaning, the name of the individual who carried out the cleaning, and their signature/initials.

#### – Exterior Cleaning

This should be carried out monthly, or when indicated by the appearance of the exterior, whichever is sooner. The exterior of the cabinet is stainless steel and if cared for correctly will keep its 'as new' finish for many years. Cleaning should be carried out with a soft cloth and hot water with a neutral general purpose detergent. Always wipe the cabinet in the same direction as the grain in the stainless steel. Whilst stainless steel is a very strong and robust material, the satin smooth finish can be spoilt by wiping against the grain. Never use abrasive materials or cleaners, or chemical cleaners. They can damage the surface and cause corrosion. Once washed, rinse and dry thoroughly.

#### – Interior cleaning

This should be carried out monthly, or when indicated by the appearance of the interior, whichever is sooner. The interior should be cleaned with a soft cloth and hot water with a neutral general purpose detergent. Once washed, rinse and dry thoroughly. Clean the door seals and check their integrity. Report any damage to a senior biomedical scientist (BMS) in the local HTL.

#### – Defrost operation

All blood fridges have an automatic defrost function.

### WGH Fridges

The WGH HTL staff will clean the fridges monthly (see BBANK 23). A cleaning log for each fridge will be kept locally (at the fridge). In the event of a spillage, clinical staff must clean the spillage straight away (as below) and record this activity in the cleaning log. The cleaning log can be found in BBANK-



17 Fridge / freezers, plasma thawers, and platelet incubator cleaning record (WGH). Copies of the cleaning log can be obtained from the WGH Blood Bank (ext 31912).

## 9.1 Blood spillages - All sites

All spillages must be attended to immediately. A disposable apron, gloves (and eye protection, if necessary) must always be worn.

- Treat by applying chlorine releasing granules directly to the spill (all NHS Scotland settings must use granules or equivalent product e.g. spill kits). Alternatively if granules are not available place disposable paper towels over the spillage to absorb and contain it applying solution of 10,000 parts per million available chlorine (ppm av cl) solution to the towels
- Follow manufacturer instructions on contact time or leave for 3 minutes
- Discard the gross contamination into a healthcare waste bag
- Wash area with disposable paper towels and a solution of general purpose detergent and warm water
- Dry area or allow to air dry
- Discard paper towels and disposable PPE into a healthcare waste bag
- Perform hand hygiene

## 10.0 Associated Materials

The NHS Lothian Transfusion Committee is responsible for approving all NHS Lothian transfusion related documents:

- [Cleaning Log for Satellite Blood Storage Fridges](#)
- [In/Out Register – Satellite Blood Fridges](#)
- [Troubleshooting Guide - RIE Satellite Blood Fridges Red Cells Only](#)
- [Troubleshooting Guide - WGH Satellite Blood Fridges Red Cells Only](#)
- [NHS Lothian Blood Transfusion Policy and Procedures 2016](#)

Managerial and technical issues relating to the satellite fridges are detailed separately in the:

- Maintenance and Monitoring of Satellite Blood Fridges Standard Operating Procedure (RIE) (obtained from RIE HTL)
- Storage of Blood Components, Blood Products and Temperature Monitoring of Blood Storage Facilities Standard Operating Procedure (WGH) (obtained from WGH HTL)
- Cleaning and Maintenance of Equipment, Blood Component, Reagent and Sample Storage Facilities Standard Operating Procedure (WGH) (obtained from WGH HTL)