Royal Papworth Hospital
NHS Foundation Trust

GD043

Managing freezer alerts and emergency sample transfers

This document outlines the guidance on managing the freezer monitoring system, freezer alerts and what needs to be done in the event of an emergency transfer of samples.

The document contains clear guidelines for all research staff using the R&D Freezers for Research Studies, Clinical Trials and biobanking.

A printed copy of this guideline should be kept beside each freezer along with a paper copy of the transfer sample log (TPL053).

All freezers in the hospital are continuously monitored via the Connected Automated Monitoring (CAM) (previously known as Tutela Temperature Monitoring System). All freezers located in the HLRI are monitored via the T-scan system.

1. Guidelines for managing contacts for freezer alerts on the Connected Automated Monitoring system

a. Requests for new users or for users to be removed from the system should be sent to one of the system administrators, currently:
   1. Victoria Stoneman
   2. Stephanie Wilmott
   3. Helen Mulcahy
   4. Vikki Hughes

b. New users will be set up with a common password that needs to be personalised, along with a Passcode PIN that is used for saving information/changes: https://camplus.checkit.net/main/login

c. User permission levels can be amended to reflect their responsibilities concerning the monitoring and storage of samples in freezers. This can be done by the system administrators.

d. All users on the contact list for in- or out-of-hours alerts require a mobile number as well as an email address for notifications. CAM can have up to 7 emergency contacts and they will be assigned as either Out of Hours or In Hours contact on the system.

2. Guidelines for managing contacts for freezer alerts on the T scan system

a. Ian Horan is the administrator for T scan at the HLRI and will need to approve the addition or removal of a T-scan user to the **Research and Development/Tissue Bank (NHS) or Mesobank alarm group.**

b. A request for a new user can be sent directly to T scan customersupport@t-scansolutions.com, with Ian Horan copied in iph21@medschl.cam.ac.uk.

3. Responding to alerts and emergency protocol

The -80 °C freezers are set to operate at -80ºC, a 10/15º C deviation on either side of the set temperature will result in the freezer alarm sounding. The -20°C freezers are set to operate at -20°C, a 5°C deviation on either side of the set temperature will result in the freezer alarm sounding and initiation of a remote monitoring alert.

3.1 In Hours:

- The initial responder to the alarm assesses the freezer problem in accordance with SOP029. If an emergency transfer of samples is required, then follow the guidance set out in section 4 of this document.
- Please note there are additional instructions for dealing with out of hours alerts and emergency transfer for the Tissue Bank & Mesobank freezers in the HLRI – copy of document is in desk unit associated with TU2s desk (R&D desks, 1st floor HLRI).

3.1 Out of Hours

Initial response:

- The emergency contact list contains mobile telephone numbers and email addresses for the department staff identified as available to respond to out of hours calls.
- Should a freezer alert occur outside of normal hours the CAM system will automatically notify the staff on the Emergency Contact list – via telephone and text message. For T-scan system those on the contact list will be contacted via SMS messaging and email.
- The Emergency Contact responding to the alert will first access the sensor readings remotely to identify the cause of the alert. If the alert can be resolved (for example the probe intermittently loss contact with the system due to poor Wi-Fi signal) the alert should be resolved and closed on the system. If it is a temperature deviation, check again a bit later and see if the issue has resolved.
- **For the RPH freezer on level 1:** If the freezer temperature is such that it appears to be failing, but further investigation is required, Blood Transfusion will provide a first responder check to see if there is an obvious cause, such as something preventing the door from

sealing properly. Once the Blood Transfusion contact has reported back to the Emergency Contact, they will cease to have any responsibility for dealing with the alert.

- **For the HLRI freezer:** If the issue has not resolved send a message to the Emergency Contact WhatsApp group so it can be agreed as a group what to do and who can travel on site to the HRLI to do the first check.

What to do next:

- If a site visit is necessary, DO NOT OPEN THE FREEZER DOOR until the full situation is known in case the freezer is trying to maintain temperature.
- Once the details of the situation are clear the Emergency Contact will either complete and close the alert on the system or arrange for a sample transfer if the freezer temperature is -50˚C or above. This will involve contacting members of staff who are due to be on site to help with the transfer as early as possible in the morning. The Emergency Contact should monitor the sensor in case of a significant deterioration, in which case the process explained in 3.1 should be followed.
- If the transfer is from Level 1 in the hospital to the HLRI-CRF someone with access to the HLRI-CRF will need to be included in the emergency transfer team. The key for the CRF-HLRI freezer is in the key safe next to the freezer and the Level 1 R&D freezer has a key in a key safe: The relevant codes can be found R&D\Pathology\Equipment\Freezers\Useful numbers.

4. Sample transfer in the event of an emergency

- A transfer team should be assembled from all the R&D staff members on site that day, this should include someone with access to the HLRI-CRF.
- Sample transfer should be on dry ice or ice packs following all standard guidelines and universal precautions for working with biohazardous materials. For an emergency transfer dry ice can be obtained from the dry ice storage on level 1 the HLRI (see SOP029); there are also freezer blocks in the R&D level 1 freezer that can be used. Polystyrene boxes for containing the dry ice can be obtained from the R&D Basement or from the HLRI Goods In. Once the transfer is complete the dry ice MUST be returned to the HLRI dry ice store.
- The temperature of both the freezer where the samples were transferred from and also the freezer(s) where the samples were transferred should be monitored.
- Using the proper insulated gloves, samples should be quickly transferred from the failing freezer to the back-up freezer. During the transfer of samples every effort must be made to ensure that the freezer doors are kept shut as much as possible to minimise the adverse effects on the samples.
- The new location of the samples should be recorded as per SOP029 as the transfer takes place. Tissue Bank & Mesobank will follow the process outlined in SOP131.
- Boxes are labelled with original shelf rack, box location to ensure correct return of samples to assigned locations in accordance with the freezer map.
- The freezer on Level 1 and the freezer in the HLRI CRF have a large drawer kept empty in case of an emergency sample transfer. If there is insufficient space in the freezer being used as back-up samples will be given priority as follows:

- Samples required for primary outcome
- Samples required for secondary outcome
- Samples that are suitable for storage at -20oC as there is a -20oC freezer in the HLRI-CRF
- Back-up/exploratory samples

4.1. Emergency transfer during out of hours/the weekend

- Even if a freezer is failing, with the door shut the temperature should be sufficiently maintained to allow for any sample transfer to take place the following morning.
- However, in the unlikely event that this is not the case, or the failure has taken place at the weekend and the transfer cannot be delayed until next standard working day, then a transfer will need to be undertaken during out of hours.
- It is agreed that anyone in R&D could be asked to come on site to help with an emergency and team leaders/line managers will message their teams on their WhatsApp group to identify wiling members of staff. For a safe and quick transfer around 6 people will be needed, including a senior/experienced person to coordinate and someone with access to the HLRI-CRF.
- The completed sample log used for the transfer should be scanned in and saved in the Freezer folder as a record (TPL053). Tissue Bank & Mesobank will follow the process outlined in SOP131 and use existing freezer maps to reflect the temporary storage arrangement.

5. Reporting Alarms

- In the event of the freezer alarm being activated and the temperature rising above -50˚C for the -80 ˚C and above -15 ˚C for the – 20 ˚C a Datix Incident form should be completed by the initial responder.
- The Chief/Principal Investigator and Research Nurse/Clinical Trial Coordinator for the studies affected should be informed that a sample transfer had to be performed.