	Title: Management of Freezer use for the collection and storage of Human tissues.	Author: G. Cockerill	Date: 2/Oct/2012
	No: SOP_R5	New Author: P. Madhou	Date: 1/Sept/2024
	Version: 6		Review Date March 2026




SOP\_R5 : MANAGEMENT OF FREEZER USE FOR  
HUMAN COLLCTION AND STORAGE OF HUMAN  
TISSUES.

#### Disclaimer

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6	Aug 2024	City merge, review & formatting	AS/PM	HTLGR
5	Sept 2023	New DI, updated contacts & formatting	AS	HTLRG
5	Sept 2022	New DI, Add PD & Review	AS	HTLRG
4	July 2020	Review (Section 3.3, 3.4 ,4,2 & 6 changed)	AS/PL	HTLRG
3	March 2018	Reviewed & Amended (New Author)	AS	PL
3	July 2017	Reviewed and PD contact details updated	AS	PL
3	July 2017	Links to reference documents updated	PL	HTLRG
2	Dec 2016	Update contact list	AS	PL
2	Oct 2016	New DI details	AS	MF
2	March 2016	Issued for use	GC	HTLRG
1	November 2012	Issue for use	GC	HTLRG
0	October 2012	Issue for review	GC	HTLRG
<b>Rev</b>	<b>Date</b>	<b>Amendment</b>	<b>Approved by</b>	<b>Authorised by</b>

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## Standard Operating Procedure (SOP)

**Title:** Management and Monitoring of Freezers for Human Tissue Storage

### 1. Purpose/Background

1.1 The Human Tissue Act (HTA) mandates that all equipment and facilities used at City St George's University of London (CSGUL) for handling and storing human tissues for research must be suitable, secure, and regularly monitored with contingency plans in place.

### 2. Scope

2.1 This SOP applies to activities covered under HTA Licence 12335, specifically related to the storage of relevant material derived from human bodies for scheduled purposes. It is relevant to all CSGUL staff involved in the collection and storage of samples under the Human Tissue Act.

### 3. Procedure and Freezer Storage

#### 3.1 Storage Requirements


- Human tissue must be stored securely in a locked room with controlled access, such as fingerprint activation or key card access.
- Ideally, tissue should be stored in a locked fridge, freezer, or cupboard.
- Freezers containing human tissue samples must be clearly labelled on the exterior and display the latest Research Licence certificate on the door.
- All Freezers must have an upper and lower temperature reading displayed on the door.
- All freezers must be PAT tested, with a sticker indicating the testing date and the next scheduled inspection.
- Any observed issues with a freezer must be reported to the labhelp@sgul.ac.uk immediately.

#### 3.2 Sample Logging and Inventory Management

- All samples must be logged and assigned a unique barcode or identification number before storage in the -80°C freezer.
- Each human tissue sample must be labelled with a unique code for identification and traceability, ensuring that the code does not include any personal details of the participant.
- The ItemTracker™ database maintains an inventory of all freezers (-20°C, -80°C, and liquid nitrogen vessels), detailing the precise location and the associated research group or owner. This inventory is updated as new equipment is added or removed.

#### 3.3 Freezer Monitoring System

- SGUL employs the Haier Biomedical Wireless Monitoring system for automated freezer monitoring.
- The Real-time software displays monitored freezers and continuously checks freezer temperatures (24/7) to ensure they remain within specified parameters.

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- The system is accessible from any PC or smartphone via a web browser, with temperature readings taken at 5-minute intervals. Daily temperature logs can be generated.

### 3.4 Freezer Maintenance

- Equipment used for storing relevant material must be cleaned and decontaminated regularly.
- A defrosting schedule should be maintained, and all defrosting activities must be documented.

## 4. Freezer Alarm and Breakdown Procedures During Working Hours

### 4.1 Low Temperature Alarm Response

- In the event of a low-temperature alarm, a designated person must inspect the equipment for obvious faults or local power outages.
- If the issue is related to the power supply, Estates and Facilities should be informed immediately.

### 4.2 Contingency Plan for Freezer Breakdown

- If a freezer breaks down, its contents must be transferred to an emergency freezer.
- A map indicating the nearest emergency freezer should be displayed in the room.
- The backup freezer is to be used only in emergencies as temporary storage until an engineer can repair the fault.
- Please contact [labhelp@sgul.ac.uk](mailto:labhelp@sgul.ac.uk) for further assistance and for freezer repairs.


## 5. Freezer Alarm and Breakdown Procedures Outside Working Hours/Weekends

### 5.1 Alarm Notification and Response

- The Real-time software will automatically notify a list of freezer owners when an alarm is triggered outside of working hours.
- If the first contact does not respond, the system will automatically escalate to next scheduled times – 0,15,30 and 60 minutes interval unless the call is acknowledged.

### 5.2 Remote Access and Response

- Responsible persons can access their freezer's status via the Dashboard | Realtime-Online web interface using their login credentials to assess temperature and conditions.
- If a genuine concern arises, the person may go on-site to transfer the freezer contents to an emergency freezer as part of the contingency plan.
- The fault will then be investigated, and appropriate action taken.

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## 6. Haier Biomedical Monitoring System

### 6.1 System Overview

- The Haier Biomedical system uses RF transmitters and RF Gateway Infrastructure for wireless monitoring.
- Data is collected from transmitters, stored in memory, and regularly transferred to the Realtime Online web server via GPRS.
- If a temperature outside the set limits is detected, the system alerts the responsible persons via phone calls and emails.

## 7. References

- Human Tissue Authority: <https://www.hta.gov.uk/>
- ItemTracker: [www.itemtracker.com](http://www.itemtracker.com)
- Haier Biomedical Wireless Monitoring System: <https://www.haierbiomedical.co.uk/wireless-monitoring-system/>

## 8. Amendment of SOP

8.1 Users who identify modifications that could improve this SOP should notify the Person Designated (PD) for review and potential implementation.

### 15. Contacts DIs and PDs

<b>Research Licence</b>	DI	Dr Priya Madhou	Ext 1603	<a href="mailto:pmadhou@sgul.ac.uk">pmadhou@sgul.ac.uk</a>
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	PD	Ms Lara Painter	Ext 3077	<a href="mailto:lpainter@sgul.ac.uk">lpainter@sgul.ac.uk</a>
<b>Anatomy Licence</b>	DI	Miss Georga Longhurst	Ex 5208	<a href="mailto:glonghur@sgul.ac.uk">glonghur@sgul.ac.uk</a>
	PD	Mr Paul Carter	Ext 5228	<a href="mailto:pcarter@sgul.ac.uk">pcarter@sgul.ac.uk</a>
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