Clinical Research Facility laboratory and alarm management

PURPOSE

This work instruction describes the processes to be followed relating to laboratory and alarm management in the Clinical Research Facility (CRF).

OUTCOME

The work instruction outlines the responsibilities of facilities, departments, clinicians, and researchers when requesting to utilise the CRF as part of their research.

This work instruction outlines processes described in MSH procedure PR2024-453 Clinical Research Facility (CRF) and upholds principles outlined within the Clinical Research Facility Handbook.

SCOPE

This work instruction applies to all eligible users of the CRF, all employees involved in clinical research conducted at the CRF and staff involved in laboratory and alarm management procedures.

WORK INSTRUCTION

1. STEP 1: CRF LABORATORY MANAGEMENT

1.1 Laboratory training

- Principal Investigators/lead researchers are responsible for ensuring that staff are appropriately qualified and trained to complete tasks in the CRF laboratory (e.g. biological sample processing) and that training is adequate to comply with sponsor requirements.
- CRF Staff who complete sample processing and shipping will have relevant training and qualifications including International Air Transport Association (IATA) certification which can be provided to CRF users and sponsors on request.

1.2 CRF laboratory induction

- Before a user can be granted ID card access to the CRF laboratory the user must complete a short induction training session with the CRF manager (or delegate). This session will cover how to use the laboratory equipment safely and the correct laboratory cleaning regime that must be followed by users.
- After CRF laboratory induction training is completed, access to the CRF laboratory space will be added to the user's ID access card by the CRF Administration Officer.
- A record of all CRF Laboratory Inductions completed is stored on the CRF electronic drive by the CRF Administration Officer.

1.3 CRF laboratory bookings

- Booking requests to use the CRF laboratory or equipment should be completed as per MSH work instruction WI2024-335 CRF application and use.

1.4 CRF laboratory cleaning

- Routine surface decontamination is required with ≥80% alcohol prior to and following sample processing or other CRF laboratory use.
- Alternative solutions (e.g. chlorine based) should be utilised if advised by the Safety Data Sheet (SDS) relevant to any chemicals used during sample processing or in accordance with documents pertaining to Investigational Product (IP) handling.
- Users should consult equipment manuals to ensure that alternative solutions are compatible with equipment (e.g. Sodium Hypochlorite is incompatible with centrifuge parts and surfaces of biosafety cabinets).
- At the completion of a CRF laboratory session the user(s) must ensure the space and equipment they have used is cleaned appropriately and left in good working order for the next user.
- Users should report any problems related to the cleanliness of the CRF laboratory space to the CRF Manager.

1.5 CRF laboratory safety

- All CRF staff and users are required to comply with all relevant TRI, MSH and PAH policies and procedures.
- All CRF staff and users are expected to comply with safe practices in the CRF laboratory.
- Appropriate Personal Protective Equipment (PPE) must be worn while completing laboratory activities, including handling biological materials:
    - Gown and gloves should be worn during ‘standard’ processing of biological samples (e.g. centrifuging and aliquoting blood samples).
    - Safety glasses, goggles and/or a mask as appropriate must be worn for sample processing which increases the risk of exposure to biological materials (e.g. vortex mixing).
    - Aerosol tight lids are to be used on the centrifuge buckets when centrifuging where available.
    - Thermal gloves must be worn when working with dry ice and if appropriate when accessing the -80 freezer.
- SDS for all chemicals stored in the CRF laboratory must be available in the CRF laboratory.

1.6 Investigational Product (IP)

- Procedures relating to IP storage in the CRF are outlined in MSH work instruction WI2024-337 CRF investigational product management and administration.

2. STEP 2: CRF LABORATORY EQUIPMENT

- The CRF has equipment in the laboratory space that is defined as shared equipment and can be made available to approved users of the CRF Laboratory on request including:
    - -80° C freezer (main and back up)
    - -20° C freezer (main and back up)
    - 4°C fridge (main and back up)
    - Refrigerated and non-refrigerated centrifuges with swing buckets able to spin up to 3000g (Eppendorf 5810R and 5702R)
    - Class II Biosafety cabinet (currently reserved for pharmacy)
- Equipment manuals for all CRF laboratory equipment are available in the CRF laboratory for reference.
- Principal Investigators/lead researchers can also apply to store and use investigator or sponsor owned equipment in the CRF laboratory to the CRF Manager.

2.1 Preventative maintenance

- CRF Laboratory equipment is maintained annually (or more frequently if required as per the equipment manufacturer):
    - Maintenance schedules are monitored by the CRF Manager and the TRI Scientific Services Team.
    - Maintenance and/or calibration certificates are stored on the CRF electronic shared drive and can be made available on request.
- Investigator owned laboratory equipment required for research projects are managed as per MSH work instruction WI2024-335 CRF application and use:
    - Responsibility for preventative maintenance remains the responsibility of the Investigator or sponsor as appropriate.
    - It is expected that upon study completion in the CRF all items of laboratory equipment will be removed from the CRF unless prior arrangements have been made with the CRF Manager.

2.2 Faulty equipment

- Faulty or broken CRF laboratory equipment should be immediately reported by the user to the CRF Manager.
- The CRF Manager is responsible for ensuring faulty equipment is quarantined until repaired, replaced or deemed safe to use.
- The CRF Manager is responsible for arranging repair and/or replacement of CRF owned Laboratory equipment in collaboration with TRI Scientific Services Staff:

- In the event of equipment failure all reasonable efforts will be made to ensure that alternative equipment is available to ensure that CRF users have the equipment required to conduct their research.
- The CRF is not responsible however for any protocol deviations or omissions which may occur because of CRF Laboratory equipment failure.

3. STEP 3: CLINICAL TRIAL SAMPLE PROCESSING AND STORAGE

- Clinical trial samples must be processed in accordance with instructions provided by the clinical trial sponsor (e.g. laboratory manual).
- Principal Investigators/lead researchers must:
  - Ensure the laboratory workspace is clean and all equipment and consumables required to complete sample processing is available.
  - Process sample(s) as per sponsor provided instructions.
  - Ensure that samples are labelled clearly in accordance with the sponsor requirements.
  - Complete the sample processing logs and/or paperwork provided by the clinical trial sponsor:
    - Attachment 1 CRF Sample Processing Log will be used to ensure that documentation is available to demonstrate compliance with sample processing instructions.
    - The CRF sample processing log will be used in preference to sponsor provided documentation to reduce administrative burden; logs can be provided to research groups or sponsors on request.
  - Ensure that samples are stored in accordance with instructions provided by the sponsor:
    - Fridge (4°C) and Freezer (-20°C and -80°C) storage is available in the CRF.
    - Samples must be stored neatly in suitable packaging (pathology bag or storage box) as appropriate.
  - Ensure that samples are placed in the appropriate designated storage location.
    - Space allocation is displayed on the front of each fridge/freezer.
    - Dedicated storage for laboratory users will be assigned by application to the CRF Manager.
- When samples collected at one time point require separation prior to shipment (e.g. primary and back-up samples), the following process is to be followed:
    - Primary samples are to be separated from back-up samples at the point of processing.
    - Primary samples are to be sent same day or stored prior to shipment in the section allocated to the destination laboratory in the freezer labelled ‘first shipment’.
    - Secondary samples are to be stored in the section allocated to the destination laboratory in the freezer labelled ‘second shipment’.
    - When samples are sent from the ‘first shipment’ section, CRF staff are to move samples from the ‘second shipment’ section to the ‘first shipment’ section to ensure these samples are sent with the next delivery to the destination laboratory.

- Courier collection receipts or booking forms for samples collected from the CRF can be returned to the relevant research group when agreed in advance (receipts are not routinely stored by the CRF).
    - Where applicable, samples in the ‘second shipment’ may be sent with samples from another research project with the same packaging requirements and destination to reduce unnecessary courier bookings.
- The name and contact details of the user storing clinical trial samples must be documented on the whiteboard related to the appropriate fridge/freezer so that in the event of the fridge/freezer going into alarm the user can be contacted 24/7 as part of the alarm response standard operating procedure SOP2024-002 CRF laboratory and alarm response.
- Once a study is completed in the CRF, all samples will be removed from the CRF. Continued storage in the CRF requires CRF Manager approval and may incur additional charges.

4. STEP 4: CRF ALARM MANAGEMENT

- The CRF alarm systems are monitored 24 hours a day, 7 days a week by the PAH Control Room, TRI Security, TRI Scientific Services and/or TRI Building Services.

4.1 Laboratory and freezer room alarms

- All fridges and freezers in the CRF have 24-hour monitoring for temperature excursions with alarm management by TRI and PAH.
    - The fridge and freezer alarms in the CRF laboratory and freezer room have a 30-minute delay to ensure against false alarms due to high user demand.
- If a fridge or freezer temperature detected is out of the set range an alarm will be triggered which will notify TRI Security, the CRF Manager and the TRI Scientific Services team of the temperature excursion.
- An immediate response will be instigated to investigate the temperature excursion and appropriate action taken if required.
- The alarm response procedure is outlined in CRF Standard Operating Procedures (SOPs).

4.2 CRF medication room fridge alarms

- The temperature of the CRF drug fridges are monitored from the PAH central control room 24 hours a day.
- If a CRF drug fridge goes outside required temperature range (2 – 8°C) an alarm will trigger and a notification will be sent directly to the TRI building monitoring system, which generates an automatic email to TRI security, the TRI building services team, the CRF Manager and to the CRF email address.
- The CRF Manager or delegate is responsible for taking any corrective actions required and will liaise with the PAH Pharmacy staff if further assistance or advice is needed.
    - In the event of equipment failure outside of hours the responding staff member can relocate the contents of the affected medication fridge to an alternative fridge in the CRF to ensure

medication integrity (multiple fridges are available in the medication room and the CRF laboratory (R-Wing, level 5).

- Temperature logs for the drug fridges are available from the TRI building management system.

4.3 CRF medication room temperature monitoring

- The temperature of the CRF Medication Room is monitored from the PAH central control room 24 hours a day.
- If the temperature goes outside of required temperature (15 - 25°C) an alarm will trigger and a notification will be sent directly to the TRI building monitoring system, which generates an automatic email to the TRI building services team, the CRF Manager and to the CRF email address.
- The CRF Manager or designee, will be responsible for taking any corrective action by liaising with PAH central control room to have the room temperature setting adjusted.

4.4 CRF medication room alarms

- If the door or security keypad situated in the CRF medication room alarms, TRI Security and/or TRI building services staff will respond immediately.
- PAH Security will be notified to assist by TRI Security or the CRF Manager if required.
- The CRF Manager and the TRI Building Services Manager will investigate and document the alarm incident and decide on what further action is required if deemed necessary in consultation with the Chair, Metro South Research and the PAH Executive.

4.5 EasyLog 21 CFR temperature monitoring and data records

- An EasyLog 21CFR Compliant USB Temperature Data Logger is available to monitor the Medication Room temperature and fridge/freezer temperatures (excluding -80) if required.
    - The data logger software allows users to store data in compliance with 21CFR Part 11 (a requirement of the US regulatory agency) which provides an audit trail of activities and actions taken.
- The CRF Manager or designee is responsible for ensuring that any Data Loggers in use in the CRF are downloaded and reviewed monthly.
    - EasyLog reports are filed in the CRF electronic drive and are available on request.
- Data loggers are calibrated annually, and records are filed in the relevant CRF electronic drive.
- -80 Freezer temperature data is downloaded directly from the -80 freezers monthly.
    - -80 temperature reports are filed in the CRF electronic drive and are available on request.

RESPONSIBILITIES

Position	Responsibility	Audit criteria

TRI and TRI CRF Committee	• As the lessee of the CRF, the TRI works collaboratively with Metro South Research in management, application and use of the CRF.	N/A
CRF Manager	• Responsible for establishing laboratory and alarm management processes for the CRF.	N/A
Principal Investigators (PIs)/lead researchers	• Retains overall responsibility for the conduct of their research at the CRF in accordance with the principles of Good Clinical Practice (GCP). • It is the responsibility of the Principal Investigator/lead researcher to ensure compliance with requirements of appropriate legal, regulatory, ethical and guidance documents applicable to the research project.	N/A
Researchers/CRF users	• Share responsibility and accountability for research being conducted according to appropriate regulatory, ethical and scientific standards. • Comply with applicable TRI, MSH and PAH policies and procedures. • Work in accordance with their scope of practice and comply with their relevant professional standards.	N/A

DEFINITIONS

Term	Definition
Good Clinical Practice (GCP)	A standard for the design, conduct, performance, monitoring, auditing, recording, analyses, and reporting of clinical trials that provides assurance that the data and reported results are credible and accurate, and that the rights, integrity, and confidentiality of trial participants are protected.
Safety data sheet (SDS)	A Safety Data Sheet (formerly called Material Safety Data Sheet) is a detailed informational document prepared by the manufacturer or importer of a hazardous chemical. It describes the physical and chemical properties of the product.
Scope of clinical practice (SoCP)	The extent of an individual health professional's approved clinical practice within an organisation based on the individual's credentials, competence, performance and professional suitability and the needs and capability of the organisation to support the health professional's SoCP.

RELATED AND SUPPORTING DOCUMENTS

Legislation and other Authority	**Legislation (as updated and replaced from time to time)** • *Hospital and Health Boards Act 2011 (Qld)* • *Human Rights Act 2019 (Qld)* • *Information Privacy Act 2009 (Qld)* • *Public Health Act 2005 (Qld)* • *Therapeutic Goods Act 1989 (Cth)* **Regulations** • *Gene Technology Regulations 2001 (Cth)* • Therapeutic Good (Medical Devices) Regulations 2002 (Cth) • Therapeutic Goods Regulations 1990 (Cth) **Other authority** • National Statement on Ethical Conduct in Human Research 2023 • Integrated Addendum to ICH E6(R1): Guideline for Good Clinical Practice ICH E6(R2)

Standards	• National Clinical Trials Governance Framework
	• National Safety and Quality Health Service (NSQHS) Standards 2nd Ed.
	  ○ Standard 1 – Clinical Governance
	  ○ Standard 2 – Partnering with Consumers

Supporting documents	**Procedures** • PR2023-411 Research excellence • PR2023-412 Research support and management • PR2023-413 Research administration and compliance **Work instructions** • WI2024-335 CRF application and use • WI2024-336 CRF participant admission, supervision and clinical management • WI2024-337 CRF investigational product management and administration • WI2024-338 CRF adverse event and clinical incident reporting • WI2024-340 CRF archiving of clinical trial documents **SOPs** • SOP2024-002 CRF laboratory and alarm response **Attachments** • Attachment 1: CRF sample processing log

HUMAN RIGHTS ACT 2019

Metro South Hospital and Health Service is committed to respecting, protecting and promoting human rights. Under the *Human Rights Act 2019*, Metro South Health has an obligation to act and make decisions in a way that is compatible with human rights and, when making a decision, to give proper consideration to human rights. When making a decision about research, decision-makers must comply with that obligation. Further information about the *Human Rights Act 2019* is available at: https://www.forgov.qld.gov.au/humanrights.

WORK INSTRUCTION DETAILS

Work Instruction Name	CRF laboratory and alarm management
Work Instruction Number	WI2024-339
Current Version	V1.0
Keywords	CRF laboratory and alarm management, Clinical Research Facility, freezer, fridge
Primary MSH or Directorate Procedure Reference	PR2024-453 Clinical Research Facility (CRF)
Executive Sponsor	Executive Director, Metro South Research
Document Author	CRF Manager, Metro South Research
Next Review Date	June 2027

REVIEW HISTORY

Version	Approval date	Effective from	Authority	Comment
1.0	28/06/2024	3/07/2024	Executive Director, Metro South Research	• New MSH work instruction