



Physical Security at Facilities

Category:	QUALITY MANAGEMENT		
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1.0 PURPOSE

Nourah's Tissue Biobank manages the safekeeping of Human Biological Materials (HBMs) in their custody. HBMs are a precious resource, and Nourah's Tissue biobank uses different security measures to provide a protective environment for the resource they control.

2.0 SCOPE

This standard operating procedure (SOP) outlines general elements and features that should be in place to provide a safe, efficient and secure physical environment for the biobank.

3.0 ROLES AND RESPONSIBILITIES

Explaining the responsibilities of each personnel and defining their roles in accordance with the SOP.

Biobank Personnel	Responsibility
All Personnel	Maintaining Security at the Biobank

4.0 MATERIALS, EQUIPMENT, AND FORMS

Listing of the materials, equipment, and forms being used to achieve the goals of the SOP, this list will mainly contain necessary materials and, or recommendations that may be substituted by alternative or equivalent materials more suitable at the time of testing.

Material to be used	Site



5.0 POTENTIAL HAZARDS

In this part of the SOP, we explain the potential hazards from chemicals and methodologies used in this procedure. It will also contain information on how to handle these chemicals and the level of biosafety

Material	Safety and handling

6.0 PROCEDURES

Nourah's Tissue Biobank facilities employ fundamental security systems to protect the samples and data stored. The biobank is designed to provide a safe, secure and efficient work environment with measures all the measures taken to protect expensive and specialized equipment at the facility.

6.1 FACILITIES - FACILITY RESOURCES

- 6.1.1. Floor space, equipment and workflow processes need to be designed to maximize the capability to process and store biospecimens and associated data.

6.2 FACILITIES - GENERAL SECURITY AND EQUIPMENT SECURITY

- 6.2.1 Nourah's Tissue Biobank laboratories are secured with access card locks that allows controlled entry only to biobank members
- 6.2.2 Nourah's Tissue Biobank LabVantage LIMS system is used to protect the biobank data and allows strict access to the data.
- 6.2.3 The biobank designated a responsible individual (including designated back-up) to take necessary action in case of failure of systems.
- 6.2.4 Emergency contact information for responsible individuals and key personnel in a prominent location within the biobank.
- 6.2.5 Biobank personnel are provided with education and training about security and emergency procedures to ensure an appropriate response to any failure of systems that may occur.
- 6.2.6 Provide visitors with a safety information and badge to indicate they have been formally received and their presence is documented, **(Appendix A)**.
- 6.2.7 Protect equipment as needed to reduce risk of unauthorized access to data and HBMs stored in the biobank and to protect from loss and damage.
- 6.2.8 Maintain equipment correctly to ensure continued availability and integrity.
- 6.2.9 Allow only authorized maintenance personnel to carry out repairs and services to facilities equipment.

6.3 FACILITIES – TEMPERATURE, HUMIDITY, AIR FLOW AND VENTILATION

- 6.3.1. Laboratory should have a suitable temperature system to prevent freezing of water and drain lines, **(Appendix B)**.
- 6.3.2. When needed, provide suitable cooling to maintain adequate ambient temperature for electronic and mechanical equipment.



- 6.3.3. Maintain ambient temperatures at approximately **18° C - 22° C**.
- 6.3.4. Ensure conditions of humidity to prevent fungal growth in the storage area of the biobank.
- 6.3.5. Ensure adequate air circulation around freezers and refrigeration units to prevent excessive moisture and condensation.
- 6.3.6. Provide adequate ventilation along with monitoring to ensure that sufficient oxygen levels are maintained in areas where dry ice or liquid nitrogen is used.
- 6.3.7. If needed, ensure filtration for air flow is sufficient to prevent excessive dust in the storage facility.

6.4 FACILITIES – LIGHTING

- 6.4.1. Provide adequate general and task lighting to ensure that the appropriate level of illumination is available to perform routine and specialized tasks undertaken at the biobank.
- 6.4.2. Provide back-up lighting for emergency situations.
- 6.4.3. Have adequate general and task lighting to ensure that the appropriate level of illumination is available to perform routine and specialized tasks undertaken at the biobank. Lighting should be of correct intensity to facilitate accurate reading of labels for proper storage and retrieval of samples.
- 6.4.4. Ensure back-up lighting for emergency situations.

6.5 FACILITIES – FLOORING

- 6.5.1. Flooring should be easy to clean and facilitate movement of equipment such as carts used to transport biospecimens, Consider non-slip floor coverings.
- 6.5.2. Linoleum or vinyl flooring will not be used in biobank areas, Similarly, linoleum flooring may be damaged by some organic chemicals used in tissue processing (such as xylene).
- 6.5.3. A hard surface such as concrete is better suited in biobank areas.

6.6 FACILITIES – FIRE PREVENTION

- 6.6.1. Ensure that the fire prevention system is compliant with the codes and regulations in effect.
- 6.6.2. **Automatic fire detection systems** such as smoke and/or fire detectors will have electronic sensors that detect smoke, heat or flames.
- 6.6.3. **Sprinkler systems** will suppress fires by spraying water upon activation.
- 6.6.4. Dry chemical fire extinguishers that can damage mechanical freezers and contaminate biospecimens as it is difficult to clean up. Therefore, it is recommended for biobanks to use **non-corrosive gaseous extinguishers**.

6.7 FACILITIES – BACK-UP POWER SYSTEM

- 6.7.1. Nourah's Tissue Biobank have two back-up power generation system in place to deal with loss of power.
- 6.7.2. The Power supply is emergency supply which is another line of commercial supply marked with orange sockets. The other power supply is a **uninterruptible power supply (UPS)**, or battery backup power supply with localized batteries that would provide up to 12 hours of power to the facilities essential instrument (Freezers and database) marked with red sockets.
- 6.7.3. Ensure that important equipment, such as computers and freezers are plugged into the emergency power supply system – typically emergency plugs are identified by their color (red).
- 6.7.4. Avoid (if possible) opening of freezers and using sensitive equipment for the duration of the primary supply failure.



6.8 FACILITIES – PEST AND CONTAMINATION CONTROL

- 6.8.1. Insects, rats, or other small animals may invade the biobank space, for example, through drainage systems, windows, etc. The invasion pathway(s) need to be blocked.
- 6.8.2. A plan for effective and environmentally sensitive approaches to pest and contamination management should be maintained.

7.0 REFERENCES

Providing References to the SOP to guarantee the best results and a great credibility to our work.

8.0 REVISION HISTORY

SOP No.	Date Revised	Author	Summary

9.0 APPENDICES

Appendix A Safety Information for Visitor

Appendix B Air Control Log Sheet