


Good Laboratory Practices (GLP)	
Department: Regenerative Medicine Research Center	
Doc No: 03	
GLP Title: Human Tissue Handling – Health and Safety	

1. PURPOSE:

The purpose of this GLP is to set out the good techniques for safety human tissue handling in the workplace.

2. INTRODUCTION:

While risks associated with exposure to blood and tissues infected with Hepatitis B can be mitigated by vaccination of laboratory workers, there is always the potential for infection from the risk of other infectious agents such as Hepatitis C, HIV and CJD when handling human materials.

The risks associated with handling human tissue can be managed by:

- Treating all human specimens, body fluids and blood as potentially infectious.
- Minimizing the likelihood of blood-to-blood exposure.

These safety measures are known as 'Universal Precautions' and must be followed when handling human materials. Human materials must be handled using Universal Precautions as outlined in the followed sections.

Procedures for disposal and spill clean-up are outlined in SOP: 02-ver 01 and SOP: 07-ver 01.


3. SCOPE:

3-1- All clean room staff in tissue processing center.


4. GOOD TECHNIQUES:

4-1- Universal Precautions for Handling Unfixed Human Tissue, Blood and Body Fluids:

- Treat all human blood, tissue and body fluids as potentially infectious.
- No person who has not been trained by a senior staff member (supervisor or delegated deputy), and authorised to do so, can handle human specimens.
- Before handling any tissue ensure that appropriate training has been received in handling reagents associated with specimen handling. If unsure contact a responsible person.
- Absolutely no eating or drinking in the laboratory. Food or drink should not be stored in laboratories. Hand/mouth contact should be kept to a minimum.
- Appropriate gowns must be worn in the workplace and fastened properly. Protective gowns must be removed when leaving the workplace area to go to offices, toilets or etc...
- Gloves must be worn when handling human blood, tissue and body fluids.
- All open cuts and abrasions must be covered.
- Care must be taken to prevent contaminated gloves coming in contact with laboratory furniture, door handles and telephones.

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- Use disposable equipment wherever possible and observe correct disposal procedures. (See SOP: 02-ver 01)
- Hands should be washed and dried after removing gloves and before leaving the workplace.
- Wash hands immediately if they become, or suspect they have become, contaminated by a sample.
- Any spills of infectious (or potentially infectious) material on floors, benches or equipment must be cleaned up immediately with disinfectant. (See SOP: 07-ver 01)
- As infection can occur by diffusion through the intact skin, diffusion through mucosal membranes, inhalation, it is of paramount importance that when handling infectious material, contamination of surfaces is controlled:
 - a. Existing cuts and abrasions and other skin lesions are properly protected and accidental self-inoculation and splashing of mucous membranes be avoided.
 - b. Any puncture wound must be treated immediately by encouraging bleeding and liberally washing with soap and water.
- All samples must be properly labelled.
- Tissue samples should not be placed in any common area at any time.
- All processes involving handling of human materials must be performed in the designated areas where the surface is impervious to water, resistant to acids, alkalis, solvents and disinfectants, and is easy to clean.
- All other aspects of the procedure should be performed in a fume hood or other suitable sterile area.
- Where possible minimize the use of sharps (scissors, scalpel blades, dissecting forceps) in any procedure involving human material.
- To minimize risk in the event of spillage or breakage do not store sharps in designated handling areas.
- Only designated area are to be used for the storage of human material.
- Because the outside of the container containing tissue may be contaminated, container should be handled with care.
- Tissues should be stored in an appropriate labelled, designated refrigerator or portion of the refrigerator or freezer.
- When transporting tissue in plastic bag or tube, it should be placed within a leak-proof container with a secure lid.
- Do not attempt to separate needles from syringes. Dispose both together. Avoid techniques with a high potential for creating aerosol (sonication, vortexing, blowing out pipette contents).
- All accidents must be reported immediately to the supervisor.




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4-2- Additional Precautions:

- Tissue harvesting must only be taken by suitably trained staff.
- All tissue processing personnel must have their Hepatitis B antibody checked (and be immunised, if necessary) before handling human blood, tissue or body fluids.
- Wherever possible, blood or tissue that has been shown not to be contaminated by Hepatitis B, Hepatitis C or HIV should be used.
- Work with human material, should be performed in a certified Class II biosafety cabinet.
- In the case that larger specimens or procedures will not fit into, or cannot be reasonably accommodated in a Class II biosafety cabinet may be handled outside the cabinet, provided that there is adequate ventilation for any aerosols that might be generated and adequate protective equipment (face shields) to prevent splashes of biological material into mucous membranes.
- Use sealed tubes for centrifuging tissue samples. Use sealed rotors to minimise contamination in the event of tube failure. In the event of a failure of tubes the centrifuge rotor and bowls should be disinfected with disinfectant solution. (See SOP: 07-ver 01)
- Benches and Cabinet surfaces where blood has been handled must be cleaned and decontaminated at the completion of work. (See SOP: 07-ver 01)

4-3- Protective Equipment:

- Personal protective equipment (PPEs) must be used throughout procedures involving human tissue.
- Always contact supervisor if unsure of level of protection required.
- The most important items include:
 - Gloves: Always use disposable gloves when handling human material. Wearing two pairs of gloves will reduce the risk of skin contact but should be performed on an ad hoc basis where instrument handling sensitivity is not compromised. Replace gloves as soon as they become visibly soiled, torn or punctured. Gloves that have been used in the handling of human material must be discarded before handling anything outside the designated area. Used gloves must be disposed of safely.
 - Facial barrier protection: They should be used when working with human tissue. Available types include: chin-length face shields and masks.

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5. REFERENCES:

5-1- Human Tissue Handling. The Guy Hilton Research Laboratories. Version - 3.1

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