GUIDELINES FOR THE SAFE STORAGE, HANDLING AND USE OF CLINICAL SAMPLES

PURPOSE

These guidelines support the *Health and Safety Policy* and provide guidance for the safe storage, handling and use of clinical samples.

1 SCOPE AND PRINCIPLES

1.1 The term 'clinical sample', as used in this document, is used to encompass:

- all blood, blood products and derivatives, bodily fluids, excretions, and tissues
- sourced from either human or animal donors
- donated or purchased

1.2. These Guidelines recognise that clinical samples can be a hazard. Samples from humans can infect people with diseases that the donors carried. Samples from animals can infect people with zoonotic diseases that those animals carried.

1.3. These Guidelines apply to any person at Curtin University who is in any way associated with the storage, handling, use or disposal of clinical samples. Those people will act to minimise the potential for harm arising out of working with clinical samples.

1.4. These Guidelines describe a management system that is consistent with industry Best Practices.

1.5. These Guidelines allow for flexibility in the methods used to handle clinical samples, as approved by the Curtin University Institutional Biosafety Committee (IBC).

1.6. These Guidelines follow the principles of assessing the infection risk of the clinical samples and mitigating that risk. Following the Hierarchy of Controls, this guideline promotes the substitution of safer forms of clinical sample where possible.

1.7. These Guidelines recognise that some uses of clinical samples require prior approval from Curtin's Human Research Ethics Committee or Animal Ethics Committee. Any conditions placed on an approval from these Committees override the guidance outlined below.

1.8. These Guidelines apply to all workers, students and visitors, whether a person is working at a Curtin Campus and any other locations where activities are undertaken by Curtin University representatives or on behalf of the University.

2 METHODS FOR USING CLINICAL SAMPLES

The methods for using clinical samples vary depending on what kind of clinical sample is being used.

2.1 Preparation before use

2.1.1 Complete and submit a Research Initiation Guide (RIG).

2.1.2 Read and follow the advice from the RIG Feedback.

2.1.3 Get all applicable vaccinations, as described in The Australian Immunisation Handbook . For work with human tissue, blood or body fluids, it is recommended that you get vaccinated against Hepatitis B, Influenza, Measles/Mumps/Rubella MMR (if non-immune), Pertussis (dTpa - diphtheria-tetanus-acellular pertussis), Varicella (chickenpox, if non-immune). For work with animals, there may be relevant vaccinations such as against Influenza, Q-fever or Rabies. For work with untreated sewerage, it is recommended that you get vaccinated against Hepatitis A and Tetanus (dT or dTpa). Also consider getting any other applicable vaccines.

2.1.4 Get an initial medical examination for existing infections.

2.1.5 When completing a risk assessment, consider substituting safer forms of clinical sample where possible (see 2.3).

2.1.6 Make a determination about which Risk Group (see 2.3, 2.4 or 2.5) the clinical sample falls into, and handle the clinical sample at the corresponding Physical Containment (PC) level.

2.2 Handling clinical samples in the clinical setting

2.2.1 Follow the National Code of Practice for the Control of Work-related Exposure to Hepatitis and HIV (Blood-borne) Viruses [NOHSC:2010(2003)] .

2.2.2 If you are working off a Curtin campus (e.g. practicum placement) then your Fieldwork Risk Assessment must acknowledge that the clinical sample handling procedures of that workplace meet the standard required in 2.2.1.

2.3 Risk Group 1 - Use of pre-screened ex-Red Cross Blood Service products. Use of autoclaved, pasteurised, irradiated or 'fixed' clinical samples. Use of tissue from healthy, uninfected, animal-facility-sourced animals that is kept refrigerated or dried

2.3.1 Wear fully enclosed shoes that cover all parts of the foot up to the ankle, a lab coat that covers your clothing, and safety glasses. Have all hair tied back securely such that it does not touch your face below the eyebrows and does not move from its ties when the head is shaken. Wear gloves as required by risk assessment.

2.3.2 After handling the clinical samples, decontaminate all surfaces, equipment, and hands using a chemical disinfectant as described in Appendix F of the A/NZS2243.3:2022. Remove lab coat and launder. Remove gloves and dispose of by autoclaving or incineration.

2.4 Risk Group 2 – Use of clinical samples from donors who disease status is unknown. Use of clinical samples from donors suspected/known to be infected with a RG2 pathogen

2.4.1 Wear fully enclosed shoes that cover all parts of the foot up to the ankle, a lab coat that covers your clothing, gloves, and safety glasses. Have all hair tied back securely such that it does not touch your face below the eyebrows and does not move from its ties when the head is shaken. Wear any other Personal Protective Equipment as required by risk assessment (e.g. plastic aprons or coveralls, hair covers, shoe covers, full face shields)

2.4.2 Handle the clinical samples inside a Class II Biosafety Cabinet (BSCII). Centrifuge clinical samples using aerosol-tight sealed buckets or rotors. Unload the buckets in the BSCII.

2.4.3 After handling the clinical samples, decontaminate all surfaces, equipment, and hands using a chemical disinfectant as described in Appendix F of the A/NZS2243.3:2022. Remove lab coat and autoclave before laundering. Remove gloves and dispose of by autoclaving or incineration.

2.4.4 Get periodic health monitoring medical examinations for exposure.

2.4.5 If you can't handle the clinical samples at the PC2 level, contact your Biosafety Partner, who will help you to seek approval for your project from the IBC.

2.5 Risk Group 3/4 – Use of clinical samples from donors suspected/known to be infected with a RG3/4 pathogen

2.5.1 Contact your Biosafety Partner, who will help you to seek approval for your project from the IBC.

2.6 Storage of clinical samples

2.6.1 Clinical samples must be stored in a container that will not shatter, spill or leak if dropped.

2.6.2 Clinical samples should be stored as cold as practicable to inhibit microbial growth.

2.6.3 Storage locations should be signposted with the biohazard symbol.

2.7 Transporting clinical samples on foot, by car, by post or by plane

2.7.1 If you need to transport clinical samples, you will need to transport it following the A/NZS2243.3, the Australian Code for the Transport of Dangerous Goods by Road and Rail 7th Edition (ADG7), and the International Air Transportation Association (IATA) Dangerous Goods Regulations (DGR) Category 6.

2.7.2 Before you physically carry samples from one lab to another, you must double contain them (e.g. in a tube inside a lidded plastic lunchbox) and label them with a biohazard symbol, a brief description of the contents, and the contact information of someone who isn't carrying the box (you can use the Biosafety Advisor if you want). Your package must survive being dropped - test an empty version of your transport system by dropping it.

2.7.3 To transport samples by car, post or by aeroplane, you need to fulfil the requirements of the relevant guideline. There is a picture in the A/NZS2243.3, and your courier company or Australia Post will be able to help you to pack. If your samples are dangerous or valuable, use World Courier. Before you post any samples, make sure that the person you are sending them to has agreed to have you send them and has fulfilled any requirements for import permits that they need to fulfil.

2.8 Quarantined clinical samples

2.8.1 If your clinical samples have been imported from overseas or the Eastern States of Australia, then you will also need to follow the requirements of your Import Permit or AGWA Approval.

2.9 Disposal of clinical samples

2.9.1 Clinical samples and materials contaminated with clinical samples will be disposed of by autoclaving, incineration, or deep burial. Domestic waste disposal systems are not suitable for disposing of clinical samples.

2.10 After accidental exposure to clinical samples

2.10.1 The different Risk Groups of clinical samples, and the different methods of exposure to the clinical samples, result in a spectrum of risk from exposure to clinical samples. For example, spilling autoclaved clinical samples on your arm poses very little risk, whereas accidentally injecting yourself with clinical samples from a source suspected to contain a RG2 pathogen poses very high risk.

2.10.2 Follow the Curtin Sharps Injury & Blood Exposure Guidelines .

2.10.3 If possible, take a sample of the clinical samples with you to the GP, so it can be tested for disease.

2.10.4 Report the incident through the Health and Safety incident reporting system.

2.11 Requests to deviate from the Guidelines

Deviation from these Guidelines may be permitted where a risk assessment has confirmed that the deviation is as safe as the Guidelines. All deviations need to be approved by your Biosafety Partner.

3. RELATED DOCUMENTS/LINKS/FORMS

- Curtin Research Initiation Guide https://rig.curtin.edu.au/home
- The Australian/New Zealand Standard 2243.3 Safety in laboratories - Part 3: Microbiological safety and containment. This Standard can be accessed by searching the library databases http://databases.library.curtin.edu.au/ for 'Standards Australia online premium', and then searching the SAI Global database for '2243.3'.
- National Code of Practice for the Control of Work-related Exposure to Hepatitis and HIV (Blood-borne) Viruses [NOHSC:2010(2003)] https://www.safeworkaustralia.gov.au/system/files/documents/1702/nationalcodeofpractice_control_workrelatedexposure_hepatitis_hivviruses_nohsc2010-2003_pdf.pdf .
- The Australian Immunisation Handbook 10th Edition 2015 https://immunisationhandbook.health.gov.au/
- Zoonosis awareness https://www.worksafe.wa.gov.au/workplace-zoonoses .
- Transporting Biological Materials https://www.curtin.edu.au/healthandsafety/hazardous-materials/biological/transporting/ .
- Sharps Injury & Blood Exposure Guidelines https://www.curtin.edu.au/healthandsafety/wp-content/uploads/Sharps_Injuries_Guideline.pdf

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REVISION HISTORY

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