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Document Title:	DECONTAMINATION OF LABORATORY EQUIPMENT	

PURPOSE:

- 1. To ensure that a system is in plance for effective decontamination of all equipment used before and after each cycle of molecular laboratory testing and decontamination facilities and processes are properly managed within the molecular biology laboratory.
- 2. To standardize the process of removing or neutralizing chemical or biological agents so that they no longer pose a hazard or contamination.

SCOPE:

Applies to all Molecular Laboratory Personnel of Dr. Pablo O. Torre Memorial Hospital

PERSON RESPONSIBLE:

Medical Technologists, Molecular Laboratory Analyst, Housekeeping personnel

GENERAL GUIDELINES:

- 1. Any unusual problems must be referred to the Biosafety Officer, who will assist in managing unusual or special problems, and will authorize any necessary deviations from this procedure.
- 2. If a biosafety problem occurs, laboratory personnel will inform the Biosafety Officer, who will refer to SOP Incident Reporting/ Ancillary Investigation Report and then, if needed, report the problem to the Biosafety Committee and find a solution. This will be recorded in the corresponding logbook.
- The Biosafety Officer will not authorize equipment repair or other service until the equipment has been cleared.
- 4. Before servicing or repair of equipment, laboratory personnel will completely remove all hazardous chemical, or bio-hazardous materials from the equipment, then either store or dispose the materials, as appropriate.



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- It is strongly recommended that service workers and laboratory personnel discuss in advance the proposed service in order to mutually determine the required level of decontamination.
- 6. In some instances, it may be appropriate to decontaminate only part of the equipment, in consideration of the nature of the service to be performed and the equipment surfaces with which workers are expected to come into contact. In this case, materials may remain within the equipment if there will be no direct contact with the materials in the course of servicing the equipment.
- Chemical residues will be removed, neutralized, or otherwise rendered nonhazardous using an appropriate method determined by the chemical and physical characteristics of the contaminant(s), and the physical nature of the equipment
- 8. Hazard labels shall be removed, defaced, or temporarily covered as appropriate.
- 9. The decontamination method shall be documented, and records shall be available for inspection by the Biosafety Officer.
- 10. Any incidental wastes shall be disposed of properly according to the SOP Waste Disposal.
- 11. Bio-hazardous contaminants shall be removed or rendered nonpathological.

 This will typically be accomplished using a bleach solution or other chemical means or by steam sterilization.
- 12. Hazard labels shall be removed, defaced or temporarily covered as appropriate. The decontamination method shall be documented and records made available for inspection by the Biosafety Officer.
- 13. If decontamination cannot be achieved, it may be appropriate instead to cover the contaminated surfaces with impermeable materials such as polyethylene sheets. Any contamination, which has been temporarily covered over, must be clearly labelled and explained to service personnel before work begins. After servicing is completed, the covering material shall be disposed of as appropriate for the contaminant hazard.
- 14. No decontamination is required for equipment within laboratories that has no potential for contamination, such as computers, office equipment, audio-visual equipment, cameras, optical equipment, refrigerators, etc.



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- 15. Once material removal and decontamination have been completed, the Biosafety Officer shall affix an "OK to Service" certification tag to the equipment (see Annex 2). All sections of the tag shall be completed with the relevant information or "NA" (non applicable) as appropriate. A copy of the tag will be retained, and shall be available for inspection. The original should be kept for the laboratory's records and a second copy should be sent to the Biosafety Committee.
- 16. For equipment with no potential for contamination, the "No Potential for Contamination" box shall be checked on the "OK to Service" tag. In addition, the name and date section should be completed, while the other sections may be left blank.
- 17. If a biosafety problem occurs, laboratory personnel will inform the Biosafety Officer, and then, if needed, report the problem to the Biosafety Committee and find a solution. This will be recorded in the corresponding logbook

PROCEDURE:

- 1. Prepares all materials and equipment needed
 - 1.1. Personal protective equipment
 - a) Impermeable laboratory gowns
 - b) Closed-toe foot wear dedicated within the laboratory.
 - c) Nitrile gloves (wear double gloves)
 - d) Eye protection (goggles/face shield)
 - e) Respiratory protection
 - (Fit-tested N95 mask or suitable respirators)
 - Surgical Mask
 - 1.2. Autoclave
 - 1.3. Disinfectants
 - a) Freshly prepared hypochlorite solution 1:10
 - b) 70% ethyl/isopropyl alcohol
 - 1.4. Consumable material
 - a) Paper towels



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2. Follows the type of decontamination matrix discussed in the table below:

MOLECULAR LABORATORY EQUIPMENTS AND TYPE OF DECONTAMINATION MATRIX			
Laboratory Equipment used	Area	Prescribed PPE	Type of Decontamination
Dedicated ball pens & markers Computer keyboard	Reception Area	Head cover, Surgical Face Mask, Face Shield, Double Gloves, Scrub Suit, Water Impermeable Gown, Lab Boots,	Ball pens, markers, key board and transport box will be cleaned by 10% hypochlorite wipes and followed by 70% alcohol.
		Shoe Cover	
Ball pens and markers	Receiving/ Inactivation Area	Head cover, Fit- Tested N95/N100/P100,	Vortex, Ballpens and markers will be cleaned by 10%
Pipettes		Goggles/Face Shield, Double	hypochlorite wipes followed by 70%
Specimen Racks		Gloves, Scrub Suit, Disposable Cover	Alcohol.
Vortex		All, Lab Boots, Shoe Cover	Wipe specimen racks and pipettes with 10%
Refrigerator			hypochlorite wipes followed by 70% Alcohol before and after use. It can be autoclaved every after shift.
Pipettes	RNA Extraction	Head cover, Fit- Tested	Pipettes must be decontaminated by



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0.1111.17	λ	NIOE/NI100/D100	10% hypochlorite
Cold block/	Area	N95/N100/P100,	
specimen		Goggles/Face	solution followed by
rack		Shield, Double	70 % alcohol or can be
		Gloves, Scrub Suit,	undergo steam
Vortex		Disposable Cover	sterilization.
		All, Lab Boots, Shoe	
Centrifuge		Cover	Cold block will be soaked to
			10% freshly prepared
automated RNA			hypochlorite solution
extraction			followed by 70 % alcohol.
machine			Vortex and centrifuge is
			decontaminated by 10%
			hypochlorite solution
			followed by 70 % alcohol
			Tonowed by 70 % accords
			RNA extraction machine
			must be wiped by 70%
			alcohol.
pipettes	Mastermix	Head cover, Fit-	Pipettes must be
	Preparation/	Tested	decontaminated by
cold block	Reagent	N95/N100/P100,	10% hypochlorite
	Room	Goggles/Face	solution followed by
vortex		Shield, Double	70 % alcohol or can be
		Gloves, Scrub Suit,	undergo steam
minifuge		Disposable Lab	sterilization.
mman de		Gown, Lab Boots,	
biosafety		Shoe Cover	Cold block will be soaked to
cabinet			10% freshly prepared
Cubinet			hypochlorite solution
refrigerator			followed by 70 % alcohol.
renigerator			1



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			Vortex and minifuge must be wiped by 10% hypochlorite followed by 70% alcohol. Doors and surface of refrigerator must be wiped by 10% hypochlorite followed by 70% alcohol. BSC must be decontaminated by 10%
			hypochlorite solution followed by 70 % alcohol
Pipettes cold block/ specimen rack	Template Adding Room	Head cover, Fit- Tested N95/N100/P100, Goggles/Face Shield, Double Gloves, Scrub Suit, Disposable Lab Gown, Lab Boots, Shoe Cover	Pipettes must be decontaminated by 10% hypochlorite solution followed by 70 % alcohol or can be undergo steam sterilization. Cold block will be soaked to 10% freshly prepared hypochlorite solution followed by 70 % alcohol.
Thermal Cycler Centrifuge	PCR	Head cover, Fit- Tested N95/N100/P100,	Thermal cycler and plate must be wiped with RNAse away
cold block		Goggles/Face Shield, Double	using kimtech wipes before and after every



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computer		Gloves, Scrub Suit, Disposable Lab	run.
computer		Gown, Lab Boots,	Centrifuge must be
keyboard		Shoe Cover	wiped by 10% hypochlorite followed by 70% alcohol.
			Cold block will be soaked to 10% freshly prepared hypochlorite solution followed by 70 % alcohol.
			Computer keyboard must be wiped with 70 % alcohol
ball pen and markers	Clean Write Shop	Surgical Face Mask, Face Shield, Lab Gown,	computer keyboard, ball pen and markers will be wiped by 10% hypochlorite followed
keyboard			by 70% alcohol (surfaces decontamination)

REFERENCE:

- Department of Health and Social Care (2015) Health and Social Care Act 2008: code of practice on the prevention and control of infections Available from: https:// www.gov.uk/government/publications/the-health-and-social-care-act-2008of-practice-on-the-prevention-and-control-of-infections-and-related-guidance Department of Health and Social Care (2013) Health Technical.
- 2. Memorandum Management and decontamination of flexible endoscopes (HTM 01-06)



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- Available from:https://www.gov.uk/government/publications/managementanddecontamination-of-flexible-endoscopes Department of Health and Social Care (2013) Health Technical Memorandum Decontamination of surgical instruments (HTM 01-01)
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- 6. Control of hospital infection: a practical handbook., Fourth Edition, Arnold, London: Arnold.. Consumer Protection Act 1987. Control of Substances Hazardous to Health (COSHH) Regulations 1988. Earnshaw JJ, Clarke AW and Thom BT, 1985., Outbreak of Pseudomonas aeruginosa following endoscopic retrograde cholangiopancreatography., Journal of Hospital Infection, 6 (1), pp 95-97.
- Consumer Protection Act 1987. Control of Substances Hazardous to Health (COSHH) Regulations 1988. Earnshaw JJ, Clarke AW and Thom BT, 1985, Outbreak of Pseudomonas aeruginosa following endoscopic retrograde cholangiopancreatography, Journal of Hospital Infection, 6, 95-97.
- 8. Health and Safety at Work Act 1974. Health Service Circular HSC 1999/178, 1999, Variant Creutzfeldt-Jacob Disease (vCJD):
- Minimising the Risk of Transmission, HMSO, London Health Service Guidelines HSG (93)26, 1993, Decontamination of equipment prior to inspection service or repair



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ANNEX 1:

Checklist for "OK to Service" Certification of Equipment Containing Hazardous Chemicals and Biological Agents

All laboratory equipment to be serviced must be decontaminated prior to servicing. Please implement the checklist below to ensure the equipment is "OK to Service" safely. Plan enough time to perform all necessary decontamination procedures.
□ Specify the service requested on the Equipment "OK to Service" Certification Form.
□ Determine what area of the equipment needs to be accessed for servicing and which area(s) are restricted due to potential chemical, biological, or radiological contamination.
☐ If the service area(s) contain(s) hazardous chemicals or biological materials, determine what can be disposed of (check for items that might have significant chemical degradation).
□ Process disposal paperwork and have wastes removed. Follow SOP Waste Disposal for bio hazardous material. Remove and properly store any containers of hazardous materials that are to be saved.
□ Decontaminate all area surfaces that the equipment repair worker may contact with appropriate chemical or physical methods that are known to remove, neutralize, or otherwise render non-hazardous to human health or the environment any hazardous chemicals (chemical residues, stains, deposits, etc.). Refer to SOP Use of Hazardous Chemicals or Physical Hazards.
□ Decontaminate all area surfaces that the equipment repair worker may contact with appropriate solutions that are known to kill the organisms that may be present as well as inactivate any hazardous substances of biological origin. Refer to SOP Disinfection and Chemical Cold Sterilization.
☐ If decontaminating agents may leave a corrosive or otherwise harmful residue, the surfaces must be rinsed clean of hazardous deposits.



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- ☐ Before certifying the equipment as "OK to Service", do a thorough survey of the area(s) (internal and external surfaces, void spaces, etc.) to verify proper decontamination was performed.
- ☐ Fill in the Equipment "OK to Service" Certification tag (see Annex 2). SPECIFY ON THE TAG THE DURATION FOR WHICH THE CERTIFICATION WILL REMAIN IN EFFECT (start and finish dates).
- ☐ Affix the Equipment "OK to Service" Certification tag, with area(s) that are "OK to Service" clearly stated, to the exterior of the equipment in a prominent location. This will certify that the equipment poses no hazard to human health or the environment.



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ANNEX 2:

Equipment "OK to Service" Certification	
Service requested:	
Dates certification is in effe	ect: to
[] This equipment has no	potential for chemical, radiological, or bio-hazardous
contamination because it h	has never been used for or in contact with such materials and is
therefore "OK to Service" f	or unrestricted use.
[] This equipment has bee	n decontaminated in accordance with the "OK to Service"
Checklist and is safe to ser	vice with the following restrictions or special conditions:
	en decontaminated in accordance with the "OK to Service"
Checklist and is safe to ser	vice.
Item's Description: Make	Model / Serial
Number	
Identification Number	
racitiment ramoer	
Item's Current Location: R	Room / Building / Department
It and Daniel Daniel	Namo
item Responsible Person	Name:
	Phone:



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Certification Statement

I certify that the above named equipment is free to the limits specified above of any hazardous chemical, biological and radioactive materials and I attest that this equipment does not pose a hazard to human health or the environment to the limits specified above.

Print name	Signature	Data
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KEY TASKS		PERSON RESPONSIBLE	
Prepares all materials and equipment needed		Molecular Laboratory	
2.	Follows the type of decontamination matrix accordingly	personnel/ Housekeepir personnel	



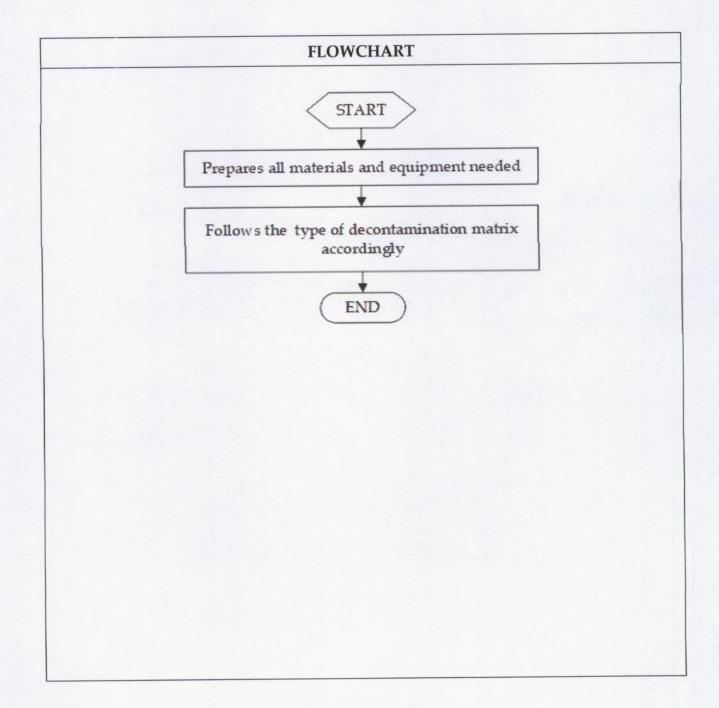
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	MELANIE ROSE B. ZERRUDO, MD, FPSP	10	7-11-2022
	Chair, Department of Pathology	18.	
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