



BIOGENIX

STANDARD PRECAUTIONS

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2 REVISION HISTORY

#	Version	Date	Changes Made by	Reason for Changes	Clause Changed
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4 POLICY STATEMENT:

- 4.1** This policy outlines the standard precautions to be implemented by all healthcare staff of Biogenix Laboratory as part of their routine practice, in order to reduce the risk of infection, transmission and environmental contamination from micro-organisms from recognized and unrecognized sources; hence protecting themselves, patients and visitors from the risk of infection.
- 4.2** Standard precautions are basic infection prevention and control principles that should underpin safe practice, in order to reduce the risk of infection to patients and staff. Standard precautions should be used routinely to prevent forward transmission of infectious agent to other patients, staff and visitors.
- 4.3** Standard precaution will be automatically implemented to all clinical samples coming in to the laboratory for investigations and all contaminated laboratory surfaces.
- 4.4** Standard precaution will implement with strict hand washing and wise use of PPEs.
- 4.5** Hand washing and Hand sanitization will be performed with correct technique by all technicians after exposure to potentially infectious samples and after contact with any contaminated surfaces.
- 4.6** Handle all patients' samples as potentially infectious.
- 4.7** All personnel will use the hand washing techniques, as set forth in the following procedure, after coming on duty; hands are soiled; toileting; blowing or wiping the nose; leaving lab; before and after eating; after handling specimens and after contact with other contaminated surfaces.
- 4.8** All hand washing areas in the lab are equipped with all accessory devices including liquid soap (which is less irritant), in soap dispensers and tissue dispensers.





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- 4.9** The laboratory has the provision for hand sanitization by using alcohol based hand rub and/or 75% Alcohol spray.
- 4.10** There will be provision for all type of PPEs for all laboratory personnel in an accessible way.
- 4.11** Continuous staff educational & motivational activities are being conducted by the infection control personnel.
- 4.12** Mouth pipetting is prohibited in the Lab to prevent exposure to blood and body fluids.
- 4.13** Procedures where there are chances of splashes should be done only with relevant PPEs.
- 4.14** Eating, drinking and application of cosmetics, use of lip balm, manipulation of contact lenses etc. are prohibited within the lab.

5 PURPOSE

- 5.1** Provides guidelines for the laboratory staff about the measures to prevent body fluid exposure and exposure to infectious agents.
- 5.2** This policy provides guidance for the laboratory staff regarding various standard precautions to be applied in various procedures and while handling infectious samples.
- 5.3** This helps to minimize the accidental exposure to infectious agent.
- 5.4** To reduce the risk of transmission of infectious agent from both recognized & unrecognized sources of infection.

6 SCOPE





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- 6.1** The scope of this policy extends to Standard precaution to be taken by all the staffs of Biogenix laboratory.

7 DEFINITIONS

- 7.1** Standard precautions are set of infection control practices used to minimize or prevent transmission of diseases that can be acquired by contact with blood & body fluids.

8 ACRONYMS

- 8.1** PPE – Personal Protective Equipment

- 8.2** BSL – Bio Safety Level

9 RESPONSIBILITIES

- 9.1** Laboratory Director is responsible for compliance with health and safety requirements and implementation of this policy in Biogenix laboratory which includes Molecular Laboratory and Core Laboratory.
- 9.2** Management personnel are responsible for the continuous supply of hand rub, soap, PPE's etc.
- 9.3** Biogenix laboratory staff are responsible for following laboratory safety requirements and follow the standard precautions as defined in this policy and in corresponding laboratory specific training.
- 9.4** Infection control personnel should monitor the Laboratory technologists/technician and provide continuous training.

10 PROCEDURE





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10.1 Standard precautions are set of infection control practices used to minimize or prevent transmission of diseases that can be acquired by contact with infectious samples.

10.2 Standard precautions are fundamental in reducing the spread of infections within the healthcare environment.

10.3 Utilizing standard precautions will protect patients, visitors and staff

10.4 Standard precautions include: -

- 10.4.1 Effective hand hygiene practices.
- 10.4.2 The use of Personal Protective Equipment (PPE).
- 10.4.3 Safe management of bio-hazard substance spillages.
- 10.4.4 Safe use, disposal and management of sharps.
- 10.4.5 Safe waste management.
- 10.4.6 Safe handling of specimen.
- 10.4.7 Appropriate cleaning/decontamination of equipment.
- 10.4.8 Maintaining a clean environment.

10.5 Hand Hygiene:

- 10.5.1 Transmission of pathogens on the hands of healthcare workers is the most common cause of cross infection.
- 10.5.2 Good hand hygiene should be undertaken by staff, service users and visitors.
- 10.5.3 Hand hygiene performed as per the five moments for hand hygiene as shown in fig 1:





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My “5 Moments for Hand Hygiene”



10.6 Hand Wash:

10.6.1.1 Hand washing is one of the single most important procedures in the control of infection.

10.6.1.2 Liquid soap is preferable to bar soap.

10.6.1.3 Liquid soap should be wall mounted with a single use cartridge or bottle.

10.6.1.4 To prevent contamination of liquid soap, dispensers should not be refilled/topped up.

10.6.1.5 Handwashing with soap and water – essential when hands are visibly dirty or visibly soiled (following visible exposure to body fluids).

10.6.1.6 Hands must be washed before and after all laboratory procedure.

10.6.1.7 Steps in Hand washing:





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10.6.1.7.1 To effectively reduce the growth of germs on hands, handwashing must last 40–60 seconds and should be performed by following all of the illustrated steps.



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

10.6.1.8 Hand washing area:

10.6.1.8.1 Each unit in the lab has separate hand washing area which is not used for other purposes like washing of any equipment or emptying any fluids.

10.6.1.8.2 Hand washing area is equipped with hand washing soap, hand drying material and hand washing poster showing the steps.

10.7 Hand Rubbing:

10.7.1.1 Alcohol hand rubs & hand sanitizers are of particular value where hand washing facilities are limited or not available.





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10.7.1.2 They should be applied to dry, visibly clean hands.

10.7.1.3 These products are only effective if hands are physically clean.

10.7.1.4 It is important to wash hands which are visibly contaminated prior to its application.

10.7.1.5 Steps in Hand Rubbing.

10.7.1.5.1 To effectively reduce the growth of germs on hands, hand rubbing must be performed by following all of the illustrated steps.

10.7.1.5.2 This takes only 20–30 seconds!



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

10.8 Safe management of bio-hazard substance spillages:





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10.8.1 The basic principles of bio-hazard substance spills management are:

10.8.1.1 Standard precautions apply, including use of personal protective equipment (PPE), as applicable

10.8.1.2 Spills should be cleared up before the area is cleaned (adding cleaning liquids to spills increases the size of the spill and should be avoided)

10.8.1.3 Generation of aerosols from spilled material should be avoided.

10.8.2 For the detailed procedure please refer BG/PP/INF/005 titled Bio-hazard spill Management.

10.9 Personal Protective Equipment:

10.9.1 The use of Personal Protective Equipment (PPE) is essential for health and safety. Selection of PPE must be based on an assessment of the risk of contamination of the laboratory personnel's clothing and skin/mucous membranes by aerosols produced while handling the samples or performing the experiments.

10.9.2 Please refer BG/PP/INF/003 titled PPE Policy and Procedure.

10.10 Safe Handling and Disposal of Sharps:

10.10.1 The risk of sharps injury can be minimized through safe handling and correct disposal procedures.

10.10.2 It is the responsibility of the person using the sharp to dispose of it safely.

10.10.3 Dispose of sharps into a sharps container immediately after use.

10.10.4 Sharps bins must be easily accessible to staff but at the same time must not be a hazard to patients or visitors. Sharps bins must be placed out of easy reach of unauthorized persons.

10.10.5 A sharps bin must be taken to the point of use. Never carry used sharps to a sharps bin.





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- 10.10.6 Ensure sharps bins are correctly assembled, according to manufacturer's instructions, before use.
- 10.10.7 Avoid passing used sharps from person to person by hand.
- 10.10.8 Never overfill sharps bins. When $\frac{3}{4}$ (75%) full sharps bins must be properly closed and sealed. Do not place bin in a yellow bag.
- 10.10.9 Sharps bins must be labelled with the source department/unit and the date of assembly/disposal.
- 10.10.10 Staff moving sharps bins must check that the seal remains closed during and after transportation.
- 10.10.11 Always carry sharps containers by the handle (where present) and away from the body.

10.11 Lab Waste Management:

- 10.11.1 All staffs are responsible for the safe management and disposal of waste.
- 10.11.2 All bio-hazard waste in a laboratory must be correctly segregated and disposed of to prevent injury/ infection.
- 10.11.3 Please refer BG/PP/INF/007 titled Laboratory Waste Management.

10.12 Safe Handling of Specimen:

- 10.12.1 All specimens are a potential infection risk therefore all specimens must:
 - 10.12.1.1 be collected in the correct container with the lid securely fastened, in a container which has not been contaminated on the label or outer surfaces by the contents.
 - 10.12.1.2 care should be taken not to contaminate the outer receptacle.
 - 10.12.1.3 clearly labelled with the correct patient's details.





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10.12.1.4 be accompanied by a correctly labelled specimen form with the relevant clinical details given.

10.12.1.5 the specimen should be placed inside the specimen bag.

10.12.1.6 be transported in a rigid container to the laboratory.

10.13 Equipment decontamination:

10.13.1 All equipment should be decontaminated as recommended by manufacturer.

10.14 Maintaining clean Environment:

10.14.1 Policies and procedures for routine cleaning and disinfection of environmental surfaces is part of the infection prevention plan.

10.14.2 Cleaning removes large numbers of microorganisms from surfaces and should always precede disinfection. Disinfection is generally a less lethal process of microbial inactivation (compared with sterilization) that eliminates virtually all recognized pathogenic microorganisms but not necessarily all microbial forms (e.g., bacterial spores).

10.14.3 Emphasis for cleaning and disinfection should be placed on surfaces that are most likely to become contaminated with pathogens, including clinical contact surfaces (e.g., frequently touched surfaces such as handles, switches, computer equipment) in the testing area. When these surfaces are touched, microorganisms can be transferred to other surfaces, instruments or to the nose, mouth, or eyes of staffs of Biogenix Laboratory.

10.14.4 Although hand hygiene is the key to minimizing the spread of microorganisms, clinical contact surfaces should be barrier protected or cleaned and disinfected.

10.14.5 Biogenix Laboratory uses EPA-registered hospital disinfectants or detergents / disinfectants with label claims for use in health care settings.





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- 10.14.6 Disinfectant products should not be used as cleaners unless the label indicates the product is suitable for such use.
- 10.14.7 Biogenix laboratory follow manufacturer recommendations for use of products selected for cleaning and disinfection (e.g., amount, dilution, contact time, safe use, and disposal).
- 10.14.8 Biogenix Laboratory policies and procedures addresses prompt and appropriate cleaning and decontamination of spills of blood or other potentially infectious materials.
- 10.14.9 Housekeeping surfaces, (e.g., floors, walls, sinks) carry less risk of disease transmission than clinical contact surfaces and can be cleaned with detergent and water or cleaned and disinfected if visibly contaminated with blood or other potentially infectious materials.
- 10.14.10 Please refer BG/PP/INF/008 titled Laboratory cleaning & disinfection.

10.15 Laboratory Good practices:

- 10.15.1 Entry into the laboratory is restricted to authorized individuals and all must be advised potential biohazards and informed of safe laboratory procedures.
- 10.15.2 The chief lab technologist or authorized laboratory staff must accompany maintenance and repair personnel.
- 10.15.3 Visitors are not permitted in the laboratory without prior approval from Lab director. Visitor must be accompanied by an authorized staff for the duration of their visit to the facility.
- 10.15.4 Appropriate PPE should be put on before you enter the laboratory. PPE worn for BSL3 work should not be worn in other areas. Remove before leaving the laboratory. All PPE used in Molecular Laboratory should be removed in anteroom. All the removed PPE should be collected in Biohazard bag.





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- 10.15.5 While entering and leaving anteroom make sure the laboratory door is closed.
- 10.15.6 Beards or mustaches may be undesirable in workplaces with potential airborne contamination. Facial hair retains particulate contamination more persistently than clean shaven skin. Clean shaven faces enhance the fit of facial masks and are required when face fitting respirators are used.
- 10.15.7 Keep long hair tied back or covered.
- 10.15.8 In molecular laboratory all rooms are negative pressurized, except reagent preparation room, to contain the infectious agents. Please make sure doors are always closed in order to maintain the pressure.
- 10.15.9 Eating, drinking, smoking, applying cosmetics and lip balm, and handling contact lenses are prohibited in the laboratory.
- 10.15.10 Mouth pipetting is not permitted. Mechanical pipetting devices must be used.
- 10.15.11 Opening containers of infectious materials or handling infectious materials must be done only in biological safety cabinets.
- 10.15.12 It is important to minimize or avoid production of aerosols and conduct all aerosol generating procedures in a biological safety cabinet. Confine aerosols as close as possible to their point of generation.
- 10.15.13 Label all equipment and storing infectious organisms with a biohazard sign.

10.16 Biological Safety Cabinet (BSC) Protocol

- 10.16.1 All BSCs shall be professionally certified at the time of installation and annually thereafter. If a BSC is to be moved, it shall be professionally decontaminated before moving and recertified before work commences.





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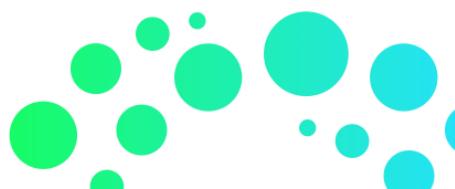
- 10.16.2 Keep the work area of the BSC free of unnecessary equipment or supplies. Clutter inside the BSC may affect proper airflow and the level of protection provided. Also, avoid blocking the front or rear intake grills.
- 10.16.3 Keep the front and rear grilles clear when working within the BSC. Avoid blocking the rear grille. Don't store items on top of the BSC. Remind fellow researchers to minimize traffic and work behind the operator, as this may interfere with cabinet airflow. Depending on the location of the BSC within the room, opening and closing the room door can significantly interfere with BSC airflow.
- 10.16.4 All UV lights shall be turned off whenever the laboratory is occupied.
- 10.16.5 Perform all work within a BSC. This includes discarding waste within the BSC. Moving your hands in and out of the BSC will disrupt the protective air curtain at the front access opening.
- 10.16.6 Do not work in a BSC while a warning light or alarm is signaling.

10.17 Controlled Air System:

- 10.17.1 Molecular laboratory is maintained at a negative pressure except in Reagent extraction room, where positive pressure maintained.
- 10.17.2 Molecular Laboratory equipped with Pressure monitor that allow laboratory personnel to verify that laboratory is under negative pressure
- 10.17.3 Exhaust air is HEPA-filtered.

11 CROSS REFERENCE:

- 11.1 DOH Abu Dhabi Policy on Policy for Infection Control in the Health Care Facilities (PPR/HCP/P0010/07).





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11.2 <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control>

11.3 <https://www.cdc.gov/coronavirus/2019-nCoV/lab/index.html>

11.4 https://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf

11.5 Biological Safety BSL3 Laboratory Manual by Yale University Environmental Health & Safety

11.6 <https://www.cdc.gov/oralhealth/infectioncontrol/summary-infection-prevention-practices/standard-precautions.html>

12 RELEVANT DOCUMENTS & RECORDS:

12.1 BG/REC/INF/001 Infection Control Staff Compliance Checklist.

12.2 BG-PP-INF-003 Personal Protective Equipment

12.3 BG/PP/INF/004 Occupational Exposure Management.

12.4 BG-PP-INF-005 Biohazard Spillage Management

12.5 BG-PP-INF-007 Laboratory Waste management

12.6 BG/PP/INF/008 Laboratory Cleaning and Disinfection.

