



Information sheet

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Laboratory Biosafety

Laboratory biosafety includes the practices and procedures used to handle:

- infectious specimens – e.g. wound swabs



- cultures– e.g. agar plates containing bacterial pathogens



- potentially infectious waste e.g.



sharps

Why is Laboratory Biosafety important?

- to prevent laboratory acquired infections or chemical exposures
- to prevent unprotected exposure to infectious or dangerous materials
- to protect the lives of employees, patients and visitors
- to protect laboratory equipment, facilities and the environment

Neglecting laboratory safety is costly. Secondary effects of a laboratory accident include:

- loss of reputation
- loss of customers / loss of income
- negative effect on staff retention
- increased costs—litigation, insurance

Who manages biosafety?

Biosafety is the business of every laboratory staff member- staff need to know how to practice safely and consistently comply with this. Staff should be alert to potential safety risks and notify these as soon as possible to the laboratory/section manager and/or the laboratory biosafety officer- make sure that you know who that is!

The Laboratory Manager has a primary responsibility to ensure that the laboratory is set up and operates in a safe manner.

The Biosafety Officer identifies and investigates all laboratory hazards which may impact on employee and visitor safety. These include:

- Physical hazards - e.g. Centrifuges and Biosafety Cabinets
- Biological hazards - bacterial cultures and patient specimens.
- Chemical hazards - reagents used in testing procedures e.g. Sodium hydroxide and Kovacs Indole reagent.

How should each laboratory improve biosafety?

- Orientate/train all staff in standard safe laboratory practices and ensure that staff comply with these
- Develop written safety policies and procedures to manage the hazards
- Report and investigate laboratory accidents – emergency contact numbers and post-exposure prophylaxis information needs to be available to staff
- Perform regular safety audits to assess risks and report findings to laboratory management who must take timely action to address outstanding hazards

What can be done to help keep the employees and visitors safe?

- Provide fire extinguishers, hand wash and eye wash stations
- Provide a facilities for washing and drying hands
- Facilitate correct use of PPE e.g. gloves, gowns, eye protection
- Perform certain hazardous tasks in Biosafety Cabinet Class II to protect workers
- Manage waste storage and disposal safely – see Waste Management SOP
- Only allow laboratory entry via secure access to laboratory employees
- Provide a dedicated tearoom, fridge, and facilities outside laboratory for staff use and prevent consumption of food within the laboratory areas
- Store chemicals correctly in chemical storage cupboards
- Provide and maintain adequate First Aid and Spills kits
- Develop and support a policy for routine staff vaccination against relevant pathogens, especially hepatitis B.
- Educate staff on risks, signs and symptoms of laboratory-acquired infections and the need to notify suspected infections to management

References

- PNG National Laboratory Quality Manual – Section 5, Facilities and Safety via <http://path-png.org>
- Biosafety Officer Role Description G_10_LQM_Ap_26 – see LQM-associated documents on <http://path-png.org>
- Laboratory-acquired infections information sheet G_10_Info_10 available on laboratory noticeboard
- Local post-exposure prophylaxis information - available on laboratory noticeboard