

Appendix 1

Inspection Checklist



University of Otago, Wellington

Internal Audit Sector Inspection Checklist

Sector: _____ Date of Inspection: _____

PC2 & HSNO Exempt General Audit

LABORATORY FACILITIES

	Yes	No	N/A
Bench tops are able to withstand heat generated by general laboratory procedures			
Furniture is ergonomically suitable for use in the laboratory – a 5-point base, adjustable heights and smooth impervious material			
Open spaces between and under benches, cabinets and equipment is accessible for cleaning			
Ceilings, walls, floors and doors are smooth, easy to clean, impermeable to liquids, and resistant to commonly used reagents and disinfectants			
Internal fittings and fixtures minimise the horizontal surface area on which dust can settle			
Suitable coat hooks for laboratory gowns are provided within laboratory adjacent to laboratory access door			
Protective covers are provided for keyboards on benches			
Containers for infectious materials and a supply of clearly labelled disinfectants for decontamination purposes is available			
Earthquake proofing is adequate			

EQUIPMENT

	Yes	No	N/A
Water-baths are maintained in a clean state			
<i>Biological safety cabinets:</i> When working with specimens containing microorganisms transmissible by the respiratory route, or when work produces a significant risk from aerosol production, a biological safety cabinet of Class II is used			
Biological safety cabinets have been inspected and passed inspection within the last year <i>Verification noted</i>			
<i>Sealed bucket and sealed-rotor centrifuges:</i> The lid (or swing-out bucket) is impact-resistant, preferably transparent and the seal is visibly distinguishable from its seating			
Materials of the rotor/bucket can withstand repeated pressure steam sterilizing			
<i>Other centrifuges:</i> Centrifuge tube compartments are cleaned regularly and inspected for damage, cracking or corrosion			
<i>Autoclaves:</i> Protective clothing is provided for use when loading and unloading sterilizer			
Areas for the temporary holding of material awaiting sterilization is free from interference and vermin			
Adequate space is provided for movement of large loads and trolleys			
Materials and equipment are cleaned when not in use			
The annual electrical testing has been carried out and new equipment electrically tested before use			
Fume cupboard has current certification <i>Verification noted</i>			

WORK PRACTICES

	Yes	No	N/A
No food or drink for personal consumption is brought into the laboratory or stored in laboratory refrigerators			
Eating, drinking, smoking, shaving and application of cosmetics is prohibited in laboratories			
Long hair is tied back			
Safety carriers are always used for transporting chemicals with a capacity of 2L or greater			
Mouth pipetting does not occur			
Care is taken to minimise the production of aerosols where work is carried out on the open bench			
Precautions are taken to ensure that reading and writing materials do not become contaminated <i>Specific write up areas are noted</i>			
Self-adhesive labels are used			
All spills are cleaned up immediately and the area is decontaminated. Significant spills are reported immediately to the Laboratory Supervisor			
Work benches are decontaminated after each task is completed			
Specialized wastes (e.g. broken glassware, biological substances) are segregated at point of discard and disposed of according to regulations			
Laboratory gowns are removed; stored in facilities provided and hands are thoroughly washed before moving to areas outside the laboratory			
Particular care is taken when using syringes and needles			
Maintenance and service personnel are advised of the special hazards in the laboratory			
Potentially contaminated re-usable glassware is pressure steam sterilized or chemically disinfected prior to washing and re-use			

Microbiological waste is disposed of accordingly <i>Verification noted</i>			
Benches and floors are clean and free of clutter, oil, water, chemicals and powder			
Gas cylinders are secure and regularly checked/changed			
When infectious material is being injected under high pressure, Luer-lock fittings are used			
Appropriate labelling of chemical containers			
Segregated area for unpacking of imported cell cultures/microorganisms. <i>Check sheet for such goods</i>			

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

	Yes	No	N/A
Protective clothing to afford protection to the front part of the body is worn in the laboratory			
Closed footwear is worn			
Safety glasses, face shields and other protective devices are worn where appropriate			
Gloves are worn when working in a biological safety cabinet and when handling human blood and body fluids			
The appropriate type of glove is used for different types of chemicals			

LIQUID NITROGEN

	Yes	No	N/A
A full face-shield and impervious insulating gloves are worn			
Appropriate cryogenic containers are used for storage purposes			
Precautions are taken to avoid cross-contaminating material being			

removed if vials leak			
Containers of liquid nitrogen are not tightly closed			
Only approved vessels are used for the storage and transport of liquid nitrogen <i>Verification asked</i>			
The atmosphere in rooms containing liquid nitrogen is monitored for oxygen concentration if appropriate			

WASTE DISPOSAL

	Yes	No	N/A
Sharps are collected in a rigid, puncture-proof container			
Infectious material is collected in a robust container displaying the biohazard symbol which can be pressure steam sterilized			
All unwanted biological wastes containing live microorganisms is treated appropriately before disposal <i>Disposal records verified</i>			
Adequate containment is provided for transport of infectious waste from the laboratory to the autoclave with secondary containment			
There is a minimum quantity of hazardous waste in the facility			
Hazardous waste is stored by class and in appropriate places			
Containers are decontaminated before their contents are either discarded or washed for re-use			
Chemical waste is transported to the Dangerous Good Store in a safe and appropriate manner (using secondary containment)			

CHEMICALS

	Yes	No	N/A
Primary and secondary containers labelled appropriately			

Chemical storage: flammables cabinet corrosives cabinet oxidisers cabinet			
Incompatible substances segregated			
All other categories stored on shelves < 2.5L			
Chemical stocks kept to minimum			
For shelves over 1.5m high are all glass containers < 1kg or 1L			
Use of phenol; hydrofluoric acid – SMOU available – SDS available – gloves, goggles, storage			
Random audit of trackable substances (x3)			
Face shields for 6.1A if used outside fume cupboard			

ANIMALS AND ANIMAL CONTAINMENT FACILITIES

	Yes	No	N/A
Separate areas are provided for animal housing, experiments, post-mortem examinations, disposal of wastes			
Infected, non-infected and quarantined animals are housed separately			
Precautions are taken to prevent cross-contamination <i>Ask for examples</i>			
Animals inoculated with organisms from defined Risk Groups are housed in facilities appropriate to the particular experiment level			
Cages and racks are able to be sterilized			
Cage and room security – door barriers			
All areas are protected to prevent infestation by vermin			
Gloves and respiratory protection is worn when handling animals			
Any personal reaction or allergy is reported to the safety officer			
<i>Dissection and post-mortem examinations:</i> Dissection tables are of impervious washable material			
Gloves, aprons and eye protection are worn at dissection			
Respiratory protection is used when there is a risk of infection at post-mortem			
Spillage trays and containers for used instruments are used at post-mortem			
Procedures are followed to avoid cuts with the instruments used at post-mortem			
Post-mortem examinations are carried out under physical containment conditions equivalent to the Risk Group of the microorganism present			
<i>Sterilization and waste disposal:</i> Sterilization facilities are provided			
All used instruments and containers are decontaminated before cleaning			

Infected carcasses are incinerated <i>Verification noted</i>			
<i>When housing animals where microbiological agents are used:</i> Laboratory animal facilities are an extension of the laboratory and are inseparable from the laboratory			
The biological and physical containment for working with infectious agents in vivo and in vitro are comparable			
The physical containment levels for work with microbiological agents involving animals follow the same containment levels as appropriate for the pathogen			
Any openings in the walls, roof, ceiling or floor are screened from insects			
Doors to facilities open inwards and are self-closing			
An ante-room in which protective clothing and footwear can be stored is provided			
Storage areas are provided for cages, feed, chemicals and drugs			
The water supply is provided with backflow prevention			
<i>Operating procedures:</i> Only authorised persons are able to enter the animal containment facility <i>How is this monitored?</i>			
Bedding material and waste from infected animal cages is pressure steam sterilized before removal from cages			
Bedding material from infected animal cages is handled in such a manner as to minimise the creation of aerosols			
Cages from un-infected animals are decontaminated after use and washed regularly			
Animals are constrained during experiments			
Animals or animal tissues transported into or out of the animal			

containment facility are carried in closed containers			
Animals involved in genetic manipulation experiments are not used for other purposes or to provide tissues for other purposes			
Live animals or animal tissues taken from the animal containment facility go only to another containment facility			

EMERGENCY PREPAREDNESS

	Yes	No	N/A
Spill kits maintained and procedures available <i>Verification noted</i>			
Fire extinguishers are available, current and close to work areas			
Fire blankets available			
Isolating switches for gas/electricity			
Site-specific instructions clearly displayed			
Emergency folder accessible and up to date			

SIGNAGE AND EXTERNAL LABORATORY

	Yes	No	N/A
Freezers, refrigerators or other storage units for microorganisms or recombinant or manipulated DNA material, located outside the designated laboratory, are locked and posted with the biological hazard symbol			
Cultures are clearly identified, dated and stored in a dedicated storage area			
PC2 SOPs displayed			
Security is appropriate <i>How is this monitored?</i>			
Warning symbols, if appropriate			
Laboratory supervisor is identified			

Entrance to the facility is posted with a sign identifying the type of containment facility, and listing procedures applicable, including emergency and maintenance procedures			
"Restricted Access" signs in place			
Signage directing unauthorised persons			
Floor plan displayed and current			

TRANSPORTATION

	Yes	No	N/A
Biological materials are packaged according to IATA regulations			
When infectious material is being transported a Shipper's Declaration for Dangerous Goods is completed and attached to the external surface of the package			
Documents enclosed in a package are placed between the primary and secondary packages in a separate impervious bag			

DOCUMENTATION

	Yes	No	N/A
Eyewash clean and tested weekly <i>Ask to see records</i>			
Logbooks are kept for medium and high-speed centrifuges to ensure timely maintenance and safety inspections of the rotors <i>Verification noted</i>			
Training is given to all persons who operate the sterilizers <i>Ask to see training records</i>			
There is appropriate monitoring of the sterilization cycles <i>Verification noted</i>			
All work hazards are identified, assessed for risk, and controls implemented where necessary <i>Ask to see records</i>			

<p><i>Has the hazard register been reviewed in an acceptable time frame?</i></p>			
<p>Hazardous work is identified and appropriate backup procedures are in place if it is being carried out alone <i>Ask about working alone procedures</i></p>			
<p>A written or online (Vault) report of accidents is maintained</p>			
<p>Laboratory personnel receive instruction and training, with regular updates, in handling pathogens if appropriate</p>			
<p>A pest control programme against insects, birds and animals is instituted</p>			
<p>Apparatus such as centrifuges, water baths, incubators, refrigerators, deep freeze cabinets and liquid nitrogen storage vessels are cleaned and, where appropriate, disinfected at regular intervals <i>Ask to see records</i></p>			
<p>Where genetic manipulation is carried out, the animal facility is inspected regularly by the IBSC to ensure its containment features are intact</p>			
<p>Inventory/register (chemical, biological and animal where appropriate) available and up to date <i>Verification noted:</i> <i>Chemical</i></p> <p><i>Biological</i></p> <p><i>Animal</i></p>			

<p>SDSs available (and within 5 minutes) <i>Show us where the SDSs are kept</i></p>			
<p>Tracked substances labelled and tracked</p>			
<p>First aider and kit location known <i>Where is the first aid kit?</i></p> <p><i>Kit maintained?</i></p> <p><i>Who are the first aiders in your area?</i></p>			
<p>Register of projects for GMOs sighted <i>Verification noted</i></p>			
<p>Animal transfer permits, transfer log completed <i>Completed transfer forms verified</i> <i>Copies to LM and LCO</i></p>			
<p>Animal importation and quarantine documents complete <i>Verify records</i></p>			

Updates on procedures documented <i>Lab SOPs printed and in lab?</i>			
Management procedures discussed <i>List procedure</i>			

TRAINING DOCUMENTS

<p>New staff documentation noted <i>Note new staff members</i> <i>Forms completed? (New Staff form and Lab Training Record sheets)</i></p>			
<p>Training procedures documented <i>Verification noted</i></p> <p><i>Attended and understood training provided.</i> <i>How are changes communicated and do staff have the understanding that by signing the records each year they are agreeing that they understand the contents of the Laboratory specified Manuals?</i> <i>How is competency assessed?</i> <i>Is there evidence that the training programme has been reviewed periodically?</i> <i>Is there evidence that personnel undergoing training are supervised?</i> <i>Manual Acknowledgement Sheets signed and copied to CO?</i></p>			
<p>Staff changes documented <i>Verification noted</i></p> <p><i>Leaving form completed and passed on to CO?</i></p>			
<p>Training issues addressed <i>Verification noted</i></p>			

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COMMENTS:

Trackable chemicals include:

Imports since last audit include:

Corrective actions from last audit to assess:

Corrective actions from this audit:

