

# Large Animal Biosecurity Standard Operating Procedures (SOP)

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## Contents

Attire for Inpatient and Outpatient Areas of the Equine Hospital .....	2
General Cleanliness and Hygiene: .....	2
Disinfection Protocol for Instruments and Equipment .....	2
Food and Beverages .....	2
Guidelines for Managing Large Animal Patients with Suspected or Confirmed Contagious Diseases .....	3
Diagnostic and Surgical Procedures on High Risk Patients.....	3
Biological Specimens Obtained From Suspected or Confirmed Contagious Patients.....	4
Required Diagnostic Testing in Patients with Suspected Infections: .....	4
Disease Differentials for Which Testing is Mandatory in Large Animal Patients: .....	4
Equine – Mares, Foals and Neonates .....	4
Large Animal Isolation Unit Biosecurity Protocols .....	6
Protocol for Isolation of Horses with Diarrhoea.....	6
Protocol for Isolation of Adult Cattle with Diarrhoea .....	7
Protocol for Isolation of Calves with Diarrhoea .....	7
Monitoring of Animals with Diarrhoea.....	<b>Error! Bookmark not defined.</b>
Protocol for Isolation of Large Animals with Respiratory Disease .....	8
General Procedures for Working in the Isolation Unit.....	8
Setting up the Isolation Unit for Equine Patients .....	9
Procedures for Personnel Entering the LA ISO unit: .....	10
Procedures for Personnel Exiting the LA ISO unit: .....	10
Patient entry into the LA Isolation Unit.....	10
Patient exit out of the LA Isolation Unit.....	11
Movement of Equipment and Consumables In and Out of the LA Isolation Unit.....	11
Management, Cleaning and Disinfection of the LA Isolation Unit .....	11
Disposal of Contaminated Bedding and Feed From the LA Isolation Unit .....	11
Environmental Culture Protocol.....	12

## Attire for Inpatient and Outpatient Areas of the Large Animal Hospital

- 1) All personnel are required to wear clean professional attire, clean protective outer garments, and clean, appropriate footwear at all times when working within the large animal (LA) hospital of MU-VTH.
- 2) Approved section uniforms that are dedicated for hospital use are an acceptable alternative to wearing protective outer garments by staff and faculty.
- 3) This attire should be appropriate to the job at hand (e.g. coveralls and heavy boots or shoes are probably the most appropriate footwear and protective outer garments when working with LA patients performing tasks which are accompanied by a high risk of being soiled with infectious materials).
- 4) Personnel must be willing to disinfect footwear while working, which provides a good check regarding suitability (are you willing to fully immerse them in a footbath!?). Water-impervious footwear is strongly recommended to limit damage to footwear that will eventually occur after exposure to footbath solutions.

### General Cleanliness and Hygiene:

Maintaining hospital cleanliness and appropriate personal hygiene are responsibilities of ALL personnel working in the LA Hospital.

- 1) Hands must be washed or cleaned with an alcohol-based hand sanitizer prior to, and after examining each patient. It should be kept in mind that hand sanitizers are not effective against all pathogens e.g. cryptosporidia.
- 2) Clean exam gloves should be worn when handling high-risk patients (i.e. infectious disease suspect, neonatal foals, calves, lambs).
- 3) Surfaces or equipment contaminated by feces, secretions, or blood must be cleaned and disinfected immediately. This is especially important regarding patients known or suspected of shedding important infectious disease agents.

### Disinfection Protocol for Instruments and Equipment

- 1) All instruments, equipment or other objects, including stomach tubes, floats, mouth speculums, endoscopes, grooming tools, clipper blades, etc. must be sterilized or disinfected between uses on different patients.
- 2) Materials that are not sterilized between uses (some instruments and equipment such as buckets, stomach tubes, fluid pumps, funnels, and mouth speculums) must be cleaned with soap and water and disinfected with a 0.5% chlorhexidine solution after use on patients..
- 3) Stethoscopes:
  - a) Stethoscopes owned by personnel may be used on non-infectious patients.
  - b) MU-VTH-owned stethoscopes must be used on patients with increased risk of shedding contagious agents; these are stored at patients' stalls during hospitalization, and disinfected with 90% isopropyl alcohol, 70% ethanol, or 0.5% chlorhexidine between uses.
- 4) Thermometers:
  - a) Digital and glass thermometers should be cleaned and disinfected between patients. This could be done using 90% isopropyl alcohol, 70% ethanyl alcohol, or 0.5% chlorhexidine, available in most treatment areas.
- 5) Other instruments and equipment owned by personnel (e.g., hemostats, scissors, etc) may be carried and used on multiple patients, but they must be cleaned and disinfected between patients using 70% isopropyl alcohol or 0.5% chlorhexidine available in various areas.
- 6) Personnel walking horses are responsible for cleaning any fecal material from the ground as soon as feasible. When horses with contagious enteric infections are walked, they should be followed by a second person responsible for cleaning and disinfecting fecal material that is voided by the patient while in transit.

### Food and Beverages

- 1) Food and beverages should be sealed in non-spill containers and be stored in backpacks in the cubbyholes. Do not leave food out at any time.
- 2) Refrigerators are not available in the LA Hospital to store food or beverage intended for human use.

## Guidelines for Managing Large Animal Patients with Suspected or Confirmed Contagious Diseases

Special precautions are required when managing patients known or suspected to be infected with contagious disease agents. Conditions of special concern because of the potential for nosocomial transmission include patients with acute gastrointestinal disorders (e.g. diarrhea), acute respiratory tract infections, or infections with bacteria that are resistant to multiple antimicrobial drugs.

- 1) Patients with elevated contagious disease risk should be managed as outpatients or isolated from the general LA hospital population and discharged as soon as possible.
- 2) **In addition to LA hospital staff and students, Biosecurity Personnel** (email: [M.Dunowska@massey.ac.nz](mailto:M.Dunowska@massey.ac.nz)) should be notified when patients with elevated contagious disease risk are admitted or develop these problems while hospitalized.
- 3) Only the head of the Equine (email: [C.B.Riley@massey.ac.nz](mailto:C.B.Riley@massey.ac.nz)) or Farm Animal (email: [R.Laven@massey.ac.nz](mailto:R.Laven@massey.ac.nz)) sections, in consultation with the Biosecurity Personnel (any member of the Biosecurity Committee), can give permission to house LA patients with known or suspected highly contagious diseases in locations other than LA Isolation Facility.
- 4) When patients with elevated risk of contagious disease are housed in the main inpatient areas, serious effort must be made to use appropriate barrier nursing with the patient. These include:
  - a) Disinfectant footbaths or footmats on the entry to the stall.
  - b) Cordoning off the area in front of the stall by chains, tape, or any other clearly viable barrier.
  - c) Maintaining empty stalls on either side and across the aisle.
  - d) Using stalls at the end of aisles is preferred to stabling near main traffic corridors.
  - e) Providing dedicated barrier gowns, disposable gloves, thermometer, stethoscope, and hoof pick on the entry to the stall.
  - f) Providing hand sanitizer at the exit from the stall.
- 5) Patients requiring isolation at the time of admission should be transported directly to the LA Isolation Facility without entering the main hospital areas.
- 6) If patients are moved from the LA Hospital to the Isolation facility, they should be moved by a route that minimizes exposure of other patients and contamination to the facility.
- 7) Any areas or equipment contaminated with infectious material during transit should be immediately cleaned with soapy water and disinfected with appropriately diluted disinfectant (Acell Prevention or Virkon).

## Diagnostic and Surgical Procedures on High Risk Patients

- 1) Whenever possible, diagnostic, surgical, or other procedures should be performed wherever high risk patients are housed, rather than moving the patient to common examination and treatment areas.
- 2) If the patient requires diagnostics or other procedures which can only be performed in the main hospital facility (e.g., radiology, computed tomography, surgery), these procedures should be performed at the end of the day whenever possible.
- 3) The attending clinician is responsible for notifying appropriate VTH personnel of the suspected infectious agent and methods that are prudent for containment (this includes cleaning and disinfection after procedures).
  - a) This information should be written on all request forms.
  - b) In general, all barrier nursing precautions that are required in the patient housing area will be required whenever handling that patient.
  - c) Instruments, equipment, and the environment should be thoroughly cleaned and disinfected after the procedure, regardless of where the procedure is conducted.

## Biological Specimens Obtained From Suspected or Confirmed Contagious Patients

- 1) Specimens obtained from high risk patients should be correctly labelled with appropriate identification, then placed in a Ziplock or Whirlpak bag. Care should be taken when placing specimens in bags to prevent contamination of the outside of the bag.
- 2) Suspected conditions or disease agents should be clearly identified on all submission forms.
- 3) The outside of the bag should be wiped with one of the disinfecting agents available in various areas of the hospital such as 90% isopropyl alcohol, 70% ethanyl alcohol, or 0.5% chlorhexidine, available in various areas of the hospital.

### Required Diagnostic Testing in Patients with Suspected Infections:

Diagnostic testing to detect certain infectious and/or zoonotic agents provides essential information for appropriate clinical management of infected patients.

- 1) It is mandatory for all hospitalized patients to undergo diagnostic testing if infection with specific contagious or zoonotic agents is a reasonable consideration. This diagnostic testing is considered essential to case management in the MU-VTH.
- 2) It is the responsibility of the clinician responsible for a patient's care to ensure that appropriate samples are submitted for this testing, and that appropriate biosecurity precautions are taken with these patients.
- 3) Biosecurity Personnel should be notified as soon as reasonably possible that there is a reasonable index of suspicion that a hospitalized patient may be infected with one of the agents listed below.

### Disease Differentials for Which Testing is Mandatory in Large Animal Patients:

Testing of appropriate samples is mandatory if the following disease or condition is a reasonable differential.

- Equine Herpesvirus type 1
- *Salmonella spp.*
- *Streptococcus equi equi*
- Suspected multi-drug resistant infections (e.g. non-healing wounds)

## Neonates of All Species

Neonates that are hospitalized at the VTH often have an increased risk of acquiring infectious diseases because of existing disease processes including compromise to the immune system. In addition, hospitalized neonates and their dams often shed enteric pathogens during the periparturient period. If neonates or their dams have signs of contagious disease or are from farms experiencing outbreaks of contagious diseases they must be housed in the isolation unit and all isolation protocols followed. For those that do not have signs of contagious disease or are from farms with no known contagious disease outbreaks, they can be housed in the main LA hospital with the following protocols applied.

- 1) Barrier nursing precautions are required when handling foals or when entering their stalls. This is to protect the neonates from acquiring any nosocomial infections.
- 2) Personnel should not enter stalls unless contact with patients is required. Primary clinicians may at their discretion take students into a stall for teaching purposes, but this should be minimized as much as possible, and all personnel entering stalls must use appropriate barrier nursing precautions.
- 3) This policy also applies to all ancillary services.

## Large Animal Teaching Unit (LATU)

The animals housed within LATU are healthy, and therefore comprise low infectious disease risk. However, all students and staff working at LATU should follow basic general biosecurity precautions in order to prevent spread of any infectious agents among these animals. It should be also remembered that clinically normal animals can be shedding potentially infectious pathogens.

These basic biosecurity precautions include:

- 1) The use of clean coveralls and other protective gear, as instructed.
- 2) Hand washing and/or disinfection following contact with animals.
- 3) The use of clean protective footwear (gumboots) when working with animals. If the same gumboots had been used for work with clinically sick animals, it is the student's responsibility to make sure that the gumboots have been properly cleaned and disinfected before entering LATU (this should have been done directly after working with any clinically sick animals).
- 4) Eating and drinking is not allowed in areas where teaching animals are kept. Eating is permissible in the Rutherford room.

## Large Animal Isolation Unit Biosecurity Protocols

The purpose of the LA Isolation Unit is to house large animals that are suspected of having highly contagious and/or zoonotic diseases. In the event that the Unit is fully occupied, animals requiring isolation will be discouraged from being admitted to the Hospital, but if such cases are admitted, or are in the hospital already, they will be barrier-nursed in the VTH. No food or drink is to be taken into the Isolation Facility.

The following diseases are considered to be “highly contagious”:

- 1) Contagious causes of diarrhoea in all species.
- 2) Infectious and contagious respiratory disease in horses – Strangles, herpesvirus infections, rhinovirus infections, equine influenza (currently exotic to NZ).
- 3) Other diseases deemed to require isolation (at the discretion of the attending clinician).

### Protocol for Isolation of Horses with Diarrhoea

- 1) All horses admitted to the Hospital that are suspected to have infectious diarrhoea at the time of presentation to the Hospital will be admitted **directly** to the Isolation Unit via the isolation yard.
- 2) Horses that develop diarrhoea after presentation to the Hospital will be handled as follows:
  - a) If the horse develops 3 of the 4 signs of **lethargy, diarrhoea, leucopenia with neutropenia, fever**, it will immediately be moved to the Isolation Unit.
  - b) If the horse develops diarrhoea but is not leukopaenic/neutropaenic and not febrile it will immediately be isolated in its box with barrier-nursing. If the diarrhoea does not resolve within 48 hours the horse will be moved to Isolation.
  - c) If the horse has been treated for colic and develops diarrhoea, and is not leukopenic/neutropenic and not febrile it will immediately be isolated in its box. If the diarrhoea does not resolve within 48 hours the horse will be moved to Isolation.
  - d) If a horse with diarrhoea described in either category b) and c) that has not been moved to the Isolation Unit develops normal faeces and its faeces remain normal for at least 24 hours from the first normal defecation, it will no longer be isolated unless a *Salmonella* spp faecal culture is positive. The series of 3-5 *Salmonella* cultures (see part D below) must still be completed.
- 3) All horses admitted to the Isolation Unit, or isolated in their box, must have 3-5 daily faecal *Salmonella* cultures submitted, unless they are discharged from the Hospital. If any of these cultures are positive, the attending clinician may decide to stop the culture series.
- 4) One rectal biopsy culture will be taken as equivalent to 3-5 direct faecal cultures.
- 5) If a horse has a faecal culture positive for *Salmonella* it will remain in the Isolation Unit until 3-5 daily cultures are serially negative, or until it is discharged from the Hospital.
- 6) Horses will not normally exit the Isolation Unit (except to be discharged) until their faecal consistency remains normal for >24 hours, and preferably that they have had 5 consecutive daily faecal cultures that are negative for *Salmonella*. If the patient is a mare with a foal, both mare and foal should also have 3-5 daily faecal cultures that are negative for *Salmonella* before they (re)enter the main Hospital.
- 7) For isolated neonates, the isolation status of the neonate also applies to the dam.
- 8) Barrier-nursing consists of a bactericidal foot bath, and preferably cover boots, disposable gowns and gloves as defined by the attending clinician.

## Protocol for Isolation of Adult Cattle with Diarrhoea

- 1) All adult cattle admitted to the Hospital with a history of profuse diarrhoea or that have profuse diarrhoea at the time of presentation to the Hospital will be admitted to the Isolation Unit.
- 2) Adult cattle that develop diarrhoea after presentation to the Hospital will be handled as follows:
  - a) If adult cattle develop unexplained diarrhoea and are from a herd with a history of diarrhoea; or they have diarrhoea and fever they will immediately be moved to the Isolation Unit.
  - b) If adult cattle develop profuse diarrhoea but are not from a herd with a history of diarrhoea, but are not febrile they will immediately be isolated in their box with barrier-nursing. If the diarrhoea does not resolve within 48 hours the animal will be moved to the Isolation Unit.
- 3) Other protocols for isolating equids should be followed.

## Protocol for Isolation of Calves with Diarrhoea

Scouring calves presents an important zoonotic risk to humans. It is therefore imperative that isolation protocols are put in place and strictly adhered to in order to prevent infection being transferred to staff and students. Commonly transmitted infections include cryptosporidiosis and salmonella.

- 1) All scouring calves should be housed in the LA isolation unit. The default unit for isolating scouring calves is unit B. If more than 6 scouring calves are admitted to the hospital at the same time, the equine isolations unit (unit A) can also be used after consultation with the Head of the Equine group (email: [C.B.Riley@massey.ac.nz](mailto:C.B.Riley@massey.ac.nz)).
- 2) The common infectious agents that are associated with calf diarrhoea include:
  - a) *Cryptosporidium parvum* - zoonosis
  - b) *Salmonella* species - zoonosis
  - c) Enterotoxigenic *E. coli* - zoonosis
  - d) Coronavirus – potential zoonosis
  - e) Rotavirus – low zoonotic potential
- 3) It should be kept in mind that *Cryptosporidium parvum* and *Salmonella spp* may also be shed by clinically healthy ruminants. Care should be taken when dealing with faecal material from any animal species of whatever health status.
- 4) The two isolation units (A and B) provide separate areas of containment. Staff and students working in one unit should not enter the second unit, with the exception of a rare occasion when both units house calves from the same farm.
- 5) **Only Farm Services students and staff** are allowed to enter the isolation unit or have contact with scouring calves.
  - a) Farm Services students will be allocated to a pen or case and only those allocated students may enter a particular pen.
  - b) There is to be NO sharing of equipment between pens.
- 6) **The general protocols for working in the LA isolation unit** described below should **always** be followed. A summary of key points as they relate to calf isolation include:
  - a) Protective clothing (provided) must be worn at all times while working in the isolation unit. No exceptions. This includes overalls, gumboots, waterproof coveralls or a disposable apron and disposable gloves.
  - b) DO NOT move between pens. If you must go into a different pen then protective clothing must be thoroughly disinfected in between and gloves/aprons changed.
  - c) The protective clothing must not be worn outside of the isolation unit.
- 7) Food and drink are not to be consumed inside the calf isolation area.
- 8) Pens must be cleaned thoroughly between patients.

- a) Remove all bedding and place directly into biosecurity containers provided.
- b) Clean pens by removing ALL visible contamination using water with detergent and a scrubbing brush.
- c) Disinfect the area with either 1% Virkon or 1% Acell Prevention disinfectants. This can be done by preparing the appropriate dilution of the disinfectant in a bucket and pouring it into the pen. The disinfectant should stay in contact with the surfaces for at least 15 minutes before it is washed off.
- d) Both Virkon S and Accel Prevention are biodegradable; therefore they can be left on the surfaces to dry off without rinsing. However, Virkon S is corrosive to some metals so care should be taken to rinse Virkon S from any metal surfaces. Allow to dry completely before replacing with new bedding.
- e) Ensure that the walls (inside and outside) and the tops of the walls are also cleaned and disinfected.
- f) Ensure drains are clear of bedding so they do not get blocked.

### Protocol for Isolation of Large Animals with Respiratory Disease

- 1) All horses and farm animals admitted to the Hospital with a history that is possibly consistent with infectious and contagious respiratory disease or that have signs of infectious and contagious respiratory disease at the time of presentation to the Hospital will be admitted to the Isolation Unit.
- 2) Animals that develop signs of infectious respiratory disease after presentation to the Hospital will be admitted to the Isolation Unit due to the possibility of aerosol spread.
- 3) Suitable samples must be collected to identify infectious respiratory pathogens.
- 4) Animals must remain in the Isolation Unit until a highly contagious pathogen is ruled out or until they are discharged from the Hospital.
- 5) It is the attending senior clinician's responsibility to supervise adherence by all other Massey University staff, students and visitors to this Isolation Protocol.

### General Procedures for Working in the Isolation Unit

The isolation unit consist of two separate isolation stalls, each with anteroom and an attached run. One of the units (unit A) is principally used for isolation of equine patients, while the other (unit B) is principally used for isolation of farm animals. It is possible to use both units for isolation of equine or farm animal patients, if necessary. Each unit needs to be thoroughly cleaned and disinfected between patients.

## Setting up the Isolation Unit for Equine Patients

An isolation unit should be set up with the following items (per unit):

Feed buckets x 2	<b>Aqueous chlorhexidine spray bottle x2</b>
Water buckets x 2	<b>Examination gloves (large) x 1 box</b>
Disinfectants for footbath and cleaning	<b>Examination gloves (medium) x1 box</b>
Biohazard containers for garbage x 4	<b>Vacutainer needles x 6</b>
Sharps container x 1 (small)	<b>Vacutainer tube holder x 1</b>
Stall cleaning equipment	<b>Blood tubes – large red top x 4</b>
Scrubbing brush for boots	<b>Large purple top x 4</b>
Lead rope	<b>Large green top x 4</b>
Twitch	<b>Small purple top x 4</b>
Hoof pick and brush	<b>Small green top x 4</b>
Paper towels for both sinks	<b>Hypodermic needles -18g x 1 ½” x 6</b>
Gum-boots x 6 pairs; assorted sizes	<b>20g x 1 ½” x 6</b>
<b>Disposable gowns x 6</b>	<b>20g x 1” x 6</b>
<b>Thermometers x 2</b>	<b>25g x 5/8” x 6</b>
<b>KY jelly x 1</b>	<b>Syringes - 3ml x 6</b>
<b>Stethoscope</b>	<b>- 5ml x 4</b>
<b>Pens x 2</b>	<b>- 10ml x 4</b>
<b>Digital clock</b>	<b>- 20ml x 2</b>
<b>LAH blue clip-board</b>	<b>Specimen pots (non-sterile) x 4</b>
<b>Medical record sheets</b>	<b>Specimen pots (sterile) x 2</b>
<b>Alcohol and chlorhexidine-soaked cotton balls</b>	
<b>Alcohol spray bottle</b>	<b>Scalpel blades (#20 x 1, #11 x 1)</b>
	<b>Copy of LAH Isolation Protocol</b>

- 1) The items in **bold** print in the above list should be kept in sealed plastic containers.
- 2) Once an item enters the Isolation Unit it cannot be removed unless suitably disinfected. Items taken in to isolation that cannot be adequately disinfected (e.g. bandage material) and not used must be disposed of and charged to the client.
- 3) No superfluous drugs, bandage material etc. will be stored in the Isolation Unit between patients.
- 4) The attending clinician(s) should be consulted with respect to the type and amount of bedding material and feed required in Isolation. Bedding material and feed will not be stored in the Isolation Unit between patients.

### Procedures for Personnel Entering the LA ISO unit:

People must enter the Isolation Unit through the side entrance door. The posted signs describing how to enter the unit should be strictly adhered to, i.e.:

- 1) All personal items (e.g. coats, stethoscopes, bags etc.) should be hung on the hooks on the wall by the entry door.
- 2) Remove footwear and put on a pair of the gumboots sitting on the bench opposite the entry door.
- 3) Walk through the footbath. Once through the footbath the remainder of the unit should be considered “dirty”.
- 4) Put on one of the gowns hanging on the hooks. Try not to touch the outside (“dirty” side) of the gown. Do the gown up with the ties to the front (like a coat) to give you a double layer of protection.
- 5) Put on a pair of examination gloves. Replace your gown or gloves if they become torn while working in Isolation.
- 6) Disinfect boots with either 1% Virkon S or 1% Acell Prevention solution in footbath on entering and leaving the pen.
  - a) Use the scrubbing brush provided to remove any organic material from boots prior to dipping them in footbath.
  - b) Stand in the footbath for 30 seconds and use scrubbing brush to scrub the entire gumboot.
  - c) Footbaths need to be replaced daily or when visibly soiled.
- 7) Wash and dry hands carefully after removing protective clothing and overalls.
- 8) Visibly soiled overalls must be washed after removal.
  - a) Wash in hot water and 1% Trigene.

### Procedures for Personnel Exiting the LA ISO unit:

People must exit the Isolation Unit through the entry door. The posted signs describing how to exit the unit should be strictly adhered to i.e.:

- 1) Remove gloves and place in the biohazard container.
- 2) Remove gown, trying not to touch the outside (“dirty” side) of the gown. Hang unsoiled gowns back up on one of the hooks with the outside of the gown towards the wall.
- 3) Thoroughly wash hands using the disinfectant hand wash provided. Dry hands with paper towel and dispose of the latter in the biohazard container.
- 4) Walk through the footbath making sure that boots are thoroughly immersed in the footbath solution. If boots have faeces, urine or blood on them scrub with the brush provided. Once through the footbath the entrance area should be considered “clean”.
- 5) Remove gumboots. Replace personal footwear.
- 6) Collect all personal items (e.g. coats, stethoscopes, bags etc.) from the hooks on the wall.

### Patient entry into the LA Isolation Unit

- 1) All movement of animals into the Isolation Unit must be through the Isolation Unit gate.
- 2) Upon reaching the gate the handler should “pass” the animal to another person within isolation who is suitably attired (boots, gown and gloves). The patient should remain in the float or truck until someone is in the Isolation Unit ready to receive it. The float should be located as close to the unit as possible to minimise contamination of the environment.
- 3) If the patient is being moved from another location in the LA Hospital, it should take the most direct path from that location to the Isolation Unit. This path should have a suitable disinfectant applied by a person following the patient, as appropriate, depending on contamination from bodily discharges.
- 4) Once the animal is admitted to the unit, those people who have had contact with it should be immediately directed to a suitable hand and footwear washing area.
- 5) Owners should be discouraged from entering the isolation unit with their animals.

## Patient exit out of the LA Isolation Unit

- 1) Patients will exit the Isolation Unit through the Isolation Unit yard gate.
- 2) If the patient is no longer considered “infectious” the feet (including solar surface) should be cleaned and scrubbed with disinfectant prior to leaving the Unit.
- 3) If the patient is still considered “infectious”, it should take the most direct path from the Isolation Unit to the float/truck/post mortem room. A person should follow the patient to catch faeces and apply a suitable disinfection to areas contaminated by bodily discharges. Feet should be cleaned (including solar surface) and scrubbed with disinfectant.
- 4) Isolated animals requiring euthanasia must be euthanased within the Isolation Unit. The feet must be wrapped in rectal sleeves and the animal should be taken by the most direct path between the Isolation Unit and the post-mortem room. Equipment used to help transport the animal to the post-mortem room must be disinfected. The animal must be labelled as being “infectious” and the post-mortem staff notified of this status.
- 5) If the patient must be moved to another area of the hospital for diagnostic procedures/treatment, these procedures should take place at the end of the day whenever possible and people working in the area should be notified by the attending clinician that the patient may have a highly infectious disease and isolation area hygienic precautions taken. The area must be suitably disinfected following use.

## Movement of Equipment and Consumables In and Out of the LA Isolation Unit

- 1) Once a piece of equipment enters the Isolation Unit it normally cannot be removed unless the unit is depopulated and the item has been suitably disinfected. Items taken into The Isolation Unit that become highly contaminated and cannot be adequately disinfected **must be disposed of and charged to the client.** Consumables should be limited to what might be reasonably used within a 24 hour period.
- 2) All organic matter should be removed from equipment prior to disinfection. Equipment that can be immersed should be soaked in a suitable disinfectant for 30 minutes and then allowed to air dry before leaving Isolation. Equipment that cannot be immersed should be sprayed down and/or wiped with a suitable disinfectant and allowed to air dry before leaving isolation.
- 3) Laundry items should be soaked in a suitable disinfectant and then washed in the Hospital washer/drier.
- 4) Specimen containers should be sprayed with a suitable disinfectant, preferably allowing it to dry and to be passed to someone waiting within the “clean” person at a latter time.
- 5) To avoid environmental contamination, procedures utilising hospital equipment (e.g. ultrasound) should, whenever possible, be carried out in the Isolation Unit. Small items of equipment can be used if protected by clear plastic bags which can be wiped down with a suitable disinfectant and allowed to dry before leaving the Isolation Unit. The equipment should be wiped down with a suitable disinfectant and allowed to dry before leaving the Isolation Unit.

## Management, Cleaning and Disinfection of the LA Isolation Unit

- 1) For all cases, all walls, floors, shelves, sinks, cleaning equipment, and boots in the Isolation Unit must be scrubbed and hosed to remove all visible organic matter prior to disinfection.
- 2) Disinfection should be performed with an appropriately diluted disinfectant which is active against the infectious agent of concern. For a list of disinfectants currently used at MU-VTH, see General Biosecurity SOP.
- 3) All disposable gowns and gloves should be disposed of as biohazard waste.
- 4) The sharps container and biohazard waste bins should be removed for disposal.
- 5) Feed material will be kept under cover in the isolation yard, not in the isolation ante room.

## Disposal of Contaminated Bedding and Feed From the LA Isolation Unit

- 1) If bedding and other organic wastes must be removed from the isolation unit, it will be removed in the biohazard bags after being placed into the large plastic portable waste bins provided by the waste contractor.

- 2) When ready for removal off-site, the disposal contractor is to be contacted (Barbara Joe 021472864 or 06 3535075) to arrange for pick up.
- 3) The portable waste bins will be removed by the contractor in a van to Levin for incineration.
- 4) Clean portable waste bins will be provided by the waste contractor.

## Environmental Culture Protocol

- 1) For high-risk situations, once the Isolation Unit has been cleaned and/or disinfected, environmental cultures for *Salmonella* (or other pathogens as deemed appropriate by the attending clinician) will be performed. The cultured areas will be kept closed until the results are known.
  - a) Using a sterile surgical glove wipe a moistened sterile 10 cm x 10 cm gauze swab around the floor and walls of the box. Concentrate on crevices and “dirty” areas and do **not** pass through any wet areas (if this happens, discard that swab and start again). Place this swab in a sterile specimen container and label as “Main Isolation Area”.
  - b) Using the same technique, swab the area around the sink, the floor and walls of the prep-area and the soles of several gum boots. Label this specimen “Isolation Entrance”.
  - c) If the patient has been allowed access to the yard area, this should also be swabbed. Label this specimen “Isolation Yard”.
- 2) When culturing a Hospital box that has housed a “barrier-nursed” patient, swab the box as described for the main isolation area.
- 3) If an environmental culture is positive, the cleaning, disinfection and culture protocol will be repeated for that area until the environmental cultures are negative.
- 4) The Isolation Unit can be used to house another patient (at the attending clinician’s discretion) while awaiting the results of environmental cultures. The *Salmonella* status of the previous patient will be displayed on the door into the entrance corridor.
- 5) A record containing patient data, dates of isolation, reason for isolation, case outcome, culture results, dates of cleaning/disinfection, environmental cultures and the results of these cultures will be kept in the Hospital.
- 6) A record showing the unit status (“Open” or “Closed”), the results of patient cultures, and the dates of cleaning/disinfection and environmental cultures and will be posted on the entrance door to Isolation.