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1 Objective

The objective of these *Guidelines* is to outline major animal-associated disease risks to humans (zoonoses) which may be encountered in teaching and research activities, and the measures which should be implemented to prevent infection and illness.

2 Scope

These *Guidelines* applies to all staff, students, visiting fellows and scholars, and persons holding discretionary titles of the University of Tasmania, who are involved in the conduct of research or teaching activities associated with the University ('staff and students').

The *Infection Control Procedure* outlines methods for preventing exposure to potential sources of infection, and is complementary to these *Guidelines*.

There are a number of zoonotic diseases which are not currently identified in Tasmania but could be identified or introduced at some point in the future. As such, there may be hazards present which are not identified in these *Guidelines*. It is important that staff and students conduct a risk assessment prior to working with animals. These *Guidelines* are not intended to outline the risks inherent to conducting fieldwork activities or activities outside Tasmania. For such activities, information should be sought which summarises risks relevant to the location where the activities will be conducted.

Expectations for compliance with relevant legislation is articulated in the University's *Legal Compliance Policy*, and is complementary to the obligations and responsibilities listed in these *Guidelines*.

3 Roles and Responsibilities

In order to identify and manage risks to the health of staff and students, the framework of responsibilities listed in this section must be applied to implement best practices to minimise the likelihood of a zoonotic infection occurring.

Facility Managers and Supervisors are required to:

- Ensure staff and students who may be exposed to animals in the workplace are given sufficient information, instruction and supervision to allow them to work safely.
- Identify staff and students who require health surveillance or vaccination to conduct their work safely, and recommend that the staff or student undertakes the relevant action.

Staff and students are required to:

- Conduct a risk assessment prior to commencing activities which may involve exposure to animals, including those not exhibiting disease symptoms. Risk assessments must be completed on a case-by-case basis to ensure that risk control procedures are appropriate for the activities being conducted.
- Ensure they are adequately trained and qualified to undertake the activities they intend to conduct.
- Comply with any related University policy, procedure or guideline, and any direction or condition issued by a relevant Facility Manager or Supervisor.
- Report any incidents in MySafety as soon as possible, and ensure a Supervisor or Facility Manager is notified of the event.

4 General Procedures

Staff and students working with, or handling, animals should take general precautions to minimise the risk of zoonotic infection. The Wildlife Health Australia website

(www.wildlifehealthaustralia.com.au) contains reports and fact sheets on zoonotic diseases occurring in Australia. Staff and students are recommended to check the website for updates relevant to the activities they intend to conduct, and follow the general procedures listed below to provide a high level of general protection against zoonotic infection.

- Practice good personal hygiene. Always wash hands after handling animals and before leaving an animal facility.
- Use appropriate Personal Protective Equipment (PPE). This may include (but is not limited to) gloves, lab coats, gowns, footwear, safety glasses, masks or aprons depending on the animals being handled and standard operating procedures in place for the facility.
- Cover all areas of broken skin with waterproof plasters or dressings.
- Avoid contact with animal faeces and bodily fluids. If skin contact with these materials occurs, thoroughly wash the affected area as soon as possible.
- If any tasks are planned which may involve the formation of aerosols, these tasks should be conducted within a biosafety cabinet.
- Appropriate vaccinations should be administered and kept up-to-date for any potential diseases which may be encountered in the course of work. For example, dairy workers should consider Q fever vaccination, and workers coming into contact with bats are advised to have a rabies vaccination.

Staff and students collecting blood samples from animals should observe basic safety precautions, including:

- Use a new sterile needle (and syringe) for each animal.
- Keep the needle capped until ready for use.
- Retrieve all used needles for disposal.
- Dispose of all needles, scalpel blades etc in suitable “sharps” containers; do not store them in the pockets of lab coats or gowns.

Any staff and students receiving a needle stick injury, a wound inflicted by an animal, are displaying symptoms of illness or feeling unwell during or after working with animals (or in an animal facility) should seek medical attention and inform their treating doctor of their contact with animals to assist diagnosis.

5 Animal-Specific Procedures

Rodents

Appropriate PPE or environmental containment (e.g. a biosafety cabinet) should be employed when handling rodents to minimise the risk of developing laboratory animal allergy.

Bats

Staff and students handling live bats should be vaccinated against rabies, and must wear:

- A full facemask OR goggles and a sturdy hat, to minimise the risk of being scratched or bitten.
- Suitable protective gloves: elbow-length leather welding gloves with impervious elbow length gloves underneath are recommended for handling large fruit bats but riggers gloves may be used if handling Tasmanian insectivorous micro bats.
- Full-length overalls or equivalent.

If bitten or scratched, the wound must be washed immediately with soap and water for at least five minutes and medical attention sought. If saliva is suspected of having entered the eye,

the eye must be washed for at least five minutes and medical attention must be obtained. Bat bites and scratches are a reportable occurrence, and the WHS Unit must be advised immediately.

Bees, spiders and other invertebrates

Staff and students handling bees or inspecting hives must wear appropriate protective clothing including full-length overalls, veil and gloves. A smoker must be used.

Precautions must be taken to avoid bites and stings from other invertebrates including mosquitoes, jack jumper ants, wasps, leeches and ticks. It is advised that appropriate repellents, sturdy clothing and footwear are worn in locations where these animals may be present. A thorough check for ticks should be completed after entering an area where they may be present

Birds

Masks and gloves should always be worn when handling avian carcasses to avoid transfer of *Chlamydia psittaci*, and work on these materials should only be performed in a biosafety cabinet.

Reptiles

Mycobacteria spp. and *Salmonella* spp. are the most common zoonotic pathogens in reptiles. These are usually transferred from faeces or body fluids. It is possible that paramyxoviruses may cross species barriers between reptiles and humans, although the potential is not fully known. Appropriate PPE should be used when handling reptiles, and hands should be disinfected after contact with reptiles.

Cattle and other livestock

Waterproof, protective clothing should always be worn in an operating milking shed; ideally supplemented with goggles. Gloves should be worn when handling foetal tissues, uterine fluids and placental membranes. Hands must be washed after visiting a milking shed or similar facility.

It is recommended that staff working in dairy facilities are vaccinated against Q fever. This vaccine carries the risk of adverse reaction, so staff and students are recommended to seek independent medical advice before opting to receive the vaccination.

6 General Zoonoses and Animal-Based Hazards

Laboratory Animal Allergy

Staff and students in contact with laboratory animals may have frequent exposures to allergens in the form of dusts, fibres and animal products (hair, fur, dander, urinary proteins, faeces, and parasites). In susceptible individuals this can lead to various degrees of laboratory animal allergy (LAA).

Infection

Any animal bite or scratch which breaks the skin will quickly become a site of infection if not cleaned immediately. The microbial flora of the mouth of animals contains a mixed population of potential pathogens.

Gastroenteritis

A wide range of animal pathogens has the ability to cause debilitating bouts of human gastroenteritis, including *Salmonella*, *Campylobacter*, *E. coli*, *Giardia*, *Cryptosporidia* and *Yersinia*. Reservoir hosts can be any livestock, wildlife or companion pet species, and particularly younger animals. Infection is usually via the faecal-oral route.

Hydatids

Hydatids is a parasitic disease caused by tapeworms, and is transferred via dog faeces. Although Tasmania has been declared provisionally free from hydatids, there is still a chance that carrier dogs could exist, especially in rural areas.

Q Fever

Q fever is caused by the organism *Coxiella burnetii* and is spread to humans by the body fluids of infected animals. It is a reportable disease, and a vaccine is available. The vaccine carries risks of idiosyncratic reaction, and can cause abscesses around the site of injection.

Ringworm

Ringworm is a contagious skin infection and spreads by fungal spores from animals to humans and between humans. Though usually fairly mild, it can become a serious problem with severe itching, and may require prolonged treatment. All livestock, wildlife and companion species can be potential carriers, but most human cases come from cats and calves.

Scabies

Dogs, pigs, horses, and wildlife can be sources of scabies or zoonotic mange. Signs include pimply rashes and a characteristic nocturnal itch. Zoonotic mange is usually localised and fairly mild in humans, compared with the human-to-human variety, which can be more serious.

Tetanus

Animal environments, especially in concentrated areas such as yards, stables and shearing sheds, may be contaminated with tetanus. Cuts or abrasions, especially deep penetrating wounds, can become infected with dust-borne tetanus spores. Open wounds must be protected in such situations. It is important to maintain adequate tetanus protection via a booster injection every ten years. Staff and students who receive a tetanus-prone injury should have a booster injection if five or more years have elapsed since the last booster.

7 Animal-Specific Zoonoses

Rabies and Lyssavirus

Rabies is an almost invariably fatal viral encephalitis affecting all warm-blooded animals including humans. Rabies does not currently occur in Australia; however, the rabies-like Australian Bat Lyssavirus has been evident in bats in mainland Australian states. Rabies and other Lyssaviruses are usually transmitted to humans via bites or scratches, which provide direct access of the virus in saliva to exposed tissue and nerve endings. Rabies vaccine will protect against Australian Bat Lyssavirus.

Erysipeloid

Erysipeloid infections may be contracted from organisms present in fish tanks and cages, notably in the bottom sediment. Unprotected hands, especially any with cuts or scratches, may become infected, producing an unpleasant, dry, purple sore accompanied by tingling and itchiness. Serious complications (arthritis and septicaemia) may occur, but are rare.

8 Definitions and Acronyms

<u>Term/Acronym</u>	<u>Definition</u>
LAA	Laboratory Animal Allergy
Organisational Unit	Faculty, School, Centre, University Institute, other University Entity, Division, Section or University Business Enterprise.
Zoonoses	Any disease or infection which is naturally transmitted between animals (or their products) and humans

9 Supporting Documentation

- Guidelines for the Transport, Storage and Disposal of GMOs (2011, OGTR)
- Australian Standard 2243.3 *Safety in Laboratories – Microbiological Safety and Containment*.
- *Workplace Health and Safety Act 1995*
- *Workplace Health and Safety Regulations 1998*
- *Synopsis of Zoonoses in Australia* - W.J. Stevenson and K.L. Hughes; Australian Government Publishing Service, DPIF Library.
- *Infection Control Procedure* – University of Tasmania
- *Microbiological Minimum Standard* – University of Tasmania
- *Risk Assessment Procedure* – University of Tasmania
- *Fieldwork Minimum Standard* – University of Tasmania

10 Versioning

Former Version(s)	Version 1 – <i>Zoonoses and animal-based hazards policy</i> , approved 21 September 1999
Current Version	Version 2 – <i>Zoonoses Guidelines</i> ; 2019.