

Biosecurity Information for the Wildlife Rehabilitation Sector in Tasmania

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Rescuing, treating and rehabilitating wildlife comes with biosecurity risks. Everyone involved should be aware of these risks and take all steps necessary to minimise any risks to themselves, the community, the economy and the environment.

Introduction

The wildlife rehabilitation sector is integral to achieving good outcomes for injured and orphaned wildlife. However, this work carries disease risks and it is essential that biosecurity practices are maintained to protect people and wildlife.

Infectious agents capable of causing disease are frequently carried by apparently healthy animals and are a normal part of ecosystems. Most injured and orphaned wildlife will suffer from stress, which makes them more susceptible to develop and potentially transmit infectious diseases.

The purpose of this document is to improve the awareness of biosecurity risks and provide ways of preventing and minimising any potential harmful impacts to the individual humans or animals, community, economy and the environment.

Biosecurity risks associated with wildlife rehabilitation include the spread of infectious diseases between animals and humans (zoonoses) between individuals of the same species; between wildlife species; and between domestic animals and wildlife species.

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Disease Transmission

Infectious agents can be transmitted in a number of ways:

- Inhalation (breathing in)
- Ingestion (by mouth, includes faecal-oral)
- Through the skin
- Placenta or maternal milk
- A vector (via the bite of an insect, tick or mite)
- A bite, scratch, needle-stick or wound contamination.

Wildlife to Human

Zoonotic diseases agents can be bacterial, viral, fungal or parasitic, and can be passed from wildlife (alive or dead) to humans. There are many recognised zoonotic diseases, and a small number of these have caused fatalities in humans.

Transmission and severity depends on the species and the health status of the person. People who are most at risk are the very young, elderly, pregnant women and immunocompromised patients (such as those with cancer, AIDS, or chronic illness).

Diagnosis and treatment of zoonotic disease can be challenging. Complete and accurate information is important and interactions with wildlife should be disclosed to your GP. Unfortunately, it can be difficult to tell that an animal is carrying a zoonotic disease just by looking at it, therefore all wildlife should be treated as a potential risk.

Prevention of Disease Transmission

Many wildlife species carry agents of disease without showing clinical signs. Good hygiene is essential when treating or rehabilitating wildlife. Some general examples have been provided below:

- Wash hands thoroughly after touching animals or equipment.
- Clean and disinfect all equipment and enclosures regularly.
- Design enclosures for easy access and use materials that can be disinfected.
- Remove faecal waste promptly and dispose of waste material appropriately.
- Quarantine all new animals.
- Isolate wildlife from other animals when they show signs of illness and seek veterinary advice as soon as possible.
- Wear personal protective clothing - properly fitted masks (P2 or N95), protective eye wear and gloves.
- Cover cuts and abrasions and use protection against biting insects.
- Learn to recognise signs of illness and disease.
- Keep domestic animals and wildlife separate. Do not mix species of wildlife.
- Ensure vaccinations are up to date.
- Practice safe use and disposal of sharps (needles, scalpels, knives etc.).
- Use secure containers for transporting wildlife in vehicles.

Zoonotic Diseases Associated with Wildlife Rehabilitation in Australia

This sheet contains brief information on common diseases associated with wildlife rehabilitation. Please see Wildlife Health Australia for more information: <https://www.wildlifehealthaustralia.com.au/>. Consult your medical practitioner promptly if you believe you may have contracted a zoonotic disease.

An asterix (*) indicates a notifiable disease meaning government health authorities must be informed.

1. Bacterial infections

Gastroenteritis

A wide range of animal pathogens have the ability to cause debilitating bouts of human gastroenteritis. Symptoms can be similar to food poisoning with rapid onset of vomiting, diarrhoea and stomach cramps, and can cause long-term issues. *Salmonella**, *Campylobacter**, *E. coli*, *Giardia*, *Cryptosporidia** and *Yersinia** are common in wildlife in Tasmania and can cause gastroenteritis in humans.

Psittacosis*

Psittacosis is carried by wild birds in Tasmania and can be acquired by inhaling dried secretions from infected birds. The incubation period is 6 to 19 days. Symptoms include fever, chills, headache, muscle aches, and a dry cough. Complications can occur and fatal cases have been reported. Autopsies on native birds should be undertaken by professionals in a controlled environment.

Leptospirosis*

Usually caused by exposure to water contaminated with the urine of infected animals. Symptoms include high fever, severe headache, chills, muscle aches, and vomiting, and may include jaundice, red eyes, abdominal pain, diarrhea, or a rash. Some individuals may be asymptomatic. It can develop into kidney damage, meningitis, liver failure, and respiratory distress. In rare cases death occurs.

Q fever*

Q fever occurs widely throughout Australia, with macropods, rodents and bandicoots as hosts. It is highly infectious, and humans can become infected through inhalation of spore-like bacteria or direct contact with, for example faeces. The disease can also be spread by ticks. In humans, individuals may be asymptomatic, exhibit acute symptoms (flu-like, pneumonia, hepatitis), or chronic (endocarditis, post Q-fever syndrome). A vaccination is available and recommended.

Tularaemia*

Tularaemia has been detected in wildlife in Australia and can be transmitted to humans through bites, scratches, or by ticks, mosquitoes and other biting insects. Two confirmed cases of tularaemia in people occurred in Tasmania in 2011, which appear to be linked to ringtail possums. Clinical signs include depression, pyrexia, localized inflammation or ulceration, enlarged lymph nodes, and even sudden death.

Rickettsial Spotted Fever*

Also known as tick bite fever or Flinders Island spotted fever, this disease tends to occur in summer and autumn, when ticks are most active. A Rickettsial bacteria is spread to humans by the bite of an infected tick. Native fauna are reservoir hosts. Symptoms include fever, headache, fatigue, skin rashes and joint pains. Antibiotic treatment is usually successful.

2. Fungal infections

Ringworm

These are skin infections caused by several fungi known collectively as dermatophytic fungi. Ringworm is contagious and spreads by spores, which can be active for weeks or months. Infections usually occur on the scalp, body and groin, and are mild, but can become a serious problem with severe itching and local hair loss and may require prolonged treatment. Typical lesions are well defined and spread outwards, with red borders and scaly centers. As the center heals, the lesions may take on a ring appearance. All mammals are potential carriers, and infected animals usually have bald patches.

3. Parasitic Infections

Hookworms

Hookworms are found in the digestive tracts of many mammal species. The larvae can penetrate human skin and cause a red, itchy reaction known as cutaneous larval migrans. As the larvae migrate under the skin, an inflamed tract will form. Symptoms can last several weeks, or until the larvae die either at the end of their lifespan or with medical treatment.

Pentosomes

Primarily a reptilian parasite, pentosomes infect lung tissue, and little is known about the parasite and their distribution in Tasmania. Reptiles may be asymptomatic, or present with respiratory disease, high parasite burden or secondary bacterial infections. Pentosomes have a complex lifecycle, involving at least one intermediate host. Humans can become infected through ingestion or direct contact with reptile saliva, mucous or faeces. Infection in people is very rare and has never been reported in Australia. People usually do not show any signs of infection, but there have been reports of mortality.

Sarcoptic Mange

Wildlife such as wombats, possums and bandicoots, can be sources of sarcoptic mange, also known as scabies. In humans, signs include pimply rashes and a characteristic night-time itch. Mange is usually localised and fairly mild in humans, but can cause complications in some people. Infection can occur from direct contact with an infected animal, or from the mites which can survive for up to 3 weeks in the environment.

4. Viral infections

Ross River Virus*

Ross River virus is the most common and widespread infection spread by mosquitoes in Australia. Hosts are generally marsupials, particularly macropods. In Tasmania it is usually associated with seasonal rainfall that promotes mosquito multiplication. Symptoms include fever, headache, fatigue, skin rashes and joint pains. There are limited treatments and recovery can take years.

Murray Valley Encephalitis Virus*

This a rare disease spread by mosquitoes after feeding on an infected bird, usually a water bird. Symptoms can include fever, vomiting, lethargy, headache, meningitis and can potentially cause death.

Australian Bat Lyssavirus*

Australian Bat Lyssavirus (ABLV) is in the same family as rabies and causes similar signs. Although no known cases of ABLV have been detected in Tasmania, the status of ABLV in microbat populations is unknown, and it is possible that infected bats from mainland Australia could travel to Tasmania.

Rabies and other Lyssaviruses are usually transmitted to humans or other animals through bites or scratches that provide direct access of the virus in saliva to exposed tissue and nerve endings.

Wildlife rehabilitators and rescuers in Tasmania must be vaccinated. A blood test should be undertaken every two years to ensure protection. Members of the public should be discouraged from handling live and dead bats. For more information refer to the Communicable Disease Network Australia National Guidelines for ABLV.

Where a human has been bitten, scratched or has had other significant contact, **Public Health must be contacted immediately on 1800 671 738**. The wound must be washed immediately with soap and water for 5 minutes. A virucidal antiseptic (povidone-iodine, iodine tincture, aqueous iodine solution or ethanol) must be applied after washing. Post-exposure prophylaxis may be administered to people with suspected or confirmed ABLV exposure.

If contact with domestic animals has occurred seek urgent veterinary advice. As above, wash the wound immediately. A post-exposure prophylaxis may be available for domestic animals.

For up to date information regarding bats and COVID-19 visit Wildlife Health Australia's website: www.wildlifehealthaustralia.com.au

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