WILDLIFE NETWORK TASMANIA

Wobbly Possum Disease: A Practical Guide For Carers

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Overview & History

Wobbly Possum Disease (WPD) is a fatal neurological condition affecting common brushtail possums (BTP) (*Trichosurus vulpecula*). First described in New Zealand (widespread) in 1995, the disease has since been confirmed in Tasmania (2019) and occasionally on the Australian mainland.

Cause & Virology

Wobbly Possum Disease (WPD) is caused by an RNA virus. There are genetically distinct strains in New Zealand and Australia, suggesting a long-standing but previously undetected viral presence in possum populations. Antibodies have been detected some brushtail possums as well as in other species of possum (mountain and ringtail). There are no records of WPD causing illness in Tasmania's common ringtail possums. Blood testing in Victoria & South Australia show some common ringtails (as well as mountain brushtail possums) have been exposed to the virus (antibodies).

Clinical Signs

Lack of appetite is usually an early sign in affected brushtail possums. Common clinical signs include (not all need to be present):

- Uncoordinated or "wobbly" movement
- Head tremors or bobbing
- Weakness and lethargy
- Weight loss and anaemia
- Vision impairment/apparent blindness
- Difficulty climbing or frequent falls
- Abnormal daytime activity
- Docility and reduced awareness, loss of fear of humans

Incubation period is usually 8-19 days. Whilst a decrease in appetite is usually seen within 6 days of infection, other signs can take anytime up to 27 days post infection[1].

Pathology & Transmission

- The disease causes lesions in the brain and liver, indicating both systemic and neurological infection. Under the microscope, the main change seen is immune cells clustering around blood vessels in organs such as the liver, spleen, brain, and kidneys.
- Transmission is believed to occur via close contact, grooming, or possibly through ectoparasites (eg mites)
- BTPs showing Infection result in almost 100% fatality
- The virus appears to have a short life in the environment and can be killed with most disinfectants

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Diagnosis & Testing

Diagnosis involves:

- Clinical signs in combination with PCR and histopathology testing of tissue samples (typically brain, liver, spleen)
- Samples must be submitted through appropriate wildlife pathology channels:
    - Contact the Animal Health Laboratory (AHL) on (03) 6777 2111 before sending any samples.
    - Whole carcasses are best, but fresh or frozen tissues (liver, brain, spleen) or blood can also be accepted.
    - Keep samples chilled or frozen, record the animal's details and observed signs.
    - Deliver to the AHL, Mt Pleasant Laboratories, Prospect Phone: 03 6777 2111 Email: specimenreception@nre.tas.gov.au.
    - Always use gloves/PPE and disinfect afterwards.
- There is no cure or effective treatment; euthanasia is recommended to prevent suffering

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[1] https://www.sciencedirect.com/science/article/pii/S0042682216000088#:~:text=A%20decreased%20appetite%20was%20first,of%209%20days%20post%2Dinoculation.

Conservation Implications

- No evidence of zoonotic transmission
- Continued monitoring is important to detect possible changes in virulence or spread

Summary Table

Topic	Key Details
Species affected	Brushtail possum (*Trichosurus vulpecula*)
Causative agent	Arterivirus (WPDV – different strains in NZ & AU)
Symptoms	Ataxia, tremors, blindness, docility, daytime activity, tree falls
Transmission	Close contact, bodily fluids, possible ectoparasites
Geographic range	New Zealand (widespread); Tasmania (confirmed); mainland Australia (rare)
Diagnosis	Clinical signs + lab testing
Treatment	None; euthanasia advised in symptomatic cases
Impact	No widespread population decline seen; no zoonotic risk

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Wildlife Rescue & Rehabilitation Protocols for Suspected WPD

If you encounter a possum with signs consistent with Wobbly Possum Disease, the following steps should be taken:

Initial Assessment

- Call Bonorong if you need wildlife rescue help: 0447 264 625
- Approach with care – WPD possums may appear docile but could be disoriented and stressed.
- Use PPE (gloves, protective clothing) when handling to avoid contact with bodily fluids.
- Isolate the animal from other wildlife immediately.
- Observe and document neurological signs (e.g. head tilt, tremors, circling, abnormal gait).

- Report to NRE if in a new area previously clear of WPD (check https://nre.tas.gov.au/wildlife-management/wobbly-possum-disease for map showing key areas).
- Maintain strict biosecurity – Always dispose of PPE safely. Wash hands thoroughly after handling. Launder any contaminated clothing promptly. Disinfect all containers, and wash or disinfect any towels or bedding used to hold or house the possum.

Do Not Attempt Rehabilitation if:

- The possum shows multiple signs consistent with WPD.
- It is unable to climb, feed itself, or maintain awareness of its environment.
- It has sustained trauma due to poor coordination or tree falls.

WPD is a fatal neurological disease. There is no cure, and recovery is not possible once clinical signs appear. Keeping the animal alive prolongs suffering.

Resources

https://nre.tas.gov.au/wildlife-management/wobbly-possum-disease

https://wildlifehealthaustralia.com.au/Portals/0/ResourceCentre/FactSheets/Mammals/Wobbly_Possum_Disease.pdf

https://nre.tas.gov.au/Documents/AHL LabFact Wobbly possum syndrome.pdf

https://www.sciencedirect.com/science/article/pii/S0042682216000088

https://pmc.ncbi.nlm.nih.gov/articles/PMC7402471/