

Heat Stress (hyperthermia) and Ringtail Possums (*Pseudocheirus peregrinus*)

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Introduction

Many different species suffer and die from hyperthermia.

This presentation focuses on the Common Ringtail Possum as it is the most common species needing rehabilitation and care during a heat event, in the area of my wildlife shelter.

Climate change, including longer periods of high temperatures, has resulted in wildlife needing care for hyperthermia. While we can't always predict that a heat stress event will happen, climate change evidence tells us these events will become more common. (1) *“Australia is heating up and drying out as the country experiences more extreme and prolonged heat events, according to the Bureau of Meteorology and CSIRO’s biennial State of the Climate report, released last October.”* (1) Caroline Zielinski, News Corp Australia Network February 10, 2017). Our unique little ringtail possums, with their specialised needs, may not be so common in years to come.

Recent Local Heat Stress Events

The January February 2009 Heat Wave saw temperatures 12 to 15% above normal and an unprecedented 3 days above 43° (2) *Foundation Paper; Climate Change Victoria, 2012.*

A less severe heat stress event occurred in 2014, but it was still devastating for local common ringtail possum populations and a huge stress on wildlife rehabilitation shelters.

Signs and Assessing Heat Stressed Ringtail Possums

Out during the day, on the ground, seeking water and shade are some of the scenarios we find heat stressed ringtail possums in. They may be prone, lying exhausted on the ground, walking with difficulty or staggering. They have been found desperately seeking water and relief in swimming pools, water tanks and pet bowls to name a few. They clearly require assistance.

Possums may have thermal burns on paws or tail due to contact with hot roofs or roads or other surfaces. Burns may not be obvious at first and the full extent only clear on day 2 or 3. Heat stressed possums should to be initially assessed and then reassessed daily. Any burns need to be assessed by a veterinarian and treated accordingly.

Severely heat affected possums may have seizures and this can indicate serious damage that needs veterinary assessment and treatment. Euthanasia may be recommended.

Pouches should be checked, and dependent joeys may need to be removed or supplementary fed while mum recovers. Dead joeys should be removed, and pouches cleaned appropriately.

Shelters receive possums suffering hyperthermia from various sources including veterinary clinics, wildlife rescue groups, members of the public and rangers. It is imperative to collect the exact location an animal was found so they can be returned to their territory.

Husbandry and First Aid

It is important to cool the possum slowly, no rapid changes in temperature. Mist spray water onto their body and house in a cool, dark and quiet area.

All will be dehydrated and need to be rehydrated and treated for shock. I follow Dr Anne Fowler's Fluid Therapy Chart and it is important to remember that rehydration takes a minimum of three days. Offer room temperature water or oral rehydration fluids via a syringe or eye dropper.

Possoms unable to take oral rehydration need to be given sub-cutaneous saline or Hartmanns solution with a small needle (e.g., 25-gauge needle). Experienced carers, veterinarians or veterinary nurses should sub-cut as it can be painful and cause damage if not done correctly.

“Golden Rule – give fluids by mouth for best absorption and response.” Page 5, Advanced First Aid for Marsupials by Dr Anne Fowler, 2008.

Every possum needs their own care plan that covers basics such as sex, weight, dependent joey/s, clinical presentation e.g. prone, convulsing, burns or other injuries.

Clean, dry bedding, natural food, water and rehydration fluids and a dark, quiet environment are required.

Convulsing and burnt possums need veterinary assessment and treatment according to their instructions.

Shelter Help

A heat stress event puts shelters under pressure with a huge extra work load. Assistance is required in many areas such as; collecting browse, transporting to and from veterinarians and members of the public, laundry, assisting with weighing animals, bandage changes and general cleaning.

I believe our local veterinarian is the wildlife's, and our, best ally during a heat event. They will be extremely busy with domestic pets and wildlife and we need to work with them. It is worthwhile having systems in place with them such as providing a form for staff to get members of the public who bring in wildlife to fill in. That way you will have the release and contact information you need. You could leave clearly labelled spare carry baskets at the clinic and have a couple of designated transporters, so the clinic is not constantly dealing with people unfamiliar with them and their clinic.

Mitigation

Information on how to help prevent wildlife becoming heat stressed during heat waves can be put up at veterinary clinics, shared through local media and school talks and via event displays. It includes asking home owners to provide water sources at ground level and in trees, to mist spray their gardens and be extra vigilant at these times with pets.

References

(1) *State of the Climate Report; Caroline Zielinski, News Corp Australia Network February 10, 2017*. Accessed online

(2) *Foundation Paper; Climate Change Victoria, 2012 page 20*. Accessed online
Advanced First Aid for Marsupials by Dr Anne Fowler, 2008