Possums

Species Information Sheet

Natural History / Behaviour

- Marsupials – always check for pouch young or an active teat
- All species are arboreal and nocturnal
- All species have strong home ranges and are territorial – essential to obtain accurate details of rescue location
- The Common Brushtail Possum is typically solitary: The Short-eared Possum and Ringtail Possums live in family groups
- They have prehensile tails
- Orphaned joeys require regular feeding including through the night (every 4-5 hours depending upon age)

Common Species of South-east Queensland

Weights are average only and are for sub-adult to adult animals.

Common Brushtail Possum	*Trichosurus vulpecula*	1.5kg – 3kg
Short-eared Possum	*Trichosurus caninus*	4kg
Common Ringtail Possum	*Pseudocheirus peregrinus*	700g - 1kg

Basic Rescue Equipment and Emergency Housing

Adults / Sub-Adults

- Wire carry cage (top-opening) lined with soft towels or small blankets
- Cardboard box in cage in which to hide
- Sheet or towel to cover cage
- Cotton pillowcase
- Leather gloves or towel for handling
- Possum trap – for humane capture of injured or dermatitis affected Common Brushtail and Short-eared Possums.

Orphaned Joeys

- Warm outer pouch (feather pouch, thick wool or cotton pouch)
- Inner pouches (liners) x 3 (lined within themselves)
- Plastic carry basket lined with towels or small cotton baby blankets
- Heat source: Hot water bottle, instant heat packs, Snugglesafe, electric heat pad or ICU
- Probe thermometer to monitor ambient pouch temperature

Photos above: AZWH (left) and K. Hooke (right)

OHS Considerations / Zoonoses

Beware of

- Teeth
- Claws
- Will raise their front paws aggressively
- Aggressive noises/screeching when handled

Known Zoonotic Diseases

- No specific zoonoses
- Wounds in possums affected with ulcerative/exudative dermatitis may be colonised by Staphylococcus, Streptococcus and Pseudomonas spp. Avoid contact with lesions.
- Always use good hygiene when handling possums especially those with dermatitis

Handling

Adult Brushtail Possums

Grip around the back of the head/skull and hold the base of the tail with your other hand. Use towel to protect from being bitten or scratched.

Short-eared Possums are larger species and will generally require a large towel or small blanket to cover, secure well and then scoop up.

Ringtail Possums or Sub-Adult Brushtail Possums

Make a 'V' with your fingers around the head and shoulders and hold the tail with your other hand.

Photo: CWS

Orphans

Secure in a pouch and support rump with one hand. Secure the opening of the pouch with your other hand to prevent them falling or jumping.

Photos: Wildcare Australia Inc.

Emergency Diet

Do not offer any food or water to an animal suffering from injury (e.g. vehicle hit, dog/cat encounter etc). Injured wildlife must be presented to a veterinarian for treatment before offering food or water. Alternatively, please consult with your relevant Species Coordinator.

Adults

- **Leaves, flowers and native fruits** from variety of Australian native plant species (e.g. eucalyptus, acacia, lilly pilly, bottle brush) - preferably with good quality tip
- **Brushtail possums -** Good quality vegetables (only offer raw sweet potato, baby spinach, hard-boiled peeled egg, raw unsalted almonds).
- **Ringtail possums** – Do not offer any fruit or vegetables – native vegetation only.
- **Fresh water**

*Note – do not offer store/commercial fruit (i.e. apple, banana etc) to any possum species. Only native fruits (e.g. lilly pilly berries, fig berries, blue quandong fruit etc) should be offered.

Orphans

- **Water and Glucodin** (initially for first 2 feeds); then
- **Suitable milk replacer** (Divetelact®, Biolac M100® or Wombaroo® Possum Milk Replacer <0.8)
- **Native vegetation** (as for adults) – preferably with good quality tip for joeys just furring and upwards.

Photos right:

Example of appropriate vegetables, native fruits/berries and plain whole almonds suitable for Common Brushtail Possum and Short-eared Possum.

Note: Do not provide any fruit/vegetables/nuts to Common Ringtail Possums.

Photo rightt:

Appropriate emergency housing suitable for possum including a secure transport carrier, bowl of fresh water and appropriate vegetables (not Ringtail Possums) and branches of Eucalyptus and other native trees and shrubs.

Photos: Heidi Cuschieri

Assessment Checklist – Possums

Clinical Signs	Healthy / Normal	Sick / Injured
Demeanour	• Bright, alert and looking around • Responsive (struggles when handling) • Responsive to stimuli (e.g. noises) • Conscious • Vocalising aggressively • Tries to bite, scratch and kick	• Quiet / depressed • Distressed • Reduced response when handled • Not responding to stimuli • Unconscious • Teeth grinding • Crying (orphans) *(Indicative of shock, dehydration, injury)*
Mobility / Limbs	• Able to move all limbs • No bruising or swelling • No obvious abnormalities or lack of symmetry	• Abnormalities in movement (e.g. only using front legs, dragging a limb, falling over, swaying) • Head tilted to one side • Paralysis *(trauma)* • Ulcerated skin on pads of feet *(burns)* *(Indicative of trauma related injury)*
Body Condition	• Good body condition • Good muscle tone • Fur in good condition • Non-odorous smell	• Open wounds *(trauma or dermatitis)* • Puncture wounds *(trauma)* • Poor body condition *(malnourished)* • Lack of muscle tone *(malnourished)* • Offensive odour *(dermatitis or infected wound)* • Missing fur *(trauma or dermatitis)* • Bruising *(trauma)* • Flaky, dry skin *(dermatitis/chronic illness)* *(Indicative of trauma or chronic illness/disease)*
Breathing	• Normal (handling may result in increased respiration rate)	• Open-mouthed breathing • Laboured (noticeable effort to breath) • Audible breathing sounds (clicking, ticking, gurgling sounds) • Sneezing or coughing • Shaking head *(possible obstruction or head injury)* *(Indicative of trauma related injury, poisoning)*
Head	• Symmetrical	• Abnormal symmetry • Indentations • Swelling • Crepitation • Lacerations/abrasions/wounds *(Indicative of trauma related injury or dermatitis)*
Eyes	• Bright and clear • Shiny • Eyes open	• Dull *(pain/dehydration)* • Sunken (*dehydrated*) • Closed (pain/dehydration) • Protrusion *(trauma)* • Swelling *(trauma)* • Clear fluid *(trauma)* • Nystagmus *(head trauma)* • Unequal pupil(s) *(trauma)* • Unreactive pupil(s) *(trauma)* • Purulent discharge *(infection)* • Missing fur and open wounds *(dermatitis)*

Assessment Checklist – Possums (continued)

Clinical Signs	Healthy / Normal	Sick / Injured
Nose	• Straight • No discharge or bleeding	• Distorted (*trauma - fracture*) • Blood or other discharge (purulent infection) from nostrils (*trauma*) • Abrasions (*trauma*) • Swelling (*trauma*)
Mouth	• No discharge • Symmetrical • Teeth and tongue undamaged	• Mal-aligned jaw (*trauma*) • Broken teeth (trauma) • Blood (*trauma*) • Swelling (*trauma*) • Crepitation (*trauma*) • Pale mucous membrane *(shock/dehydration)* • Slow capillary refill time *(shock/dehydration)*
Ears	• No discharge	• Blood • Clear fluid *(Indicative of trauma related injury)*
Fur	• Shiny and in good condition	• Patchy or missing fur *(dog/cat attack, dermatitis)* • Wet patches of fur *(dog/cat attack)* • Raw, inflamed open wounds *(dermatitis)* • Fungal infections *(chronic illness)*
Cloaca (vent) **Pouch / Scrotum**	• Clean • Free from discharge • Penis not protruding	• Blood *(trauma)* • Lacerations *(trauma)* • Swelling *(trauma)* • Pouch – check for joeys • Penis – protruding *(trauma)* *(Indicative of trauma related injury)*
Tail	• Straight • Missing tail (old injury)	• Swelling • Lack of movement • Missing tail (fresh injury) *(Indicative of trauma related injury)*
Parasites	• Some ticks are normal	• Overabundance of *ticks (chronic illness)* • Fly blown/maggots *(trauma)*

Assessment Parameters

Vital Signs	Heart Rate Respiration Rate Core Body Temperature	80-100 beats per minute 12-18 breaths per minute 36°C - 37°C
Preferred Ambient Temperature	Adults and Sub-Adults Orphans – Just furred to furred Orphans – Unfurred	28°C 28°C - 30°C 32°C
Signs of Stress	• Vocalisation • Biting • Attacking • Urination, defecation	
Signs of Pain	• Teeth grinding • Ear flicking • Aggressive behaviour • Laying in lateral or dorsal recumbency • Self-mutilation	• Reduced level of alertness • Closed eyes • Heavy breathing • Repetitive behaviour • Shaking head
Signs of Dehydration	• Dry tacky mucous membranes • Dull eyes • Sunken eyes	• Lack of skin elasticity/skin tenting • Lethargy
Assessment of Body Condition	**Base of tail** – feel for good muscle coverage. **Scapula (shoulder blade) and spine** – feel for good muscle coverage. **Temporal region (skull)** – feel for good coverage – depression could indicate poor body condition. **Fur** – uniform thick, soft fur, no missing fur	

Drug Administration (preferred routes)

Oral	Adults: Sub-Adults: Orphans:	Use a 2.5mL syringe Use a 1mL syringe Use a possum teat (pointed) or a 1mL syringe with a 24g or 22g cannula attached
Intramuscular	Dorsal lumbar muscles, cranial and caudal thigh, upper arm.	
Subcutaneous	Loose skin at lateral neck/shoulders, side of abdomen or over thigh area.	
Intravenous	Cephalic, saphenous or lateral caudal tail vein.	

Euthanasia (preferred methods)

Euthanasia methods stated to assist veterinary staff.
Wildlife volunteers must not euthanise unless trained to do so or they hold appropriate approvals.

- Injection of sodium pentobarbitone (Lethabarb) after induction with Isoflurane (strongly preferred):
  - Intravenous
  - Intracardiac (must be anaesthetised first)
  - Intraperitoneal (dilute with water 50:50)

- Blunt force trauma to the head (small unfurred joeys only) – **only if trained to do so**

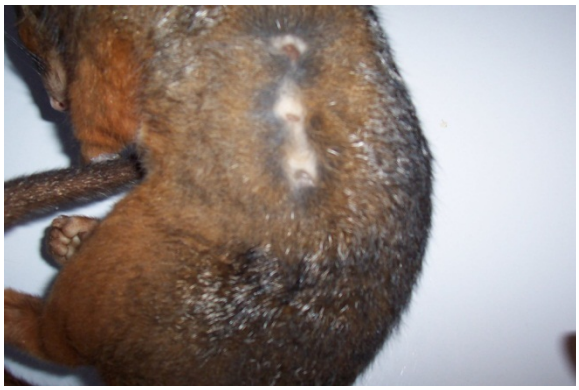
Common Injuries, Diseases and Conditions

Adults

- **Road trauma injuries** (head injury, lacerated tongue, fractured jaw, fractured limbs, internal injuries, eye injuries)
- **Dog or cat attack** (puncture wounds, open wounds, evisceration, internal injuries) ***Note***: cat attack injuries often difficult to visualise
- **Dermatitis** (particularly Common Brushtail Possum and Short-eared Possum)
- **Poisoning** – usually from rodenticide (rat bait)

Orphans

- **Dehydration** – (level dependent upon length of time without maternal nutrition)
- **Corneal ulcers** (from trauma related injuries)
- **Hypothermia** (particularly unfurred joeys and in colder months)
- **Hypoglycaemia**
- **Cat attack** (puncture wounds, internal bleeding)
- **Wounds** (from being thrown from pouch, associated with road trauma or dog/cat attack)
- **Fractures** (from dog/cat attacks and road trauma)



Photos above: Wounds caused by domestic dogs
Photos: Kathryn Kielly

Photos Above: Dermatitis in Common Brushtail Possums
Left photo indicates mild dermatitis – Right photo indicates advanced exudative form
Photos: Kathryn Kielly

Suggested Drugs and Dose Rates

This information is provided for **VETERINARY USE ONLY** to assist veterinary staff with the **initial assessment** and **emergency treatment** of sick, injured and orphaned wildlife. Suggested drugs and doses are those commonly used by the wildlife hospitals in South-east Queensland and are for routine treatment only. Recommendations may vary between individual veterinarians. Culture and sensitivity results would indicate the most appropriate antibiotic regime. Most drugs are used off-label.

For more information see 'Current Therapy in Medicine of Australian Mammals' by Vogelnest and Portas (2019).

Anaesthetic

Drug	Composition	Dose Rates
Isoflurane ®	Isoflurane 100%	5% for induction and 2-3% for maintenance with oxygen flow rate of 1-2 litres per minute
Alfaxan CD RTU ®	Alphaxalone	5 to 10mg/kg (IM) (higher dose in SE possums)
Pamlin ®	Diazepam 5mg/mL	1mg/kg (IV or IM)
Zoletil ®	Tiletamine and Zolazepam	5mg/kg (IM)

Analgesic

Drug	Composition	Dose Rates
Methone ®	Methadone hydrochloride	0.3 to 0.5 mg/kg - 4 to 6 hourly (IM or SC)
Temgesic ®	Buprenorphine hydrochloride	0.01mg/kg - 8 to 12 hourly (IM or SC)
Rimadyl ®	Carprofen	**Day 1** - 4mg/kg SID (SC or IM) **Days 2 – 5** - 2mg/kg SID (SC or IM)
Metacam ®	Meloxicam	**Day 1** - 0.2mg/kg SID (IM, SC or PO) **Days 2 – 5** - 0.1mg/kg SID (IM, SC or PO)
Painstop ®	Paracetamol 24mg/mL Codeine 1mg/mL	15mg/kg of Paracetamol component 8 hourly (PO)
Infant Panadol Drops ® (1 month to 2 years)	Paracetamol 100mg/mL	15mg/kg – 4 to 6 hourly (PO)

Antibiotics

Drug	Composition	Dose Rates
Clavulox ® Augmentin ®, Amoxyclav ®	Clavulanic acid 35mg/mL Amoxycillin 140mg/mL	12.5 to 15mg/kg combined drugs (up to 20mg/kg for Brushtail Possums) SID (SC or IM) or BID (PO)
Septrin ® / Bactrim ®	Trimethoprim and Sulfamethoxazole Suspension	3 to 5 mg per kg of Trimethoprim component BID (PO) **Brush-tailed possums.**
Baytril ®	Enrofloxacin	5 to 10mg/kg SID (PO) or (SC or IM – must be diluted with sterile water)

Note: Oral antibiotics should be avoided in Ringtail Possums due to high risk of caecal dysbiosis and subsequent bloating. Antibiotics should be administered via injection only.

Anatomy

Possum skeletal structure
Source: Naracoorte Caves National Park

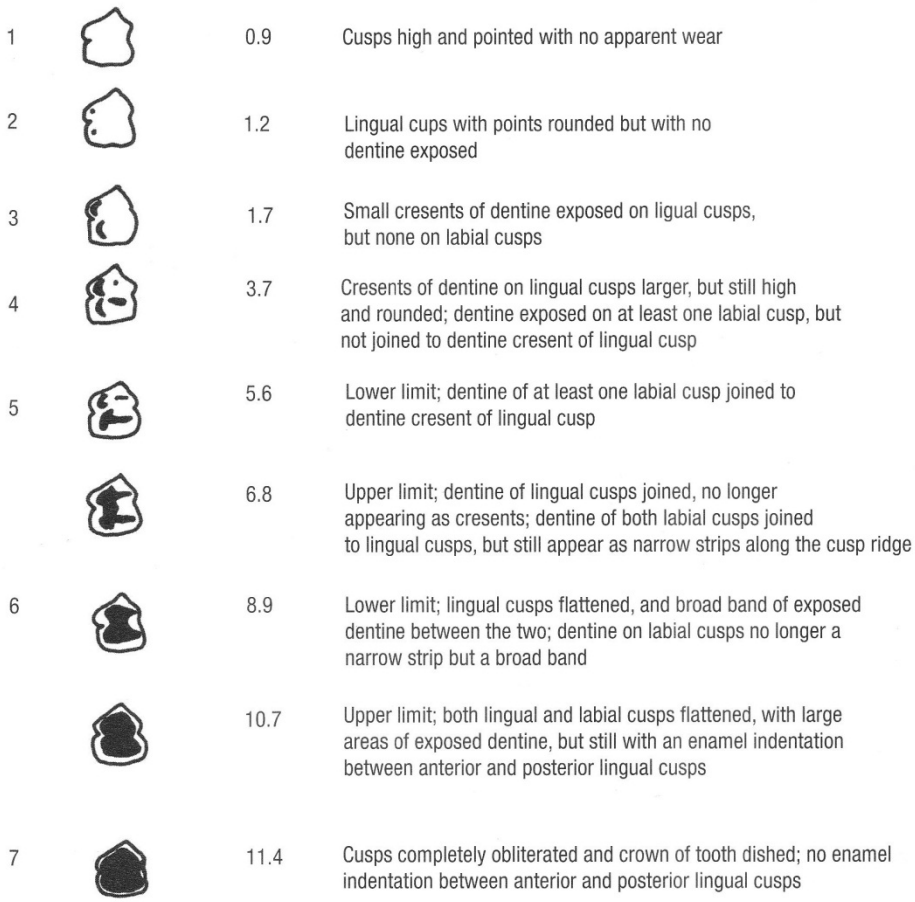


Figure 3. Estimates of age (years) in brushtail possums using tooth wear. Position and area of dentine (shaded) exposed in classes of tooth wear of first molar (M^1) of the upper jaw. Derived from Winter (1980) and Cowan and White (1989).

Common Species of South-east Queensland

Common Brushtail Possum

- Black, bushy tail with bare strip on the underside.
- Fur usually grey above and light cream under, sometimes with a rusty colour around the shoulder, some black markings around the nose. Some individuals are more orange in colouration.
- Quite large, pointed ears.
- Large cream fur patch on back of ears.
- Adults weigh between 1.5 and 4kg.

Short-eared Possum (previously called the Mountain Brushtail Possum)

- Very dark grey above, light under, some animals totally black.
- Bushy, black tail tapering towards the tip, with naked area under. The fur is denser than the Common Brushtail.
- Ears smaller and more rounded than the Common Brushtail.
- A bigger, more robust possum than the Common Brushtail, males reaching up to 4kg.

Common Ringtail Possum

- Small, rounded ears.
- Long, thin, finely furred tail usually with a white tip.
- Adults average about 1kg.
- Unfurred joeys have darkish brown skin, furred joeys look like little grizzly bears.

All photos this page: EM Hanger

Information extracted from *Possums of South-east Queensland; The Care and Management of the Common Brushtail Possum, the Short-eared Possum and the Ringtail Possum* (EM Hanger) prepared for Wildcare Australia Inc.

Use of Possum Traps

Where a sick or injured possum cannot be captured manually, a humane possum trap may be a suitable option. Most urban possums are highly motivated by food, which makes trapping an effective capture method.

Food is secured to a hook or placed on a foot plate at one end, which will entice the possum to enter the trap. Once the possum grabs the food, the hook or plate mechanism will be activated, resulting in the trap door closing.

It is essential that once set, the trap is checked at least every 3 hours throughout the night. There is a risk of accidentally trapping the wrong possum or a non-target species such as bandicoots, native rodents, domestic animals and birds. If non-target species are left in the trap, they can sustain considerable injury trying to escape.

Further, marsupials can drop their joey(s) from their pouch and cause injury to them. Traps should be de-activated through the day to prevent accidental trapping of non-target diurnal animals. If a resident is unable, or unwilling, to check the trap through the night, then it should be de-activated before they go to sleep.

Detailed information on the use of possum traps can be found in the Wildcare Easy Reference Sheet 'Use of Humane Possum Traps' on the Wildcare website - https://wildcare.org.au/carers-resources/
Direct link: Wildcare ERS - Use of Humane Possum Traps