

COMMON CONDITIONS IN NATIVE REPTILES

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INTRODUCTION

The objective of these notes is to discuss the husbandry and common presentations of the lizard species that are most commonly presented to wildlife carers: Blue-Tongue lizards, Shingleback Lizards and Bearded Dragons.

HOUSING

- The enclosure should be at least 60 x 120cm for each adults.
- A shallow water bowl is required for drinking and soaking.
- It is important to offer a hide area. This can be as simple as a cardboard box, toilet roll, or PVC pipe. It is important that the hide are is either easily cleaned or easily disposed of to prevent transmission of disease in between animals.
- Unlike snakes, lizards shed their skin in pieces. A rough object in the enclosure assists the lizard to shed.
- The enclosures should be cleaned daily. Remove uneaten food and faeces. Use soapy water to wipe down the enclosure.
- A suitable disinfectant is correctly-diluted bleach, Avisafe (Vetfarm), or F10.
- Avoid sand or gravel substrates as it may be eaten. Newspaper is a cheap, effective and safe substrate to use.
- There is a preferred body temperature range for each species. In this range, digestion, the immune system can work.
- The preferred body temperature of blue tongue lizards is 28 - 32° C.
- Bearded dragons require 28 - 36° C - which is best achieved by a focal heat lamp providing a warmer area. Bearded dragons require Ultraviolet Light B. To obtain this, the lizard must be within 20cm of the light. Use the heat lamp above a leaning branch to encourage the lizard to climb closer to the ultraviolet light.

DIET

- Skinks and lizards are mainly vegetarian with some insects in the diet.
- Blue-tongue lizards are omnivores - they eat both vegetarian and carnivore ingredients.
- Live prey items to feed include: crickets, mealworms, earthworms, moths, roaches and snails.
- Vegetable items include dandelion, native berries and flowers, hard fruit apple, raisins, broccoli, peas, carrot, tomato, sweet potato.
- Soaked dog food can be offered but should make up no more than 5% of the diet due the high risk of kidney problems. Ideally it is avoided all together!
- Young Blue-tongue lizards should be offered food daily and adults 1-2 times a week. Obesity is a common result of overfeeding. Feel the thickness of the tail to assess the condition of the lizard.
- At each feed, the food should be sprinkled with a calcium supplement and a multivitamin such as Reptavite or Wombaroo Reptile Supplement.

TRAUMATIC PRESENTATIONS

Predation and Soft Tissue Wounds

Causes: Cat and dog bite wounds
Humans inflict damage when they find a reptile while gardening or driving. A blue-tongue lizard stripes look very much like a tiger snake markings!

Clinical signs: Puncture wounds on skin from cat teeth or claws
Deeper and tearing wounds occur with dog bites.

Treatment: Wounds may need dead tissue to be cut away under anaesthesia.
Flush wound with saline to remove debris.
Bathe wound in iodine diluted 1:10 with water for disinfection.
Give antibiotics for a minimum of 10 days.
Recommend radiographs to diagnose extent of internal damage.
Dress wounds with Opsite and change each 3 - 4 days.
Use **Silverzine** or **Duoderm** on the wounds.
Delay closure until infection has cleared.

Prognosis: Dependent on extent of damage to internal structures.

Trauma

Causes: *Cars, whipper-snippers, garden tools*

Clinical signs: **Limb fractures:** not using leg, swollen, limb is deformed.
Spine fractures and paralysis often warrant euthanasia. The damage is often more extensive than what is visible from the outside. Usually a wound is seen in close proximity to the spine, legs drag, kinked spine.
Tail damage - assess for sensation and bleeding.

Diagnosis: Radiography performed by the veterinarian is required to diagnose the extent of the fracture.

Treatment: For all trauma cases: clean wounds to reduce contamination
Antibiotics for open wounds due to the nasty skin bacterial!
Opsite is a clear waterproof dressing that allows healing.
Apply a layer of **Duoderm** under the **Opsite**.

TREATMENTS FOR DIFFERENT TYPES OF TRAUMA

Leg fractures Cage rest
External splint on leg changed fortnightly
Supplement diet with calcium
The leg may need to be pinned by the veterinarian.
Heal over 3 months.

Tail fractures Some lizards will regrow the tail but it will not be the original length or colour.
Clean and leave as open wound.

Spine fractures Confine with cage rest.
Treat open wounds near spine with antibiotics
Poor prognosis - monitor for voluntary movement over 4 weeks. If no improvement by then, euthanasia is recommended.

Entanglement

<u>Cause:</u>	Household items - e.g.: milk bottle tops
<u>Clinical signs:</u>	Weight loss if item impairs movement or constricts the body Infection under entanglement if present for a while
<u>Treatment:</u>	Remove - and educate! Antibiotics for infections if indicated.

Internal Parasites

<u>Cause:</u>	Reptiles will enter care with their normal parasite burden. However the stress of captivity may increase the numbers of parasites in the host to the detriment of the animal. Particular endoparasites of concern are roundworms, motile protozoa and Coccidia.
<u>Clinical signs:</u>	Weight loss, not eating, quiet Loose faeces.
<u>Diagnosis:</u>	Faecal flotation performed by a vet
<u>Treatment:</u>	Worms are treated by Ivermectin 0.2mg/kg by mouth. This drug is toxic to turtles and should not be used in this species. Panacur 25 at 25-50mg/kg by mouth is also used for worms. Protozoa are treated with Flagyl 40mg/kg once daily for 5 days Coccidia can be treated with Baycox 5.0% at 20mg/kg once.

External Parasites

<u>Cause:</u>	Mites, ticks. Mites are not native and appear to affect our indigenous reptiles more severely than the exotic species.
<u>Clinical signs:</u>	Rubbing body of cage furnishings Spending most of the day in the water bowl. Small pin head sized brown dots seen around face. Blood loss may cause weakness and inappetance
<u>Treatment:</u>	Remove ticks manually Clean the cage out - thoroughly and dry in sun. Spray cage with Top of Descent spray. Dispose of cage furnishings. Wipe Frontline spray over the animal.
<u>Prognosis</u>	Difficult to remove as the cage may be difficult to clean. Be wary of using organophosphates and pyrethrins as these are associated with tumors in reptiles.
<u>Prevention:</u>	Do not house native and captive animals in the same cage. Use a dedicated enclosure for wild reptiles.

Reproductive problems

<u><i>Cause:</i></u>	Occasionally a female (often blue tongue lizards) is interrupted during the act of birthing. The resulting shock interferes with the lizard's ability to give birth to her live young. Bearded dragons give birth to eggs.
<u><i>Clinical signs:</i></u>	Partial delivery of live young Dead young born A distended cloaca and straining without delivery of young.
<u><i>Diagnosis</i></u>	Radiographs determine presence of further young.
<u><i>Treatment:</i></u>	Supportive - get the reptile warm and rehydrated. Provide a quiet, secure enclosure with a hidey hole. Calcium sandoz is given by mouth at 1ml/kg. Oxytocin injection to promote contractions can be given by the veterinarian.

Orphaned young

<u><i>Cause:</i></u>	Young appear in backyards and are perceived to be orphaned by the general public. However, many young are born live (especially in lizards) and most reptiles have minimal parental involvement. These young animals are independent.
<u><i>Clinical signs:</i></u>	Small animals, often thin as not adept at catching food
<u><i>Treatment:</i></u>	A decision to release them can be made individually. Holding the animal until it is more predator proof by being a larger size is also warranted. Ensure the area is free of predators with sufficient food and hidey holes.

Toe Gangrene

<u><i>Cause:</i></u>	Low humidity, crushing injury, fungal infection
<u><i>Clinical signs:</i></u>	Toes appear dead - feel hard, not flexible Toes are absent and stumps remain Retained skin is present around swollen toes.
<u><i>Treatment:</i></u>	Amputation of toes may be required to save the leg Soak toes in dilute iodine for its antifungal/antibacterial action. Antibiotics are required for 2 weeks as a minimum.
<u><i>Prevention:</i></u>	Correct humidity level.

Burns

Reptiles are better geared to gaining heat and have poor mechanism to identify that the temperature is too hot for them and to avoid it.

Causes: Lights are too close to the floor.
Unregulated heat pads under the floor.
Reptiles burnt during bushfire.

Clinical signs: Blisters or ulcers on the scale,
Sloughing of skin which may appear over a few weeks
Constipation, dehydration and death.

Treatment Intensive and long-term
Bathe in cool water - this will reduce the microwave effect of burns and immediately cool the animal's temperature.
Treat wounds with **Silverzine**.
Use **Opsite** or **Duoderm** to protect the wounds and promote healing. Change the bandage every two days.
Surgical debridement under anaesthesia may be required.
Give antibiotics for 2 weeks, or longer as required.
Fluids are required to combat fluid loss from an open wound.

Complication: Scars may interfere with future sloughing.

Prevention: Use a wire cage around all heat fittings in the cage.
Check the thermostat works.
Do not forget to look for reptiles in wild fires.

Hypothermia

Cause: Failure in heating
Heating provided, but below the PBT.
Placing in a freezer as a method of restraint or anaesthesia

Clinical signs: Discharge from eyes and nose.
Not eating, due to inappropriate fermentation of food in gut.

Treatment: Slowly warm the animal to PBT over 3 hours.
Antibiotic course may be required to treat infection.

Prevention: Monitor the cage temperature daily with a thermometer.

Gout

Cause: Reptiles fed a high proportion of dog or cat food
Antibiotics (such as Gentamicin) are toxic to the kidney,

Clinical signs: Occurs in two locations:

- Visceral gout (gout affecting the organs): not eat, dehydrated, lethargic
- Articular gout (gout affecting the joints): swollen joints, lameness, quiet.

Treatment: Give fluids to flush the toxic compounds from the body
Reduce protein in diet. Remember that many lizards are vegetarian/omnivores - not carnivores

Prevention: Do not feed dog or cat food to reptiles.
Ensure all reptiles receiving antibiotics are correctly rehydrated.

Metabolic Bone Disease

Also known as rickets. The dragon lizards, especially the bearded and water dragons are more likely to suffer from this condition.

Cause:

Seen in young reptiles on diets that are:

- low in calcium
- low in vitamin D
- Lack of exposure to natural sunlight or UVB.



Clinical signs:

Fractures, swollen legs
Non-union of fractures,
Paralysis; weakness; death

Treatment:

Feed diet supplemented with calcium.
Give **Calcium sandoz** at 1ml/kg for 1- 3 months
Expose to sunlight for 20 minutes twice weekly
Change the UVB light every 6 months. The light must be within 20 cm of the animal for it to work. This is done by encouraging the animal to bask closer to the UVB light by bringing the light closer to the reptile
Restrict movement to allow healing (no climbing).

REFERENCES

Care of Australian Reptiles In Captivity by John Weigel, published by Reptile Keepers Association, 1998

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Keeping Shingleback Lizards, by Darren Green, published by Reptile Keepers Association, 2001