

Practical Management of the Macropod with Toxoplasmosis

Firstly I must stress that this information is presented from a practical layman's point of view. I am not a veterinary professional, merely a carer who has had extensive experience in actually nursing/managing macropods which have contracted toxoplasmosis. With fantastic support from several veterinarians and the knowledge accumulated from the different cases which have presented we have a very good success rate here and would like to share our findings with other carers.

Toxoplasmosis – What is it?

Toxoplasmosis *gondii* is a coccidian parasite with sexual stages in the small intestines of cats and asexual stages in the organs of mammals and birds. The intermediate hosts can be very varied, including rodents, birds, macropods, sheep, pigs and humans. It has been a considerable problem in some sheep farming districts as it causes the ewes to abort. But we are only interested in the effect on macropods. Toxoplasmosis can cause blindness, encephalitis, myocarditis, hepatitis, pneumonia, and of course death so is a very serious disease unless it is detected early.

The most important factor in the life cycle, to us as wildlife carers, is the cat - the definitive host. The sexual phase takes part in the gut of the cat, which has become infected by eating another infected animal – a mouse or a bird for instance. The sexual phase produces a single celled oocyst within 3 to 5 days (some sources say up to 2 weeks) and this is passed out in the cat faeces. (Older cats do not produce as great a quantity of oocysts as young cats). The macropod becomes infected by eating oocysts which have been deposited by the cat, the outside covering around the cyst then breaking down and liberating the sporozoites which can affect the intestinal areas. It is only as the infection becomes more chronic that neurological symptoms develop.

Toxoplasmosis is common in captive macropods – rife in zoos in USA – and appears in wild macropods. It has been seen in *M.agilis*, *M. rufus*, *W.bicolor*, *M.giganteus*, *M.rufogriseus*, *T.billardierii*, *S.brachyurus*. (Munday et al 1978). The species we have had infected in care here are *M.agilis*, *M.dorsalis*, *M.giganteus*, *M.fuliginosus*, and *M.rufus*. *M.giganteus* seem to be particularly susceptible.

It is a zoonotic disease transmittable to humans so extra care must be taken with hygiene, but the main incidence of infection to humans would be from raw or undercooked meat.

Contributing Factors

The amount of clinical disease is much less common than the prevalence of infection. There are often no signs on initial infection as the disease can become dormant in tissues. The depression of immunity, or stress, appear to be contributing factors in the development of most cases of toxoplasmosis – an animal which has already been compromised by an earlier illness or stressed by shortage of food or other events, as in case history No 1. In the wild the amount of rainfall seems to be a contributing factor – a higher prevalence noted in annual falls of more than 61mm (Smith and Munday 1965)

Prevention.

Unfortunately there is not a great deal we can do to prevent toxoplasmosis. We can ensure we don't have gardens or soft sand in areas the joeys inhabit and try to keep cats out, however toxoplasmosis cysts can be brought in on contaminated feed, or washed into pens by runoff from rain or sprinklers. In our area the majority of cases occur in rural localities where animals are staging ready for release, and the infecting animals would appear to be feral cats. Perhaps your older de-sexed cat which will shed less oocysts might minimize infection by keeping younger cats away. Once the sporozoites are in the soil they can survive for up to a year in the right conditions (warm and wet) and are resistant to acids, alkalis and most disinfectants. I have tried heavy applications of lime to my pens in the hope that it might help, and if not effective against toxoplasmosis gondii it may at least kill other bacteria or organisms.

Signs and Symptoms

Lethargy, a loss of balance, anorexia, stiffening of limbs, weight loss, diarrhoea, retinitis, rapid blinking of the eyes, stark coat, a panicking look in the eyes, inability to feed or drink, runny nose, some salivating and convulsions – often severe. I have not personally noted diarrhoea as a symptom but it occurred in Case No 2, a case which was confirmed by blood tests. Although the disease can affect the animal's heart, lungs, liver, kidneys and other muscles, as well as the brain, it is the neurological signs which usually give the first warning. Because the disease is already well advanced when neurological signs appear it is imperative to commence medication immediately these are noted.

Look-a-likes

Animals with either enterotoxaemia or tetanus can exhibit neurological signs – particularly convulsions – similar to those of toxoplasmosis. Differences in symptoms to watch for are – apart from the jaw locking - in tetanus the stiffening will be general and will not relax (as it does between fits with toxo), the animal will salivate heavily, the ears bunch together on the head, and light, touch or sound can precipitate a convulsion.

Enterotoxaemia is much more difficult as it can exhibit just the same symptoms as Toxoplasmosis. (perhaps the animal froths at the mouth more?). The fact that it doesn't scour is not relevant as most animals I have seen with toxoplasmosis have not scoured.

Retinitis is one of the signs most indicative of Toxoplasmosis but requires examination by an ophthalmoscope and even then it is not apparent to the attending vet in many cases. The only sure method of diagnosis is two blood tests, two weeks apart, and such is the nature of the disease your animal would probably be dead if you waited two weeks for confirmation before starting treatment.

I was fortunate that my first case of Toxoplasmosis, some 10 years ago, was an animal with extremely severe neurological signs and subject to massive convulsions* for several days so I experienced the worst the disease can throw at you. I was lucky also in that my attending veterinarian was Dr Rick Speare who pioneered the treatment we now use. He was willing and able to drive the 100 km return trip to take blood tests on two occasions, and another one month later. The animal made a full recovery.

If you don't have a vet who can do a quick blood test for you, or identify retinitis – the safest policy is to start Diazepam, Pyrethamine and one of the sulphur drugs immediately as, if it is toxoplasmosis, any delay could make treatment too late.

If your diagnosis is correct the animal will respond to treatment in from two to five days (will be eating again, holding its head up and ceased fitting). Unfortunately if it is enterotoxaemia and not diagnosed in this time the animal will probably be dead. **(However refer to Case No 4.)**

Medications which can be used in the treatment of Toxoplasmosis.

We use one of the potentiated sulphanomides – Septrim, Bactrim or Trisoprim in conjunction with pyrimethamine (Daraprim). Diazepam IM is used to control convulsions.

In treating cats, which are particularly sensitive to pyrethamine, folic acid or folic acid can be used to ameliorate the toxic affect of the pyrimethamine without compromising its effectiveness.

Clyndamycin – Antirobe- is the drug of choice for pregnant animals where pyrethamine cannot be used. This should not concern us as we are only providing short-term care and shouldn't be caring for pregnant animals – but raises the possibility that it could be used as a 'stand alone' drug in the treatment of toxoplasmosis.

Consult your own vet for advice.

The regime of treatment which has worked for us is pyrethamine at the rate of 2.5 mg/kg and Bactrim/Septrim at the rate of 0.5ml/kg. Twice daily for the first four days, and daily for a further 10 days.

If you are able to acquire it sulfadiazine(20mg/kg) - Trisoprim 480 antibacterial injection is my preference over the oral Bactrim or Septrim for at least the first few days as it takes affect more quickly than oral medication. The dosage is 0.5ml/10kg IM twice daily for the first four days, and then a single dose daily or you can change after the first few days – as your roo is probably feeling like a pin cushion by this time – to Trisoprim tablets (400mg tablet) at the rate of 1 tablet per 5 kg, or to Bactrim or Septrim.

If symptoms recur when medication ceases continue both drugs at the single dose rate for a further 14 days. In this case you will certainly need to supplement with folic acid – 5mg daily, folic acid – 1mg/kg daily, or brewers yeast at 100 mg/kg daily. This is to counteract the sulphur drugs affect of stripping the body's stores of folic acid and consequential anaemia.

The recommended dose for Diazepam is 0.2 – 1mg/kg every 4 to 12 hours as required but – refer to case histories 5 and 6 – this dose rate sometimes has to be exceeded as controlling the convulsions and minimizing the resultant brain damage is essential to the successful outcome of the case.

In all cases with prescribed drugs we work in conjunction with and under the instruction of an experienced wildlife veterinarian.

Atovaquone, registered in Australia as Weelvone, has been used to treat toxoplasmosis in the USA. It is used in conjunction with canola oil and treatment time and dose rate vary. As some treatment has been for a period of 8 months it would hardly seem applicable to animals which are in our temporary care and – in our experience – close to release when they contract the disease.

Drugs Discussed

Oral

“Antirobe Aquadrops” Clindamycin 25mg/ml, 20ml Dropper Bottle

“Septrim or Bactrim” Trimethoprim 40mg/5ml Sulphadiazine 200mg/5ml
“Resprin” is a cheaper brand, same content as Bactrim & Septrim,
All come in a 100 ml bottle.

“Daraprim” Pyrethamine, 25mg tablets. Crush and dissolve in boiled water to a quantity most useful in required dose rate.

Injectible

“Pamlin” Diazepam 5mg/ml, 20ml multi use bottle (Diazepam is referred to in case histories as valium)

“Triveterin” Trimethoprim 40mg/ml / Sulphadoxine 200mg/ml
100ml multi use bottle

“Trisoprim” Trimethoprim 80mg/ml / Sulphadiazine 400mg/ml 100ml

Any other medications?

Case History 1 – an agile wallaby

Tuesday

Kawaii and Jessi had their two feeds in the morning – 45 mls – and when we got home from school Jessi had jumped into Kawaii's bag and they were both in the one bag!!! They were both quite content with Kawaii having her head out of the bag. Then Jessi was making a fuss – she wanted her head out too. For the 4 pm feed Jessi had a full bottle but Kawaii wasn't interested and seemed sluggish and unconfident when out in the enclosure. We put them back in their separate bags but Kawaii was very unsettled. We tried separating the bags – in different rooms. Kawaii kept jumping out of her bag and we thought she was looking for Jessi so we hung them together again – still unsettled. Put Kawaii in a quiet area by herself- thought she might like some quiet time. Kept jumping out and looking lost. Tried some extra TLC thinking perhaps she had lost her confidence and needed reassurance. By about 6pm she was in a bad way and appeared to be very sick – constant licking of paws (tried her with water in case she was hot – not interested), glazed eyes, even lots of saliva under her chin, excess sweating between the legs and not because she was hot, extended paws. She refused any feeds. After a panicked call to Margaret we thought it was probably part of bonding with the other wallaby and establishing a pecking order. Decided we had done everything we could so put her own bag in the bathroom with Jessi. They both hopped out of their bags and we left them for the night with water and fresh guinea grass.

Wednesday

You wouldn't believe it was the same wallaby! Bright and chirpy and starving hungry. She had a whole bottle and was back to her old self. Relief all round. She had a long time out in the yard and when she'd had enough came up to me while I was hanging out the washing. Jessi was in her bag hanging on the line and while we were patting them both Kawaii jumped into Jessi's bag. They stayed together for about an hour and then we separated them and put them in a quiet place while we went out. Couldn't believe the change in Kawaii – to go from such a terrible condition last night to bright and chirpy and confident today. They both fed well – 4 x 50 mls for the day.

Thursday

6.30 Kawaii only had about 35 mls while Jessi had 50. Lunchtime both had 50 mls. I put them in a limited enclosure at the side of the house. Tried leaving them for a short time but both appeared nervous and insecure. Kawaii wasn't interested in eating grass, she just climbed back into her bag. For the 4pm feed neither wallaby was interested. Thought their noses might have been out of joint with having been left outside by themselves. Kawaii seemed a little unsettled so we kept an eye on her. By 5pm she was starting to show signs of what she was like on Tuesday. By 5.30 was quite concerned – eyes glazed, paws extended, noisy breathing, dribbling from mouth. At 5.45 Margaret beat me to it and rang to check on Kawaii. I told her the symptoms and that I found it hard to put it down to stress of bonding with Jessi. Margaret became quite concerned that it might be toxoplasmosis and to get to Aachilpa before they closed at 6pm. By the time we got in the car Kawaii had started to convulse- really scary stuff. I had to get Stacy to hold the bag. Poor old Stacy and Ashley were both crying and panicking. After a mad dash and breaking the speed limits we only just made it before they closed. Margaret – the vet Margaret – helped us. She gave an injection of valium to help with the

convulsions and said that to be honest Kawaii was in a really bad way. We were given Bactrim (1 ½ mls x 2 daily) and 1ml of Daraprim to be given twice a day. (An anti-malarial tablet that had to be crushed and mixed with 25 mls boiled water). The kids and I were all crying and very distressed. When we got home we made sure Kawaii was wrapped up and in a bag low to the ground in case she became disoriented and fell out. – certainly wasn't looking too good. Kept checking her – the head was still extended back and breathing noisy but the way she looked it was a relief to hear her breathing. AMAZING!!!!!! 8.10pm she snapped out of it –still glazed eyes but the head had been moved and was hard to hold up. She slowly came around and at 8.25 was given the Bactrim – hard to get down but these were desperate times! 8.35 gave the Daraprim. By 9pm she climbed/fell out of her bag and was looking for comfort. Put her back in her bag and held her until about 10.30 when she was settled. Put her back in her hanging bag in the bathroom but she kept climbing out and calling. Thought she might now be hungry so tried her with a bottle – she drank 35 mls. Didn't vent her, just put her back to bed. Checked on her again at 11.15 – all quiet. Checked her all through the night and each time she was in her hanging bag with her head out --- SHE HAD MADE IT.

No notes after this period as the carer found this a very traumatic experience and was in survival mode; in her words 'only had time for the caring and not the reporting.'
Note – Kawaii weighed 1.6kg at the onset of the disease. She made a full recovery and was released 6 months later with Jessi at just over a year old – held a little longer than usual because of Kawaii's illness and an old injury to Jessi's leg.

Case No 2 – another agile wallaby

The animal appeared fine and fed well in the late afternoon but did not feed as normal two hours later when I took some sweet potato down to the pen. I noticed the animal in the shelter with its head on the side dropping one shoulder. There was also a foul smelling dark shiny green runny faeces where the animal was sitting. I thought at first it had been hit on the head as a large branch had come down from a tree. The next day there was little change and it appeared the animal was having a stroke. The diagnosis was suspected toxoplasmosis, later confirmed by a blood test, and the treatment was Bactrim and Daraprim. The animal responded well but for some weeks could not use his left paw to grip- akin to a stroke. In time he fully recovered and was successfully released.

Case No3 - again an agile wallaby.

Monday.

1am I found Heidi cold and stiff on the floor. Wrapped her up in blankets to warm her up as quickly as possible.

1.30am She started to wheeze heavily and her eyes were fully dilated, dull, no movement of any kind. Large amount of mucous from mouth. Laid her down with the head

downwards so the fluid would run off her chest.

2.00am Called Margaret for advice. Gave Vitamin E and a little honey with boiled water for stress, also vytrate. Managed to give a little at a time on the back of her tongue as she was not swallowing at all at this time.

4.00 am Slight movement from her eyes and started to shiver all over and was swallowing.

6am Feels as though she has a high temp and wants to move about. Has totally lost balance. Placed her in the shower tub on a damp towel to keep temp down.

8am Took Heidi to Margaret. (I gave her Diazepam IM for fitting and started on Seprim and Daraprim).

Tuesday – picked Heidi up and she was 90% better. Continued treatment for toxoplasmosis with Daraprim and Seprim and oral Diazepam for convulsions or to slow racing heart beat. Treatment continued for 14 days, with plenty of dirt and grass roots, healthy roo poo and acidophilus to help gut flora.

Heidi is still in care, having since broken an upper tooth. Large enough for release but watching her ability to graze and survive with broken tooth.

Case 4 – yes another agile wallaby

Symptoms noted in a 3 1/2 kg agile wallaby.

Unusually quiet

Weak in limbs

Hopping awkwardly, like clockwork mouse. Shuffling to keep hind feet under body

Fits of restlessness – in and out of pouch more often than usual

Hind quarters growing weaker – hopping very slowly

No balance, lying stiff in pouch, head right back

Falling out of pouch.

Lying on side frequently.

Watery diarrhoea – changes from day to day.

Stomach swollen.

A vibration around hindquarters felt with palm of hand when movement occurs.

Grooming excessively with forepaws outstretched, digits clenched.

Drank full bottles throughout, also large quantities of water. Only refused one bottle at onset. Coughing after drinking.

Medication – Doxycycline – 1 mark per day. (Vibravet 100 paste)

I didn't see this animal and she was treated by a different vet i.e. not one of those we more generally consult for wildlife. Her symptoms differ a little to most cases and the drug used would not be the drug of choice. After discussing the case with Dr Jim Pollock we think it is highly likely the illness was enterotoxaemia following enteritis. This illustrates how difficult it is to diagnose these diseases. However, the animal recovered!

Case 5 - Rosie , an eastern grey kangaroo about 6kg

Day 1. Started convulsing early am. To me 7.00 am.	¼ ml valium, 12gms Daraprim, 3mls Bactrim
8.15 Convulsion. Threw off towel.	¼ ml (1.25 mg) valium
8.45 Sleeping	
9.15 Leg tremors and slight neck stiffening	
9.30 Asleep again	
9.50 Convulsing – legs kicking. Took 25mls vytrate, fitted again immediately after.	½ ml valium, 1 Vit E capsule with honey
10.00 Leg stretching fit.	
10.30 A little vytrate	
12.30 Second dose of medication	Daraprim & Bactrim
1.00 pm Fitting – not too bad but heart rate very rapid.	½ ml valium
5pm Convulsing again. Not too severe.	½ ml valium
10.15 pm Having small fit, stiffening, eyes flickering as I held her. Got 50 mls vytrate into her and about 2cm Nutrigel. Another petit mal while drinking. Initial eagerness to drink.	
10.30 pm. Bad convulsion – opisthonos. Head arched back, legs over head, tail to head.	½ ml valium
Valium for the day – 12.5 mg.	
Day 2	
4 am Big fit. Gave valium.	½ ml valium
6.45 Violent convulsion after period of complete lucidity. Medicated and gave valium, medicating precipitated another fit.	½ ml valium Daraprim & Bactrim
7.30 am Few sucks at bottle – about 5 mls.	
9.30 am Drank 50 ml of formula. One stiffening fit (about 10 secs) while feeding.	
10.00am Nutrigel. Lifting head between fits.	
11.15 am Violent but fairly brief convulsion. Valium then 20 mls vytrate	½ ml valium
11.50 Another violent convulsion. Opisthonos. Flipped right over and travelled around room. More valium.	½ ml valium
12.25 pm More and more violent fits, lasting longer.	
2.30 pm Second medication for the day	Daraprim & Bactrim
Quite violent fits, did manage to get a few mls of vytrate down	½ ml valium
3.40 pm. 30 mls vytrate. Was holding head up.	
6.20 pm	1 ml valium
8.20 pm 15 mls honey, vytrate and Vitamin E. Has been convulsing badly and did again after food.	1 ml valium
8.45 pm 15 mls vytrate. Holding head high but shakily afterwards. Didn't fit again for 5 MINUTES and that brief. Held head up again afterwards – on and off – until next fit 5 minutes later.	
10.00 pm Fitting fairly frequent. Valium, both need sleep.	1 ml valium
Valium for the day 5 ½ mls	

Day 3

Midnight. Fairly big fit. Gave 1 ml valium
 5.45 am Convulsion – not as violent, then two more – less kicking,
 more just leg and neck stretching and brief.
 6.00am Medicated, this brought on a small fit , then took 50 mls formula
 followed by a slightly worse fit. Daraprim & Bactrim
 6.25 am Much more violent convulsion. 1ml valium
 10.15am Has been sleeping until this fit. Alert and watching me
 just prior to it. 40mls Wombaroo at 10.50. Sucked well. Fit
 5 minutes later.
 11.30 am More fits and valium 1ml valium
 11.45 am Eating grass!!!!!!
 2.15 pm 25 mls vytrate- grass nibbling all pm. Little fitting.
 4.45 pm 50 mls wombaroo followed by medication.
 NO FITS AFTERWARDS Daraprim& Bactrim
 Home to carer 7 pm – lapped large amount of water from a bowl.
 Valium for the day 15 mg

Day 4

Some petit mals, staring.
 12.30 am 40 mls Wombaroo, some stiffening
 6.00 am 50 mls Wombaroo. Improving Daraprim and Bactrim
 1 ¼ mg valium orally
 8.00 am Attempting to hop. Some stiffening
 10.00am Much steadier on feet using tail and 2 front paws
 12 noon 40 ml Wombaroo, brighter, restless.
 2 pm. Lapped water, hopping around house.
 3pm Into bag. Sucking tail
 6pm Medication, 60 mls Wombaroo. In bag. Looks good. Daraprim & Bactrim
 5mg folic acid
 10 pm Lapped water. Bagged with others.
 Valium for the day 1 ¼ mg only.

Day 5

2.am Sleeping
 6am Down to single dose of medication Daraprim & Bactrim
 10 am Doing wheelies around big paddock, in and out of bag,
 some unsteadiness, almost normal. Folic acid 5 mg

No valium, no fits.

Day 6

Normal. Giving medication at single dose of Bactrim and Daraprim am and 5 mg folic acid pm to a total of 14 days. Animal appeared completely recovered

HOWEVER

Case 6, Rosie the eastern grey kangaroo now weighing 10 kg plus.

One of the only two cases I know of to have a recurrence of toxoplasmosis(3 months after the first).

Day 1

8am Refused her bottle, drank lots of water.
10 am Unsteady on feet, cut on face.
11 am Not moving. Balance problem. – petit mal. Daraprim 18mg
Bactrim 5 ml (40mg)
Valium 1ml (5mg)
12 noon Settled with nursing. Unsteady :?consciousness,
restless at times.
12.30 Fitting and restless Valium ½ ml(2.5mg)
3 pm Severe fitting every few minutes; rapid pulse and respiration Valium 7 ½ mg
6pm Sleeping well. Breathing and pulse good. Drank 80 mls
vytrate by syringe Daraprim 25 mg
Septrim 40 mg
7.00 pm Sleeping but moving
7.15 Fitting – spasms Valium 5 mg
9.30 Convulsing – opisthonos.(arching back) Valium 5 mg
9.50 Fitting – lighter
Valium for the day 25 mg

Day 2

1 am Fitting small amounts Valium 7 ½ mg
4.30 am Fitting. Very heavy noisy breathing. Back arching.
Passed lots of urine. Septrim 40 mg
Daraprim 35 mg
Valium 7 ½ mg
6.15 am Rapid breathing. Unconscious
8am Fitting, arching back, rapid noisy breathing Valium 10 mg
8.35 am Rapid breathing and pulse, intermittent arching
1.00 pm Noisy breathing, rapid, unconscious. Not able to medicate
during day as unconscious.
(We really thought she was going to die this day and were ready to have her euthanased if
necessary. Fortunately a very wise vet said ‘give her a chance, tincture of time’,so we
did}
5.30 pm Breathing slow irregular, heart normal, pupils not reacting to light.
6.30 pm Remains unconscious. Breathing slow, stops, noisy at times.
Pupils some reaction to light.
8.30 pm No change. Unable to swallow safely. Breathing quieter
Managed Daraprim in 1ml water but no Septrim pm. Daraprim 25 mg
Valium for the day 17 ½ mg

Day 3

1.00 am Status quo
4.30 am Grinding teeth badly. Medication given. Responded to
oral medication, no other response. Daraprim 25 mg
Septrim 40 mg
5.00 am Took 50 mls vytrate followed by a stiffening fit then
valium given Valium 7 ½ mg

5.30 am Pupils responding to light. Auto response to touch.

11.15 am 25 mls by bottle. Keen but chewed not sucked. Valium 5mg

12.45 pm Fitting, thrashing type. Cool. Gave a hot water bottle. (noon)

2.00 Moving a little but no tooth grinding. Cool again

4.30 pm Much tooth grinding. Medications plus Nutrigel and 25 mls vytrate. Daraprim 25 mg
Septrim 40 mg

9.00 pm 50 mls Wombaroo plus 2 x 15 mm Nutrigel. Fairly zonked but chewed/sucked readily.

10.00 Not fitting but valium for some sleep for both. Valium 7 ½ mg
Valium for the day 20 mg

Day 4

2.00 am Much tooth grinding but only for about ¼ hour

6.00am Fitting. Medication and 60 mls of milk before more sedation. Copious pee and poo o'night. Daraprim 25mg
Septrim 40 mg
Valium 5 mg

10.00 Mildly thrashing fit, head arching backwards but no tail arching. Valium 5 mg

1.15 pm Small spasms but soon aware enough to SUCK 70 mls of milk

2.30 Interested in some grass but went into a more active fit. Valium 5mg

5.00 Some tooth grinding but almost 'with it'. Medicated then fed. Daraprim 25 mg
Septrim 40 mg

8.30 Minor stiffening only. More awareness

10.00 pm. No fitting. 50 mls milk. Plenty faeces & urine passed

10.30 No fitting. Sedation only to get us both through the night. Valium 5 mg
Valium for the day 20 mg.

Day 5

6 am Small fit. Took medication eagerly as being a drink then worse convulsion so more valium. Unable to manage teat. New movement, pawing, not clawing, at face. Daraprim 25mg
Septrim 20 mg
Valium 1.25 mg

8.00 65 mls milk.

9.30 am Eating grass, holding up head.

2.00 pm Some stiffening when touched/moved, but no vigorous spasms Septrim 20 mg
Vytrate 50 mls, can hold head up on occasions, eating grass placed right in front of her.

5.30 35 mls milk

10 pm 25 mls milk only, but eating grass and pellets.

Valium for the day 1.25 gm

Day 6

2.00 am 35 mls milk. All grass eaten.

7.00 Trying to stand up. Medication and 60 mls milk. Well enough to resist medication. Septrim 40 mg
Daraprim 25 mg

11.30 Outside lying eating grass. Out til 6 pm. Moving around by getting on front legs and pushing off.

1.00 pm 50 mls milk.

8.00 pm 70 mls milk. Pellets and grain available and being eaten. **No fits, no sedation.**

Day 7

5.00 am trying to stand up.

6.00 am Out on lawn. Can stand up and take a couple of hops.

8.00 am 70 mls milk, medication. Really fighting it now.

Daraprim 25 mg
Septrim 40 mg

1.00 pm 55 mls milk

7.00 pm 60 mls milk(all she would take). Outside all day. Following me around yard by late pm. Bagged for night at 10 pm

Day 8

6.00 am Stayed in bag all night and didn't soil it. 60 mls milk, all she would take. Hopping and able to stand on hind legs today.

7.00 Medication. Fought strongly against

10.00 am Returned to carer. Improving all day.

Daraprim 25 mg
Septrim 40 mg

Day 9

Wanting to be out with her mates. Hopping well, resting a lot.

Day 10

Almost normal except resting more than others.

Medication was continued for this animal for four weeks in total. She was also given ironcyclen – an iron supplement with copper and cobalt – dose rate 1ml/7.5kg (for anaemia, check for anaemia by the gum colour of the animal).

She was released with her mob – a fine healthy animal – in early December, six months after treatment for her second episode with toxoplasmosis ceased.

The case histories are given verbatim to show the impact this disease has on the carer, (real carers with real animals) and illustrate the amount of care required in severe cases. I hope this strikes a chord with other carers and is of help to them.

Safety and Comfort of the Convulsing Animal –

No written notes. Space note-taking provided please, under headings -

Safety

Warmth

Reassurance

Hygiene

Nourishment