

URBAN POSSUMS and CAT ATTACK

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By Beverley Young, Sydney Metropolitan Wildlife Services Inc.
Ph. 02 9418 9063 Email comaid@intercoast.com.au

This paper discusses part of an on-going study on cat attacks on young Ringtail Possums in the northern suburbs of Sydney. The study has been in progress since September '04 and was instigated by carers' concerns about the high incidence and mortality in cat attack victims – and the low expectations of treatment success from Vets and carers.

In the past a cat attacked young Ringtail was a dead Ringtail, regardless of the severity of the injuries – even a tiny puncture was a death sentence. Carers began to note some success with early antibiotic treatment. We started to record all relevant details as cat attack victims came into care. The study is entirely evidence based on these records. As carers we are dependent on whatever treatment Vets can give, but we can certainly observe outcomes and trends over a fairly large data base (in the past year, 90 cat attacked baby Ringtails came into care).

An important part of the study is to look at what is being done by local municipal authorities, by the National Parks and Wildlife Service and by our own organization in trying to minimise cat predation on our wildlife. It becomes evident that we all need to be doing more.

OUTLINE

- 1) Statistics on cat attacks in the northern suburbs of Sydney 2002 – 2006
- 2) Strategies to minimise cat attacks – local Councils, National Parks and Wildlife Service and Sydney Metropolitan Wildlife Services.
- 3) Possum survival after cat attack.
- 4) Effectiveness of treatment regimes.
- 5) Evidence based conclusions.

CAT ATTACK STATISTICS (For young Ringtail Possums)

Four Years

- 1/6/02 – 31/5/03 Total rescued 490 Cat attacks – 141 (29%)
- 1/6/03 – 31/5/04 Total rescued 490 Cat attacks – 109 (22%)
- 1/6/04 – 31/5/05 Total rescued 496 Cat attacks – 96 (19%)
- 1/6/05 – 31/5/06 Total rescued 482 Cat attacks – 90 (18%)

We believe the percentage is realistically much higher. We suspect that many of the 'abandoned' babies we rescue are probably indirect victims of cat attack.

Older Ringtails (over 400g) are not included in this study. Their injuries are often more severe/fatal. Minor injuries respond well to antibiotics without the side-effects seen in the young.

The percentage of attacks has dropped over the 4 years but only slightly – more needs to be done to cut this further.

STRATEGIES TO CONTROL CAT PREDATION ON WILDLIFE

Seven local Councils (in the study area, northern districts of Sydney) representing a population of 540,000 (total area 640 sq km) were consulted. The demographic could be described as mainly 'leafy suburbia' with some densely populated areas and commercial areas. Helpful strategies used:

- Communication with residents on the subject of responsible cat ownership, through publications sent out and distributed at community events. Also, when new cats are registered (as they must be now) a brochure goes out to the new owners.
- Provision for the trapping of known predators when public complaints are received. Trapped animals can be euthanased if there is no ID. Trapping is also done by Councils in their own property (parks and reserves)
- Targeted trapping areas – where a cluster of injured wildlife found.
- Wildlife Protection Areas have been set up by several Councils (over 40 areas to date) These are selected suburban sites, usually near bushland, where unattended cats and dogs are prohibited. If they are found in the area they are impounded.
- Prosecution of owners of 'nuisance cats' under the Companion Animals Act. Often a softer approach, just talking to the owner first, will work.
- A 'Cat Fact Sheet' on Council website and distributed to pet shops and vets.
- Demonstration of cat enclosures and education material at special Council displays.
- Reminder notices about cat and dog control put up in Council public areas.
- Regular articles about companion animal legislation in the local media.
- A 'Companion Animals Advisory Committee' works for one Council, recommending actions and strategies.

NATIONAL PARKS AND WILDLIFE SERVICE (NSW)

- Can control only within National Parks in the area (two large parks)
- Mainly act in an advisory and education role – to local authorities and community groups.

SYDNEY METROPOLITAN WILDLIFE SERVICES (SYDNEY WILDLIFE)

- Information/rescue phone – advice to public on responsible cat control
- Distribution of brochures and letters in response to known attacks in an area.
- Education of public (schools to adult) at talks, displays.
- Media coverage about cat attacks and wildlife.
- Records kept – Councils & National Parks use these in their own programs.
- Information courses for Council workers, Police, TAFE students etc.

CAT ATTACK DEATHS OVER 4 YEARS

In the years 2003 – 2005, 70 – 80% of young Ringtails rescued from cat attack died. In the last year to June '06 that percentage has dropped to 57% and we hope that is due to our increased knowledge on treatment from this study. We still have a long way to go. Note that the death rate from cat attack is more than double that from all other causes (25%).

In the past there has been reluctance to use antibiotics because of side-effects. New treatment regimes and the use of probiotics are changing our ideas.

THE INITIAL SURVEY SEPT. '04 – MAY '05

During this period we started to keep more detailed records on treatment and outcomes. Results are shown in the chart below (Figure1)

Fig.1 shows the percentage of young Ringtail possums surviving after treatment with antibiotics compared to no antibiotic treatment.

- 52 cat attacks.
- 34 died – no antibiotic given
- 2 survived – no antibiotic given
- 16 received antibiotic – 10 of these survived

Given the results from this initial survey it was decided that records would be kept on an on-going basis, with more investigation into certain aspects in question, like treatment initiation delay, type of antibiotic, length of antibiotic course, side effects etc.

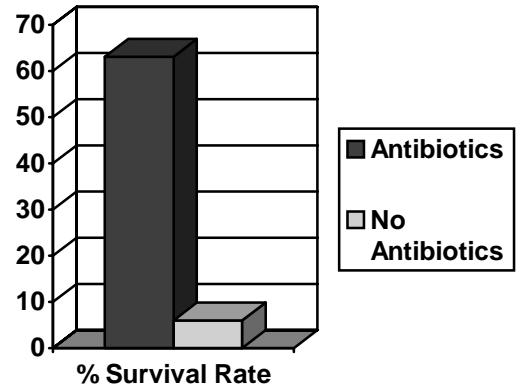


Figure 1

THE CURRENT ON-GOING STUDY 1/7/05 – 30/6/06

ANTIBIOTIC USE – VIABILITY

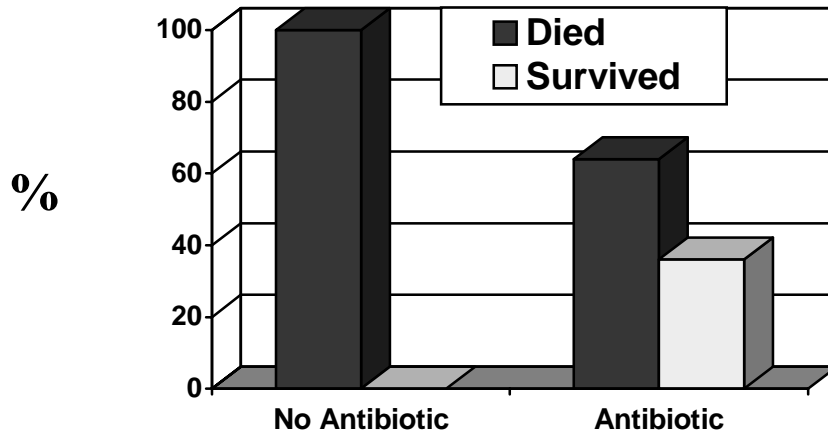


Figure 2

Throughout this study 'survival' means survived to release in normal healthy condition at age about 6 ½ months (400g) - usually at least 2 months after the cat attack.

In Figure2 it can be seen clearly that possums given antibiotics had a greater chance of recovery. NB. 100% death rate in those not given antibiotics.

In the next part of the study, examining different treatment/drug regimes, it was necessary to standardise the group to be as closely matched as possible. The following criteria were set –

- all received antibiotics
- all were under 150g.
- all had similar degrees of injury – evidence of cat attack punctures
- no severely injured babies were included – or babies dying of unrelated causes

The total number in this group was 27

The following areas were investigated –

TREATMENT INITIATION DELAY

(Closest estimate possible - the time between attack and initial treatment)

Total no. 27.	Survived	Died
First injection under 12 hrs.	8	5
First injection over 12hrs. (Unknown 3)	3	8

Evidence of importance of early treatment

DRUG USED. TREATMENT REGIME

Trends Emerging

- Type of antibiotic (broad spectrum, 'Baytril' or narrow spectrum, 'Amoxyl')
No observed difference
- Route of antibiotic (injection, oral, or combination)
No observed difference
- Length of antibiotic course
Appears to be of importance
Course 4 days or less – 90% survival
Course over 4 days - 40% survival

In considering the 'route' of antibiotic we are mindful of the fact that injections may be difficult for carers to manage, although they are considered preferable in maintaining gut flora. However we observed no difference in outcome.

TREATMENT REGIME – BEST SCENARIO

- First antibiotic injection as soon as possible after the attack – less than 12hrs.
- Initial injection with oral follow-up for 2-3 days
- Use of probiotics during and after course *
- Appropriate topical treatment of wounds

- * Probiotics are important in replacing gut flora lost through antibiotics. Protexin is a soluble powder containing 7 micro-organisms. It is safe and easy to administer. Another option is 'Poo Tea' – a slurry made from ground healthy Ringtail faeces or if available, the pap (contents of caecum) harvested from a Ringtail. Use of these probiotics is believed to help reduce side-effects of the antibiotic.

SIDE EFFECTS OF ANTIBIOTIC TREATMENT

The four main side-effects noted in the past are loss of appetite (with resultant weight loss), Diarrhoea, Caecal Stasis and Thrush. In this study we detected no cases of Diarrhoea or Thrush.

Six exhibited loss of appetite but this was transient – appetite returned after the course finished and no severe weight loss resulted.

Five developed Caecal Stasis, four of these dying of the condition. This is a concern so we investigated these cases in more detail. There had been an even spread of route type (some injections, some oral and one topical). So, in this small sample the route did not appear to be a determining factor. However we must note that the possum receiving topical antibiotic (for three weeks) was disadvantaged according to our findings, in two ways. Firstly, there was a long course of antibiotics, and secondly the possum was not given probiotics (the carer was unaware that topical antibiotic could be absorbed). Interestingly, the one that did survive had the only short course of antibiotics (4 days). One should note that Caecal Stasis does occur quite regularly where there have been no antibiotics – we actually had eight other cases in the study period. Our Treatment and Care Study Group is currently doing more evidence based research on Caecal Stasis.

CONCLUSIONS

- Cat attack remains a significant danger to urban wildlife
- Measures are in place to minimise cat predation but they must go further.
- Successful treatment of cat attacked young Ringtail possums is possible - with few side effects.
 - injured possums must be treated as quickly as possible - less than 12 hrs. from attack
 - short course of antibiotics (3-4 days) is preferable
 - by injection or injection/oral combination
 - probiotics assist to restore gut flora and reduce side-effects
 - wounds treated to avoid further infection

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