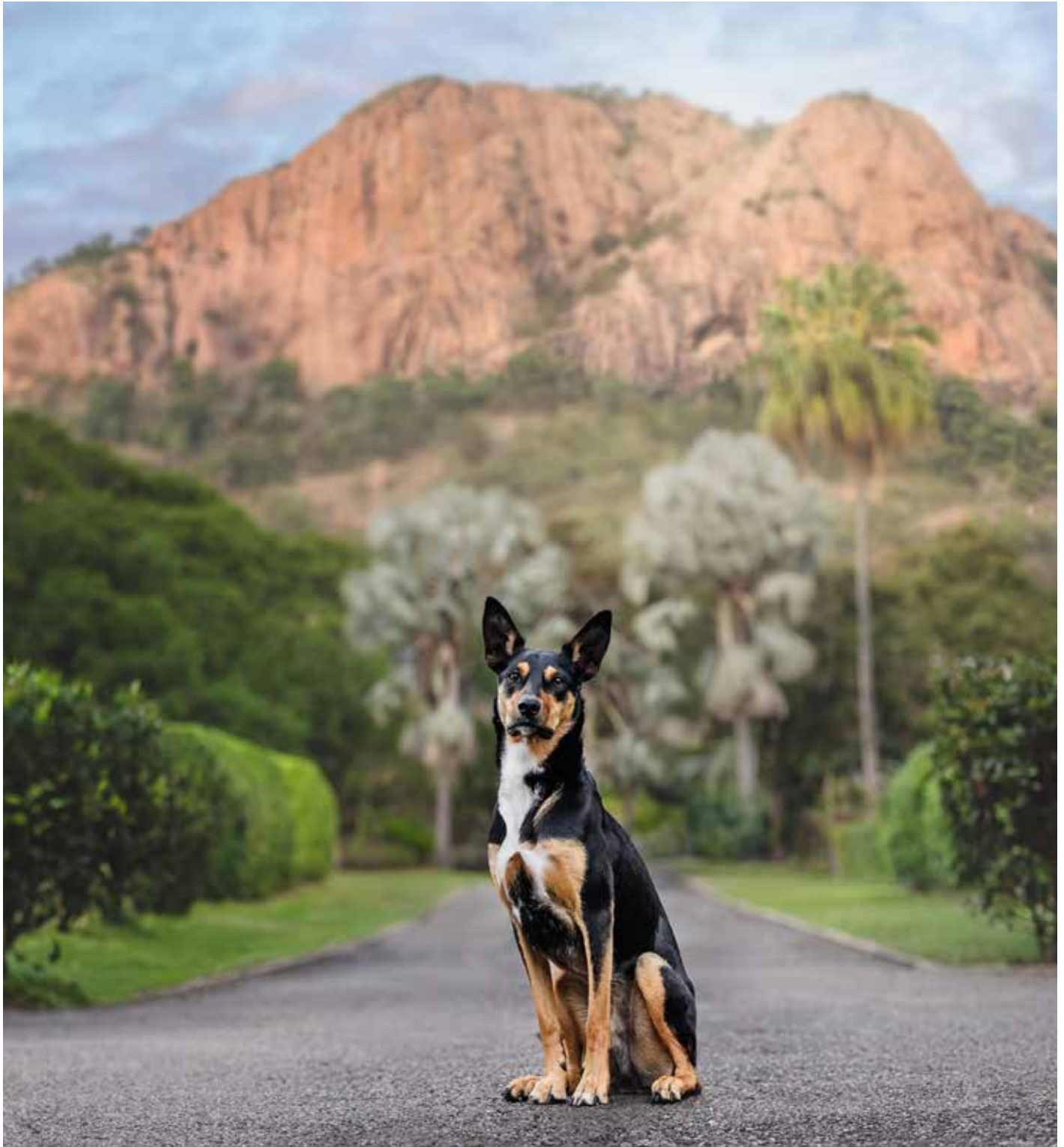


THE AUSTRALIAN VETERINARIAN MAGAZINE

Expert tips and insights to help your pets achieve and maintain a healthy weight p10

Vets raise the alarm on tick paralysis as peak season hits p18

Life in the Tropics with Dogs p22





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References: 1 Paterson S, 2018. "The use of antibiotics and antimycotics in otitis." *Companion Animal*. 23(11): 608-613
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Cover photography by: Kerry Martin, *Puppy Tales Photography*. Ziggy loves exploring Townsville (Castle Hill in the background)

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THE CUTEST CANCER SURVIVOR

MEET JAX, AN EIGHT YEAR OLD MALE DESEXED LABRADOR CROSS AND A SASH RADIATION THERAPY GRADUATE WITH A DISTINGUISHED SALT & PEPPER PATCH TO SHOW IT!

Jax first came to Small Animal Specialist Hospital (SASH) North Ryde in March 2022 after being diagnosed with an aggressive multilobular osteochondrosarcoma (MLO) growing within his nasal cavity following an incisional biopsy of a firm subcutaneous mass effect noted on the dorsal muzzle between his eyes.

MLO is a type of cancer that arises from bone and cartilage, commonly arising in the skull with the potential to compress and invade the brain. Other reported locations for MLO in dogs includes the mandible or maxillary bones, and sometimes it can arise from a rib. MLOs are typically diagnosed in middle age to older dogs, and large breed dogs are more commonly represented. The symptoms associated with this tumour are usually related directly to the location of the mass, and can include local pain, swelling, difficulty eating or chewing food, and in some case neurologic symptoms including seizures can be seen in those tumours causing compression of the brain.

In Jax's case, the tumour measured 7.1 x 4.5 x 5.6cm (L x W x H) in the caudal nasal cavity between his eyes, predominantly left sided with partial invasion into the right nasal cavity on CT imaging. There was a region of bony erosion on the dorsal aspect of the maxillary bone leading to the subcutaneous mass effect there. Deciding on treatment options for Jax involved an integrated team of oncologists, surgeons, neurologists and radiologists reviewing these findings. The best prognosis for treating MLO is usually surgery where possible, but given the

tumour location and involvement, it was decided best to refer Jax and his family to our Radiation Oncologist, Dr Elias Gumpel as his tumour was not deemed to be suitable for surgery.

External Beam Radiation Therapy harnesses the power of very high energy x-rays to damage the DNA in and kill cancer cells. Here at SASH North Ryde, we have one of only two on-site veterinary radiation oncology facilities in Australia, and the only one in NSW. Having everything on site meant that Jax had treatments with a dedicated radiation therapy team equipped with state-of-the-art facilities, while having access to all the multidisciplinary teams at the same time. Under the guidance of Dr Elias, Jax had a definitive course of treatment and visited us for ten days, Monday- Friday over 2 weeks. Having spread it over ten smaller dose treatments, we were able to safely deliver a large total dose to treat Jax, while sparing many vital organs/ structures in the treatment area by using the advanced IMRT and VMAT planning software capabilities along with the beam-shaping capabilities of the LINAC itself. Jax had a customised radiation plan designed just for him that minimised side effects while very precisely targeting the cancer.

Fast forward to 2024 today, two years from his initial diagnosis, we are pleased to share that Jax is living his best life yet!

One interesting effect of radiation treatment is a change in the colour pigmentation in our pets' fur around the treatment area. Jax now wears this unique salt & pepper look, and we think him a very distinguished gentleman.



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PETSTOCK FOUNDATION DONATES \$12,500 IN VOUCHERS, TO SUPPORT NEW ADOPTIVE FAMILIES

REHOMED LABRADOODLE PUPPIES RECEIVE A SECOND CHANCE AFTER ABANDONMENT

Following the closure of a puppy farm in Tasmania, an operation the RSPCA worked tirelessly on, 250 labradoodle puppies recently required urgent rehoming.

With a passion for supporting the adoption of pets, and creating a better future for pets and people, the Petstock Foundation has collaborated with RSPCA

Tasmania to support people who have opened their hearts and homes to the puppies in need. To help care for the puppies in their new homes, the Petstock Foundation has donated \$12,500 worth of Petstock vouchers to the RSPCA, which have been given to people who adopted one of the labradoodle puppies in need of rehoming.

The vouchers, with a value of \$50 each, can be used to help with costs, such as food, bedding, toys and grooming. Jessica Curtis, Head of Petstock Foundation, says, "When the Petstock Foundation heard about the labradoodle puppies in Tasmania, we knew we wanted to help. We are proud to support the RSPCA, who share our passion for the welfare of animals and pet adoption. Thank you to those who have welcomed a new labradoodle into their lives, we hope we have been able to assist as you care for your new family member."

Andrea Dawkins, CEO RSPCA Tasmania, says, "The community and business support provided for the labradoodles rescued from the puppy farm has brought those who care about the plight of animals together in an unprecedented way for Tasmania. We cannot thank our partners enough for their offer of assistance and are proud to thank the Petstock Foundation for their generosity. Our foster carers and adopters were delighted with the vouchers, giving them the additional support needed to take on these curious but unsocialised dogs who had never experienced the life of a treasured companion animal prior to the puppy farm's closure.

"We are pleased to confirm that all dogs rescued from the puppy farm are now in foster care or in their forever homes, and the animals in foster care have adopters lined up."

The Petstock Foundation is passionate about supporting the adoption of pets and over the past 10 years, and since 2007, has helped find loving homes for 41,000 rescue pets across Australia and New Zealand. During the Foundation's National Pet Adoption Month in March 2024, the Petstock Foundation raised \$99,053 for 119 rescue groups across Australia.





THE VET EXPO

SYDNEY 2024



WHO ARE THE INTERNATIONAL MARKETING MAESTROS IN ANIMAL HEALTH CARE?

THE VETTY AWARDS®, THE ANNUAL ANIMAL HEALTH CARE MARKETING AWARDS PROGRAM

The North American Veterinary Community (NAVC) is now accepting entries for its coveted VETTY Awards®, an international awards program dedicated to recognizing marketing excellence in the animal health care industry.

The NAVC, the world's leading nonprofit dedicated to supporting the global veterinary profession, introduced the VETTY Awards® in 2017 to recognize and reward marketing excellence in the animal health industry. Since its inception, the VETTY Awards® has grown to be a prestigious awards program, receiving entries from around the world and recognizing the best in marketing animal health care products, programs and services.

"The VETTY Awards® provide us an opportunity to recognize and celebrate marketing excellence in the veterinary and animal health care industry," said NAVC CEO Gene O'Neill. "We look forward to seeing who has mastered the fine art of marketing among entries this year, all of which are submitted by talented, creative professionals who are dedicated to promoting products and services that help animals everywhere live longer, better quality lives."

Veterinary industry nonprofit and for-profit organizations and agencies are invited to submit their creative work for consideration. Eligible work must have been produced between November 1, 2023 and October 31, 2024. Entry divisions are composed of a variety of communications and marketing mediums, including print, advertising, event, digital, social media, websites, and more.

VETTY Awards® winners will be recognized at the 42nd annual Veterinary Meeting & Expo (VMX), which will take place January 25-29 at the Orange County Convention Center in Orlando, Florida. Presented by the NAVC, VMX is the world's largest and most comprehensive global veterinary education conference with nearly 1,000 hours of continuing education, world-class entertainment and its award-winning VMX Expo Hall featuring all that's new in veterinary medicine. As the first veterinary conference of the year, VMX sets direction for the industry. VMX 2024, held in January of this year, attracted more than 27,000 attendees from all over the world.

At VMX, award winning entries will be featured in the VETTY Awards® booth inside the Expo Hall and award winners will be invited to attend a special reception and awards ceremony on January 26. Winners also will be featured on the VETTY Awards® website.

The early bird deadline for VETTY Awards® submissions is 11:59 PM ET on October 18, 2024. The final deadline for submissions is at 11:59 PM ET on November 6, 2024. Winners will be notified in early January, prior to the VMX event, so that arrangements can be made to attend the award reception.

For more information about the VETTY Awards®, visit TheVettys.com or email Vettys@NAVC.com.

About the NAVC

The North American Veterinary Community (NAVC) is a nonprofit 501(c)(3) association dedicated to supporting and advancing veterinary professionals worldwide. As the world's leading provider of veterinary continuing education, the NAVC delivers essential training, tools and resources for veterinary professionals to stay abreast of advances in animal medicine and provide the best medical care for animals everywhere. Through its commitment to innovation and excellence, the NAVC has developed a diverse portfolio of products and services, including: educational events, headlined by VMX, the world's largest, most comprehensive continuing education conference and launchpad for new products and innovations within the veterinary industry; a robust digital platform for virtual learning and engagement; the veterinary industry's largest and award-winning portfolio of trade publications; and an advocacy arm which unites the veterinary community and pet lovers. The NAVC was founded in 1982 and is headquartered in Orlando, FL. Since 2017, the NAVC has been recognized annually as one of the Top Workplaces by the Orlando Sentinel. To learn more about NAVC's products and brands, visit <https://navc.com/>. To see our schedule of upcoming events, visit <https://navc.com/calendar/>.

VETTY Awards® winners are announced each year at VMX, the world's largest gathering of professionals in the animal health care industry, and showcased inside the VMX Expo Hall. Photo from VMX 2024.





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 **MSD**
Animal Health⁹

EXPERT TIPS AND INSIGHTS TO HELP YOUR PETS ACHIEVE AND MAINTAIN A HEALTHY WEIGHT

Our beloved pets rely on us to keep them healthy and active, yet many pets face health challenges related to their weight. With over 28.7 million Australians owning a pet¹, it is imperative that we pay attention to their weight and look out for them.

With over 90% of Australians not realising their pet is overweight², Petstock Vet Dr Sasha Nefedova has shared her tips on the importance of balanced nutrition, regular exercise, and routine veterinary care for pets. By focusing on positive lifestyle changes, we can help our pets live longer, happier, and more energetic lives.

What classifies as overweight?

Obesity occurs when there is an extreme excess and accumulation of body fat, which increases body weight. A healthy weight between breeds and animal species can vary, however, there is no universally agreed definition of overweight or obesity in animals.

Overweight pets tend to be less active, have shorter lifespans and a lower quality of a life. Joint pain and skin irritation are other common lifestyle complications. Further, serious medical health conditions are associated with being overweight, including heart disease, cardiac and respiratory diseases, diabetes, hypertension, osteoarthritis and liver and pancreatic diseases.



HOT TIP

A good comparison when checking their ribs and spine is feeling the knuckles of your hand: too thin is the feeling of the knuckles with your hand closed in a fist; too much fat is the feel of your knuckles on the underside or palm side of your hand; and ideal is feeling the knuckles when your hand is resting on a flat surface.

If you suspect that your pet is overweight, consult a local vet who will be able to develop a diet plan and assist in sustaining your pet's weight goals over the long term.

How do you know if your pet is overweight?

Measuring body weight can be used as an approximate guide to determine whether a cat or dog is over their healthy weight for their size and breed. Pets are generally considered to be overweight when their body fat percentage exceeds 26 per cent over what they should usually weigh, and are considered obese when they exceed 36 per cent or more above that ideal³.

Pet owners can also use touch and observations to determine whether areas of the body are at their healthy and optimal weight.

1. Start by looking at your cat or dog from above - do they have a waistline that curves in behind the rib cage giving them an hourglass figure?
2. Next, sit on the floor and look at your pet from the side - do they have a tummy tuck? Does their abdomen slant upwards between the ribcage and the hind legs? Or do they have a saggy belly? Keeping in mind it is common for cat's skin to lose elasticity as they age, which can cause their primordial pouch to become more noticeable which is not necessarily a sign of being overweight.
3. Check their ribs and spine - when running your hands over their chest you should be able to feel their ribs easily. Pets that are a bit overweight would require you to press a little harder to find them. Similarly, when checking their back, you don't want to feel sharp points of their spine (underweight) and you don't want to feel a thick layer of fat (overweight).

PREVENTION TIPS AND STRATEGIES

Maintaining a balanced diet with appropriate proportions

Many owners are unaware of how much food their pets truly need, it's crucial to provide pets with the right portions of food based on their breed, size and activity level. For cats and dogs, consider keeping a consistent base meal of 80 percent good quality dry food, and the other 20 percent combining wet tin food or a mix of homemade treats, fresh veggies or meat.

1. **Overfeeding, especially with calorie rich treats, while effective for training and bonding, should be given sparingly.**
2. **Ensure you avoid uncontrolled feeding with scraps from the table, excessive reward or overcompensating on treats after a day of being away from home.**
3. **Pets can mindlessly graze towards old food even after mealtime. Try to keep all meals fresh and avoid overeating habits by discarding old food left after an hour.**
4. **Communicate with other members of your family to ensure that everyone is on board with the correct amount they should be feeding your pet and always consult with your vet as many pets can have different health needs.**

HOT TIP

Instead of using dog treats in puzzle feeders or snuffle mats, use their dry food as their reward which is lower in calories.

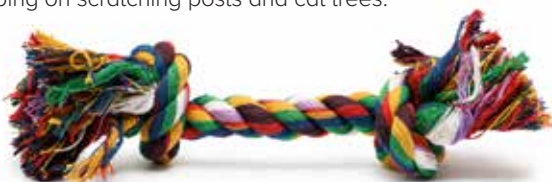


DID YOU KNOW? Feeding pets human food can be high in fat and difficult for pets to digest which can lead to health issues.

Regular exercise and playtime

Physical activity is just as important for pets as it is for humans. While dogs require daily walks, both

dogs and cats benefit from interactive play sessions which will not only keep them active, but support their mental stimulation and their bond with you. Regular exercise helps burn calories, improves cardiovascular health, and strengthens muscles. Activities like fetch, agility exercises, and even swimming are excellent ways to engage pets and keep them active. Cats can benefit from indoor games such as chasing a feather toy or climbing on scratching posts and cat trees.



Mental health and physical health are closely connected. Pets that are mentally stimulated tend to be more active and engaged. Puzzle feeders, interactive toys, and training exercises are excellent ways to keep pets' minds sharp while promoting activity.

Hot tip: Instead of using dog treats in puzzle feeders or snuffle mats, use their dry food as their reward which is lower in calories.

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NEW NOBIVAC® LEPTO 2 VACCINE FILLS VITAL PROTECTION GAP FOR AUSTRALIAN DOGS AT RISK OF LEPTOSPIROSIS

MSD Animal Health has launched Nobivac Lepto 2, a new canine leptospirosis vaccine developed specifically with Australia's unique leptospirosis risks in mind, providing peace of mind to both veterinarians and pet owners.

Seroprevalence studies and reports from Queensland, New South Wales and Victoria have shown that certain serovars have been repeatedly associated with clinical and fatal cases of canine leptospirosis^{1,2,3}. Fortunately, Nobivac Lepto 2 offers broad leptospirosis coverage combining key serogroups Australis and Icterohaemorrhagiae, filling the gap created by a prolonged vaccine shortage and historically only monovalent leptospirosis vaccine availability in Australia⁴.

Leptospirosis, a zoonotic bacterial disease transmitted through the urine of reservoir hosts like rodents and wildlife, poses a serious risk to dogs and their families^{5,6}. Dogs can contract leptospirosis through contact with contaminated, stagnant water sources in both rural and urban settings^{5,6}. The World Small Animal Veterinary Association (WSAVA) guidelines now consider this a core vaccine in regions where the disease is endemic and where implicated serogroups are known⁷. The ACVIM consensus statement recommend vaccination of all dogs, regardless of breed, because leptospirosis is a zoonotic disease, can be severe or fatal despite treatment, and exposure can occur regardless of age, geography or lifestyle⁶.

Dr Christine Griebisch, a researcher from the University of Sydney, School of Veterinary Science, studying the emergence of leptospirosis in New South Wales says the incidence of leptospirosis in Australia has grown significantly in recent years, with outbreaks reported in both urban and suburban areas.

"Since 2017, more than 36 cases have been confirmed in Sydney alone, while additional outbreaks have been observed in Newcastle and the Shoalhaven region⁵. Tropical areas, especially Far North Queensland and the Northern Territory, continue to see high case rates due to environmental factors and increased contact with reservoir hosts, making protection

against leptospirosis essential for all dogs across the country"^{5,8}. Agriculture Victoria have had 35 cases of canine leptospirosis reported between January 2017 until December 2023, including 10 cases in 2023 and unfortunately, 37% of these cases were fatal³. Veterinarians can now access Nobivac Lepto 2 in a 50-dose pack from major veterinary wholesalers, enabling veterinary clinics nationwide to protect dogs as young as six weeks, with a two-dose initial course followed by annual re-vaccination.⁴

For further information, please contact your MSD Animal Health Territory Sales Manager or call 1800 033 461 to speak to a Technical Services Veterinarian.

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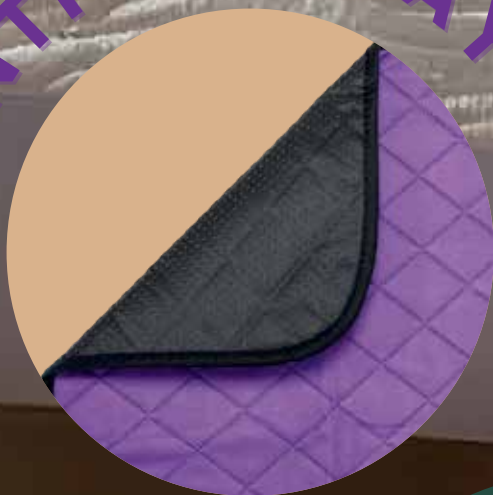
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Taronga Zoo 9-week-old Fiordland Penguin chick with mother penguin Dusky

Flippin' good news!

TARONGA ZOO SYDNEY ANNOUNCES WORLD-FIRST ZOO-BORN FIORDLAND PENGUIN CHICKS

Two Fiordland Penguin chicks in Taronga's zoo-based breeding program have reached fledging age in the only global breeding program for the vulnerable penguin species. Fiordland Penguins (*Eudyptes pachyrhynchus*), also known as Tawaki or Fiordland Crested Penguins, are listed as a threatened species and are endemic to New Zealand.

"Taronga's Fiordland Penguin colony consists of five adults all rescued from the wild and now exist as the world's only zoo-population. We are so privileged to look after, learn from and breed this vulnerable species", said Taronga Senior Marine Keeper Jo Walker.

"The Fiordland Penguin breeding program at Taronga is very important because of their vulnerable status in the wild. By being able to observe what they do in their burrows, how and what they feed their chicks is all ground-breaking information that has never been observed before".

"Through this zoo-based breeding program at Taronga, and with the help of CCTV monitoring, we continue to find out everything there is to learn about the elusive breeding and nesting behaviours of Fiordland Penguins in our care, which in turn helps their cousins in the wild", said Jo.

About Taronga's Fiordland Penguin family

Four of Taronga's Fiordland Penguins were found malnourished on Australian beaches and required treatment at Taronga's Wildlife Hospital. Another female joined Taronga's colony in 2017 after receiving treatment from Wellington Zoo's Veterinary Hospital for extensive wounds. To prevent potential spread of disease to the declining wild population, these five rescued penguins formed the world's first zoo-based breeding colony at Taronga Zoo Sydney, serving as an insurance population and providing significant biological and behavioural insight to guide conservation work for this vulnerable and illusive species in the wild.

Two breeding pairs formed in the Zoo's Fiordland Penguin colony, with Ed and Dusky pairing up and successfully hatching their first viable egg, and long-term partners Munro and Moeraki successfully hatching their second ever chick and raising it through to fledging age. In the 2023 breeding season, Munro and Moeraki hatched their first ever chick, which devastatingly passed away before fledging.

Parents share incubation duties over 31-36 days until the chick hatches, then continue parenting duties to feed and protect the chick in the nest. Following close monitoring, Taronga Marine Keepers recorded data throughout the breeding season, learning never-before seen behaviours that will continue to help in recovery programs for the elusive species.

As Munro and Moeraki's chick gains confidence and develops its swimming skills in the Zoo's Great Southern Oceans seawater habitat, the Marine Keepers expect Ed and Dusky's nine-week-old chick to remain behind-the-scenes in the zoo's breeding facility until it loses its down-feathers under the shelter and security of its nestbox across the coming weeks.

Guests to Taronga Zoo Sydney are best placed to observe the zoo's mixed penguin colony, inclusive of the five rescue adult Fiordland Penguins and the Little Penguin colony, at the daily 2:40pm Penguin Keeper Talk.

Taronga is not-for-profit, so every visit, donation, stay, or purchase is saving wildlife.

Taronga Zoo Sydney is open 9:30am-5:00pm. For more information about planning a visit to Taronga Zoo Sydney or to purchase your tickets online for up to 20% off.

For more information visit www.taronga.org.au



Above: Taronga Zoo Senior Marine Keeper Jo Walker feeding Fiordland Penguin breeding pair Ed and Dusky
Below: Taronga Zoo Fiordland Penguin female Dusky



ABOUT FIORDLAND PENGUINS

- Fiordland Penguins are a rare species of crested penguin, with a large yellow eyebrow stripe, with an estimated population of 2,500-3,000 breeding pairs remaining in the wild.
- They are generally secretive and do not form large colonies like other penguin species, instead nesting in remote caves, rock faces, and amongst tree roots in New Zealand's south-western South Island, including the Fiordland region for which they are named, Stewart Island, and several offshore islands. Outside of breeding season they travel across New Zealand, into deeper ocean, and occasionally as far as the Australian mainland as they forage.
- Threats including habitat destruction, introduced predators such as rats, stoats and ferrets, which prey on penguin chicks and eggs have had a detrimental impact on wild populations.
- Fiordland penguins also fall victim to becoming by-catch of the fishing industry and the accidental entanglement or digestion of litter. Single-use plastics may offer a moment of convenience however they will never break down, putting wildlife like the Fiordland Penguin at risk.



“

Baking pet treats, practicing bandaging, drawing blood, engaging in dog training workshops, performing CPR on specially designed vet models, exploring topics in animal welfare and conservation, visiting veterinary hospitals and wildlife centres and much more!

”

FUTURE VET KIDS CAMP: WHERE CARING FOR CRITTERS GETS REAL WITH EXCLUSIVE ANIMAL ADVENTURES!

If your child dreams of saving animals and isn't afraid of getting their hands dirty – quite literally – Future Vet Kids Camp might just be their perfect summer adventure! From squeezing anal glands to cleaning out squirmy worms and learning lifesaving pet first aid, this veterinary-inspired holiday camp is as real as it gets.

Future Vet Kids Camp is an exciting face-to-face and virtual school holiday program that encourages responsible pet ownership, the profession of veterinary medicine and a love and appreciation of all animals and their habitats!

The 5-day program is aimed at kids aged 9 to 16 years, designed by veterinarians and run by vet twins Drs Audrey and Alison Shen from the *Bondi Vet* TV show.

The Sydney Camp will be held at Waverley College in Waverley on Jan 6 - 10 and 13 - 17, 2025. A Virtual Online Camp will run concurrently to the HQ Sydney Camp with the ability for kids to join the classroom virtually and participate with questions in real time.

Once again, pet health company PetSure is awarding three youngsters a scholarship (valued at \$725) to attend the January 2025 face-to-face camp in Sydney!

“The program offers a peek into the fascinating, sometimes messy, but always rewarding world of veterinary medicine!” said Dr Audrey.

Campers will explore a wide range of animal-related careers, diving into topics like genetic disorders, pet nutrition, exotic animals, surgery, rescue operations and wildlife conservation. They'll also enjoy exclusive, behind-the-scenes tours of cutting-edge veterinary hospitals and take part in many exciting excursions.

The program also highlights a variety of veterinary specialties, including ultrasound, surgery, reptile care, grooming, dog training, animal rehabilitation, wildlife, marine biology and much more! Kids of all ages love the immersive, hands-on activities, said Dr Audrey.

“Baking pet treats, practicing bandaging, drawing blood, engaging in dog training workshops, performing CPR on specially designed vet models, exploring topics in animal welfare and conservation, visiting veterinary hospitals and wildlife centres and much more!” she said. “Our Junior Vets dive deeper, tackling real-life cases, analysing imaging and blood work, and observing surgeries. They get a genuine sense of what it's like to work in veterinary medicine.”

Dr Alison explained the camp isn't just for aspiring vets – it's for all young animal lovers!

"With the challenges of a veterinary shortage and the high dropout rates in vet school, early exposure like this can make all the difference in helping kids understand the realities of the profession," she said. "Whether or not they choose a veterinary career, the chance to connect with animals, learn from professionals and make lifelong friends has an incredibly positive impact on their confidence and resilience."

PetSure Scholarship open now!

Future Vet Kids Camp is proud to announce the 2025 PetSure Scholarship for three deserving participants to attend face-to-face camp. Deadline Wednesday, 11 December 2024. For more information, selection criteria and how to apply, please visit the camp website [here](#).

PetSure Chief Executive Officer (CEO) Alex Thomas said, "We are delighted to support Future Vet Kids Camp in 2025, marking our tenth year of partnership, by providing scholarships to three aspiring young students. This program offers campers a unique opportunity to explore animal health and the veterinary profession in a fun, engaging, hands-on environment."

"At PetSure, we believe in the importance of nurturing the next generation of veterinary professionals. Our long-standing commitment to enhancing pet health education and promoting the sustainability of the veterinary industry drives us to support unique programs like this, which lay a strong pathway for young animal lovers to deepen their knowledge and passion for animal care."

The Jan 2025 camp is anticipated to fill up just as fast as the last summer, so register now!

JANUARY 2025 REGISTRATION OPEN NOW!

FACE-TO-FACE CAMP DATES: JAN 6 – 10 & JAN 13 – 17, 2025

Location: Waverley College, Waverley NSW | Daily hours: 9am – 3:30pm | Cost: \$725

Virtual Online Camp runs Jan 5 – 19, 2025 | Cost \$265

For more information and to register online,
please visit <http://futurevetkidscamp.com>
or phone 0435 267 252.

MORE CAMPS AND LOCATIONS TO COME!

Future Vet Kids Camp will also run face-to-face and online (Virtual Camp) during the school holidays in Melbourne and Brisbane, dates to be announced.

Scan to register your interest [here](#).





“DON’T WAIT UNTIL IT’S TOO LATE”

VETS RAISE THE ALARM ON TICK PARALYSIS AS PEAK SEASON HITS

As Australia enters the peak of its paralysis tick season, the risk to pets has never been higher. Leading veterinarians urging pet owners to act now, emphasising that prevention is the key to safeguarding the lives of their beloved pets. Despite 81% of Australians recognising that a single tick bite can lead to paralysis or even death in dogs and cats, the number of cases continues to climb across the country¹

Dr Martine Perkins, Senior Veterinarian and Owner of Killara Veterinary Hospital is urging every dog and cat owner to prioritise paralysis tick prevention, especially to avoid an expensive and sometimes heartbreaking trip to the vet. “Tick paralysis is the most challenging disease we face as veterinarians,” says Dr Perkins. “Paralysis tick prevention is so important for cats and dogs, as a single paralysis tick can kill our pets. Many people think that tick paralysis is only a spring or summer problem but unfortunately, we see cases of tick paralysis all year round.”

Unique to Australia’s eastern seaboard, the paralysis tick, *Ixodes holocyclus*, poses a significant threat as the single most dangerous parasite for pets, capable of causing paralysis and even death.² “Although your vet will do everything they can to save your pet if it is affected by a paralysis tick, severe cases often result in days in the ICU on ventilators, and still, not all pets can be saved. This is not only a huge emotional toll on pet owners but also a financial one. Don’t wait until it’s too late - taking preventative action now is paramount,” Dr Perkins adds.

Australia’s peak paralysis tick season, which runs from August to March, is a critical period when these dangerous parasites are most abundant.³ Each year in Australia, it is estimated that at least 10,000 dogs and cats are presented to veterinarians for treatment.²

Sydney-based dog owner, Emilia Stagg’s experienced this firsthand when her labradoodle, Bronte, was bitten by a paralysis tick. “When the vet told us Bronte had been bitten by a paralysis tick, I was terrified. The treatment was intensive and costly, amounting to around \$5,000. Bronte was placed on an

intravenous drip for two days, receiving numerous treatments to combat the effects of the paralysis tick. Even after she was discharged, Bronte remained sore and needed plenty of rest to recover fully.”

“Now with excellent and long-lasting tick prevention products like BRAVECTO®, we can significantly reduce their risk. These modern products are very effective and have significantly reduced the number of cases of tick paralysis that we see coming into our hospitals.” Dr Martine adds.

To effectively minimise the risk of tick paralysis, pet owners are encouraged to address three key areas:

- 1. Preventative treatment** – Every at-risk dog and cat should have access year-round effective tick protection treatment. Pet owners need to be educated on how severe tick paralysis can be and how missed doses or inconsistent use of preventative treatments can have potentially fatal consequences.
- 2. Daily tick searching** – Inspecting your pets daily provides the best chance of finding a paralysis tick before severe symptoms develop. Use your fingertips to feel your pet’s coat. Start at the head and work your hands down to each paw, ensuring you check every fold and between each claw for any lumps. If you find a tick, consult your vet immediately so that they can identify the tick and advise on the best removal method and whether your pet requires veterinary attention.
- 3. Symptoms** – Dog and cat owners need to stay vigilant because death can occur if symptoms aren’t noticed quickly enough. Dogs developing tick paralysis typically show weakness of their back legs and a wobbly walk, which then progresses to total paralysis of all four legs. They may also regurgitate food due to weakness of muscles in their throat and oesophagus. Cats get agitated and develop an odd breathing pattern with a soft grunt as they breathe out. Weakness is typically less obvious to their owners, at least in the early stages.

PREVENTION IS CRUCIAL TO PROTECT DOGS AND CATS FROM THE LIFE-THREATENING EFFECTS OF TICK PARALYSIS DURING PEAK SEASON, WHICH OCCURS FROM AUGUST - MARCH.

THE FACTS:

- In a recent Australian survey, 35% of dog and cat owners have encountered a paralysis tick on their pet.¹
- The paralysis tick (*Ixodes holocyclus*) is the single most dangerous parasite for dogs and cats with just one paralysis tick bite capable of causing paralysis and even death.²
- Each year in Australia, it has been estimated that at least 10,000 cats and dogs have been presented to veterinarians for treatment of tick paralysis.³
- The Australian paralysis tick can be found in dense bushland and rainforest regions, typically on the East Coast of Australia, but can vary from region to region.⁴

THE SYMPTOMS:

Dogs developing tick paralysis typically show weakness of their back legs and a wobbly walk, which then progresses to total paralysis of all four legs. They may also regurgitate food and the sound of their bark may change due to weakness of muscles in their throat and oesophagus.

Cats get agitated and develop an odd breathing pattern with a soft grunt as they breathe out. Weakness is typically less obvious to their owners, at least in the early stages.

References

1. deciBel Research Consumer Survey, which was funded by Smith & Nephew, was conducted amongst 588 Australians in June 2024. Data on file. 2. Webster, M., Fisara, P. and Sargent, R. (2011) Long-Term Efficacy Of A Deltamethrin-Impregnated Collar For The Control Of The Australian Paralysis Tick, *Ixodes Holocyclus*, On Dogs. *Australian Veterinary Journal*, 89; 439-443. 3. Padula, Andrew. (2018). Tick Paralysis of Animals in Australia. *Clinical Toxicology in Asia Pacific and Africa* 10.1007/978-94-017-7438-3_65. 4. Brown, D., Edwards, H., Seaton, L. and Buckley, T. (2022) *Lewis's medical-surgical nursing: Assessment and management of clinical problems*. 6th Australian and New Zealand edn. Amsterdam: Elsevier.

PREVENTION IS KEY:

Pet owners should perform a daily tick search on their dog or cat using their fingertips to feel their pet's coat starting at the head and working their way down the body.

If you find a tick consult your vet immediately so that they can identify the tick, advise on the best removal method and whether your pet requires veterinary attention.

Avoid walking in or access to bushy or scrubby areas where paralysis ticks reside.

Prevention of tick paralysis is undeniably better than treatment, as treatment is not always successful. Dog and cat owners are urged to speak to their local vet about the latest, long-lasting prevention products for paralysis ticks as soon as possible.





PARALYSIS TICK - *Case Study*

Owner: *Emilia Stagg*

Dog Name: *Bronte*

Location: *South Turramurra, Sydney, NSW*

Emilia, a devoted pet owner based in Sydney, received a beautiful labradoodle named Bronte as a special birthday present for her 8th birthday. Over the years, Emilia and Bronte have built a close bond through daily activities like playing fetch, cuddling, and exploring the great outdoors on long bush walks.

One day after returning home from work, Emilia observed something unusual with Bronte. Usually full of energy, Bronte couldn't jump onto the couch as she usually did, especially when being provided with a treat. "I had just come home from work and was giving her a treat, but she couldn't jump on the couch like she normally would, and even fell down the stairs due to paralysis." Terrified, Emilia rushed Bronte to the vet, where she received shocking news that she had been bitten by a paralysis tick.

"When the vet told us Bronte had been bitten by a paralysis tick, I was terrified. The treatment was intensive and costly, amounting to around \$5,000. Bronte was placed on an intravenous drip for two days, receiving numerous treatments to combat the effects of the paralysis tick. Even after she was discharged, Bronte remained sore and needed plenty of rest to recover fully."

We believe Bronte may have picked up the paralysis tick during one of our regular bush walks. Fortunately, our other dog, Roxy, was not affected," Emilias adds. This experience left a lasting impact on Emilia. "It is so important to ensure that you give your dog's and cat's paralysis tick treatment on time and to also be aware of paralysis ticks during peak season," she advises.

"If you don't use paralysis tick protection on your pets, you might end up like us—nearly losing your best friend."

Emilia's story serves as a compelling reminder of the dangers posed by paralysis ticks and the critical importance of regular preventative treatments. Her experience highlights the necessity for vigilance, especially during peak paralysis tick season.

"When the vet told us Bronte had been bitten by a paralysis tick, I was terrified. The treatment was intensive and costly, amounting to around \$5,000. Bronte was placed on an intravenous drip for two days, receiving numerous treatments to combat the effects of the paralysis tick. Even after she was discharged, Bronte remained sore and needed plenty of rest to recover fully."





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Reference: 1. Summerfield N.J., Boswood A., O'Grady M.R., et al. (2012) Efficacy of pimobendan in the prevention of congestive heart failure or sudden death in Doberman Pinschers with preclinical dilated cardiomyopathy (the PROTECT study). *J Vet Intern Med*, 26(1):1337-1349.

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LIFE IN THE TROPICS

with dogs

Kerry Martin, *Puppy Tales*

For us, travelling around Australia with our dogs Keiko and Summer, the Top End and tropics present some of the most daunting challenges! While these regions are breathtaking and absolutely worth exploring, they feel a little intimidating—especially for someone from down south in Victoria. These areas seem filled with things that can make even the most prepared pet parent like me anxious, from the heat to wildlife hazards.

To better understand the realities of dog life in these environments, I reached out to the locals with dogs I've had the beautiful pleasure to photograph for my book projects while on the road to understand their firsthand insights and to share the "inside woof," if you will!

The Joys of Dog Life in the Tropics

Life in the tropics offers endless adventures for dogs and their humans, thanks to the sunny weather, stunning landscapes, and vibrant outdoor lifestyle. Caitlin from Townsville shares, "With over 300 days of sunshine each year, I don't think Chester realises how lucky he is living in sunny NQ!" It's a paradise for water-loving dogs like Chester, who would swim all day if he could.

The region boasts hidden gems for dog outings. Ziggy loves exploring Townsville's Palmetum Botanic Garden, while Elphi in the Atherton Tablelands enjoys trike rides and swims at Tinaroo Dam. In Darwin, the easygoing lifestyle allows for plenty of off-lead bushwalks and beach adventures. "Harlow, Scout & Chip love the off-lead walks through the bush," says Kristy. Over in Broome, Tex's routine includes bike rides on Cable Beach, where sunset walks and spotting shorebirds are highlights.

Across the tropics, the joy for dogs and their humans lies in the freedom, sunshine, and natural beauty waiting to be explored. And I'd have to agree of our time there!

INTRODUCING THE DOGS

Our travels have introduced us to many delightful dogs. From Townsville, we have Chester (German Pointer, 7), happiest when swimming—whether at the beach or in his grandpawrents' pool. He's joined by Ziggy Stardust (Kelpie, 2), a sassy rescue with '5G ears.' Rounding out the Townsville pack are Rottweiler siblings Azula (9) and Ozai (2), who embrace every moment with pure joy.

In the Atherton Tablelands, Elphi (Chihuahua x Dachshund, 2) loves soccer. Standard Poodles Pippin (4) and Merry (1) are called 'fluffy bedsocks'; Miss Merry's mischief, though, means her humans need to 'Merry-proof' the house.

Darwin's pack features Harlow (Groodle, 9), Scout (Border Collie, 6), Chip (Mini Labradoodle, 3), alongside Lucy (Rottweiler, 9) and Jackson (Labradoodle, 2). These therapy dogs from 'Mind Your Paws' bring joy to schoolchildren and the community. Mr Little, a 4-year-old Mini Foxie with a cleft palate, is small but unstoppable.

Finally, in Broome, we meet Tex (Kelpie x Huntaway, 6), known as 'Tail Up Tex.' With fabulous ears and cheeky antics, his raised tail is a sure sign that trouble's on the way!



LUCY



HARLOW, SCOUT & CHIP



AZULA



ELPHI



CHESTER



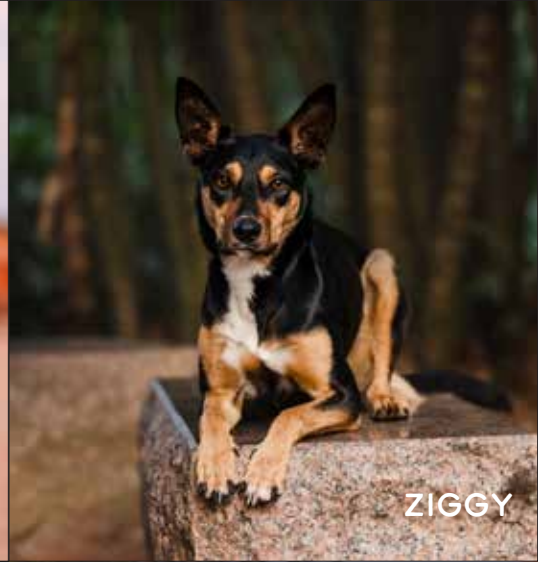
PIPPIN



MERRY



TEX



ZIGGY



OZAI



JACKSON



MR LITTLE

Challenges of Life with Dogs in the Tropics

Living with dogs in the tropics does indeed come with its share of unique challenges. The environment can be harsh, and pet parents must stay vigilant. Katie points out that for life with Azula and Ozai: “Ticks are a major concern. Mosquitoes are also an issue, so heartworm is a factor. Then, of course, you have snakes, spiders, and crocodiles.”

As we’ve identified, beach outings and swims are very popular for the dogs of the tropics, but as Caitlin explains, they require caution: “When out with Chester we try to be extra cautious during stinger season, which spans from November to May. Crocs, sharks, and jellyfish are also concerns when we venture down to the beach.” Even in backyards, hazards are present. Samantha shares her experience with Ziggy, a rescue dog new to the tropics: “We have a backyard full of uh uh’s. I had to quickly teach Ziggy that cane toads and snakes are not friends.”

The wet season brings its own set of worries. Sharon with Lucy & Jackson notes, “Infections flourish during the wet season. Be sensible and don’t let them wander off-lead through the bush or enter random bodies of water or mud puddles.” To cope with the tropical heat, Mel says, “We keep our poodles Phippen & Merry clipped short, and they spend their summer days sleeping in air-conditioning.”

Despite the challenges, local veterinary care is invaluable. Cate says, “We’re fortunate to have fantastic vets here in Darwin. It’s not a place for the faint-hearted, but our vets help keep our pets healthy.” With the right precautions and great support, dogs and their owners can thrive in the tropics.

Critters, Crocs & Climate: Navigating the Risks

One of the most nerve-racking aspects of life up north is managing the weather and coexisting with the local wildlife. They create a challenging environment for pet parents - whether locals or visitors.

Sharon shares “With Lucy & Jackson, heat stress is a big concern; I keep misting spray bottles in the car and always have ice blocks

ready.” Samantha adds that “Ziggy identifies as an indoor kelpie from the late dry season onwards; I give him ice blocks and doggy ice creams with treats inside.”

Crocodiles are a constant threat, lurking in unexpected places. Mel warns, “We are always wary when taking the dogs swimming in the northern regions because crocs have a bad habit of turning up in unexpected places.” Cate recalls a close call at Daly River, when Mr Little alerted them just as a 4-meter croc surfaced.

Snakes are another serious risk. Mel shares, “Eastern Browns are common in our area. We just got both Phippen & Merry insured after a recent close call in the backyard.” Cane toads also pose a hidden danger, as Sharon explains: “Cane toads have evolved—they can climb into a water bowl, making drinking from that, just as dangerous as if they were picked up.”

Preventive care is vital in such a demanding environment. Kristy emphasizes the importance of regular check-ups and monitoring: “I keep Harlow, Scout & Chip as healthy and fit as possible to help fight off any risks they may come up against. As soon as I notice they are not feeling right, they are monitored and taken to the vet.”

With vigilance and proactive care, dogs can safely enjoy the unique lifestyle the tropics have to offer.

Embracing the Tropics with Our Dogs

The tropics with dogs, whether living there or visiting, is an adventure unlike any other. It requires preparation, vigilance, and a good dose of precaution, but the rewards make it worth the effort. From the joy of off-lead bushwalks in stunning scenery and beach runs to cool off, the northern region offers an experience filled with both beauty and excitement for dogs, and the people by their sides.

As I’ve learned from the wonderful dogs and pet parents I’ve met along the way, the key to thriving in the tropics is embracing its unique rhythm — the early morning walks, daily tick checks, and respect of the wild surrounding environment. The support of dedicated veterinarians and the vibrant community of dog lovers make it possible to navigate the challenges and enjoy the lifestyle to its fullest.

Dogtography by: Kerry Martin, Puppy Tales Photography. Harlow, Scout & Chip love hanging out on the Darwin coastline.







INDUSTRY-LEADING VETERINARY LEARNING PLATFORM INTRODUCED TO AUSTRALIAN COLLEAGUES

OVER 450 HIGH QUALITY COURSES, PROGRAMMES AND WEBINARS NOW AVAILABLE ON DEMAND

CVS is making its market-leading *Knowledge Hub* platform available to its Australian colleagues – to give them access to over 450 veterinary and management courses, programmes and webinars on demand.

The online portfolio is categorised into disciplines, so that all colleagues - including vets, veterinary nurses, patient care assistants and receptionists – can access all of the training they need for their career growth and continued professional development (CPD).

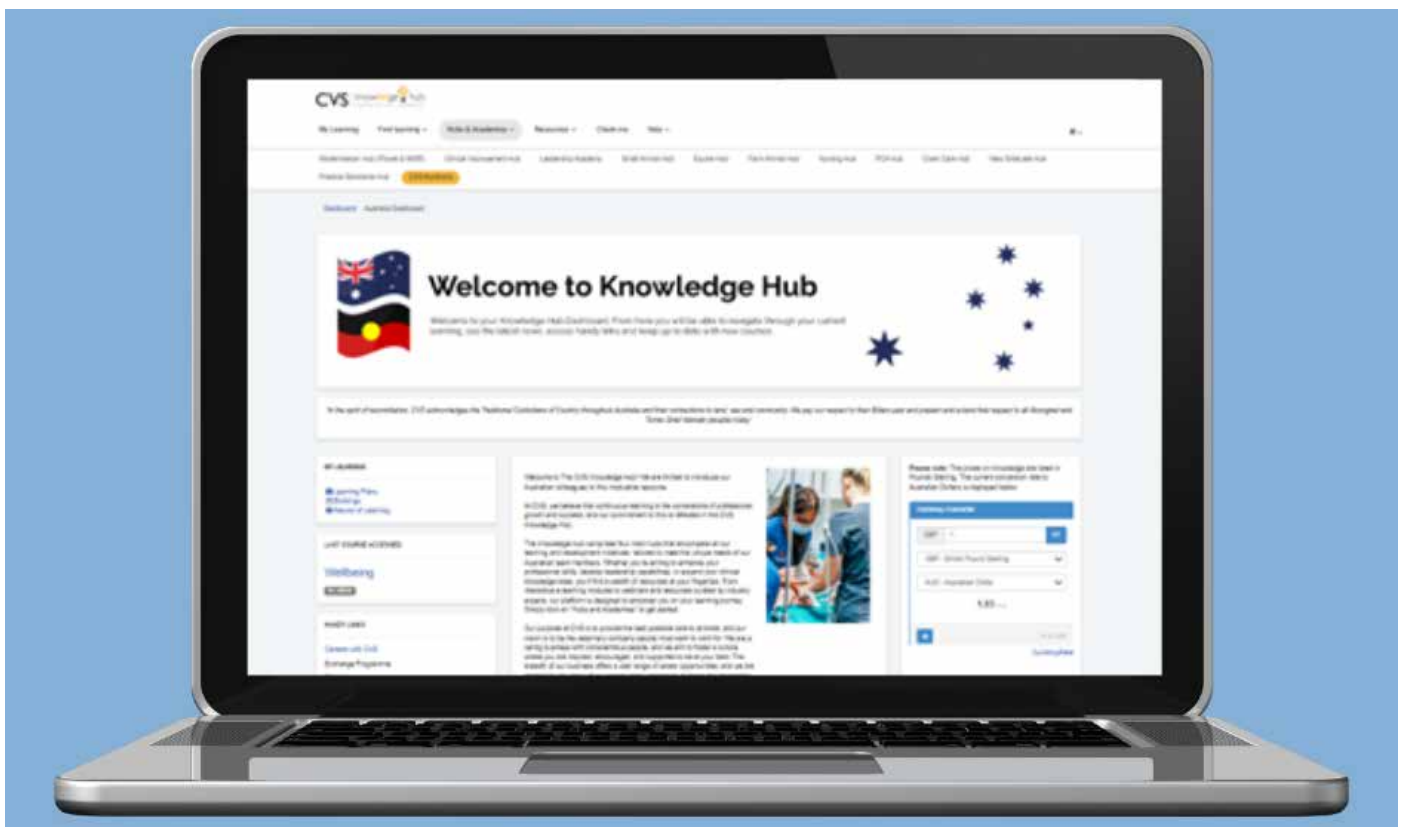
Available exclusively to CVS colleagues, *Knowledge Hub* training content is created by an in-house team of 35 people. It includes clinical courses across all species - including small animal, equine, farm and exotics. It also offers programmes to support patient care assistants and front-of-house staff - covering topics such as customer care, dispensing medication and infection control. Courses in leadership and management, along with coaching and mentoring, are also available to support and develop leaders and mentors across the profession.

To help colleagues find the right training for them at the touch of a button, CVS' *Knowledge Hub* also includes exclusive 'hubs' for small animal vets, nurses, patient care assistants, receptionists – where a library of peer-reviewed courses, training and support relevant to each role sits all in one place.

The format of *Knowledge Hub* courses ranges from hour-long 'bite-sized' learning to level 7 accredited certificates in leadership and management. Online format courses are designed for learners to complete in their own time at their own pace. All courses are as interactive as possible, with high quality assessment built in, to encourage reflective learning and progression of skills and knowledge – and to move away from the notion of meeting minimum CPD requirements as a 'tick box' exercise.

Nigel Stansbie, Head of Online Learning at CVS Group, said; "CVS invests heavily in learning to help support and encourage the development of our colleagues. Since *Knowledge Hub's* launch in 2017, we have built an enormous library of high quality content. Our Australian colleagues can now benefit from the wide variety, breadth and depth of CPD we have available."

CVS Group operates across small animal, farm animal, equine, laboratories and crematoria, with 500 veterinary practices and referral centres in the UK and Australia. In the last five years the company has invested nearly £80 million in its sites, facilities and equipment, in addition to industry leading training and support, to give the best possible care to animals. For further information on CVS Australia visit <https://www.cvsvets.com.au/>.



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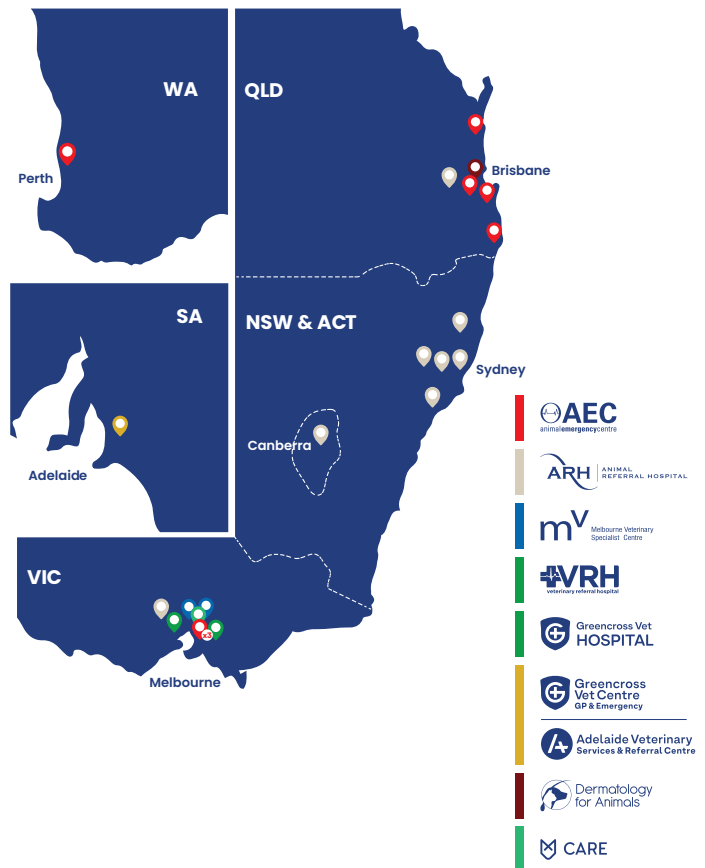
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Our Vet Nurse Advisory Panel:

- Guides education and career development
- Advances pet wellness, nutrition and dentistry
- Provides insights to improve our services
- Elevates your professional profile with marketing exposure

By joining us, you'll gain access to the broader Animal Referral & Emergency Network, which offers benefits such as paid parental leave, flexible work options, an industry-leading Continuing Education Program and mentorship from some of the most talented professionals in the industry.



Rhonda Ponder

AVN, RVN, DipVN(GP), DipVN(Surgery)

**National Learning and Development Manager for AREN (Secondment)
Surgical Nurse Team Lead, Adelaide Animal Emergency + Referral Centre (AAERC)
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Anaesthesia and Analgesia. My dream is to see Australian Veterinary Nurses celebrated as they deserve to be, with AREN practices providing the perfect environment for that recognition."

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RECIPIENTS OF THE 2024 CREDABL HELPING HAND GRANTS ANNOUNCED

SPECIALIST MEDICAL LENDER CREDABL IS THRILLED TO REVEAL THE FIVE RECIPIENTS OF THE 2024 CREDABL HELPING HAND GRANTS, AFTER RECEIVING OVER 350 HEARTFELT APPLICATIONS AND NOMINATIONS FROM MEDICAL, DENTAL AND VET PRACTICES AND THE HEALTHCARE COMMUNITY.

The judging panel comprised of Dr Patrick Aouad (Consultant neurologist, multi-business founder and the CEO of CU Health), Dr Cigdem Kipel (Director and Principal Dentist of Dental Boutique Sydney and Chatswood), and Beth McGuinness (Chief People Officer of Credabl).

Applications were judged based on their 150-word submission answering how a Helping Hand Grant could help their practice.

Stafford Hamilton, Credabl CEO and Co-founder, said, “This year’s Helping Hand Grants applications have been both inspiring and humbling for the judging panel. Each submission shared a story of remarkable resilience and dedication to community care—whether through unwavering support for their teams or ambitious plans for growth and innovation.”

“Selecting only five recipients was an incredibly challenging task; every applicant showcased passion, commitment, and a clear vision to make a meaningful impact. We’re honoured to support these exceptional medical professionals as they bring their visions to life.”

“Congratulations to all the recipients and thank you to everyone who applied or nominated a deserving practice. We’re excited to share our grant recipients’ stories with the broader community in the coming months.”

The 2024 Helping Hand Grant recipients are:

- Dr Apurv Mehrotra, Mobile Dental Services, SA
- Dr Yvonne McCartney and team, Menopause Health Geelong, VIC
- Dr Sam Kovac, Southern Cross Vet, NSW
- Dr Lentswe Rampa, Eli Waters Animal Clinic, QLD
- Dr Hari Menon and Dr Vilas Menon, Rockingham Dental Centre, WA

The 2024 Helping Hand Grants kicked off on 15 July 2024, designed to support practice growth and celebrate the incredible contributions healthcare professionals and their amazing teams make in their local communities. The grants are valued at over \$10,000 and awarded to up to five medical practices around Australia across the medical, dental and veterinary professions.

Each grant includes a \$5,000 cash incentive, leadership coaching valued at over \$4,700 from industry-leading providers including Prime Practice, Coaching for Doctors and VetFamily, \$500 towards a team celebration from Experien Insurance Services, 50,000 Qantas Points* for their business and access to EAP insights from CU Health.

ADELAIDE ANIMAL EMERGENCY CENTRE RELOCATES AFTER 35 YEARS

NEW CO-LOCATION WITH ADELAIDE VETERINARY SERVICES & REFERRAL CENTRE

After 35 years of dedicated service to the community's pets, the Adelaide Animal Emergency and Referral Centre (AAERC) is embarking on an exciting new chapter. The centre will relocate to a new facility and adopt a fresh name as part of this transition.

On 28 October, AAERC will close its current location to accommodate the construction of a new highway. It will open on 1 November as the Greencross Vet Centre in Norwood, ready to continue providing exceptional care to local pets.

The new Greencross Vet Centre will be co-located with the Adelaide Veterinary Services & Referral Centre (AVSARC) at 102 Magill Road, Norwood making it one of the only sites in South Australia offering a combined General Practice (GP), emergency and referral veterinary service.

"We're thrilled to be entering this new chapter with the opening of the Greencross Vet Centre in Norwood," says Di Whatling, Business Manager, Greencross Vet Centre.

"By co-locating our general practice, emergency and referral services at the same location, we're making it easier for pet owners to get comprehensive veterinary care without the need to travel between clinics."

The Norwood site will be expanded to accommodate both team members and equipment from the Kurralta Park location. This expansion ensures a more integrated model of care, offering pet owners easy access to routine check-ups, emergency treatment and dermatology services — all under one roof. The facility's enhanced capabilities will provide a comprehensive, round-the-clock solution to meet the growing needs of the veterinary community in Adelaide.

"We're excited to continue providing the highest level of care for local pets in this new, state-of-the-art facility, and look forward to serving the community for many years to come."

The new GP services will operate alongside the existing emergency care, ensuring clients continue to receive high-quality veterinary services.

Greencross Vet Centre is part of the Animal Referral & Emergency Network (AREN) - Australia's largest network of specialist and emergency sites with 23 locations across Australia.



NEW STUDY SHOWS AUSTRALIA MUST DO MORE FOR THE WELFARE OF HORSES IN RODEOS

A new research paper reinforces why Australia needs to do more to help safeguard the welfare of horses in rodeos by prohibiting the use and possession of electric prodders in all jurisdictions.

The peer-reviewed paper, *The use of electric prodders on rodeo horses in Australia: Regulatory inconsistency and potential illegality*, published in the University of New South Wales Law Journal Issue 47 Volume 3, highlights the potential illegal use of electric prodders on horses used in bucking events.

The paper is co-authored by Dr Di Evans, Senior Scientific Officer from RSPCA Australia, and compares the regulation and enforcement of the use of electric prodders in the thoroughbred horse racing industry with those in rodeos.

"We know inflicting electric shocks on a horse can cause significant pain," Dr Evans said. "This is why the use of electric prodders in horse racing is prohibited in all jurisdictions under animal welfare legislation... but the same cannot be said for rodeos." "Our research shows rodeo horses are exempt from these animal welfare protections in some jurisdictions." "The ACT is currently the only jurisdiction prohibiting rodeos on animal welfare grounds."

"The paper also finds that there is little evidence of monitoring for compliance of the regulations that cover rodeo events." "While rodeos continue, we need stronger and more consistent legislation to protect horses from the suffering caused by the use of electric prodders."

The paper recommends the legislative exemptions or defences that allow electric prodders to be used on rodeo horses in some jurisdictions be removed, and that possession of an electric prodder in the vicinity of a horse be made an offence in all Australian jurisdictions.

The RSPCA is opposed to rodeos because of the potential for significant injury, suffering or distress to the animals involved.

Public sentiment echoes many of the welfare concerns raised from this evidence-based research paper. A previous 2022 independent study commissioned by RSPCA Australia found 67% of the public were concerned or very concerned about the welfare of animals in rodeos.

The research paper is co-authored by Morgan Stonebridge (Deakin University), Di Evans (RSPCA Australia), Jane Kotzmann (Deakin University), and Andrew Mclean (Equitation Science International)

BRINGING HOME A NEW PET THIS CHRISTMAS? DON'T FORGET TO FACTOR IN THE COST OF PET INSURANCE!



MOZO'S LATEST PET INSURANCE REPORT ANALYSES 185 POLICIES FROM 32 INSURERS TO REVEAL THE AVERAGE COST OF COVER FOR DOGS AND CATS, YOUNG AND OLD, AND WHERE TO FIND THE BEST VALUE COVER.

With Christmas just around the corner, many Australians are likely preparing to welcome a new furry friend into their homes. **But while the excitement of adopting a pet brings joy, many new pet owners may be overlooking one important aspect of responsible pet ownership; the cost of pet insurance.**

Today Mozo's latest research report - Pet Insurance Price Check - sheds light on the often-overlooked cost associated with pet ownership and reveals how savvy comparison shopping can save pet owners hundreds of dollars each year.

"Whether it's a playful puppy or a cuddly kitten, the excitement of pet ownership is undeniable, and as Christmas approaches, many families are likely considering bringing home a new pet," says Rachel Wastell, Mozo's personal finance expert.

"However, a key cost that often gets overlooked is pet insurance, so before you start stocking up on toys and food, make sure you check how much you could be paying and what's covered."

Savings of up to \$948 a year could be on the table

Mozo's Pet Insurance Price Check report is based on the comprehensive analysis of 185 pet insurance policies from 32 providers and a nationally representative survey of 2,129 Australians.

Pet insurance can cover unexpected medical expenses, from accidents to serious health conditions, but policies and premiums can vary widely. The report reveals many Australians may be overpaying for their pet insurance, with potential annual savings of up to \$948 for dogs and \$335 for cats on offer, simply by switching to a better value insurance policy.

"Pet insurance is one of those essential protections for any pet owner. But our findings show that without shopping around, you could be paying more for a policy that provides similar or even less coverage than a cheaper alternative," says Wastell.

Key Findings from Mozo's Pet Insurance Report

Annual Savings for Dogs: Most pet owners could save over hundreds of dollars a year on pet insurance by comparing policies for popular breeds. However, owners of Rottweilers stand to save the most, with annual savings for a 5 year old Rottweiler reaching up to \$1,959 for those who switch from the average cost policy to the cheapest premium.

Annual Savings for Cats: Cat owners do not pay as much for pet insurance as dog owners, so savings are lower, but you can still save up to \$392 annually on pet insurance for a 5 year old Domestic Shorthair by switching from the average cost policy to the cheapest premium.

Wide Variation in Premiums: The cost of insuring a 1 year old dog averages out at \$113 a month, while a 5 year old dog costs around \$161 a month. Cats are much cheaper to insure, costing \$59 a month on average for a 1 year old cat, and \$77 a month for a 5 year old cat.

Higher Costs for Older Pets: The analysis revealed that older pets are much more expensive to insure, but there are significant savings on offer for switching to a better value policy, especially for breeds like Rottweilers.

Vet Bills: A Growing Financial Concern

Along with the analysis of pet insurance premiums and the savings on offer, Mozo looked into how much financial stress vet bills were causing.

According to a nationally representative survey of 2,129 Australians, 60% are struggling with vet bills, placing them in their top 10 most stressful financial expenses. Of those feeling stressed

by these bills, 48% admitted they feel out of control when it comes to managing their expenses.

"Pet insurance provides peace of mind, covering unexpected accidents and illnesses that would otherwise lead to hefty out-of-pocket expenses," says Wastell.

"However, many people view pet insurance as a 'set-and-forget' product, and this mindset can end up costing you hundreds of dollars more than necessary. By comparing multiple policies and closely reviewing the fine print, you can find cover that suits your needs without breaking the bank."

"If you're welcoming a new pet into your family this year, it's wise to secure pet insurance while they're still young. This can help lower your premiums and ensure coverage for any pre-existing conditions down the line."

Mozo Tips for Choosing the Best Pet Insurance

Compare Prices and Coverage: To ensure you're getting the best value, compare at least six different policies from various providers, the Mozo Experts Choice Awards winners list can act as a great starting point for price and quality comparisons.

Factor in Breed and Age: Breeds more prone to specific health issues can affect premium costs, and insurance for older pets tends to be significantly more expensive, so it's best to insure your pet while they are still young.

Look Out for Exclusions: Before committing to a policy, carefully review the inclusions and limitations. Look for waiting periods, breed exclusions, and conditions that are not covered. Understanding these details can help you avoid surprises later and ensure you have the necessary coverage.



DOG POOP COLLECTION PRACTICES SEND AUSSIE NEIGHBOURHOODS INTO A TAILSPIN ...BUT WAIT, THERE'S A SOLUTION!

What weighs more than three of the world's heaviest passenger aircraft, spans at least the distance from Sydney to Brisbane if lined up end to end...and stinks to high heaven?

Answer: the estimated total amount of poop being produced by Australian dogs each day, with new reports suggesting Australia's dog poop collection culture needs an overhaul.



Recently, Gold Coast City Council revealed that it spent about \$720,000 supplying 12.8 million plastic poop waste bags and servicing 274 bag dispensers during 2022-23. This contributed 23 tonnes of plastic waste into landfill and the environment, despite it being home to less than 69,000 registered dogs.

While a separate CQUniversity study has revealed Aussie dog poop collection habits vary widely, with 71% of owners reporting their dog produces one to five Bunnings sausages worth of poop daily, yet less than one-third are picking it up with the same frequency.

Keen to understand more about the impact of all this poop on our neighbourhoods, home to more than 6 million dogs, Canberra mum, dog lover and entrepreneur Rachel Hawes extrapolated the results to find a whopping 900km long poop sausage is being produced by Australian dogs every day, and that's a conservative estimate.

"Other studies have shown the average weight of poop excreted by dogs daily is 340 grams, which adds up to a staggering 2040 tonnes - more than the weight of 3 commercial airliners," she said.

With dog poop well known to harbour bacteria and parasites*, Rachel said immediately disposing of the waste significantly lowers the risk of spreading disease to humans and other animals...but also the risk of stepping in squishy brown landmines.

"So whichever way you look at it, dog poop is a big problem in our communities that needs to be well managed, or it can have large environmental, health and financial consequences," she said.

Education and proper equipment are key to behavioural change

Tired of the daily dog poop dodge, Rachel is now on a mission to help more dog owners do the right thing and hopefully curb collection costs for ratepayers, through her new all-in-one poop disposal invention called the Pupoon.

Lightweight and odour-resistant, the Pupoon has an airtight chamber and a built-in bag dispenser that attaches to a dog's lead like a cocoon. It fully equips dog owners to be self-sufficient and dispose of their own pet's waste when out in public places.

"I've always wondered why there's such a reliance on councils to manage dog waste at great cost to ratepayers, when there's a simple and more convenient solution like the Pupoon," Rachel said.

"There has been an issue with ordinary dog poop bag dispensers only doing half the job and leaving you carrying stinky plastic bags until you can find a rubbish bin, which isn't always easy," Rachel said. "But now a Pupoon can take care of the whole pick up and disposal job, regardless of where your dog chooses to poop – on the beach, at the park, on the footpath or a neighbour's lawn."

Awarded an ACT Government innovation grant, the Pupoon fits standard biodegradable poop bag rolls available from pet stores. It is also much cheaper than a council fine for failing to carry adequate equipment or to pick up after your dog.

For dog owners interested in how their poop collection practices compare with others, the CQUniversity study of 1,054 participants, called 'What Australians do with their dog poo? A survey of dog-owning household practices and attitudes', found 331 owners pick it up daily, 293 'a few times a week', 203 'about once a week', 26 'once a month, and 57 said 'never'.

Interestingly, a further 98 said they pick it up 'before mowing the lawn', 74 said 'when it becomes a nuisance', 73 said 'before visitors come over', and 30 when they 'remember'. The survey also revealed 41% of dog faeces are 'always or usually' produced at home, 51% 'sometimes at home/sometimes away from home', and the remainder 'always away' from home.

The Pupoon is now available for purchase online at <https://pupoon.com/>

Pupoon inventor Rachel Hawes and dogs





SECURING THE FUTURE OF AUSTRALIA'S VETERINARY PROFESSION

Veterinarians are an essential part of Australia's biosecurity, public health, animal welfare, and food security.

The Australian Veterinary Association (AVA), the nation's peak veterinary body, has 5 key priorities for investment and support to ensure the sustainability, resilience, and growth of Australia's veterinary sector.

In their essential role safeguarding animal health, veterinarians support a robust food supply, protect animals and communities from emergency animal diseases and help foster deep human-animal bonds that enrich communities. However, mounting pressures on the profession mean targeted action is urgently needed to address workforce shortages, mental health challenges, and provide funding for expected public good services.

"Veterinarians are essential to the fabric of Australian communities," said Dr Sally Colgan, President of the AVA. "We support the health of 28 million pets and Australia's iconic wildlife; we ensure food security and biosecurity, and we underpin the nation's multi-billion dollar livestock industries. To continue providing these critical services, our profession needs urgent, targeted support."

AVA's 5 Critical Priorities for the 2025 Federal Election The AVA's 5 election priorities help tackle the profession's immediate challenges and lay the groundwork for a thriving, future-ready veterinary sector. They include:

AVA FEDERAL ELECTION PRIORITIES

1. **Robust Workforce** - \$5.76 million/year Australia faces a critical shortage of veterinarians, especially in regional areas. The AVA calls for a \$5.76 million annual Commitment to Rural Practice Scheme to forgive HECS-HELP debt for veterinarians, along with expanded rural subsidy schemes to attract and retain professionals where they are needed most.
2. **Mental Health for Vets** - \$2.1 million/year Veterinarians face some of the highest rates of mental health issues across professions, with limited industry-specific support. A \$2.1 million annual investment in mental health and wellness programs tailored to veterinary professionals will help vets build the resilience they need to continue serving their communities.
3. **Funding for Public Good Services** - \$7.5 million/year Vets contribute to wildlife care, biosecurity surveillance, and natural disaster response with minimal government support. The AVA seeks \$7.5 million annually to establish a national wildlife treatment fund and expand surveillance programs, offsetting the financial strain on veterinary practices that deliver public benefit at no cost.
4. **Training Tomorrow's Vets** - \$9.5 million/year Meeting community needs means investing in the future. The AVA seeks \$9.5 million/year to include veterinary students in the Commonwealth Prac Payment scheme and an increase in university funding by at least 30% per-student, ensuring the veterinary workforce is equipped to support Australia's food safety and biosecurity demands.
5. **Upholding Animal Health and Welfare** - \$5 million/year To protect Australia's world-class animal health and welfare, a \$5 million annual investment in a national veterinary antibiotic usage and resistance surveillance system. Incentives for livestock producers to engage veterinarians will further bolster biosecurity and welfare standards, securing Australia's social licence in local and global markets.

"The AVA's 5 Federal Election priorities underscore the essential role veterinarians play across our communities and in our industries," said Dr Colgan. "By investing in these initiatives, we can strengthen the profession's ability to meet Australia's growing demands for animal care, public health, and food security, and support our veterinarians so that they can continue to support us."

INSIGHT INTO CANINE AND FELINE ORAL HEALTH



UNVEILING THE MYSTERIES OF CLINICAL ORAL PATHOLOGY

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The oral examination in the dog and cat is a process of observing both normal and abnormal. An oral examination should be an integral part of any wellness examination. It is essential that the veterinarian perform a whole body examination prior to examining the head and neck region. A thorough oral examination involves four parts. 1. Review the current oral problem(s) by asking questions and listening carefully to the owner's responses as well as gaining a thorough medical/dental history. 2. An extraoral examination to visualise and palpate the head and neck regions in the awake patient. 3. An intraoral examination in the awake patient. 4. Examine the patient's oral cavity under general anaesthesia. The process should record observations.

One of the most common clinical signs is inappetence or anorexia, and whilst this can be associated with systemic diseases, such as renal failure, it can be due to a dental or oral cause.

There are many oral conditions that have clinical signs: periodontal disease is seen most frequently, as well as tooth resorptions in the cat, followed by tooth fractures with or without pulp exposure, gingival recession and inflammation of both the gingiva/mucosa and oropharynx.

Another commonly reported symptom of oral disease in pets is halitosis, due to severe periodontal disease. Other causes of halitosis include oral neoplasia, pharyngitis, renal failure, stomatitis, gastrointestinal problems, foreign bodies, and oronasal fistula.

Review of Medical and Dental History

The collection of a thorough history prior to direct oral examination is important in the process of reaching an accurate diagnosis. A medical history, a list of current medications and the patient's signalment; in particular the cat's breed, sex and age, should be collected

General Physical Examination

The general physical examination including the extraoral examination, should comprise the second part prior to checking the mouth. The general health check should include:

- Eyes, ears, thyroids, skin, heart, lungs, abdomen, lymph nodes, joints whilst all systemic areas may give clues on current oral disease as well as being important if the pet requires a general anaesthetic for diagnosis or treatment
 - Suborbital and ventral mandibular swellings or draining fistulas may be due to periapical infection (apical periodontitis)
 - Heart murmurs / liver disease / kidney infections can be associated with advanced periodontal disease
 - Joint swelling or inflammation and arthritis may be worsened with periodontal disease
- Examine the skin for lesions adjacent to the lips for pyoderma, around the tail base for flea allergy dermatitis, which following chewing of the hairs can lead to abrasion of the teeth or ulcerations related to eosinophilic pathology
 - Compare the left and right side of the head and face for symmetry, in particular pay attention to the face (especially the facial and zygomatic arches) and the temporomandibular joint by opening and closing the mouth. Palpation of the face may identify any diffuse swelling, atrophy or fixed or mobile masses. A periapical abscess or draining sinus following tooth fracture and pulp exposure may be evident as a swelling or sinus, whilst a jaw fracture may show as inability or reluctance to open and close the mouth or present a clicking/popping noise from the temporo-mandibular joint.





Figure 1



Figure 2



Figure 3

- Smell the pet's breath checking for halitosis, which may be caused by periodontal disease, malocclusions leading to trauma, neoplasia, periapical abscesses, faucitis and stomatitis, systemic diseases like renal failure or diabetes
- Nasal discharges which have been associated with tooth root abscess and periapical abscess
- Sub-orbital medial skin adjacent to eye – periapical abscess
- Palpation of both mandibular salivary glands beneath the skin of the ventral neck. The 3 other major salivary glands are either too diffuse to palpate easily (parotid, sublingual glands) or are deep to the zygoma (zygomatic gland). The mandibular lymph node is difficult to palpate in the cat compared to the dog. If enlarged, it will be rostral and slightly lateral to the mandibular salivary gland. Cats also have four molar salivary glands, one of which, the lingual gland, is located in the oral cavity in close proximity (linguodistal) to the mandibular 1st molar in the cat. Occasionally this gland can become enlarged and be traumatized.
- Palpation of the muscles of mastication for any swelling or atrophy
- An examination of temporomandibular joint function looking for any restricted range of opening, pain, and inflammation. The mouth should be opened and closed without any difficulty in a compliant cat. Any deviation of the mandible or abnormal movement may indicate pathology close to the joint (s) or separation of the two mandibles at the symphysis.

Awake Oral Examination

The third part of the oral examination requires visualization of the oral cavity and the internal structures whilst the patient is awake. This is nearly always performed in

the examination room.

The following is a good list:

- Does the pet have a scissor bite or a malocclusion?
- Do the incisors line up?
- Canine occlusion – base narrow or any trauma to the hard palate?
- Premolar relationship
- Carnassial relationship- any traumatic occlusion and gingival irritation?
- At this stage it is a good time to show the client the maxillary cheek teeth
- Count the teeth: does the kitten have 26? Puppy 28? The adult cat 30? Adult dog 42? When you are counting the teeth observe extra (supernumerary) and missing teeth.
- Observe individual tooth position
- Are there any crowding or other malocclusions?

Inspection of the intraoral structures should follow, including the hard and soft tissues with the focus on the dentition, gingiva, mucosa, tongue, hard and soft palates, floor of mouth, tonsils, and occlusion.

There can be variable amounts of plaque and calculus present, although generally, the degree of plaque and calculus covering the tooth surface, doesn't equate with the severity of the disease. There may also be areas with gingival recession, furcation exposures (in multi-rooted teeth) or purulent discharge from periodontal pockets. Any inflammation/ulceration that appears to be localised to one area of the mouth, any soft/hard tissue lesion found in the oral cavity, especially where no known cause can be found, should be biopsied.

- Examine the mucosa and gingiva for colour, normal is coral pink, moistness or dehydration, any ulcerations or inflammation
- Examine the dorsal surface of the tongue to look for any ulcerations on the lateral margins or ventral

surface? If possible, push a finger under the chin into the ventral mandibular space, push the tongue upwards and view its ventral surface for inflammation, foreign bodies like string, ulcerations, and neoplasia. The tongue should be normal in size, shape and consistency and resist being pulled out of the mouth.

- Evaluate and observe the hard palate, especially the incisive papilla, rugae folds, start of soft palate
- Observe the salivary papillae for normal openings or inflammation
- Examine the oropharynx and note any changes to the tonsils, palatine arches, oropharynx, soft palate for any inflammation, stomatitis, ulcerations
- Open and close the mouth observing normal movement of the temporomandibular joints and ability of the masseter and temporalis muscle to close the mouth. Is there any pain, clicking noises or unusual resistance to opening or closing?

Anaesthetised oral examination

The fourth part of the oral examination is to examine the oral cavity under general anaesthesia and record observations/ findings on a dental chart/medical record, www.vetdentalcharts.com. A preoperative assessment of systemic health and level of anaesthetic risk is essential prior to this examination. It is important to include preoperative blood work (including haematology and biochemistry, T4 levels), urine analysis and possibly chest radiographs. Peri-operative intravenous fluid therapy, patient monitoring including core temperature and gaseous anaesthesia with airway protection using a cuffed endotracheal tube should be a minimum standard when performing this intraoral exam.

Equipment required for a detailed intraoral examination include a good light source, use of magnification, essential diagnostic



Figure 4



Figure 5



Figure 6

tools such as periodontal probe/explorer and dental radiography, a lip retractor, a throat pack, plastic mouth gag. It is advisable that the clinician wear protective eyewear, mask and examination gloves to assess the oral cavity.

After intubation you should closely evaluate the soft tissues including the tongue, gingiva, mucosa and oropharyngeal areas. Then move onto the hard tissues including maxilla, mandibles and finally the dentition as a whole and then individually including missing and rotated teeth, fractured teeth. An assessment of periodontal health is then made including probing depths (up to 6 probing points per tooth), gingival

recession and hyperplasia, mobility, furcation involvement and other oral pathology should be recorded on a dental chart. Charting not only records the current state of the dentition and soft tissues of the oral cavity, allowing the formulation of a treatment plan, but also provides a permanent record for future comparisons. It also provides a legal defense if treatment options require justification either directly with the owner or in a court of law.

A dental chart thus forms a part of a comprehensive oral health assessment and treatment protocol (COHAT). There are now electronic versions of dental charts available, www.vetdentalcharts.com

Items to Include in the Dental Chart and Medical Record



- Signalment: age, sex and breed
- Whole body examination, medical and dental history findings
- Oral examination findings
- Anaesthesia and surgery monitoring log and surgical findings
- Any dental, oral, or other disease(s) currently present in the pet
- Abnormal probing depths (described for each affected tooth)
- Dentition chart with specific abnormalities noted, such as discoloration; tooth wear; missing, rotated, or fractured teeth; supernumerary, tooth resorption; and soft tissue masses
- Current and future treatment plan, addressing all abnormalities found. This includes information regarding initial decisions, decision-making algorithm, and changes based on subsequent findings
- Recommendations for dental homecare
- Any recommendations declined by the client
- Prognosis
- Any review appointments required



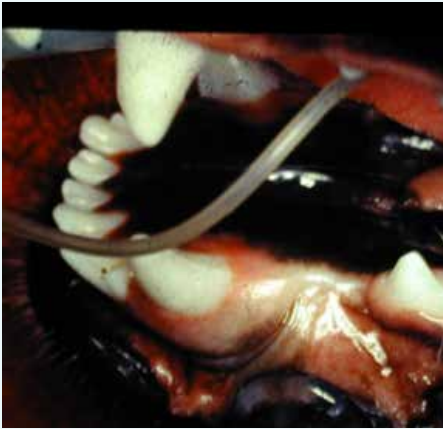


Figure 7



Figure 8



Figure 9

A similar examination that was performed in the awake patient is repeated in the anaesthetised patient, although in much greater and thorough detail.

- Count the teeth: kitten 26, puppy 28 and adult cat 30, adult dog 42, look for supernumerary teeth (SUP) and missing teeth (O) and record them on the dental chart
- Examine the mucosa and gingiva for colour, normal is coral pink, moistness or dehydration, any ulcerations or inflammation
- Examine the dorsal and ventral surface of the tongue, floor of mouth, lingual frenulum, salivary duct openings under tongue, distribution of papillae on surface of tongue
- Evaluate and observe the hard palate, especially the incisive papilla, rugae folds, start of soft palate
- Observe the salivary papillae for normal openings or inflammation

- Examine the oropharynx and note any changes to the tonsils, palatine arches, fauces, soft palate for any inflammation, stomatitis, ulcerations
- Open and close the mouth observing normal movement of the temporomandibular joints and ability of the masseter, pterygoids and temporalis muscles to close the mouth.

Individual tooth examination is performed after the whole mouth has been evaluated. Initially the space where the tooth occupies is observed to confirm the adult tooth is present, the adult tooth is absent, or a deciduous tooth is present. The important observations pertaining to each tooth include: plaque accumulation (PI), calculus accumulation (CI), gingival index and gingival inflammation (GI), measure measurement of the periodontal sulcus or pocket (measured in millimetres) and any pathology of the tooth crown and root including abrasion (AB), attrition (AT), furcation exposure (F), mobility

(M), malocclusion (MAL), pulp exposure (PE), persistent deciduous teeth (RDT), supernumerary teeth (SUP), fractures (#), resorptions (TR). These are then recorded on the dental chart.

Conclusions

Oral examination involves the systematic gathering of information including any symptoms or signs of oral disease, a dental and medical history prior to a thorough whole body and oral examination in the awake patient and then a complete examination of the anaesthetised patient.

Veterinarians will then need to decide whether treatment will be performed under the one anaesthetic episode in consultation with the owner, or whether the pet is woken up and a presentation to the owner of clinical findings, costs and prognosis associated with any treatments. Future treatment(s) can then be scheduled.



Legend

Figure 1. Healthy mouth in a dog. Note clean white teeth, pink gingiva and mucosa which is tightly contacting tooth surface.

Figure 2. Early stage 1 gingivitis (periodontal disease) in a dog. Note the gingiva margin is slightly red. There is also calculus accumulation on the teeth.

Figure 3. Stage 2 gingivitis (periodontal disease) in a cat. Note the gingiva is red, inflamed and swollen. There is also calculus accumulation on the teeth.

Figure 4. Gingival enlargement in a Boxer dog. Histopathology confirmed gingival hyperplasia.

Figure 5. Stage 3 periodontitis (periodontal disease) in a dog. Note gingival recession with approx. 25% loss of alveolar bone, accumulation of calculus and inflamed red, swollen gingiva.

Figure 6. Stage 4 periodontitis (periodontal disease) in a dog as demonstrated by the deep periodontal pocket adjacent to the mandibular 3rd incisor indicating greater than 75% bone loss.

Figure 7. A missing 1st premolar tooth on the left mandible of a dog. Differential diagnosis include impaction, absence, retained root (lost crown) or previously extracted.

Figure 8. Enamel hypoplasia of a left maxillary canine tooth in an Akita breed dog due to a genetic inheritance.

Figure 9. Enamel dysplasia on the buccal side of the left mandibular canine secondary to trauma from extraction of the deciduous canine tooth.



NECESSITY TO INNOVATION: BOOSTING PET FOOD BOWLS AND HEALTH WITH MEAL TOPPERS

'A HAPPY, HEALTHY DOG IS A VITAL DOG, AND ALL DOGS DESERVE TO BE VITAL DOGS'

They say necessity is the mother of invention, and that certainly holds true for Queensland wellness professionals Adam and Alana Hamilton, who created VITAL DOG — a new line of functional food supplements for dogs — to help out with their dog Nala's health struggles and promote her healthspan.

With pets increasingly considered a special part of the family, Adam and Alana treat their 4-year-old Rottweiler with the same care and dedication as their own health. Alana is a naturopath and Adam is a certified nutritionist of both the human and canine variety.

"While we wish our dogs could live forever — or for at least as long as we do — sadly, that's not the case. But while they are with us, we want them to live their best lives," says Adam. "For us, VITAL DOG encapsulates all of that!"

"We've had Nala since she was a puppy, and she struggled for over a year with stubborn ear infections, plus incurred a shoulder injury from doing zoomies on the deck — classic Nala!" exclaims Adam. "Our vet prescribed medications, but the results were mediocre, and the side effects like digestive issues and a lull in her mood made us uneasy. We also couldn't find any supplements that quite met our standards for what we're happy to feed to Nala. That's when we thought, why not create something ourselves to support her healing naturally?"

Tapping into their expertise in health sciences, Adam and Alana developed an all-natural, nutrient-rich food supplement in their own kitchen specifically for Nala. Within four weeks, they saw amazing improvements in her health, sparking the vision for VITAL DOG!

"Nala's ear scratching and head shaking reduced significantly and her limp began to fade. Within 8 weeks, she was completely symptom-free — her mood improved, her coat shone brighter, and she was more energetic than ever!" says Adam.

Functional meal toppers complement balanced pet diet

Nala's veterinarian, Dr Che Phillips, was equally impressed by the remarkable transformation, highlighting how functional supplements or 'meal toppers' can complement a balanced pet diet.

"Although there are many readily available nutritionally balanced diets out there, certain 'functional' ingredients may be absent in our pets' diets," explains Dr Che. "For instance, probiotics offer a range of health benefits not only to the gastrointestinal system but many of our other body systems, and even our mood. Meal toppers can also contain immunomodulating ingredients, which may help with chronic health conditions like skin allergies."

Also, like humans, not all dogs are the same nor thrive on the same diet.

“As humans, we might take magnesium for muscle cramps or vitamin C when we feel a cold coming on,” she adds. “Our dogs don’t get the choice to reach for supplements that they need. A meal topper therefore may have the potential to address some of the individual and varying nutritional needs of our canine companions.”

While VITAL DOG may help address some of the unique nutritional needs of our dogs, it’s crucial to recognise when your pet’s needs may require veterinary attention.

“If you feel like your dog is not at the peak of their performance or health, then it is strongly advised to seek veterinary consultation,” says Dr Che. “Supplements like VITAL DOG may complement what your vet prescribes or be an option when no obvious treatable or serious cause is identified and your pet is simply having a few niggling and/or chronic issues, or you would like to supplement their current diet for their overall wellbeing.”

Why VITAL DOG?

All-natural and Australian made and owned, VITAL DOG meal toppers supports up to 8 key areas of canine wellness, including gut health, allergy and itch support, joint mobility, dental hygiene, general vitality and more.

VITAL DOG supplements are also supaw easy to sprinkle over your dog’s food each day, promoting canine wellness and longevity.

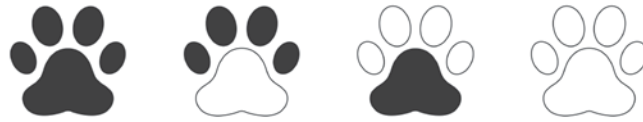
“Many owners have fussy dogs that may reject overly-processed supplements which contain unnecessary and unnatural additives,” says Adam. “Dog parents who participated in our pre-launch feeding study gave VITAL DOG meal toppers a perceived enjoyment rating of 95%!”

Here’s what’s on the menu:

- **VITAL DOG Multi-Benefit Wellness Blend:** The many-in-one, comprehensive wellness and longevity formula that supports the most vulnerable areas of a dog’s health as they age.
- **VITAL DOG Advanced Gut Health:** Packed with 5 billion live probiotics in a 4 gram serving, along with prebiotics and gut-nourishing compounds, this product promotes digestive health and enriches the microbiome.
- **VITAL DOG Advanced Allergy & Itch:** Formulated with targeted probiotics and anti-inflammatory ingredients, this topper contributes to the alleviation of discomfort and irritation caused by allergies, supporting skin, ear and paw health.

Free from synthetic vitamins, fillers or artificial flavours, and available in eco-friendly, recyclable tin packaging. Fetch some at <https://vitaldog.com.au> for a pawsitively great price of \$54.99.





DIAGNOSTIC TOOLS UTILISE AI TO REVOLUTIONISE INDUSTRY

THE AUSTRALIAN VETERINARIAN MAGAZINE SPEAKS TO ABHAY NAYAK (PRESIDENT, GLOBAL DIAGNOSTICS AT ZOETIS), AND MICHELLE LARSEN (HEAD OF MEDICAL PLATFORMS, CLINICAL STUDIES AND MEDICAL EDUCATION, GLOBAL DIAGNOSTICS).



Michelle Larsen

How has the veterinary diagnostics field advanced in the last 5-10 years, and what has driven this?

Two major drivers behind advancements in diagnostics are the expectations of pet owners, and the increasing emphasis placed on the human-animal bond. Owners are progressively seeking faster access to information about their pets.

Combined with the rise of digital applications and artificial intelligence (AI) technology, this presents new opportunities to create a more seamless diagnostic experience for both pets and their owners.

What inspired the development of this product, and how does it address gaps in the diagnostic market?

Our new cartridge-based, AI-powered haematology analyser, Vetscan OptiCell™, was inspired by the unmet needs of the profession, and our beloved pets. Since the pandemic, veterinary services are in high demand, but as we know, vets and veterinary staff are in limited supply. Diagnostic equipment needs to leverage technological advances so that it's easier to use and more reliable – in turn, reducing the burden of busywork from staff and allowing health teams to spend more time with patients and pet owners.

At the same time, diagnostic test results must provide an accurate picture of the pet's health. Thanks to its innovative cartridge-based design and AI technology, OptiCell provides valuable quantitative CBC data, helping to meet all of these needs, particularly when paired with a blood smear – delivering a complete haematology picture.

Can you explain the significance of the cartridge system, and the technology behind it?

Viscoelastic focusing (VEF) is a proprietary microfluidic technology that enables the cartridge-based design. The cartridge eliminates the need for high maintenance reagent packs, a standard option available on market today. It allows for the cells to be analysed in a more natural 3-dimensional-like state, eliminates the need for maintenance of instrument

cleaning, running a blank, regular quality control of materials and calibration – as all reagents and the sample are contained within the cartridge instead of having the liquids flowing through the device and internal quality monitoring system with every sample run.

How does the AI component work to enhance the accuracy and speed of blood analysis compared to traditional methods?

The expert-trained AI algorithms enable the counting of hundreds of thousands of cells using hundreds of cellular parameters in a matter of minutes. Traditional methods are based on just one or two cell characteristics, such as size, and therefore are subject to misclassification or miscounting of cells.

Abhay Nayak

What does this new tool mean for animal healthcare and the diagnostics landscape?

The modern veterinary practice must balance the challenges of managing increased pet owner expectations with high demand, while operating under greater labour constraints. Vetscan OptiCell transforms haematology from an intensive diagnostics modality to a “plug and play” approach, that will simplify the diagnostics experience for practices and staff. This will allow veterinary teams to spend more time with patients, in turn, improving and elevating the care provided.

How do you envision this analyser will fit into veterinary practices, and what are its primary use cases?

The analyser will seamlessly fit into veterinary practices, due to the fact it provides accurate and reliable complete blood count (CBC) results with a much more streamlined workflow. By making it easier to conduct diagnostic testing at the point of care, we can support veterinary practices to achieve higher standards of care, as well as provide pet owners and patients with timely results.

Benefits you've highlighted include meaningful time, cost and space savings for veterinary care teams – can you elaborate more on this?

In terms of space, the dimensions of Vetscan OptiCell are much smaller than traditional haematology analysers. In addition, by moving to individual cartridges, we are shifting away from using

reagent fluid packs which require substantial storage capacity. Freeing up space is critical to the vet practice to streamline workflows, while contributing to a safe and pleasant work environment.

When looking at time savings, the analyser reduces maintenance and calibration requirements. As such, veterinarian technicians have more availability in their schedule to focus on more critical components of the care experience.

And turning to cost savings, by reducing waste through shifting to individual use cartridges practices can be more cost-effective – avoiding the use of large packs that may not be fully utilised by the time of its expiration. Furthermore, there are substantial indirect cost savings from reducing maintenance and complexity in the clinic.



Michelle Larsen

Are there any early success stories or case studies you can share where this new analyser has made a difference in animal health?

We have many already, which is obviously exciting. To highlight a few, OptiCell counts more platelets than other analysers including the reference lab, because it can identify and provide platelet recognition within a clump. This results in less healthy patients being identified as abnormal, allowing the animal to be cleared for surgery or dental procedures quickly.

Another example is veterinary oncology, which deals with very high or low white blood cell counts and needs answers accurately and quickly to assess treatment options – OptiCell has proven its worth here.

Veterinarians want to know exactly how the algorithms behind AI powered tools are trained. In addition to this, how do you ensure its algorithm/s are continuously learning, and its diagnostic capabilities improved?

Our algorithms are trained by subject matter experts, and the device is compared with two reference “gold” standards – a reference lab haematology analyser as well as a 2-cell manual count performed by a board-certified clinical pathologist.

The beauty of AI is that you can continue to train and refine an algorithm, adding parameters in future development. If the analyser can see it, it can classify and count it. By observing cells in a more native state – thanks to the viscoelastic focusing – more parameters are possible than ever before. Other haematology analysers on the market do not have the same capability; with OptiCell, adding a new parameter can be done through a simple software update.

Abhay Nayak

How does this launch align with your broader strategy for the future of veterinary diagnostics? What continued role will AI play in this?

Our vision is to transform animal health diagnostics through meaningful innovation. We aim to use modern technology to increase access to care and improve the use of diagnostics in the clinic. Vetscan OptiCell aligns perfectly with our vision by providing game-changing technology that creates direct and meaningful value to the practice, pet owners, and pets alike. OptiCell combines the power of AI – that creates consistent and accurate results – with human-centric design to support practice workflow.



While AI is key to our strategy, we thoughtfully make sure to combine it with human expertise, validating insights to ensure accuracy and reliability. For example, with Zoetis’ AI-powered digital microscope Vetscan Imagyst®, introduced in 2020, that analyses blood, faecal, urine, and dermatological samples. Supporting its launch, and as part of the Virtual Laboratory suite of products and services, we layered on top a world-class expert platform called ZoetisDx. The cloud-based portal allows clinics around the world access to board-certified specialists and clinical pathologists – who are in high demand and short supply globally – around the clock.

This combination of AI for rapid diagnostics and digital platforms to create market-leading expert access is what distinguishes us in the industry.

How are you addressing any potential concerns from veterinarians about the shift to AI-powered diagnostic tools?

AI can play a critical role in veterinary practices today, particularly when considering the staffing shortages, the veterinary industry is facing globally, and the pressures on cost. However, we have to drive trust – we cannot simply make AI a black box algorithm.

How do we do that? Let’s start with design. We need to keep veterinarians and veterinary staff at the centre of how we design products and services; at Zoetis, vets and vet techs are part of our product development process. We also bring customers into the fold sooner, so we’re incorporating their feedback and input along the way.

The second way that we build trust is by publishing data. We have our studies reviewed by journals and experts to ensure that it follows a methodical and rigorous data driven approach.

Finally, even with great AI, we ensure that our veterinarians always have access to a human expert at the end of the workflow. This improves trust and also provides flexibility to the veterinarian, dependent on the case.

TRAIN YOUR DOG FOR A SAFE AND HAPPY HOLIDAY SEASON

As the holiday season approaches, bringing increased deliveries and visitors, it's crucial for dog owners to ensure their pets are well-prepared for the excitement. Recent statistics highlight a concerning rise in dog-related incidents across Australia, underscoring the need for responsible pet ownership and effective training.

According to Australia Post, there have been 1,277 dog-related incidents nationwide in the past six months, averaging over 10 attacks on postal workers daily. Queensland reported the highest number of incidents at 505, followed by New South Wales with 367, and Western Australia with 152.

In response to these alarming figures, several states have implemented stricter penalties for dog attacks. In Queensland, on-the-spot fines for owners who fail to control their dogs in public places have more than doubled from \$322 to \$806. Owners of dogs that cause death or serious injury now face fines up to \$108,000 and possible jail time. Similarly, South Australia has proposed reforms increasing fines for dog attacks causing serious injury or death from \$2,500 to \$25,000.

Dog behaviourist George Tran emphasizes the importance of proactive training during this busy time of year. His book, *"Beyond Treats,"* a #1 Amazon bestseller in the Dog Training category, offers innovative and compassionate strategies to address behavioural issues. Tran's leadership-based approach focuses on:

Establishing clear communication and boundaries:

Dogs thrive in structured environments with consistent leadership. *"Beyond Treats,"* guides owners in becoming effective leaders for their pets.

Understanding the root causes of behaviour:

Tran encourages addressing underlying issues rather than merely treating symptoms, fostering lasting behavioural change.



Implementing a balanced training approach:

While positive reinforcement is valuable, Tran advocates for a method that combines rewards with clear, calm guidance when necessary.

Tran also offers practical tips to ensure the safety of postal workers and visitors during the holidays:

Secure your dog during deliveries:

When expecting visitors or deliveries, keep your dog in a separate room or secured area to prevent unexpected interactions. Use clear signage: Display signs on your property to alert visitors of your dog's presence, especially if there is no gate or fence.

By investing time in understanding and addressing their dog's behaviour, owners can contribute to a safer and more enjoyable holiday season for everyone.

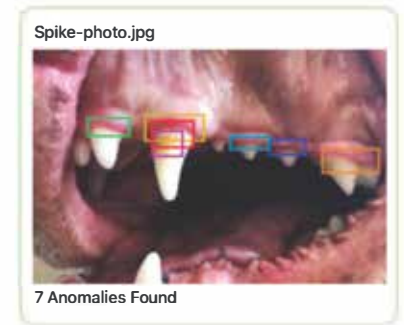
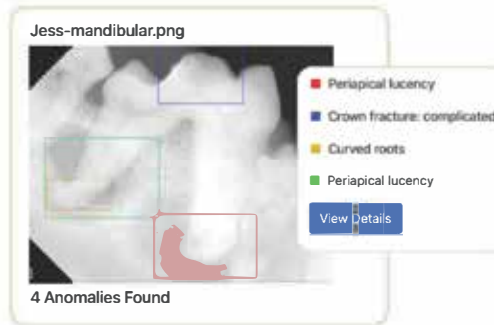
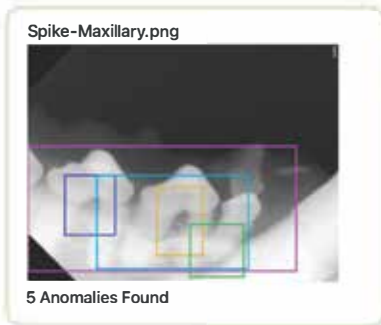
About Dog Leadership Academy

George Tran is a renowned dog behaviourist based in Sydney, Australia, and the #1 Amazon bestselling author of *Beyond Treats: Revolutionary Dog Training for Lasting Behaviour Change*. With over a decade of experience and thousands of dogs helped, George is the founder of the Dog Leadership Academy, where he champions a leadership-driven approach to training that fosters deep bonds between dogs and their owners. Recommended by veterinarians across Australia, George's compassionate, effective techniques have become a trusted resource for families facing behavioural challenges with their dogs. Dedicated to reducing unnecessary dog euthanasia, George devotes a portion of the book's proceeds to support dog rescues worldwide.

W: www.dogleadershipacademy.com



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IT'S YOUR CASE - 1.5YO FEMALE ENTIRE POODLE WHO BEGAN RETCHING AND GAGGING SHORTLY PRIOR TO PRESENTATION



Species: Canine

Sex: Female Entire

Breed: Poodle (Standard)

Age: 1.5 years

Clinical History:

She began retching and gagging shortly prior to presentation

Anatomic regions: Abdomen

Details of study and technical comments:

A two-view radiographic study of the abdomen is available for interpretation. The study consists of ventrodorsal and right lateral projections. The study is diagnostic.

Diagnostic interpretation:

The stomach is markedly gas dilated and also contains a moderate amount of heterogeneous soft tissue opaque material (blue lines). The stomach is abnormally positioned, with ventral and rightward displacement of the gastric fundus.

There is a markedly dilated segment of gastrointestinal tract in the mid-caudal abdomen on the right lateral view, which extends along the right lateral body wall on the ventrodorsal projection (yellow lines); this may represent a displaced and markedly dilated segment of colon or a severely displaced pyloric antrum. The colon is otherwise not identified.

There is moderate to marked gas dilation of the entire small intestinal tract, and displacement of the small intestinal segments into the left lateral and caudal abdominal cavity (green arrows).

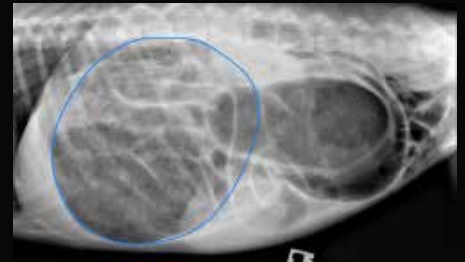
The spleen appears abnormally positioned within the left caudal abdomen (red lines).

The margins of the kidneys and urinary bladder are not definitively identified. The hepatic margins appear within normal limits.

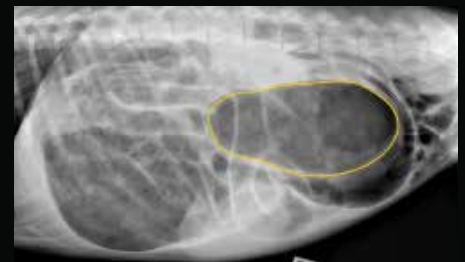
The abdominal serosal detail appears reduced, although this may be due to visceral crowding.

The musculoskeletal structures are normal.

The stomach is markedly gas dilated and also contains a moderate amount of heterogeneous soft tissue opaque material

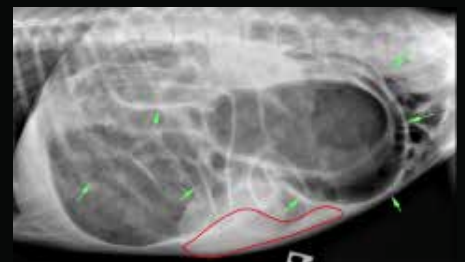


There is a markedly dilated segment of gastrointestinal tract in the mid-caudal abdomen on the right lateral view



There is moderate to marked gas dilation of the entire small intestinal tract,

The spleen appears abnormally positioned within the left caudal abdomen



Conclusions:

- Severe diffuse small intestinal dilation and displacement
 - Most consistent with a mesenteric root volvulus
- Marked gastric dilation and abnormal gastric position
 - May be associated with gastric malpositioning secondary to the mesenteric root volvulus, however, a concurrent gastric torsion cannot be completely excluded.
- Markedly dilated segment of gastrointestinal tract extending along the right lateral abdominal wall (yellow lines)
 - This may represent abnormally positioned and dilated colon (which would indicate a concurrent colonic torsion) or a displaced and dilated pyloric antrum (offering further support for gastric malpositioning/possible gastric torsion).
- Abnormal splenic position
 - May be associated with gastric malpositioning secondary to the suspected mesenteric volvulus, however, a concurrent splenic torsion is also considered
- Reduced abdominal serosal detail – peritoneal effusion versus visceral crowding

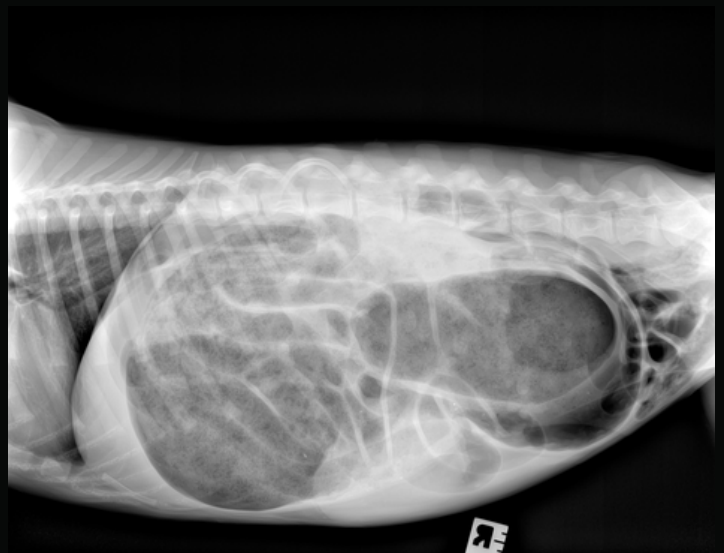
Additional comments:

The findings are consistent with a mesenteric root volvulus resulting in diffuse small intestinal dilation likely secondary to vascular compromise. There is gastric malpositioning which may be secondary to a mass effect by the dilated small intestine or represent a concurrent gastric torsion. Similarly, simultaneous colonic and splenic torsions are also considered.

Since vascular compromise of some, if not all of the segments of the gastrointestinal tract is strongly suspected, emergency exploratory laparotomy is warranted. If more detailed information is required prior to surgery, an abdominal CT could be considered to better determine the extent of involvement of the stomach, colon and spleen. A barium enema could also be considered to confirm/ rule out a concurrent colonic torsion.

Literature:

Matushek, K. J., & Cockshutt, J. R. (1987). Mesenteric and gastric volvulus in a dog. *Journal of the American Veterinary Medical Association*, 191(3), 327-328.





DARWIN WELCOMES ITS FIRST VETERINARY CLINIC DEDICATED TO STRESS-FREE HANDLING

In a significant advancement for animal welfare, Darwin has introduced its first veterinary clinic devoted exclusively to stress-free handling techniques. Girraween Veterinary Hospital, under the leadership of Dr. Sue Callow, is pioneering this compassionate approach to pet care, ensuring that both physical and emotional well-being are prioritized during veterinary visits.

Traditional veterinary practices often overlooked the signs of stress in animals, leading to increased anxiety and resistance during examinations. Recognizing this gap, Girraween Veterinary Hospital has implemented specialized handling methods and extended consultation times, allowing pets to acclimate comfortably to the clinical environment. "By respecting and addressing the stress signals in our pets, we've observed remarkable improvements in their tolerance and overall health outcomes," says Dr. Callow.

"Simple strategies, such as creating a calming atmosphere and gentle handling, have significantly reduced the need for practices like muzzling, which were once common." The benefits of stress-free handling are evident:

- **Enhanced Patient Compliance:** Pets are more cooperative during examinations and treatments, facilitating thorough and effective care.
- **Improved Health Outcomes:** Reduced stress levels contribute to better recovery rates and overall well-being.
- **Positive Veterinary Visits:** Owners report that their pets are more relaxed and even eager to visit the vet, transforming the veterinary experience into a positive one.

Girraween Veterinary Hospital's commitment to this innovative approach sets a new standard for veterinary care in Darwin. By focusing on the emotional health of pets, the clinic ensures a holistic treatment experience that benefits both animals and their owners.

For more information

For more information about Girraween Veterinary Hospital & their stress-free handling techniques, please contact:

Dr Sue Callow BSc BVMS MVS

Girraween Veterinary Hospital. 55 Girraween Rd, Howard Springs NT 0835. Phone: (08) 8983 1183 Email: manager@girraweenvet.com.au Website: www.girraweenvet.com.au



LORT SMITH ANIMAL HOSPITAL HONoured WITH COMMUNITY CATEGORY AWARD AT CITY OF MELBOURNE'S MELBOURNE AWARDS

Lort Smith Animal Hospital is proud to announce its recognition as the winner in the Community category at the prestigious City of Melbourne's Melbourne Awards, celebrated last night at the historic Melbourne Town Hall.

The award acknowledges Lort Smith's longstanding dedication to animal welfare and its support for Melbourne's pet owners. For over 85 years, Lort Smith has provided excellent veterinary care, shelter, and adoption services, focusing on making healthcare accessible to animals from all walks of life and owners of diverse backgrounds.

With a mission to improve animal health and happiness, Lort Smith's programs extend beyond conventional veterinary services. Their programs provide vulnerable individuals and families access to crucial resources for their pets, strengthening the human-animal bond across the community. This award reflects Lort Smith's impact as a provider of veterinary services and as a critical advocate for animal welfare and community wellbeing in Melbourne. "We are incredibly honoured to receive this award and are proud to represent a community that values compassion and care for animals," said Frances Mirabelli, CEO of Lort Smith Animal Hospital.

"This recognition from the City of Melbourne reaffirms our commitment to providing high-quality, accessible care for pets and support for pet owners, regardless of their circumstances." The Melbourne Awards, hosted annually by the City of Melbourne, celebrate outstanding contributions in business, community, sustainability, and the arts, recognising the city's change makers who enhance Melbourne's livability, culture, and community spirit.

This year's awards, presented at the iconic Melbourne Town Hall, brought together leaders and innovators across the city.

The Community category honours organisations and individuals whose efforts create a meaningful impact on the lives of Melbourne's residents. Lort Smith's award underscores its role as a vital part of Melbourne's fabric, championing the importance of animal welfare in a thriving, compassionate society.

For more information

For more information on Lort Smith Animal Hospital and its community programs, visit: Website: www.lortsmith.com Name : Frances Mirabelli. Email : fmirabelli@lortsmith.com Phone : 0434554557.

VET.CT CHAMPIONS RADIATION SAFETY THROUGH GLOBAL CAMPAIGN

VET.CT, a teleradiology and specialist consultancy company, has launched a global campaign to raise awareness about the importance of radiation safety in veterinary practice, providing a comprehensive suite of free resources and real-life case studies to support veterinary teams.

The campaign champions the health and safety of people and patients with the use of ionising radiation in diagnostic imaging. VET.CT has created the X-Pert Radiation Safety Centre, with free downloadable toolkits for both small animal and equine practice, including positioning guides, top tips, chemical restraint protocols, with a series of practice case studies on how to put the principles into practice, which includes Queensland Veterinary Specialists (QVS).

Dr David Reese, VET.CT director of clinical support and radiologist, says, "Radiation safety breaches represent a significant health and safety incident and a risk to the health of veterinary team members and their patients. Despite this, we know that breaches are not uncommon in clinical practice,. To help meet the challenge of improving safety in busy practice workflows, VET.CT has created a comprehensive suite of practical resources to support veterinary teams in applying best practice to ensure the health of

their personnel and patients. We have also partnered with clinics from around the world, including QVS, to provide some great case studies."

Paul Robins, radiographer at QVS highlighted the importance of embedding good habits, saying, "Having a culture where good radiation safety is the norm and being open and accountable to each other is key to ensuring we build and maintain good habits and best practices. Not only does this ensure we safeguard the health and safety of our team and patients, it also leads to better quality diagnostic images and more efficient workflows."

Dr Reese added, "We know that taking extra care to ensure good patient preparation, positioning and optimising settings results in fewer exposures and higher quality diagnostic images for more accurate interpretation. This all contributes to improved efficiency, patient management and outcomes, greater satisfaction, and of course, happier owners."

The free X-Pert radiation safety resources and case studies for small animal practice can be accessed here: <https://au.vet-ct.com/welcome-to-x-pert> and the equine resources here: <https://au.vet-ct.com/welcome-to-x-pert-equine>



ASSESSING AND QUANTIFYING RISKS IN ZOO ANAESTHESIA

Nigel Dougherty BA BVSc MVSc MANZCVS

NIGEL DOUGHERTY EMPHASISES THE IMPORTANCE OF THIS FOR MORE INFORMED DECISION MAKING, REFINING PROTOCOLS AND ENHANCING ANAESTHETIC SAFETY.

Being able to assess and quantify anaesthetic safety, and identify the risk factors most strongly associated with it, are important steps in anaesthetic risk mitigation.

These risk factors provide a basis for more informed anaesthetic decision making and for refining protocols or exploring novel approaches to enhancing anaesthetic safety. Their most effective contribution to risk mitigation arises from the better causal and mechanistic understanding they may provide about the homeostatic disturbances occurring under anaesthesia.

In human medicine, the tenets of evidence-based medicine have been advanced to promote more robust comparative evaluation of different treatments (Sackett et al, 1996; 1997), but some critics consider these tenets to have limited application to the domain of anaesthesia (Horan, 1997).

Besides, neither the scope nor quantity of data exists, nor the rigorous and systematic approach demanded of its collection, as set out by Myles et al (1999), to permit such full critical appraisal of different approaches in zoo anaesthesia.

Nonetheless, it is still critical to scrutinise the strength of evidence to support the

safe and effective application of different anaesthetic approaches (Masters et al, 2007). This is particularly relevant to choices involving the various ways to achieve balanced anaesthesia, as published protocols are widely disseminated and may be widely applied without the full context of their evaluation.

Any lack of safety substantiation may be particularly relevant to patients who are already physiologically compromised, for whom the homeostatic effects of pre-existing morbidities may be exacerbated by anaesthesia (Trim et al, 2014).



Aged and geriatric animals may be more susceptible to morbidities from sustained hypotension. Image: Nigel Dougherty.

Critical determinants

Critical determinants of the strength of evidence for studies evaluating the safety of treatments are the outcomes measured (Guyatt et al, 1995).

Mortality measures provide the most definitive representation of anaesthetic procedural safety, and records of fatality provide one of three key inputs for describing and quantifying the safety of zoo anaesthesia in the Species360 Zoo Information Management System (ZIMS). A wide body of information pertaining to peri-anaesthetic mortality is now available in ZIMS and in the veterinary zoological literature. Historically, the extensive use of certain protocols with minimal or no associated mortality has been stated as an argument to support and promote their safe use (for example, Jalanka and Roeken, 1990).

Even in less-dated, peer-scrutinised literature, the acknowledgement exists that safety of wildlife capture and immobilisation methods are sometimes still evaluated on the basis of mortality, rather than on physiological responses (Fahlman, 2008). Two of the most important limitations of using mortality-based outcomes to quantify and compare anaesthetic risk are the inherent difficulties of defining “anaesthetic mortality” (Jones, 2001; Brodbelt et al, 2015; Haller et al, 2009), and the variations in study designs applied to their derivation (Masters et al, 2007) – especially since associations between anaesthetic events and outcomes do not necessarily imply cause and effect (Dyson et al, 1998).

Peri-anaesthetic mortality

Nevertheless, information from published peri-anaesthetic studies do suggest a much greater risk of peri-anaesthetic mortality in many domestic animals relative to humans. In human anaesthesia, peri-anaesthetic mortality rate estimates range from 0.01% to 0.001% (Irwin and Kong, 2014). By comparison, estimates in dogs and cats vary between 0.2% and 0.6% (Brodgelt et al, 2015), and those associated with equine anaesthesia range from 0.08% to 1.8% (Dugdale and Taylor, 2016).

Few systematic attempts have been made to evaluate the relative safety of zoo anaesthetic procedures in a manner comparable to the studies undertaken in human and domestic veterinary anaesthesia. The only comprehensive study of peri-anaesthetic mortality under zoo conditions published to date is a retrospective review involving great apes undertaken by Masters et al (2007), in which the derived peri-anaesthetic mortality was 1.35%.



Most published studies of lion and tiger anaesthesia document short anaesthetic procedures in relation to immobilisation regimens rather than being related to protracted anaesthetic maintenance. Image: Nigel Dougherty.

Given this apparently high risk of mortality relative to humans, dogs and cats, if these estimates do provide a reflection of the safety of zoo anaesthesia more widely, obviously some cause for concern exists.

The authors concluded that only prospective studies may permit the systematic analysis of each death incident required to judge its likely relation to anaesthesia. Furthermore, uncertainty was shared on whether the high reported rates of peri-anaesthetic complications documented by this study were associated with increased risk of mortality; the same uncertainty could equally apply to whether potentially significant subclinical or undetected injuries were occurring, as well.

Outcome importance

Such uncertainties emphasise the importance of seeking earlier, more sensitive and more specific outcomes than mortality for assessing anaesthetic safety.

Measures of morbidity provide other means for assessing anaesthetic safety and risk, although their application to evidence-based anaesthesia has been questioned by some (Horan, 1997).

Extensive morbidity information is generated from comprehensive requirements for monitoring anaesthetic performance in human anaesthesia (McNicol and Mackay, 2010), and strong efforts to standardise their definition make comparison between studies more meaningful (Myles et al, 2016).

In the veterinary literature, peri-anaesthetic morbidities are far less comprehensively documented (Brodgelt et al, 2015), and in a much less recent prospective study, monitoring limitations were cited as a major reason for difficulties of ensuring consistent detection of adverse events in the veterinary practice setting (Dyson et al, 1998).

The monitoring and documentation of morbidity also appears to be limiting in zoo animal practice. ZIMS, for example, provides only limited scope for capturing the nature and quantifying the significance of morbidities encountered during zoo anaesthetic procedures; although, facility exists for ranking their perceived gravity into one of three semi-quantitative and subjectively delineated categories.

Database users are, therefore, able to draw on only three broad outcome-based measures (mortality, gravity of complication and abnormalities of recovery) to make judgements about the safety of particular drug regimens, and no facility is present within the database to enable discrimination of patient and anaesthetic factors contributing to the data.

These limitations, associated with the characterisation of morbidity, emphasise the importance of monitoring homeostatic changes in relation to risk factors as another basis for generating insight about safety and its determinants in the zoo anaesthesia setting.

Evidence base

The evidence base for substantiating the safety of zoo animal anaesthesia protocols documented in the scientific literature is largely predicated on the ability to assess and evaluate how these protocols may affect homeostatic processes most closely linked to the patient's immediate survival. To this end, reproducible and reliable means of assessing anaesthetic depth are required for comparison of different anaesthetic regimens (Whelan and Flecknell, 1992), and evaluations also depend on the ability to perform extensive assessments of cardiovascular and respiratory performance (Hubbell and Muir, 2009) to provide some gauge of the adequacy of tissue perfusion and oxygenation.

With advances in point of care blood testing (see, for example, Radcliffe et

al, 2015) and laboratory analytical techniques, opportunities have opened for more comprehensive assessments of a wider range of homeostatic alterations to complement the more routine monitoring using physiological variables in zoo anaesthesia.

Much of the literature pertaining to the anaesthesia of wild and captive mammals has been devoted towards evaluation of different immobilisation regimens and (much more infrequently) to extended anaesthesia protocols. Of the 69 non-review articles directly related to mammalian anaesthesia published in the *Journal of Zoo and Wildlife Medicine* between 2010 and October 2020, 41 involved such evaluations.

More than half of these studies broadened characterisation of cardiovascular and respiratory performance beyond routine physiological measures by using serial blood gas assessments (involving two or more repeated measures) as part of the evaluation, and many of these involved arterial gas measures to improve understanding of pulmonary performance.

Of particular note, very few of these studies took full advantage of readily accessible testing technology to widen concurrent and serial assessment to include other parameters of homeostasis and provide further measures of the likely general states of the cellular environment. For instance, only five of the regimen studies – white-tailed deer (Boesch et al, 2011), brown bears (Fahlman et al, 2011), nyala (Black et al, 2020), black-footed cats (Eggers et al, 2020) and warthogs (Hewlett et al, 2020) – detailed serial characterisation of acid-base status, and only two studies, white-tailed deer (Boesch et al, 2011) and impala (Gerlach et al, 2017), additionally measured serial creatinine or creatine kinase, respectively, to track changes in azotaemia status and to quantify muscle cell injury.

Of the remaining studies, 19 involved targeted assessments of very specific homeostatic disturbances occurring under anaesthesia – their focus being specifically restricted to investigations of hyperkalaemia in large felids (McEntire et al, 2020) or to investigations of echocardiographic performance or other very specific cardiovascular and cardiopulmonary alterations in various taxa, such as investigations into the effects of anaesthesia on renal blood flow in cheetahs (Stagegaard et al, 2017).

A further nine studies have either specifically evaluated the safety and effectiveness of particular anaesthetic monitoring techniques, or have evaluated a very specific means (such as specialised ventilation) of providing additional patient support.

Large felids as a case illustration

A review of the anaesthetic management of select captive large felids provides a largely reflective illustration of the peer-reviewed approaches used and the strength of evidence they generate in the evaluation of safety of zoo anaesthetic regimens, with many of the findings relating similarly to other taxa.

Of the published, peer-reviewed anaesthetic regimens involving the management of large felids in captivity, most document procedures of short duration. They do, nevertheless, illustrate how integral the sedative protocol is in contribution to balanced anaesthesia – particularly as the immobilisation protocol may profoundly reduce general anaesthetic requirements for the first 60 to 80 minutes after being administered (Nam et al, 2013).

Of the 10 non-review publications of studies involving the anaesthesia of captive tigers published between 1997 and October 2020, only two of these studies (Curro et al, 2004; Clarke-Price et al, 2015) were analytical, being very low-power cohort studies comparing two different drug regimens.

The remainder (Forsyth et al, 1999; McEntire et al, 2020; Miller et al, 2003; Steeil et al, 2013; Lewis et al, 2014; Reilly et al, 2014; Laricchiuta et al, 2015; Larsson et al, 2017) involved even lower power observational (case series) or retrospective studies, of which only half provided reasonably comprehensive serial assessment of a range of homeostatic parameters; the focus of the remainder had other specific objectives. Only a single study (Lewis et al, 2014) investigated association between

drug pharmacokinetics and measured outcomes.

Using immediate survival and quality of recovery from anaesthesia as measures of post-emergence outcome, all but one study specified such outcomes by either describing or scoring them.

"Clearly, much still exists to learn about the effects of various drugs used in anaesthesia on biochemical, cardiovascular and other clinical parameters in captive tigers."

Nigel Dougherty

BA BVSc MVSc MANZCVS

Of the 144 anaesthetic procedures involving tigers covered by these publications, five cases of anaesthetic mortality were documented and eight cases required cardiopulmonary resuscitative interventions to survive (Steeil et al, 2013; Reilly et al, 2014; McEntire et al, 2020), although some were multi-species



Much still exists to learn about the effects of various drugs used in anaesthesia on biochemical, cardiovascular and other clinical parameters in captive tigers. Image: Nigel Dougherty.

studies where the species affected were sometimes not specified, and some of the same mortality or resuscitation cases may have been repeatedly included in different publications. Furthermore, four post-anaesthetic recoveries involved significant or protracted complications (Lewis et al, 2014; McEntire et al, 2020) – three of which involved profound post-anaesthesia lethargy in individuals treated for hyperkalaemia with IV insulin (McEntire et al, 2020).

Five of the publications provided important illustrations of how absence of mortality or demonstrated morbidity provide poor reflections of possibly significant risks facing patients or operators. Although somewhat dated, Forsyth et al (1999) documented the occurrence of profound cardiovascular and respiratory depression using medetomidine dosages recommended at the time for tigers (0.03mg/kg) and, in one case, a tiger awoke from sedation and dissociative anaesthesia following patient stimulation when “midrange” medetomidine (0.025mg/kg) was combined with a lower dose (1.66mg/kg) of ketamine (Miller et al, 2003). More recently, three of the publications (with the acknowledgement, in some cases, of repeated inclusion of the same animals) described the occurrence of a number of electrocardiographic abnormalities during anaesthesia (although the timings of their development were not always specified) – sometimes associated with, but not necessarily resulting from, hyperkalaemia (Steeil et al, 2013; Reilly et al, 2014; McEntire et al, 2020).

Only 2 of the 10 studies provided for serial integrated assessment of cardiovascular status based on measurement of mean arterial pressure, heart rate and continuous electrocardiographic monitoring. Only one study included enough data for serial assessments of cardiovascular status based on these parameters combined with serial acid base, lactate and azotaemia marker measurements. Just two permitted serial estimates of anaesthetic depth (either by invasive blood pressure measurement or from frequently recorded Guedel-type staging of anaesthetic depth). Only one provided data to evaluate (to some extent) the serial relationship between cardiovascular status and anaesthetic depth.

Finally, only one enabled reasonable assessment of ventilation and cardiopulmonary parameters using serial measurement of arterial blood gases, end-tidal carbon dioxide and pulse oximetry. The study by Curro et al (2004) is the only one providing enough scope for more integrated, serial evaluation of all these homeostatic parameters together. In common with half the studies, the investigation by Curro et al (2004) also

involved only short procedures where anaesthetic maintenance agents were not used.

As an example of the relative paucity of research on the use of IV anaesthetics as primary maintenance agents in the *Panthera* genus, no studies have yet evaluated the use of propofol in tigers. On the basis of the quality of recovery, the regimens that were applied appear to perform safely, but given the limited scope of the studies to identify homeostatic derangements and associate them with risk factors, the evidence base to substantiate the safety of important procedural considerations such as the choice of dosage of anaesthetic protocol in captive tigers has been furthered only to a limited extent since the study by Forsyth et al (1999).

Clearly, much still exists to learn about the effects of various drugs used in anaesthesia on biochemical, cardiovascular and other clinical parameters in captive tigers.

Similar remarks apply to other large felids, for whom it is most evident that a particular paucity of research exists pertaining to detailed evaluation of approaches used to maintain anaesthesia (Buck et al, 2017).

Just as with tigers, almost all of the associated studies published between 1997 and October 2020 involving captive cheetahs and lions were undertaken with procedures of short duration. In the only study comparing the use of propofol in lions with other induction protocols (Epstein et al, 2002), the physiological parameters measured were too limited and the procedures too short to properly evaluate its safety as a maintenance agent. To date, the most robust study permitting safety comparisons of propofol and isoflurane maintenance protocols involved an investigation of their cardiopulmonary effects in cheetahs (Buck et al, 2017).

The authors of this study expressly recognised the difficulties associated with comparing these regimens (given possible lack of equi-potency between them). Furthermore, by undertaking serial arterial blood gas monitoring and relating the findings to macro-circulatory and acid-base measures, this study marks an important step forwards in providing better serial characterisation of the relative adequacy of ventilation and perfusion under the regimens that were compared, but much scope still exists for wider investigations into the homeostatic effects that may occur.

The need also exists for further research to better inform about the most judicious use of maintenance agents and their combination with other approaches to achieve and maintain balanced anaesthesia in large felids.

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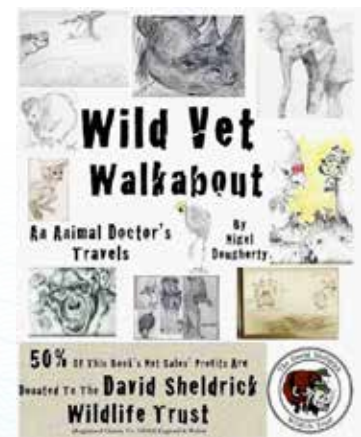
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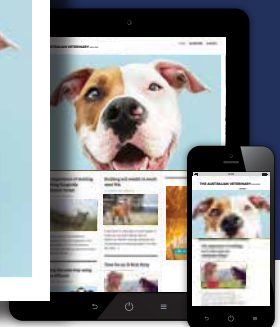
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“Now more than ever, it’s crucial to acknowledge the vital role shelters play, as rising cost-of-living pressures have led to a high number of pet surrenders, putting a strain on facilities across the country,” says Trish Ennis, CEO of CANA.

CANA is comprised of member agencies **Animal Welfare League QLD, Dogs’ Homes of Tasmania, Sydney Dogs and Cats Home, Saving Animals From Euthanasia Inc (WA)** and **Lort Smith Animal Hospital**.

Data consolidated from Companion Animal Network Australia members reveal a 11.6% increase in pet surrenders between the 2022–2023 and 2023–2024 fiscal years.

“As we approach Christmas, the pressure on shelters intensifies as more families are faced with the heartbreaking decision to surrender their pets, primarily due to cost-of-living pressures,” says Ms. Ennis.

Many families are struggling to find pet-friendly accommodation, while others are moving into aged care facilities that don’t allow pets, both of which contribute to the increasing number of surrendered companion animals.

“Declining adoption rates and low reclaim numbers are further exacerbating the burden on shelters, which are desperately seeking

more foster carers and donors to help care for the influx of animals,” she adds.

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