

THE  
AUSTRALIAN  
**VETERINARIAN** MAGAZINE

**New Research Reveals 4 in 5 Pet Owners Worry About Soaring Pet Care Costs p14**

**Federal Government Turns a Blind Eye to Vital Role of Vets p16**

**MacKillop Paw Pals Program Breaks Down Barriers with Animal Assisted Education p24**





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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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## THE AUSTRALIAN VETERINARIAN

Fortuna Villa, 22 Chum Street, Golden Square VIC 3555 Australia  
**P:** 03 5441 8166 **E:** [administration@regionalreach.com](mailto:administration@regionalreach.com) **W:** [www.theaustralianveterinarian.com](http://www.theaustralianveterinarian.com)

### Publisher

*Paul Banks*  
 Email: [paul@regionalreachpublishing.com](mailto:paul@regionalreachpublishing.com)  
 Phone: 03 5441 8166

### Design & Production

*Kate Miller*  
 Email: [kate@regionalreach.com](mailto:kate@regionalreach.com)  
 Phone: 03 5441 8166

### Administration

*Shanae Harris*  
 Email: [administration@regionalreach.com](mailto:administration@regionalreach.com)  
 Phone: 03 5441 8166

# VETERINARY ANAESTHESIA AND THE ENVIRONMENT: FIRST, DO NO HARM

Colin Dunlop BVSc Dip. ACVAA & Simon Wheeler BVSc PhD DECVN MBA FRCVS

**Veterinary anaesthesia has changed in many ways over the last 30 years. In the past, patient safety was measured by survival; keeping the subject asleep and immobile was the priority. More recently, the physiological wellbeing of the patient, with a particular emphasis on pain management and temperature regulation, has rightly gained prominence.**

Furthermore, there has been a notable shift towards prioritising the overall safety and welfare of the entire veterinary team, as well as environmental impact from gaseous emissions, and sustainability. Much of the guidance for addressing these issues in human anaesthesia can be applied to veterinary practice – including the avoidance of nitrous oxide and desflurane, and use of low-flow anaesthesia.

When evaluating complex clinical techniques, it is important to adopt a comprehensive perspective to avoid misleading or sub-optimal outcomes. Instead, a balanced approach to anaesthesia decision making should be embraced, giving equal consideration to patient safety, operational efficiency, environmental sustainability, and cost effectiveness.

## Veterinary Low-Flow Anaesthesia

The economic and environmental benefits of low-flow anaesthesia are well established <sup>(1)</sup>. However, care must be taken not to jeopardise patient wellbeing. Traditional veterinary anaesthetic techniques for the smallest of animals utilise relatively high fresh gas flow rates, up to 20 times above the metabolic requirements of patients. This is highly wasteful of oxygen and inhalational anaesthetic agents, which is unnecessarily costly, potentially exposes the veterinary team and can be environmentally damaging.

The advantages of adopting low-flow anaesthesia extend beyond just clinical efficiency. Reducing oxygen flows and inhalant agent consumption to less than 10% of what the typical high flow, non-rebreathing systems require not only

optimises patient care, but contributes to sustainability.

Decreased outflow of inhalation agents from the spill or “pop-off” valve enhances team safety while minimising emissions. Reducing the use of inefficient oxygen concentrators, which continuously run at 3 to 10L/min, can also bring significant energy and cost savings. Importantly, the delivery of warm gas to patients, rather than the cold, dry gasses from high flow systems, helps to mitigate the risk of anaesthetic hypothermia.

## Addressing the challenges

There are various challenges with low-flow anaesthesia – some of which could be addressed with the use of modern, innovative veterinary equipment instead of re-purposed human equipment.

Non-rebreathing systems such as Brain Circuits or Ayres T-piece cannot be used with low-flow techniques as they require high gas flows to eliminate expired CO<sub>2</sub>. Caution must also be taken when administering nitrous oxide, in which case, low-flow anaesthesia should not be used unless there is a fail-safe system for oxygen supply and in-circuit oxygen concentration monitoring.

Additionally, most veterinary and human medical vaporisers are designed to operate at gas flows between 500ml/min and 5L/min, meaning they lack precision and reliability when operating at 200ml/min - the typical O<sub>2</sub> low-flow rate for animals under 7kg.

While some veterinary systems claim to be “low-flow”, they may exhibit drawbacks such as high resistance and inability to prevent rebreathing of CO<sub>2</sub> at oxygen flows under 200ml/kg/min. The rate of change of inspired anaesthetic concentration is also up to 20 minutes slower at the start of anaesthesia, or if the vaporiser setting is changed <sup>(2)</sup>.

## Key Equipment requirements

Implementing the appropriate veterinary low-flow anaesthetic equipment cannot be underestimated. First and foremost, a

veterinary vaporiser must be capable of precise and reliable anaesthetic delivery at fresh gas flows down to 200ml/min; calibrated at low flows and tested down to 200ml/min is key (3).

A low volume, low resistance circle absorber with rapid response to changes



Figure 1. Darvall Stinger Ultra anaesthetic machine, incorporating DVM Vaporiser (accurate at 200ml/min) and Stingray Circle Absorber



in vaporiser settings (e.g. five breaths) at 200ml/min fresh gas flow can be used on all patients down to 2kg, permitting fresh gas flows 10 times lower than in currently used non-rebreathing systems. Generally low-flow systems use 10-30ml/kg/min, with a minimum of 200ml/min (4), (Figure 1).

Equally important, a circle absorber with one-way inspiratory/expiratory valves that shut reliably with minimum force, as well as a precise oxygen flow meter with an expanded scale, easily visible at fresh gas flow rates down to 200ml/minute (6), (Figure 2). Finally, a safety Adjustable Pressure Limited spill, or “pop-off” valve, works to relieve pressure at 25-30cm H<sub>2</sub>O if in the closed position.

There are several veterinary systems available for low-flow anaesthesia, however, some are unsuitable for all patients because of high resistance, slow response to vaporiser changes, and the high gas flows required to prevent rebreathing of CO<sub>2</sub> in patients below 10kg (4). Veterinary teams should be cautious when purchasing “low-flow” systems, only to find that they do not function effectively and safely in small patients at flows down to 200ml/min (5).

It is important to remember that around 85% of veterinary anaesthetics are administered to patients ranging from 15kg to 0.3kg in body weight. As such, investing in suitable equipment specifically for these small animals is required.

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## Colin Dunlop

Colin Dunlop is a graduate of the University of Sydney and a Specialist in Veterinary Anaesthesia. His career path includes House Surgeon (University of Glasgow), Resident in Anaesthesia/Critical Patient Care, (University of California, Davis), Assistant Professor ‘Clinical Sciences’, Associate Professor and Chief of the Anaesthesia Section (Colorado State University).

He is a Diplomate of the American College of Veterinary Anaesthesiologists (1986), served on the Board of Directors 2014-2017, as President Elect 2018-19 and as President 2020-21. His research interests include prevention of anaesthesia morbidity and mortality.

He consults in anaesthesia and critical care for small and large animal practice, biomedical research and provides education programs for veterinarians and veterinary nurses worldwide through DarvallVet, based in Sydney.

## Simon Wheeler

Simon Wheeler is a graduate of the University of Bristol and European Specialist in Veterinary Neurology. He was also a House Surgeon at University of Glasgow, where he and Colin first met. He then went on to complete a PhD at the University of London in Neurology.

Subsequently he held faculty positions at North Carolina State University and The Royal Veterinary College. He was made Fellow of the Royal College of Veterinary Surgeons for meritorious contributions to learning in neurology.

He was a founder member and subsequently president of the European College of Veterinary Neurology. He has authored over 100 papers and chapters, and several books.



Figure 2 Logarithmic oxygen flow meter, giving excellent precision and visualisation at low gas flows.





# THE BAND BEHIND THE AID - ELANCO'S CONTINUED SUPPORT OF RURAL AID

**Rural Aid is one of Australia's most trusted rural charities, providing critical support to farmers affected by natural disaster by providing fodder, water and financial assistance.**

It also offers a professional counselling service to help affected farmers and their families to focus and recover.

Elanco has provided financial support of over \$200K via direct donation, donation matching, sales-based donations and volunteering to Rural Aid since 2022.

During 2023, Elanco provided funds to support Rural Aid's well-known 'Buy A Bale' campaign.

This year, Elanco will sponsor the organisation's 'Mates for Mates Day' and the 'Rural Aid Long Lunch' initiatives.

Elanco Farm Animal Business Unit Head, Jamie Dowsley, says the partnership demonstrates Elanco's commitment to rural and regional communities.

"Droughts, floods and bushfires pose a permanent challenge to farmers and the wider community," he says.

"The past 12 months has been particularly difficult, with requests to Rural Aid becoming increasingly frequent and urgent.

"The number of counselling sessions conducted by Rural Aid has almost doubled, with floods, bushfires, dry conditions, low water availability, limited fodder supplies, increased interest rates and falling commodity prices featuring prominently in these conversations.

"Rural Aid counsellors are professionally trained to support their

clients through all kinds of challenges and understand the unique needs of rural people.

"Elanco is proud to do our part in helping farmers to cope with these issues, most of which are beyond their control.

"Choosing to use quality animal health solutions from Elanco means livestock producers are contributing to a bigger picture."

ANZ Country Manager, Hendrik Van der Walt, says Rural Aid aligns with Elanco's 'Healthy Purpose' initiative.

"Healthy Purpose is a framework of defined commitments that Elanco is committed to delivering.

"These commitments are focused around advancing the well-being of animals, people and the planet.

"Helping animals to live healthy, quality lives benefits people's health by providing companionship and enabling the sustainable production of food.

"Healthy Purpose isn't just words – and it's real actions.

"For example, every Elanco employee is allowed to commit three days a year volunteering for their chosen charity or community cause."

Source: Elanco <https://www.elanco.com/en-au/news/>



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# CREDABL AND PRIME PRACTICE JOIN FORCES

## CREDABL AND PRIME PRACTICE HAVE PROGRESSED TO THE NEXT PHASE IN THEIR LONG-TERM PLANS FOR GROWTH

**Credabl and Prime Practice have progressed to the next phase in their long-term plans for growth, with Credabl completing the acquisition of Prime Practice and appointing Michelle Gianferrari as its permanent Chief Executive Officer (CEO). This builds on Credabl's initial strategic shareholding of Prime Practice in 2022 and capitalises on the symbiosis between both businesses.**

Credabl's ownership of Prime Practice now positions it at the forefront of the dental industry, offering both financial and education services exclusively for the profession. As Prime Practice enters the next phase of its growth under Michelle's leadership, it will capitalise on the synergies between the businesses.

Stafford Hamilton, CEO and Co-founder of Credabl and Michelle have enjoyed a longstanding professional relationship, which began when Michelle immigrated to Australia 13 years ago. Over that period, they've worked closely together at various times, building on their compatible working styles and mutual respect to culminate in this appointment.

### **Stafford Hamilton, CEO and Co-Founder, Credabl:**

"We are delighted to complete the integration of Prime Practice into the Credabl family and welcome Michelle as Prime Practice's permanent CEO. This is an opportunity for our clients to get more from us, through access to education that will equip them to run profitable, efficient and successful practices. Our teams have a relationship spanning more than 20 years and have worked closely together for the past 24 months, and we feel privileged to welcome such an experienced team into the group."

### **Michelle Gianferrari, CEO, Prime Practice:**

"I am thrilled to have the privilege of leading the dedicated team at Prime Practice. The culture of care for clients is at the core of Prime Practice and Credabl, presenting multiple opportunities for ongoing collaboration. We are committed to the dental segment and will continue to provide our expertise to support dentists and their teams for success.

Over the next year, we're excited to reinvigorate the Prime Practice experience for both our clients and our team. Our enhancements include the introduction of an advanced learning management system, an updated practice plan tailored to the post-COVID era and the debut of our innovative Starter Kits. These kits are specially crafted to assist clinicians who are embarking on their journey as practice owners for the first time, providing them with the support and resources they need to succeed.

I feel trusted and supported by the Prime Practice team, Stafford and the Credabl leadership team and the Board. With their support, we'll work to develop and grow the business of coaching, training and education in the dental segment, in turn building the skills of dental professionals in communication, leadership, practice management and wellbeing. I am excited for what the future holds."

### **About Credabl**

A team of finance specialists providing tailored solutions for medical, dental and veterinary professionals, Credabl are passionate about fuelling the success of the medical community. They bring their service, speed and expertise to medical professionals, unlocking opportunities for them to thrive. Through simplified, customised and digitised solutions, they ensure that medical professionals receive the financial attention they deserve in both their personal and professional lives. For Credabl, finance is just the beginning.

### **About Prime Practice**

With three decades of expertise, Prime Practice represents a pillar of trusted support for dental professionals. Their curated suite encompasses comprehensive training, coaching and consulting solutions, alongside both face-to-face and live online training workshops, in-practice training sessions and strategic practice plans. These solutions are designed for the dental community, empowering practitioners to successfully launch and expand their businesses, cultivate leadership within their teams and optimise their operational processes for peak efficiency.







WSAVA President Dr Ellen van Nierop



Dr Erich Schoett, Head of Global Marketing Pet Therapeutics and Vaccines at Boehringer Ingelheim.

# WSAVA ANNOUNCES SUPPORT FROM BOEHRINGER INGELHEIM FOR KEY COMMITTEES

**BOEHRINGER INGELHEIM HAS SIGNED UP TO BECOME A SILVER PARTNER OF THE WORLD SMALL ANIMAL VETERINARY ASSOCIATION (WSAVA) AND WILL SUPPORT THE WORK OF THE ASSOCIATION'S GLOBAL PAIN COUNCIL (GPC) AND ONCOLOGY WORKING GROUP (OWG)**

The GPC, chaired jointly by Drs Jo Murrell and Paulo Steagall, aims to create a global environment for companion animals in which pain is considered as the fourth vital sign and addressed appropriately. It launched an updated set of Global Guidelines for the Recognition, Assessment and Treatment of Pain at the end of 2022. They are available for free download from the [WSAVA website](#).

The OWG, chaired by Dr Ann Hohenhaus, is working to overcome regional disparities in the treatment of cancers in dogs and cats by providing continuing education (CE) and a range of additional resources, including fact sheets and an Oncology Glossary, to secure advances in the understanding and treatment of oncology globally.

"Pet ownership is on the rise and many people consider their animal companions to be part of the family. As result, they have high expectations of their veterinarians," commented Dr Erich Schoett, Head of Global Marketing Pet Therapeutics and Vaccines at Boehringer Ingelheim. "At the same time, small animal medicine is advancing at a staggering pace. Veterinarians face a continuous need to upskill, adapt to new standards of care and to provide tailored health offerings at each stage of a pet's life.

"We recognize the significant value WSAVA and its committees add to the global veterinary community and are delighted to join with them in fostering standardized, high quality veterinary care for small animals around in the world."

The WSAVA works to advance the health and welfare of companion animals and to advocate on behalf of companion animal veterinarians and the wider veterinary team. Its activities include the development of WSAVA Global Guidelines in key areas of veterinary practice, together with lobbying on important issues affecting companion animal care worldwide.

WSAVA President Dr Ellen van Nierop, said: "It's thanks to the support of our Industry Partners that we are able to deliver such a wide range of CE to our members and to campaign on the global stage on issues that concern them, such as the global inequity in access to veterinary medicines.

"We're absolutely delighted to welcome Boehringer Ingelheim as a Silver Partner and thank them very much for their support. We look forward to working with them during 2024 and beyond."



Photo by Puppy Tails photography, Lake Argyle-WA

# PET PHOTOGRAPHERS UNITE IN GLOBAL PROJECT TO HELP LOCAL CHARITIES

## CALLING THE DOGS FROM BROOME TO CAIRNS FOR TAILS OF THE WORLD™ PROJECT

Esteemed Australian photographer and dog travel adventurer Kerry Martin of Puppy Tales has joined paws and cameras with *Tails of the World™*, a collective of professional pet photographers united in a mission to celebrate the dogs of their region and make a difference for animals in need with photographic coffee table books.

From June to August 2024, all the adored pooches from Broome (WA), Darwin (NT), Atherton Tablelands (QLD) to Cairns (QLD) have the opportunity to be a part of this global movement and help to raise funds for [Vets Beyond Borders](#) and [AMRRIC](#) (Animal Management in Rural and Remote Indigenous Communities).

“For the third year it’s a thrill and honour to be a part of the *Tails of the World™* collective and selected as a contributing photographer to the international book project,” said Kerry, who has been in the business for nearly 15 years.

Winner of national and international awards, Kerry is a Master Photographer in Australia and internationally and the inaugural winner of the Australian Pet/Animal Photographer of the Year.

To date, the annual books have raised more than US\$95,000 for

animal charities worldwide and featured more than 1,150 dogs from across the globe! Funds are raised through donations of the photo session fees and book sales.

Sessions will be photographed by Kerry throughout the beautiful areas of western Australia’s Kimberley region and northern Australia and featured in the official *Tails of the World* Volume 3.

“I’m su-paw excited to be using my photography to make a difference to animals in need. I also adore that I get to showcase some of the most beautiful areas in Australia with the dogs I photograph for the project,” said Kerry.

“I have chosen to support VBB and AMRRIC because they provide notable services to animals in the areas that I’ll be covering with the project. It’s important to me to support local for a project that is locally based.

“I’ve also partnered with VBB following the 2020 bushfires with our Puppy Tales fundraising calendar and know of the incredible work that they do through this.”



**Puppy Tales Travel Schedule**

🐾 **Broome WA and surrounding areas in Gantheume Point and Cable Beach / 28 – 30 June 2024**

🐾 **Darwin City WA and surrounding areas in Darwin and Bathelor / 10 – 19 July 2024**

🐾 **Atherton Tablelands QLD and surrounding areas in Atherton, Mareeba, Millaa Millaa, Herberton / 5 – 11 Aug 2024**

🐾 **Cairns QLD and surrounding areas in Cairns, Port Douglas, Mossman / 12 – 18 Aug 2024**



Photo by Puppy Tales Photography - Broome WA - Keiko & Summer.



Photo by Puppy Tales Photography - Red Dog, Dampier WA

Session spots are strictly limited. Participation cost starts from \$100. The participation fee and 5% of photography wall art sales from the sessions will be donated to Vets Beyond Borders and AMRRIC.

For more details, travel schedule and to get your best friend involved, visit <https://puppytales.com.au/tailsoftheworld/>

Kerry Martin founded Puppy Tales in 2010 and as the 'Chief Canine Cuddler', she creates incredible experiences to give fun loving pet parents Photography™ they'll adore and as a lasting tribute to their best friends.

For more about Puppy Tales' Giving Impacts locally and globally, please visit <https://puppytales.com.au/our-giving/>

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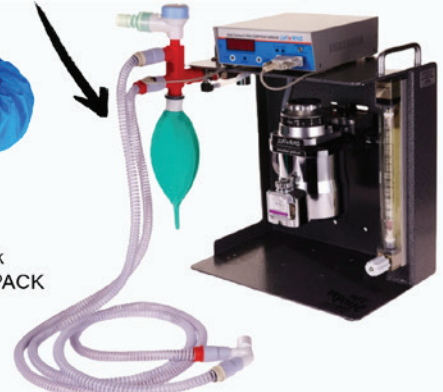
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# DEATH OF OVER 100 CATTLE ON LIVE EXPORT SHIP REINFORCES THE NEED FOR VETERINARIANS ON EVERY VOYAGE.

Recent events involving the death of over 100 Australian cattle onboard a live export ship travelling to Indonesia clearly demonstrates the need for veterinarians to be on board all live export ships, no matter how short the voyage.

The Australian Veterinary Association (AVA), the peak body representing Australian veterinarians, believes that when live export of animals by seas occurs, an Australian Accredited Veterinarian must accompany each shipment.

The AVA believes that the Australian Standards for the Export of Livestock (ASEL) regulatory controls are deficient, as they allow exporters to apply for an exemption from having an Australian Accredited Veterinarian on board short haul voyages, such as the one involving the Brahman Express.

“This is not acceptable. Veterinarians must be onboard all live export voyages, irrespective of length, to protect the health and

welfare of animals on the ship”, said AVA President Dr Diana Barker.

“The accompaniment of an Australian Accredited Veterinarian is not just important for the health and welfare of the animals on board, but also for the disease investigation to confirm the cause of death in an unusual mortality event such as this,” she said.

“It was less than 2 months ago that the importance of the veterinary presence was called out by numerous groups during the MV Bahijah incident demonstrating how critical it is to have veterinarians involved in all facets of live animal export,” said Dr Barker.

Veterinarians are essential in protecting Australia’s biosecurity and animal industries. The AVA has called for Government support for this essential profession in its prebudget submission.

## LENNY’S BRUSH WITH DEATH

What started out as a regular day for Lenny, on a walk with his owner Jim, the usually calm, 4-year-old Irish Terrier, quickly changed when he dramatically slipped out of his collar and ran directly into oncoming traffic, colliding with a vehicle.

On first inspection, Lenny seemed fine. He had no visible injuries, was steady on his legs, and was responsive. Still, wanting to make sure that there were no extensive injuries, Jim bundled up his much-loved family pet and took him to the local vet.

### Urgent and specialist, trauma care required

That turned out to be a good decision. By the time Lenny arrived at his regular vet clinic, he was experiencing breathlessness. His vets intubated him and performed x-rays of his chest, which showed his lungs were extensively bruised and bleeding. The vets decided to transport Lenny via animal ambulance to the SASH emergency and specialist hospital for further care.

Critical care doctors at SASH assessed Lenny as having severely low oxygen levels. In addition to the lung bruising (“pulmonary contusions”), he was also found to have a collapsed lung, multiple rib fractures, and internal bleeding into his abdomen.

Lenny was placed on life support – a ventilator – to assist his recovery. The ventilator breathed for Lenny and provided oxygen while his lungs healed. Patients on life support are dependent on vets and nurses for their whole care and require 24/7 monitoring. After three days, Lenny was able to come off life support. He spent another 4 days at SASH receiving round-the-clock care for his injuries, at which point he was deemed well enough to continue his recovery at home. Lenny has since made a full recovery.

### Human level care and service for Lenny

When reflecting on Lenny’s treatment, Jim notes he was blown away by the facilities, which were “better than some of the human hospitals I have seen,” he stated,

The service was “superb... everyone from the vets to the nurses and the reception staff were just amazing”.

To learn more about SASH’s Trauma Centre and how, like Lenny it could help your pet, visit: <https://sashvets.com/services/trauma-centre/>

L-R Lenny receiving treatment at SASH North Ryde, recovering at home, and now, back to his usual self (pictured with new unescapable harness)





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For more information talk to your Boehringer Ingelheim Territory Manager today or call our Customer Care Team on 1800 808 691.



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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# NEW RESEARCH REVEALS 4 IN 5 PET OWNERS WORRY ABOUT SOARING PET CARE COSTS

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**Concerns about the high price of caring for furry friends are hitting hard, according to a new study commissioned by HCF, Australia's largest not-for-profit health fund.**

The research shows a whopping 80% of pet owners are feeling the strain, with four in five pet owners concerned about how much it costs to take care of their pets.<sup>1</sup>

From Gen Z to Baby Boomers, worries about pet health and wellbeing is on the rise, with pet parents now spending a minimum of \$1,715 annually for a cat and \$3,218 for a dog.<sup>2</sup>

"Factors like ageing pets and rising treatment costs are driving up prices, making it harder for pet parents to manage," said veterinarian and pet expert, Dr Katrina Warren.

Adding to the pressure, PetSure data reveals that over the last 12 months, pet healthcare expenses have continued to increase at a rate that exceeds the high inflation seen across the economy.

For example, to treat common pet health ailments like arthritis and elbow conditions, the year-on-year increase for treatment costs is more than 50%.

"Pet parents want to ensure their dog or cat receives the best possible care, but rapidly increasing vet costs can leave them with some difficult decisions to make," said Dr Katrina Warren, who urges pet owners to plan ahead for unexpected pet health issues.

Some conditions might be easily covered by the average family budget, but PetSure research shows that, on average, pet parents would have trouble finding more than \$3,000 for an unexpected pet health expense. Concerningly, claims show many common accidents and illnesses cost much more to treat and can occur at any age.

Common treatments for cats, such as a snake bite, can incur an average cost of \$2,200, but can reach as high as \$10,000, according to the Pet Health Monitor 2023 Report. Similarly, treating skin allergies in dogs can range from an average cost of \$520 to a staggering \$17,400, highlighting the substantial expenses that can arise when addressing various pet health conditions.<sup>3</sup>

While some pet parents might question the value of pet insurance, with no Medicare for pets or government subsidies like we see in human healthcare, vet bills can leave pet owners in a challenging spot.

"Pet insurance can play a role in helping to support you with unexpected costs," said Lorraine Thomas, HCF Chief Operating Officer.

"When using features like the GapOnly service, pet parents can worry less about the upfront cost of pet bills by paying only the gap<sup>4</sup> at participating vets or get up to 80% back on eligible vet bills<sup>5</sup>," Lorraine said.



“HCF policy holders can also take advantage of complimentary access to 24/7 VetChat6, a telehealth service, that connects pet owners with a registered vet by phone or video to access quality vet care when and where the pet parent needs it.”

While the new research may give pet owners reason to pause, Katrina said the findings are generally paws-itive.

“Aussies love their pets, and the results show just how deeply that love goes. Nearly all (97%) pet owners surveyed said they are committed to supporting the health and wellbeing of their pets, with three in four (75%) strongly agreeing with this statement,”<sup>1</sup> said Katrina.

Four in five pet owners surveyed said they are using or planning to use at least one strategy to manage expenses, from buying pet food in bulk (46%) and grooming their pets at home (43%), to cutting back on personal pleasures, like dining out and shopping (29%).<sup>1</sup>

“While costs are rising, there are ways to ensure our furry friends stay happy and healthy without breaking the bank,” Katrina said.

### Some of Katrina’s tips for keeping pets happy and healthy on a budget include:

- Stock up on pet supplies in bulk
- Don't skip vet visits – early detection saves money in the long run
- Keep an eye on pet weight and maintain a healthy diet and exercise routine
- Educate yourself on common pet health issues
- Consider pet insurance, especially for young pets
- Keep cats indoors to prevent accidents and disease
- Try DIY grooming with proper tools
- Keep harmful household products out of reach
- Create homemade pet toys and furniture
- Whip up homemade pet treats

## KEY FACTS:

- Pet parents spend a minimum of \$1,715 annually for a cat and \$3,218 for a dog each year.
- Pet healthcare expenses have risen at a rate higher than inflation.
- Four in five pet owners surveyed said they are using or planning to use at least one strategy to manage expenses, from buying pet food in bulk (46%) and grooming their pets at home (43%), to cutting back on personal pleasures, like dining out and shopping (29%).

### REFERENCES & FURTHER DETAILS

1. YouGov. (2024). *Paws and Pocketbooks Research Study*. Conducted for HCF. Fieldwork undertaken between 14 and 18 February 2024. Total sample size: 1,043 adult pet owners aged 18 and above. The survey was carried out online. Figures weighted and representative of all Australian adult pet owners aged 18 and above.

2. SECNewgate Research. (2022). *Animal Medicines Australia, Pets in Australia: A national survey of pets and people* [Report]. Commercial in confidence.

3. PetSure. (2023). *PetSure's Pet Health Monitor 2023 Report*. Retrieved from: <https://petsure.com.au/pet-health-monitor/>

4. The gap means the difference between the vet's invoice and the eligible claim benefit under your policy. GapOnly® is a trademark owned by PetSure (Australia) Pty Ltd ABN 95 075 949 923, AFSL 420183 (PetSure). GapOnly® is available on eligible claims at participating Vets with a pet insurance policy from a GapOnly® pet insurance partner.

5. *Policy Terms and Conditions*, limits, sub-limits, exclusions, excesses and waiting periods apply.

6. VetChat is a non-insurance product that is separate from the HCF Pet insurance product and is separately provided by VetChat Services Pty Ltd (VetChat). VetChat is a related company of PetSure (Australia) Pty Ltd. VetChat consult membership and consultations are subject to VetChat's general Terms and Conditions, including the Privacy Policy which are available online at <http://www.vetchat.com.au>.





# FEDERAL GOVERNMENT TURNS A BLIND EYE TO VITAL ROLE OF VETS

**THE FEDERAL GOVERNMENT HAS OVERLOOKED THE ESSENTIAL NATURE OF VETERINARY WORK, LEAVING VETERINARY SCIENCE STUDENTS OUT OF ITS RECENT PROMISE TO PROVIDE FUNDS TO SUPPORT TEACHING, NURSING, AND SOCIAL WORK STUDENTS ON UNIVERSITY PLACEMENTS.**

**Australian accreditation standards mandate that veterinary students undertake at least 52 weeks of placement during their 5-6 year course, a figure which exceeds the requirements of other degrees.**

Dr Diana Barker, President of the Australian Veterinary Association (AVA), expressed her disappointment, saying, "For the approximately 3,000 veterinary students in Australia, this will be a huge blow. The fact that their more than 52 weeks of mandatory placement haven't been recognised in the Federal Government's placement payments, is a significant oversight. This does not recognise the essential work veterinarians deliver for individuals and communities across Australia."

'Placement poverty' affects veterinary students and prevents many students from undertaking practical work placements rurally and regionally due to the costs incurred. If provided with opportunities to see practice rurally, there is evidence that students will return to work in rural and regional locations.

The AVA calls on the Federal Government to clearly recognise the essential nature of veterinary services in the community. "Veterinary services are essential to the community, just like human health care or education," Dr Barker said.

Like human health, the community expects the veterinary profession to provide services for private (individual) benefit and also deliver services that benefit the public (public good).

This aspect of a veterinarian's work, often invisible to society, is crucial. "Protecting and improving the health of people and their communities is an essential part of the veterinary profession," Dr Barker said.

"The veterinary profession is a key care profession that is experiencing a skills shortage, and the AVA urges the Government to provide financial support for veterinary students undertaking placements because the profession cannot afford to. We know that government subsidies such as those from the Northern Australia Biosecurity Surveillance Network (NABSnet) program are the only way many students can afford to see the benefits of remote rural practice", said Dr Barker.

The AVA made several recommendations in its 2024/2025 prebudget submission related to new graduates and veterinary education and called for the Federal Government to support strategies that will build and retain the regional veterinary workforce.

"We implore the Federal Government to expand its placement payment scheme to veterinarians, as they, too, are providing an essential service," Dr Barker said.

For more information on the AVA's prebudget submission, scan here

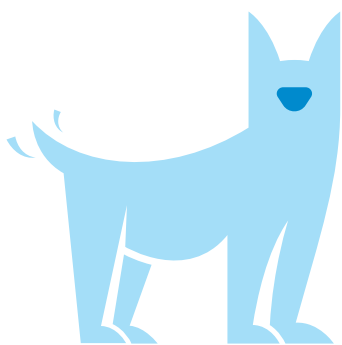






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**1.** Data on file. **2.** MOMETAMAX Ultra Ear Drops Suspension for Dogs is a single application anti-inflammatory, anti-fungal and broad-spectrum antibacterial suspension indicated for the treatment of canine otitis externa associated with strains of bacteria susceptible to gentamicin and fungi susceptible to posaconazole. Read label for full claims.



# BOEHRINGER INGELHEIM RECOGNISED AS TOP EMPLOYER FOR 2024, DEMONSTRATING STRONG COMMITMENT TO PEOPLE DEVELOPMENT IN AUSTRALIA AND NEW ZEALAND

Boehringer Ingelheim is recognised as one of 17 Top employers worldwide and for the fourth consecutive year in Australia and New Zealand. High scores in development and steering practices reflect how individual growth contributes to their company purpose

**Boehringer Ingelheim has once again been recognised as one of the top employers worldwide by the TOP Employers Institute. This prestigious certification has been extended to include Australia and New Zealand for the fourth consecutive year.**

The 2024 certification acknowledges Boehringer's commitment to providing impactful learning and development opportunities for its workforce. With high scores in the "Develop" and "Steer" categories, Boehringer's offerings demonstrate a clear connection between individual development and the company's purpose of transforming lives.

Dirk Otto, General Manager Boehringer Ingelheim Australia and New Zealand, emphasises the importance of empowering employees in the rapidly changing field of Life Science. He said: "Our people need the skills and opportunities to develop dynamic, fulfilling, and future-proof careers.

"Our recognition as a certified TOP Employer in Australia and New Zealand for the fourth consecutive year is testament to our unwavering commitment to our employees. By providing our people with genuine opportunities for career development and growth, we empower them to live their best lives and do their best work."

As a global organisation, Boehringer Ingelheim offers sought-after career opportunities, including international placements and promotions, as well as comprehensive local and regional learning and development programs. These initiatives are aimed at fostering talent growth and inclusion, attracting top professionals from diverse backgrounds.

"In Australia and New Zealand over the past year, we've welcomed 69 new starters, celebrated 52 work anniversaries representing an impressive 645 years of service, offered 28 internal promotions, and invested more than 380,000 hours in individual professional development across our field teams," Dirk said.

Lisa Price, Head of Human Resources, Boehringer Ingelheim Australia and New Zealand, highlights Boehringer's commitment to diversity and inclusion.

"We prioritise creating a work atmosphere that is diverse, equitable, and inclusive. Our people-first policies not only stimulate growth but also position us as a destination for top talent. The wellbeing of our employees and their families is paramount to us. That is why we have introduced supportive policies that enable them to be present for important milestones and during challenging times," said Lisa.

These policies include 16 weeks of paid parental leave for all employees, regardless of gender identity or caregiver status. Boehringer Ingelheim also offers additional benefits such as paid family and domestic violence leave, counseling services, and health and wellbeing initiatives to ensure a supportive work atmosphere.

"We are proud of the progress we have made in creating a diverse and inclusive work environment at Boehringer. However, we strive for more in all these areas. We recognise that diversity and inclusion are journeys that require continuous improvement. Our work is not yet complete, and we are determined to push boundaries and set higher benchmarks in order to create an even more inclusive workplace," Lisa said.

Boehringer Ingelheim has been listed among the top employers in multiple countries and regions for the past ten years. This year, Boehringer will receive the award in 30 countries with regional certifications in Europe, Asia Pacific, and Latin America and the Middle East.

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# FROM 'LIONESSES' TO LABRADORS: STUDY SHOWS HOW DOGS, LIKE HUMANS, CAN BENEFIT FROM SURGERY FOR CRUCIATE LIGAMENT INJURIES

**Anterior Cruciate Ligament (ACL) injury can be a serious blow to the careers of professional athletes such as England Lioness's captain, Leah Williamson, NFL quarterback, Tom Brady, and Brazilian footballer, Neymar Júnior, but did you know dogs often suffer cruciate ligament injury too?**

A new study from the Royal Veterinary College (RVC) has shown that surgery can support better recovery from CCL ruptures in dogs, just like your favourite footballer or professional sportsman. The study found surgery was more effective than non-surgical management of the injury, helping to reduce injured dogs' short-term lameness by a quarter (25.7%) and long-term lameness by a third (31.7%).

This evidence will help vets recommend the best course of care and management for owners deciding on treatment for CCL ruptures in their dogs. Like human ACL injuries, CCL ruptures in dogs are a serious and common problem, but are usually caused by gradual degeneration of the cruciate ligament until it finally ruptures in dogs.

Previous RVC VetCompass research\* had reported that CCL rupture affects approximately 1 in 180 dogs and that Rottweilers, Bichon Frise, West Highland White Terriers and Golden Retrievers are at greatest risk of CCL rupture, with dogs most commonly affected in middle-age.

Treating CCL rupture often requires owners to decide between surgical and non-surgical management. However, until now, the evidence comparing clinical outcomes between surgical versus non-surgical management in dogs has been limited. Most previous veterinary studies were limited to reporting associations rather than showing true causal links between treatment and outcome.

To fill these data gaps, this new study measured clinical outcomes following surgical vs non-surgical treatment for CCL rupture to report on short- and long-term lameness as well as the use of pain relief medication prescription. These data were analysed using novel causal inference methods and demonstrated a substantial causal link between receiving surgical management and better outcomes.

Led by the RVC's VetCompass Programme and supported by an award from Dogs Trust, the study was based on anonymised clinical records from more than two million dogs under first opinion veterinary care in the UK in 2019.

This study applied causal inference methods to the analysis of random samples of 815 dogs with CCL rupture aged between 1.5- and 12-years-old to replicate a randomised clinical trial and explore the impact of the different treatment methods. Balancing the arms of the study for variables including age, breed and bodyweight, the researchers compared the outcomes for the dogs





**“Uncertainty when deciding on the best treatment option for their ill dog is one of the hardest challenges for any owner. This new VetCompass research uses Big Data analyses from millions of dogs to give owners of dogs with cruciate rupture the best evidence to support the best possible treatment decisions. Good science should be caring as well as scientific.”**

*Dr Dan O’Neill,  
Royal Veterinary College  
Associate Professor in Companion  
Animal Epidemiology*



who received surgical management for CCL ruptures to those that were managed non-surgically.

The results showed that dogs managed surgically were 25.7% less likely to show short-term lameness at 3 months post-diagnosis and 31.7% less likely to show long-term lameness at 12 months post-diagnosis than dogs managed non-surgically.

Surgically managed dogs were 38.9% less likely to have a pain relief prescription at 3 months post-diagnosis, 34.1% less likely at 6 months and 32.7% less likely at 12 months than dogs managed non-surgically. These findings also similarly demonstrate lower longer term pain in surgically managed dogs.

Camilla Pegram, VetCompass PhD student at the RVC and lead author of the paper, said: “This study used an exciting new approach that allowed us to determine ‘cause’ rather than being limited to ‘association’. Surgical management for CCL rupture is often considered as providing better outcomes than non-surgical management, but this study now provides an evidence base to support this. Whilst surgical management might not always be feasible for some dogs, the findings allow vets to quantify the benefit in their discussions with owners.”

Dr Dan O’Neill, Associate Professor in Companion Animal Epidemiology at the RVC and co-author of the paper, said:

“Uncertainty when deciding on the best treatment option for their ill dog is one of the hardest challenges for any owner. This new VetCompass research uses Big Data analyses from millions of dogs to give owners of dogs with cruciate rupture the best evidence to support the best possible treatment decisions. Good science should be caring as well as scientific.”

Paula Boyden, Veterinary Director at Dogs Trust, said:

“We’re delighted that Dogs Trust can support a wide range of groundbreaking studies through its Canine Welfare Grants. This study has revealed useful data that can help vets guide owners to make the most appropriate decision to deliver the best outcome for their dog. We hope this new insight will lead to improved dog welfare.”

## References

The new paper: PEGRAM, C., DIAZ-ORDAZ, K., BRODBELT, D. C., CHANG, Y., FRYKFORS VON HEKKEL, A., WU, C., CHURCH, D. B. & O’NEILL D.G. 2024. *Target Trial Emulation: Does surgical versus non-surgical management of cranial cruciate ligament rupture in dogs cause different outcomes?* Preventive Veterinary Medicine.

The full paper is available from Preventive Veterinary Medicine and can be accessed here: <https://doi.org/10.1016/j.prevetmed.2024.106165>

Previous supporting paper: PEGRAM, C., DIAZ-ORDAZ, K., BRODBELT, D. C., CHANG, Y., FRYKFORS VON HEKKEL, A., WU, C., CHURCH, D. B. & O’NEILL D.G. 2023. *Risk factors for unilateral cranial cruciate ligament rupture diagnosis and for clinical management in dogs under primary veterinary care in the UK.* Vet J. The full paper is available from Vet J. and can be accessed here: <https://doi.org/10.1016/j.tvjl.2023.105952>





## NURSEKIND CAMPAIGN LAUNCHES AFTER SURVEY REVEALS INDUSTRY LOOKING FOR GROWTH AND FURTHER RECOGNITION

**A leading provider of pet health nutrition, has today launched the Nurse Kind campaign, encouraging pet owners to be aware of and utilise the expertise and training of Vet Nurses and Technicians across Australia, and provide much needed resources and additional education opportunities for Vet Professionals.**

This comes after ROYAL CANIN® and the Veterinary Nurses Council of Australia (VNCA) recently conducted an extensive survey examining the experiences and perspectives of more than 750 Vet Nurses and Technicians in the Australian veterinary industry. The

survey reveals the profession wants greater recognition of their role caring for our pets, with almost three-quarters of Vet Nurses and Technicians supporting mandatory registration of Vet Nurses.

The study highlighted over 90% of Veterinary Nurses across Australia and New Zealand are hungry to keep learning as they support pet owners across both countries. The results showed Vet Nurses are skilled professionals, with over 95% of Australian Vet Professionals

having, or midway through studying, advanced qualifications in veterinary nursing, with the most likely reasons for further study being looking to build on their knowledge or expanding the services they can offer to pet owners in clinic.

Royal Canin is teaming up with Lincoln Institute of Veterinary Business to support this growth mindset of Veterinary Nurses in Australia, jointly sponsoring 150 Australian Nurses and Technicians to undertake a 12-month pilot with education from a training program called Emerging Leaders, starting this year. The program will provide tailored non-clinical skills development for them, assisting in areas such as greater effectiveness in their roles, fostering healthier workplace relationships and enhancing their leadership.

“As a Vet Professional myself, formal qualifications prepare you well for the clinical aspects of the role, but less so for the complexities of running a clinic, how to handle difficult conversations with pet owners, or help contribute to a strong working culture,”

Royal Canin ANZ Chief Health Officer, Dr Bronwen Slack said.

“We are so pleased to be coming together with the VNCA and respective education provider, the Lincoln Institute of Veterinary Business, to launch the Emerging Leaders program.

“Vet Nurses and Technicians are dedicated and have a passion for animal welfare. Without them, the healthcare of our pets will suffer. Pet owners can play a role in supporting Vet Nurses by demonstrating our appreciation for the skill and commitment they show to the care of our pets,” Dr Slack said.



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BRUCE ADDISON, Veterinary Microbiologist • Addison Biological Laboratory, Inc.



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— WSAVA.org

Pet oral health care is an ongoing challenge for pet owners and veterinary teams. Periodontal disease is the number one health problem in small animal patients, according to the American Kennel Club. By age 3, more than 80 percent of dogs and cats have some form of periodontal, or gum disease. Pet owner resistance to in-clinic dental procedures that involve x-rays and anesthesia is well known.

To optimize pet health, **the starting point for comprehensive oral care must be in the home** where bad breath is the primary warning sign. Most veterinary clinic personnel miss the opportunity to educate pet owners about daily oral care and promote in-home solutions for their pets.

*Quite simply, "a chew alone won't do."*



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*"Zinc is well documented to tie up sulfur compounds in the oral cavity which are a primary cause of bad breath, the first signal of impending dental disease."* — Bruce Addison, Veterinary Microbiologist, President and Founder

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A mural of Millie, the first Paw Pals therapy dog

# MACKILLOP PAW PALS PROGRAM BREAKS DOWN BARRIERS WITH ANIMAL ASSISTED EDUCATION

**An innovative, community-funded program run by MacKillop Family Services is helping children in Victoria re-engage with education in a remarkable way.**

Students with learning differences or special needs often struggle to engage with peers, concentrate on studies and learn effectively due to a host of classroom challenges. Social and emotional difficulties that kids face outside the school gates also hamper their progress at school.

“With the number of Victorian students with educational adjustments steadily rising over the past decade, it is more important than ever to give kids a learning lifeline,” said Brona Walshe, MacKillop’s Education and Engagement Programs Director.

MacKillop Family Services’ Paw Pals program uses Animal Assisted Education to connect with young people who find it

difficult to attend school due to issues such as anxiety or learning difficulties, which make it really challenging for them to be in a classroom.

“Paw Pals facilitators work with therapy dogs to help vulnerable children who are disengaged from education to understand their emotions and behaviour, improve their confidence and reconnect with learning,” said Walshe.

“The therapy dogs provide a level of support that simply isn’t available in schools, helping children who struggle to understand their emotions by developing social and emotional skills and strategies.”

Since its launch in 2018 with one dog and a facilitator, Paw Pals has supported more than 800 kids to get back to learning! Today the program has 14 facilitators and more than 20 rotating dogs working across Melbourne, Geelong and Ballarat.



Besides school settings, Paw Pals therapy dogs also support students in residential care..

“Today, the cohort has grown significantly from kids removed from their families and not attending school to those who come from stable family relationships, suffer from generalised anxiety and do not have learning support services available to them, especially in regional areas,” said Walshe.

“The Paw Pals program has shown to make a significant difference in the lives of children who require additional social, emotional and learning support. We are looking forward to launching the program in NSW later this year!”

MacKillop’s Paw Pals program is funded by the community, and supported by matching partners: CCI Giving, Catholic Development Fund, iCare Staffing, Queensland Gives, the Paw Prints Matching Circle and Major Partner Petstock Foundation.

### Community Support for Paw Pals

Demand for animal assisted education and the Paw Pals program has significantly grown after the prolonged COVID lockdowns which heavily impacted young people’s mental health. While originally started to support children and young people who were in residential care or foster care and not attending school, increasingly, the program works with children who are struggling with issues such as anxiety, or school refusal.

MacKillop’s Paw Pals program is funded by the community, largely driven by an annual matched giving day appeal called the Paw Pals Appeal. The Paw Pals Appeal raised \$360,000 this year when all donations on 30 April 2024 were tripled by generous matching partners: CCI Giving, Catholic Development Fund, iCare Staffing, Queensland Gives, the Paw Prints Matching Circle and Major Partner, Petstock Foundation. This support will help the Paw Pals therapy dogs to work with more children across Melbourne, Geelong and Ballarat and the program is expanding to NSW later this year, when MacKillop’s first NSW Paw Pal will join the team.

### From small paw steps...

The Paw Pals program started out with the introduction of Millie the Labrador and a 15-year-old girl named Laura\*. Laura had autism and suffered from a deep childhood trauma that put herself at significant risk in the community. She spent most of her time closed in her room and was disconnected from staff and anyone around her. After months of struggling to engage with the young girl, one of MacKillop’s teachers, Sarah Castle, decided to try a new approach – what would happen if they brought in a dog? The results surpassed their wildest expectations! Interacting with Millie helped Laura discover more about herself and how people learn and communicate. She became engaged with learning as she used positive reinforcement methods to teach Millie the skills she needed to become a certified therapy dog.

Working with Millie has taught Laura about her future career goals too.

“I really want to work with animals—that’s my passion.”

Now that Laura has experienced Animal Assisted Education, she can’t recommend it enough for other young people.

“I honestly recommend it for other young people who have experienced trauma in the past like me. It does bring out confidence, and it relaxes you. When I’m with Millie, it makes every bit of stress that I’m holding on to go. Working with Millie brings my day to a different level of happiness. I’ve never been that happy in my life than when I see that dog.”

\*Name changed to protect privacy.

Millie has since passed away, but her spirit lives on in the Paw Pals program.

### About MacKillop Family Services

MacKillop Family Services operates in VIC, NSW, WA, ACT and the NT and has been committed to working with families and communities so children can thrive since 1997. Find out more about MacKillop Family Services at [www.mackillop.org.au](http://www.mackillop.org.au)



# HARRISON'S JOURNEY WITH PAW PALS

Twelve-year-old Harrison is no stranger to feeling out of place. Diagnosed with Autism Spectrum Disorder, he struggled heavily through primary school with frequent outbursts and a relentless battle with school refusal. He also spent many hours confined to his room, leaving his parents in despair.

However, amidst the emotional turmoil, a learning lifeline emerged in the form of four legs and a furry face. Harrison found solace in the presence of Indie, a black Labrador from MacKillop Family Services' Paw Pals animal-assisted education program.

The first encounter between Harrison and Indie was in the parking lot of MacKillop Education School in Maidstone, VIC mid last year, after ten weeks of 45-minute car rides with his mum and still unable to get out of the vehicle.

When Indie and Paw Pals facilitator Sarah approached, Harrison was crouched on the ground, visibly exhausted from a recent outburst. Putting her paw in action, Indie stepped on his knee and leaned her head over his shoulder. Harrison was so taken by this, he looked up at Sarah and asked wide-eyed, 'What is she doing?' Sarah said, 'Indie knows it's been a tricky morning for you and is giving you a hug.'

Harrison breathed a sigh of relief. What followed was a moment of magic when Sarah announced it was time for Indie to go into the classroom and Harrison jumped up saying he would go with her!

"Harrison was so excited as he walked into the classroom with Indie and showed us his desk," said Sarah. "When he got back in the car a little while later, I saw a smile on his face – he had achieved something great that morning!"

**"With Indie's help, Harrison gained invaluable skills in self-awareness, emotional regulation and social interaction,"**

*Paw Pals facilitator Sarah*



Paw Pals therapy dog Indie

## Building confidence with pawfect connections

Harrison's journey with Paw Pals began at that moment and with each session at MacKillop's school, he forged a deeper connection with Indie, learning to understand her body language and emotions and, in turn, his own.

Through Indie-infused activities focused on social and emotional development, Harrison gradually grew in confidence and began

expressing his fear of going to school and aspirations of becoming a zookeeper someday.

"With Indie's help, Harrison gained invaluable skills in self-awareness, emotional regulation and social interaction," said Sarah. "He not only found a friend in Indie but also learned the importance of empathy and kindness with his peers."

One of Harrison's most significant milestones came when he expressed his desire to stay for recess and then lunch at school—an achievement that seemed unimaginable not too long ago!

One day, Sarah brought out a jar of plastic bones that symbolised Indie's energy reserves, representing her resilience and capacity to endure challenges. This would help with formulating coping strategies for Indie that could translate into solutions for Harrison's experiences.

She explained to Harrison that they would remove bones if anything challenged Indie, thereby depleting her energy. To replenish Indie's energy reserves, they would, for example, give her space or an enrichment activity.

Sarah then asked Harrison what happens to his energy reserves when he goes to school? He slowly tipped all the bones out on the table. Then after a brief pause, he began to place the bones back into the jar, one-by-one. He said, Sarah and Indie help to fill his energy reserves!



Harrison with therapy dog Indie and Paw Pals facilitator Sarah



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'... automating routine tasks  
to spend more quality time  
with clients is fundamental  
for veterinary business'

- Dr Phil Tucak

Veterinarian and AVA Veterinary Business Professional of the Year 2020



The Vetplus business efficiency program offers a number of time-saving opportunities for your staff, using automation to handle routine bookings and reminders, digital solutions like the new **Pet Health Passport** app, plus a suite of ready-to-go marketing campaigns where all the hard work has already been done. Do more with less! To discover what Vetplus can offer your practice, **scan** the QR code or **talk** to your Boehringer Ingelheim Territory Manager for details.



# VEDI PARTNERS WITH ANIMAL EMERGENCY AUSTRALIA TO DELIVER PROGRESSIVE MILESTONE FOR VETERINARY EMERGENCY CARE

Today, Vedi, the cloud health platform, announced its partnership with Animal Emergency Australia (AEA), the leading emergency veterinary hospital group. The partnership marks a perfect synergy between premium emergency care and state-of-the-art health record technology and is an exciting and progressive milestone for the veterinary sector.

Animal Emergency Australia has established itself as a frontrunner in providing critical animal care — with 10 hospitals across the country. AEA's emergency sites will benefit from enhanced collaboration and communication with general practice clinics, using Vedi. Leveraging the pets' existing microchips, Vedi will ensure timely access to accurate patient health records and provide tools that bolster the effectiveness of emergency teams in high-pressure situations.

AEA will use the Vedi platform for improved care delivery, quick data transmission and partner integrations, and accurate pet health information when critical decisions need to be made. The value of AEA's adoption of Vedi will be felt far beyond the walls of the emergency clinics, with veterinary practices and pet owners all set to benefit from efficiencies and data accuracy.

The initial pilot will roll out across several AEA sites in Western Australia, Victoria, and Queensland. The focus will be on improving the front-of-house patient triage process and facilitating the seamless exchange of health data with GP veterinarians and pet owners post-discharge from the emergency room.

Dr Rod Meehan, Chief of Hospitals at AEA, is enthusiastic about the partnership: "This hasn't been possible before! We're excited

about partnering with Vedi because it will help our patients, our team, and our clients. The opportunities for better collaboration between stakeholders and the efficiencies we expect to gain operationally in the hospital are next level!"

Dr Steve Joslyn, CEO of Vedi, highlights the technology's transformative potential: "We're thrilled that our technology is set to enable AEA ER teams to access the vital information they need to care for a patient by simply scanning their microchip on arrival. In a high-stakes emergency, it will be a game-changer."

## About Vedi

Vedi is a world-first cloud health platform dedicated to connecting the veterinary world with workflows that eliminate the unnecessary. With a focus on user-friendly apps, robust communications infrastructure, and a comprehensive cloud health record system, Vedi is at the forefront of integrated veterinary health record technology.

## About Animal Emergency

Australia Animal Emergency Australia is a national leader in veterinary emergency and referral services, offering the highest standard of care for pets in urgent situations. With a commitment to excellence and a compassionate approach, AEA is at the cutting edge of veterinary medicine in Australia.





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# THE ABCS OF VETERINARY DENTISTRY:

# K K IS FOR KISSING LESION

Tracey Small BA (Soc Sc), VN, Dip VN (Dentistry)

Dr David E Clarke BVSc, DAVDC, FAVD, DAVC-ZWD, MANZCVS, Cert IV TA

Registered Specialist, Veterinary Dentistry and Oral Surgery

[www.vdec.com.au](http://www.vdec.com.au)

**As we continue to journey through the dental alphabet, this issue brings us to the letter K. In this article we delve into the pathology of the KISSING lesion.**

Canine Chronic Ulcerative Stomatitis (CCUS) is an extremely painful, debilitating and chronic oral condition that attacks the paradental or soft tissues of the oral cavity.<sup>1,6</sup> The paradental structures include the mucous membranes associated with the buccal mucosa, lips, palate, tongue and cheeks that lie in contact with the crowns of the tooth.<sup>1,5</sup> Aetiology is still unknown; however, it is thought to be an immune-mediated reaction to the antigen of bacterial plaque.<sup>1,5</sup> Terminology has evolved over time, as it was recently known as Chronic Ulcerative Paradental Stomatitis (CUPS), other labels include contact mucositis, kissing lesions and contact mucositis with ulceration.<sup>1,2</sup> These labels are interchangeable because they describe the causation of mucosal ulceration from rubbing/contacting against plaque and calculus that sits on the tooth surface.<sup>1,6</sup>

CCUS can inflict any breed, however the Maltese, Cavalier King Charles Spaniel, Labrador Retrievers and Greyhound appear to be overrepresented.<sup>1,7</sup> The

most accepted theory is that the immune system is triggered by bacterial plaque resulting in an inflammatory reaction.<sup>1,4,6</sup> The immune response is excessive to even minimal plaque<sup>1,3</sup> resulting in a painful and destructive ulcerations affecting the paradental structures.<sup>1,3</sup>

CCUS is often misdiagnosed as periodontal disease which leads to ineffectual treatment and consequently prolongs the condition and associated pain.<sup>3</sup> If you are unsure of the clinical signs of this condition, it could easily be mistaken as periodontal disease because early stages of CCUS will present with gingivitis and inflamed mucosa.<sup>2,3</sup>

Periodontal disease affects the periodontium structures, that is the alveolus, cementum, periodontal ligament, alveolar bone and gingiva.<sup>2,5</sup> Common clinical signs of periodontal disease include gingivitis, gingival recession and furcation exposure (Figure 1), gingival enlargement, periodontal pocket formation due to alveolar bone loss and attachment loss (Figure 2). Conversely, CCUS affects the paradental structures, on examination ulcerations will be evident particularly where the mucosa contacts the dentition (kissing lesion) (Figure 3),<sup>1,6</sup> these lesions

tend to be most significant over the maxillary canines and the carnassial teeth.<sup>1,5</sup> In chronic and severe cases, the entire buccal mucosa, lateral edges of the tongue, lips and palate that lie in contact with the crowns of the tooth can be affected.<sup>1,7</sup>

The main differentiation between CCUS and periodontal disease is that usually when there is periodontal disease present the paradental structures remain healthy,<sup>5</sup> however a CCUS patient can have healthy or mild periodontal disease with severe inflammation and ulceration restricted to the paradental structures.<sup>2,4,5</sup>

If CCUS is not treated appropriately, periodontal disease will develop and accompany CCUS simultaneously. Moreover, areas affected by gingival recession tend to be severely ulcerated.<sup>2,4</sup>

Owners often bring their pet in for consultation out of concern because they have noticed smelly breath, drooling and their pet is not eating. Prior to examining the pet's mouth, it is imperative to gather a detailed history as this is fundamental in compiling clinical evidence to establish a diagnosis and possible differential diagnoses. Owners will always describe

Figure 1



Figure 2





their pet exhibiting some level of anorexia. They describe their pet going to the food bowl and attempting to eat but walk away or appear to have difficulty picking up their food.<sup>12</sup> Owners often comment that their dog's mood has changed, describing their dog as miserable or depressed, not wanting to play or chew on their toys or favourite treats. In addition, owners note that their pet's behaviour has changed, exhibiting licking, yelping when eating or yawning and rubbing their face on the carpet, they can become head shy and even showing aggression when owners play with their mouth.

Conscious examination is often difficult, if not impossible due to the severity of oral pain this condition causes.<sup>14</sup> These patients are often head shy and can even show signs of aggression when attempting to lift the lip.<sup>3,5</sup> Therefore, a comprehensive oral health assessment under general anaesthesia is recommended.<sup>1-3,6</sup> Clinical signs include putrid halitosis, ptyalism which is ropy, thick and viscous. The saliva is typically cloudy and can have the presence of blood, creamy discharge present on the teeth and lip fold dermatitis.

Mucosa apical to the maxillary canines and fourth premolars are the most likely to be involved. They exhibit marked inflammation with or without ulceration and necrosis.<sup>4</sup> Lesions can be delineated lesion or diffused areas of inflammation with fresh, pustular, haemorrhage or necrosis pseudo membranes. Ulceration often has

a pseudo membrane present and when chronic it progresses to mucosal necrosis. In severe cases, mucosal neurosis will extend through the skin.<sup>4</sup>

Differential diagnosis includes autoimmune diseases such as mucous membrane pemphigoid, pemphigoid vulgaris, epidermolysis bullosa, systemic lupus erythematosus, bullous pemphigoid, erythema multiforme.<sup>1,5,7</sup> Other possibilities include drug reactions resulting in toxic epidermal necrolysis and foreign bodies.<sup>7</sup> These conditions have similar symptoms as CCUS; however, these disorders often have skin and non-oral lesions.<sup>12</sup> Therefore a full physical examination is necessary to assess whether other areas of the body are affected. In any case, histopathology should be performed to confirm diagnosis of CCUS.<sup>1,3,5</sup> Lesions will have plasmacytic and lymphocytic infiltrates.<sup>2,5,6</sup>

Pre anaesthetic blood screening including CBC and biochemistry is recommended. Abnormalities related to CCUS include increased blood protein (polyclonal hypergammaglobulinemia) and an increase in white blood cells (neutrophilic leucocytosis).<sup>1,5,7</sup> A full comprehensive oral health assessment must be performed under general anaesthesia. Prior to intubation, examine the pharyngeal structures such as the pharynx, tonsils, soft palate and palatoglossal folds for signs of inflammation and pathology, recording findings onto the patient's chart.

Once the patient is intubated and stabilized, it is recommended that pre and post photographs are taken. These photographs are important not only as a visual base line the patient's pathology, but are a useful visual aid to show, educate and promote treatment plan compliance from the client.

The oral cavity is examined, this includes the hard palate, all surfaces of the tongue (ventral, dorsal and lateral) and all the mucosa. Pathology is recorded, lesions drawn to indicate location and measurements noted. A detailed description of lesion/s are recorded onto the notes section of the dental chart<sup>2,3,5</sup> describing whether it the lesion is pustular, haemorrhaged, necrotic or scarred. Whether the tongue is thickened, is it bilateral or unilateral. In cases of CCUS, the mucosal gingiva will be inflamed where there is contact with dentition.

The teeth are examined, and pathology noted. Plaque, gingivitis and calculus accumulation are noted for each tooth. Periodontal pockets are measured, and pathology recorded along with furcation exposure and debris that may be entrapped within the sulci. Gingival

recession, root exposure, root calculus, gingival enlargement and oral masses are noted.<sup>3,4</sup> Missing teeth, supernumerary teeth are recorded. Individual teeth are examined for enamel pathology such as enamel defects, wear and fractures.

Full mouth intra oral dental radiographs are taken to assess the periodontium structures.<sup>1,7</sup> Findings will assist in determining teeth that are in stage 3 to 4 periodontal disease and therefore should be extracted as these teeth will exacerbate the condition.

Following the comprehensive oral health assessment; photographs, radiographs and dental chart are used as an aid in explaining the disease to the owner. Photographs are useful in highlighting the severity of the condition and assisting in presenting the most favourable treatment plan. It is imperative that the owners understand that this condition is long term and requires diligent lifetime maintenance care of regular prophylaxis and daily home care.<sup>14</sup>

Complete scaling and polishing with a non-fluoride paste is performed, paying particular attention to the subgingival areas. After polishing it is recommended that SANOS be painted into the gingival sulcus to seal the subgingival line. SANOS is a hydrophilic polymer that creates a barrier, preventing anaerobic bacteria, plaque and calculus from entering into the periradicular tissues. Due to the engineered pores within the polymer, oxygen and water can pass through, promoting a healthy aerobic environment.<sup>2,4,8</sup>

Regular revisits are necessary to monitor the condition and treat when required. Furthermore, it is important to be able to distinguish the difference between periodontal disease and contact ulceration moving forward, this is achieved with regular dental checks, COHATS and dental radiographs.<sup>1,6</sup>

The use of antibiotics in the past has shown minimal success, albeit doxycycline may assist as it has an anti-inflammatory effect. Pain control is important using NSAIDs or paracetamol. Previous medication such as interferon and cyclosporine alone have proved to have minimal benefit. A recent drug trial published in the Journal of Veterinary Dentistry by Ford, Anderson et al, has shown promise, using a combination of cyclosporine and metronidazole. *"Oral cyclosporine was dispensed post-operatively at an approximate dose of 5 mg/kg once a day, an hour before or 2 hours after feeding. A whole blood cyclosporine level (CsA) and a cyclosporine pharmacodynamic assay*

Figure 3



(CPA) were obtained prior to (trough) and 2 hours post-pill (peak) on or after Day 8 of treatment. The following day (Day 9 of treatment), metronidazole at a dose of 15-20 mg/kg once a day was added to the cyclosporine regime. After a minimum of 3 weeks on both drugs, the digital images of oral lesions were obtained for comparison with original images and blood drawn. If the clinical response and reduction in cytokine expression based on the CPA were acceptable, cyclosporine therapy was continued for 2 more weeks at the starting dose and then reduced to every other day. Four weeks later, the cyclosporine dose was decreased to twice weekly. If CCUS clinical signs reoccurred, the cyclosporine dose was administered daily for a week and reduced to every other day and then to twice weekly if possible. Maintenance therapy of every other day or twice-weekly cyclosporine and daily metronidazole was continued for the duration of the trial. At every re-evaluation, clients were questioned about potential medication side effects such as vomiting, diarrhea, lack of appetite, or neurologic signs including ataxia or nystagmus. Clients were also encouraged to contact the clinician with any concerns.<sup>9</sup>

Homecare is an integral component to treatment.<sup>1,3,5,7</sup> As previously mentioned, even the smallest amount of plaque will lead to a severe reaction. Plaque forms on the tooth within hours after brushing, with CCUS, causing an inflammatory response resulting in ulceration of the paradental structures. Therefore, toothbrushing must be performed every day to control inflammation by removing plaque buildup.

To assist with healing ulcerative areas, toothbrushing can be combined with the application of MAXI/GARD gel. The active formula of zinc ascorbate/sufur amino acid has been found to stimulate collagen production and aid in wound repair.<sup>10</sup> In addition, the zinc works as an antiseptic against both gram +ve and gram -ve bacteria.<sup>10</sup> One paper concluded that MAXI/GARD reduced bacterial growth and in turn, plaque and gingivitis also decreased.<sup>10</sup>

Dental foods and treats can be incorporated into the home care program; however, these are secondary to brushing and MAXI/GARD as removing plaque daily is essential to reducing inflammation and reducing immune response.<sup>5</sup>

Treatment can be difficult, particularly as this disease is long term.<sup>1,5</sup> Due to oral pain, it can be difficult for owners to perform oral homecare. Utilizing your dental nurse to work with these clients providing support, education and demonstration of brushing techniques and administration of oral gel will ensure the best chance of success.

Whilst it is true that CCUS can be frustrating and difficult to manage. With persistence, regular prophylaxis and strict homecare symptoms this condition can be managed.

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CCUS can inflict any breed, however the Maltese, Cavalier King Charles Spaniel, Labrador Retrievers and Greyhound appear to be overrepresented







# COMPANY OF ANIMALS ANNOUNCES LEADERSHIP SUCCESSION: DR. ROGER MUGFORD'S RETIREMENT AND APPOINTMENT OF DR EMILY MUGFORD AS CEO

**After 44 years at the helm of the Company of Animals (COA), founder and CEO Dr. Roger Mugford is passing the torch to his daughter Emily. Roger has been an influential figure in the pet industry, and his legacy will now be carried forward by Emily, who has been unanimously appointed by the COA Board as their new Chief Executive Officer.**

In a heartfelt message to COA staff, Roger expressed gratitude for the fulfilling and varied career he has had with dogs and the COA. He highlighted the unique nature of COA as an independent business, free from the corporate constraints that dominate the pet industry. He emphasized both the past achievements and continuing opportunities that arise from his daughter's appointment.

Dr. Emily Mugford is a Veterinary Surgeon with a wealth of experience in the pet industry and has been a director and COA Board member for three years. In her introductory letter to the staff of COA, she shared her journey from packing Haltis when a child and in the early days of the company, to qualifying as a veterinary surgeon and then practice owner. She expressed pride in Roger's achievements and outlined her commitment to build upon the foundations he has laid.

Having owned a veterinary practice and worked in various leadership roles within the veterinary industry, Emily brings a deep understanding of the pet industry. She expressed excitement about leading COA and her commitment to learning from the team, acknowledging both the present challenges and future opportunities.

Dr. Roger Mugford will continue to be involved in COA, overseeing The Pet Centre at the company's UK headquarters on Ruxbury Farm and pursuing opportunities that benefit animals and the planet. He expressed gratitude to the staff for their loyalty and urged them to extend the same support to Emily.

The Mugford family's dedication to the well-being of pets and their owners is evident in COA's mission statement: "To enrich the lives of pets and people through innovative best-in-class products

and services." Emily is poised to carry forward this mission, with an emphasis upon building strong customer relationships and a promise to focus on activities and products that enhance the human-animal bond, which are the core of COA's work.

The transition from Roger to Emily marks a new chapter for COA, emphasizing continuity and a commitment to the values that have defined the company since its inception.

## About Company of Animals:

Company of Animals (COA) was founded in 1979 by Dr Roger Mugford. Constantly developing and expanding, the COA portfolio now boasts over 11 different product ranges including Halti, (the 2016/7 World Branding Award winner), Baskerville muzzles, training accessories and the revolutionary hand-held Pet Corrector device (which interrupts unwanted behaviour by a hiss of air). The Company of Animals also acquired a much-loved grooming brand Pet Head, in 2016.

The headquarters site in rural Surrey has now been rebranded to the Company of Animals Pet Centre and widely regarded as one of the best in the country. The centre specialises in all levels of dog training, offers behaviour consultations on veterinary referral, hydro and physiotherapy as well as helping to resolve legal issues about pets. The Company of Animals Pet Centre also boasts not one but two agility fields as well as the first Pet Head Grooming Parlour, all on site at Ruxbury Farm. This unique 360° approach to care for animal health, hygiene and welfare gives Company of Animals the ability to constantly research and develop new products that help address pet-related behaviour and training problems, as well as providing a practical base on which to test new designs and principles of animal training.

COA now has offices in the UK, USA and Australia, working closely with suppliers, distributors and partners in more than 50 countries. In 2019, The Company of Animals commitment to international trade was recognised by receiving the Queen's Award for Enterprise.





# AUSTRALIA'S FIRST NATIONAL PET SHOW IS RETURNING TO BRISBANE!

**PROUD PET PARENTS PREPARE! AUSTRALIA'S NATIONAL PET SHOW HAS CONFIRMED IT WILL BE RETURNING TO THE CAPITAL OF QUEENSLAND ON SATURDAY 22 AND SUNDAY 23 OF JUNE AT THE BRISBANE CONVENTION & EXHIBITION CENTRE.**

Set to be an unmissable event, it will feature a lineup of over 200 experts and exhibitors across a multi-zone format that brings together the best of the pet industry offering a unique opportunity for education, entertainment, and products all under one roof.

Managing Director, Cameron Just, says, "Following unprecedented success in 2023, we're excited to once again be hosting The Pet Show in Brisbane. Our event has become an opportunity for pet-loving Australians to come together in an inviting environment that celebrates all pets whether they're furry, scaly slimy, or feathery.

"Aussies love animals, and we want to support them throughout their pet ownership journeys. From getting your first snake to training the family pup, we want to help proud pet parents feel confident and informed when building a life with their new companion."

In addition to entertainment and activities including face painting, a kids agility course, scent work demonstrations, and meet and greets with the famous Bluey and Bingo, the show will also host a range of experts including veterinarian Dr Lisa Chimes, author and pet expert, Ben Dessen and Dr Katrina Warren and Kelly Gill along with the Wonderdogs. There will also be a large range of exhibitors including Refuresh, DOG by Dr Lisa and Reptile One with many offering exclusive show only deals.

Tickets are currently available online from <https://thepetshow.com.au/brisbane> with part proceeds from every sale donated to the RSPCA Queensland.

Following the Brisbane expo, The Pet Show will hold its final event for the year before kicking off its 2025 roster in Melbourne:

Sydney | 16th – 17th November 2024

Melbourne | 1th – 2th March 2025

## About The Pet Show

The Pet Show is Australia's first national pet show. A multi-zone consumer show, it enables potential pet owners, existing pet owners and animal lovers of all kinds to immerse themselves in all things pets. The Pet Show's vision is to create the perfect pet parent experience incorporating education, entertainment, and products for dogs, cats, fish, birds, reptiles and small animals.





## PET SHOW KEY DATES

Brisbane | 22nd – 23rd June 2024

Sydney | 16th – 17th November 2024

Melbourne | 1th – 2th March 2025



# NEW SURVEY REVEALS CONCERNING PET TRAVEL SAFETY WORRIES IN AUSTRALIA

- A new survey by Compare the Market finds that 21.2% of Australian pet owners don't secure their animals when taking them for a drive
- An extra 4.8% say a passenger holds the animal but they aren't kept secure
- Almost half pet owners surveyed say they use a collar to seat belt attachment, but these can be dangerous in an accident

A new survey by Compare the Market AU has found some concerning trends in how people transport their pets in the car. Just over 80% of Australian pet owners take their pets in the car, but of these, more than one-in-five don't do anything to secure their pets while travelling. An additional 4.8% have the animal sit in a passenger's lap, but without properly securing them. Animal Welfare Victoria notes that your dog should be adequately restrained with an appropriate seatbelt or restraining device,<sup>1</sup> and drivers who don't secure pets within the car could risk fines and penalties.

Almost 50% of pet owners who transport their pets in the car use a collar to seat belt attachment to keep them secure. However, according to tests done by The Center For Pet Safety,<sup>2</sup> many pet seatbelt attachments are unsafe and can lead to severe injuries in an accident. They recommended a harness that goes around the pet's body or a specialised pet car crate.

According to Compare the Market's data, just over 20% of pet owners use the recommended style of enclosed car crate when transporting their pet.

The insurance experts also explored where pets sit while in the vehicle. As it turns out, the majority of furry friends sit in the back middle seat (20.8%) or the back passenger seat (20.5%), with 18.4% sitting in the front passenger seat next to the driver.

Regardless of whether the pet is kept secure or not, Compare the Market's Executive General Manager of General Insurance, Adrian Taylor, explains pet insurance could help pay for veterinary treatment if they are injured in the car during an accident.

"Most pet insurance companies here in Australia will cover injuries from car accidents to insured pets, regardless of whether they are secured or unsecured in the car. It's important to read through the Product Disclosure Statement (PDS) to check any exclusions," Taylor said.

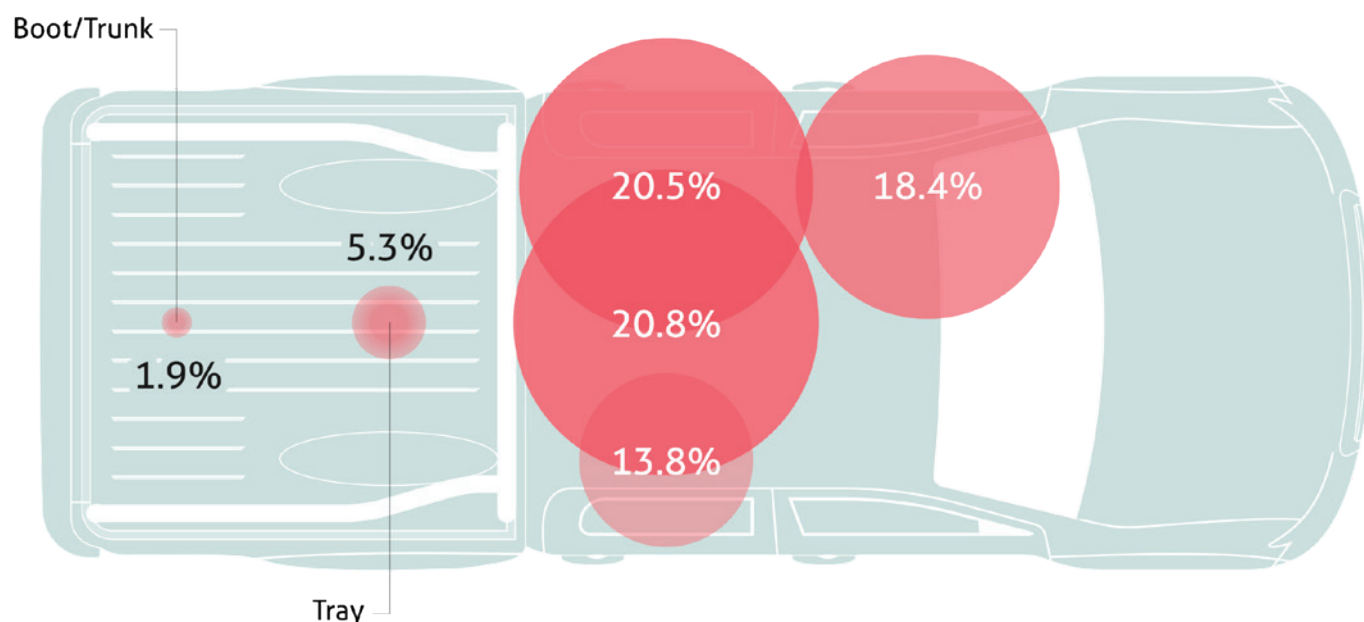
"Despite this, it's always best to make sure our pets are kept safe in the car so we don't need to take them to the vet for severe injuries. Importantly, keep them secure in accordance with your local state guidelines as you could risk infringements and fines if you don't."

For more data, graphics, additional findings and comparisons to survey results from the US and Canada, visit: <https://www.comparethemarket.com.au/pet-insurance/features/pet-car-travel-safety-survey/>

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<sup>1</sup> Travelling with dogs. Animal Welfare Victoria, Agriculture Victoria, Victorian Government. 2020.

<sup>2</sup> Extension Tether Advisory. Center for Pet Safety. 2020.







## WHEN YOUR PET IS TRAVELLING IN THE CAR, HOW ARE THEY TYPICALLY SECURED?

LOCATION	PERCENT
Collar to seat belt attachment	45.8%
Not secured at all	21.2%
Car crate (enclosed)	19.3%
Held by a passenger (not properly secured)	4.8%
Car hammock	3.9%
Car crate (open-top)	3.3%
Tied to the ute tray/back of the truck	1.7%





# CHALLENGES OF ZOO ANIMAL AND WILDLIFE ANAESTHESIA

Nigel Dougherty BA BVSc MVSc MANZCVS

**Nigel Dougherty covers the difficulties of this practice and what to look out for. The practicalities of anaesthetising captive wildlife often involve enhanced challenges (and sometimes enhanced patient risks) relative to human and domestic animal anaesthesia. Challenges may be further accentuated in free-ranging wildlife.**

To allow operators safe interactions with captive and free-ranging wildlife, Forsyth et al noted back in 1999 that relatively high dosages of immobilising agents may be administered in comparison with sedation of domestic species of shared taxa (especially when doses are allometrically adjusted), and this observation is still largely valid for dosages often applied in current zoo practice involving large fields and other dangerous animals.

Besides precautionary principles, these high doses help overcome the patient's psychogenic response to restraint (Carregaro et al, 2016).

Proper opportunity rarely exists to titrate drugs to effect in zoo medicine (Pypendop, 2015; Lamont and Grimm, 2014), yet potent or concentrated formulations are often administered (Ozeki and Caulkett, 2014; Caulkett and Arnemo, 2015).

Uncertainties may surround drug bioavailability – especially with remote drug application depending on full intramuscular delivery or with oral premedication (Caulkett and Arnemo, 2015; Hernandez, 2014), and supplementation in the face of uncertainty may risk overdose.

Sudden awakening from anaesthesia with few premonitory signs is a documented risk in various species – particularly involving use of alpha-2 agonists (Burroughs et al, 2014; Lamberski, 2015; Murphy, 2015) – and actual occurrences have been reported in less recent literature, involving medetomidine-ketamine combinations commonly used at the time in large felids (Jalanka and Roeken, 1990; Miller et al, 2003).

The flighty disposition of wild animals places them at significant risk of self-injury prior to full immobilisation, necessitating fast-acting (and, therefore, often potent) drugs be delivered at the higher end of the dose range in an endeavour to induce anaesthesia rapidly (Ozeki and Caulkett, 2014).

Overdosing is often considered relatively less unsafe to many patients than underdosing (particularly in free-ranging wildlife), as extended induction times may significantly increase stress and associated complications (Haigh, 1990; Arnemo et al, 2014).

Prey species housed in zoological collections may be more at risk of self-injury and capture myopathy – particularly with confinement, human approach and physical restraint (Chalmers and Barrett, 1982; Paterson, 2014). Significant advancements have, however, been made in reduction of pre-anaesthetic stress responses with patient training techniques



Chimpanzees are among the more dangerous of animals housed in zoological collections.



based on positive reinforcement (Reichard, 2008; Whittaker and Laule, 2012), strategic use of neuroleptic or psychotropic drugs (Kaandorp, 2005; Tynes, 2014) and using holistic approaches towards animal care, which better address the social and psychological aspects of patient well-being (Kagan et al, 2015; Mellor, 2016).



Risks of anaesthesia may be different and sometimes accentuated in free-ranging wildlife compared with species in zoological collections, but risks involving alterations of social pack or troop dynamics are sometimes greater with the latter. Image: Karin Dougherty

### Considering risks

In general, the larger the animal, the greater the potential anaesthetic risks (Trim et al, 2014). In equine practice, for example, a wider range and higher prevalence of perioperative and postoperative complications are evident compared with small animals (Brodbelt et al, 2015), with many discrepancies being associated with anaesthesia.

Equids are particularly susceptible to anaesthesia-related cardiovascular collapse (Hubbell and Muir, 2009) myopathies, neuropathies (Duke et al, 2006; Trim et al, 2014) and significant ventilation-perfusion mismatches (Hall and Clarke, 1991). Gravitational influences, in which the weight of the animal bears on organs and results in restricted breathing or compression of vasculature, are important in the pathogenesis of many of these conditions (Lamont and Grimm, 2014; Trim et al, 2014).

Anaesthesia of the megafauna encountered in zoo animal practice may face even greater gravitational challenges than domestic equids, and these are combined with challenges posed by the peculiar physiological and anatomical considerations associated with greater extremes of body size and body aspect.

Texts advising on restraint and anaesthesia of Giraffidae, Rhinocerotidae, Elephantidae, Hippopotamidae, Tapiridae and Bovidae species highlight the importance of taking steps to mitigate risks of local weight-focused myopathies and neuropathies (Stegmann et al, 2014; Miller and Buss, 2015; Miller et al, 2014; Zimmerman and Hernandez, 2015; Wolfe, 2015).



Regular repositioning of the rhinoceros is necessary to prevent muscle injury to the legs, which these animals are susceptible to.

These pathologies are, nevertheless, avoidable even under prolonged anaesthesia in high-risk animals such as the black rhinoceros and elephant (Burroughs et al, 2014; Horne and Loomis, 2014; Radcliffe and Morkel, 2014), and they occur as a result of general or local inadequacies in providing for tissue oxygenation requirements (Meltzer and Kock, 2014).

The giraffe is thought to show particular myocardial susceptibility to the effects of hypoxia due to significantly reduced cardiac output under anaesthesia (Citino and Bush, 2014; Masterton, 2020) – especially because its inability to auto-regulate cranial blood pressure under anaesthesia may induce profound reflex bradycardia and resultant hypotension (Geiser et al, 1992; Citino and Bush, 2014; Masterton, 2020).

Furthermore, the giraffe maintains extremely high renal interstitial hydrostatic pressures as a likely adaptation to protect against the high arterial driving pressures that are physiologically normal for this taxon, with physiologically low effective renal plasma flow as a result (Bie et al, 2012). As such, renal blood flow in the giraffe may become particularly compromised by major reductions in arterial blood pressures.

### Respiratory considerations

In terms of the respiratory system, larger species may be at greater risk of developing hypoxaemia and hypercapnia, due to difficulties associated with achieving adequate ventilation and greater tendencies towards ventilation-perfusion mismatching under anaesthesia (Hubbell and Muir, 2009).

Hypoxaemia and hypercapnia may become particularly manifest in species with poor lung compliance under anaesthesia, due to thoracic muscle rigidity or the immense pressure of abdominal contents on the diaphragm and sternum

(Burroughs et al, 2014; Wenger et al, 2007; Horne and Loomis, 2014; Radcliffe and Morkel, 2014).

Particular challenges may be associated with the anaesthesia of species with a reduced ability to respond to hypercapnia because of their relatively limited residual lung volumes in relation to body size (Burroughs et al, 2014; Mitchell and Skinner, 2011; Delk et al, 2019). In terms of amelioration of these conditions, certain challenges are associated with minimising the negative cardiovascular effects arising from positive pressure ventilation in animals exceeding 100kg in bodyweight (Simpson, 2007). Furthermore, given propensity for high fractions of inspired oxygen to induce varying degrees of atelectasis under anaesthesia (Lumb, 2007), much work still needs to be performed to determine optimal inspired oxygen fractions in zoological species in different clinical situations.

### Injuries and other considerations

In terms of the challenges associated with extremes of body aspect, the giraffe provides the most salient example in this regard, with its long neck and legs making it extremely prone to head and limb injuries sustained during anaesthetic induction and recovery (Burroughs et al, 2014; Citino and Bush, 2014).

Marked potential exists for hyperthermia in species with low surface area-to-volume ratios (Miller et al, 2014; Miller and Buss, 2015; Van Bonn, 2015). In Cetacea species, in which bodyweight is normally supported by buoyancy forces exerted by the water column, their removal from water immediately induces potentially life-threatening compromises to cardiopulmonary (and thermoregulatory) function, and these compromises are further exacerbated by chemical restraint and anaesthesia (Dold and Ridgway, 2014).



Complex interactions between the sympathetic nervous system, the endocrine system and muscular activity may contribute towards the development of the different syndromes of capture myopathy, which may particularly affect prey species – especially Tragelaphine antelope such as nyala. Image: Nigel Dougherty.

## Assessment

Safe and effective anaesthesia is particularly reliant on thorough pre-anaesthetic patient assessment and preparation (Bednarski et al, 2011), to identify and provide optimal anaesthetic management of pre-existing conditions. Such requirements are addressed well in human clinical anaesthesia (Pollard and Kitchen, 2018), and reasonable provision is possible in domestic animal anaesthesia.

For safety reasons, rarely does the opportunity exist to provide the same depth of evaluation in zoo animal medicine (Caulkett and Arnemo, 2015; Hernandez, 2014; Divers, 2014), although a multidisciplinary approach to health management (European Association of Zoos and Aquaria, 2014; Meehan, 2015), recognition of subtle clinical and behavioural changes by keepers (Association of Zoos and Aquariums, 2012 [AZA]; AZA, 2017), application of various technologies (Al-Naji et al, 2019) and patient training based on positive reinforcement (McNally, 2017; Murphy and Danforth, 2019) have improved capacities for pre-anaesthetic health assessment. Nevertheless, unknown diseases may easily go undetected (Cervený and Sleeman, 2014), and wild animals may still mask significant disease (Ball and Hofmeyr, 2014).

Furthermore, only a few pre-anaesthetic baselines often exist, against which the range and extent of anaesthetic impacts may be assessed. Significant technological developments and knowledge advancements have been made in the art and science of exotic animal, zoo and wildlife anaesthesia over recent decades – particularly towards monitoring and understanding the pathophysiological effects of anaesthesia (Fahlman, 2008); the development of safer anaesthetic protocols, even for particularly high-risk species such as giraffe (Bush et al, 2002; Citino and Bush, 2014; Burroughs et al, 2014; Bertelsen, 2015; Delk et al, 2019; Masterton, 2020); and the provision of anaesthetic support (Comolli et al, 2019).

These advances have drawn upon progress made in human and domestic animal anaesthesia, and from research and sharing of knowledge and experiences in the zoological veterinary arena.

In many zoological species, however, a paucity of information persists in providing scientific support for anaesthetic techniques (Ozeki and Caulkett, 2014; Caulkett and Arnemo, 2015), with pharmacodynamics studies of different protocols dominating the empirical evidence base.

## Drug knowledge

One of the core requirements for anticipating the effects of anaesthesia is knowledge of the pharmacology and side effects of drugs used for induction and maintenance (Cracknell, 2008; Hubbell and Muir, 2009). Yet in zoo animal medicine, rarely have detailed pharmacokinetic studies been performed in the species involved (Hunter, 2010; Hernandez, 2014).

In practical terms, the number of options available for achieving balanced anaesthesia also may be more limited in zoo animal medicine because drug combinations need to be given together to counter each drug's side effects, leaving less facility for more controlled, sequential premedication and induction.

Before the completion of procedures and the conscious decision to awake a dangerous animal, anaesthetists may also be cautious to administer antagonists to the reversible components of these combinations (such as alpha-2 agonists), as unexpected patient waking or loss of balanced anaesthesia may be elicited.

A cautious approach is also taken towards trialling total or supplementary use of intravenous anaesthesia.

## Monitoring

Unlike in other domains of anaesthetic practice, particularly limited anaesthesia, monitoring may be undertaken in zoo animal and free-ranging wildlife settings, and scope for timely corrective interventions may also be limited – especially during high-risk periods prior to induction and post-endotracheal tube removal (Lamont and Grimm, 2014; Hernandez, 2014).

Ideally, anaesthetic monitoring should be undertaken continuously from the moment of safe approach (Ozeki and Caulkett, 2014) until it is no longer safely feasible, ideally conforming in manner and extent to recommendations made by professional bodies (American College of Veterinary Anesthesiologists, 1995 [ACVA]; ACVA, 2009; Robertson et al, 2018; Grubb et al, 2020).

To limit the need to repeat anaesthesia, a tendency may exist in zoo veterinary practice to carry out several diagnostic

**‘Clinical reasoning and decision-making are critical skills in anaesthesia, permitting rapid diagnosis and appropriate and timely therapy**

*(Ludders and McMillan, 2017).’*

activities or health assessments with each anaesthetic event, to make the most of opportunities provided at the time. Frequent patient repositioning associated with the pursuit of various diagnostic interventions potentially interferes with anaesthetic vigilance.

## Competency

Clinical reasoning and decision-making are critical skills in anaesthesia, permitting rapid diagnosis and appropriate and timely therapy (Ludders and McMillan, 2017). To respond to anaesthetic changes appropriately, the anaesthetist must have a good understanding of the physiological and pathophysiological processes involved for each species. In zoological medicine, such foundations may be lacking; for example, reference ranges for clinical pathology parameters are poorly established for many species (Stacy and Hollinger, 2018). With the anatomical and physiological variation apparent in such a wide range of species (Hernandez, 2014), clinical errors may arise from interspecies



extrapolations (Caulkett and Arnemo, 2015).

Anaesthetic equipment and techniques designed for use in medical and domestic veterinary fields also require adjustment, with interpretation having to be extrapolated to the unique and diverse anatomy and physiology of different taxa (Divers, 2014). Particular challenges arise, for example, when monitoring equipment is applied to very large or very small patients (Ozeki and Caulkett, 2014).

### Tissue perfusion

Many of the interpretative challenges universal to anaesthetic monitoring may be more complicated in a zoological setting. One of the key objectives of such monitoring is to permit accurate assessment of adequacy of tissue perfusion (Ozeki and Caulkett, 2014), and advanced modalities have been developed to complement the clinical parameters used to assess its adequacy in human medicine. Many of the associated haemodynamic monitoring methods are invasive and often not practical to use in routine clinical situations – particularly in zoological medicine, where such methods may take valuable time to install. Therefore, reliance is placed instead on indirect macro-circulatory measures as the basis for making approximations of cardiovascular function. These include measures of heart rate, blood pressure and pulse pressure, mucous membrane colour, capillary refill time and temperature gradients. By cross-referencing between these measures, a judgement is made about the likelihood that vital organs are being adequately perfused and oxygenated (Ozeki and Caulkett, 2014).

The limitations associated with a reliance on these measures have important implications for the accuracy of clinical judgements based on them. Foremost of these is reliance on blood pressure as a poor proxy both for cardiac output and tissue perfusion (Wagner, 2005; Lawson and Hutton, 2012). Furthermore, macro-circulatory measures may not reflect adequacy of oxygen delivery to different organs (Lawson and Hutton, 2012) – particularly as blood flow afforded to them is likely to be differentially distributed to reflect bodily importance of function (Bonanno, 2011).

Assessment of mucous membrane colour and capillary refill time and vigour do retain utility as general measures of perfusion, but they may not necessarily reflect the reality of critical organ blood flow (Haskins, 2015). Chawla and Wilson (2007) stated that a clinically robust intra-operative measure of renal function does not yet exist, and if this still holds true, less specific and more indirect measures will

need to be applied to assess the likely health and functioning of organs, and monitor the effectiveness of resuscitative efforts on organs such as the kidneys and gastrointestinal tract under anaesthesia.

### Anaesthetic depth



*The hippopotamus has a tendency to bolt to water when darted. The use of butorphanol-azaperone-medetomidine combinations does not suppress breathing reflexes, making them much safer than use of potent opioids.*

The control of anaesthetic depth is equally fundamental to safe anaesthesia (Hubbell and Muir, 2009), with the judiciousness of the anaesthetist being one of the most important influences in determining patient anaesthetic outcomes.

The accurate assessment of patient anaesthetic depth is not straightforward (Trim et al, 2014), and particularly with complexities associated with multimodal methods used to achieve balanced anaesthesia, it is recognised as a current challenge in medicine (Musizza and Ribaric, 2010). Significant inter-individual and procedure-related variations exist in responses to anaesthetic drugs (Musizza and Ribaric, 2010), and interspecies variations add further dimension to these challenges in the veterinary context (Hubbell and Muir, 2009).

Physical signs such as blood pressure, heart rate, heart rate variation and respiratory rates often provide inaccurate, non-specific or too variable measures of anaesthetic depth (Trim et al, 2014), and the classical signs of depth of anaesthesia based on Guedel's observations may vary with species and reflect only momentary measures under situations where depth may be changing rapidly (Trim et al, 2014; Raue et al, 2019). These challenges make it a refined art to gauge and pitch depth to safely accord with anticipated levels of patient stimulation, incurring risk that anaesthesia may be conducted at levels deeper than is often necessary (Trim et al, 2014).

### Lung function

Assessment of lung function is the third major foundation of anaesthetic monitoring. As lungs function as a cardiorespiratory unit, this demands the ability to assess how well lung perfusion and ventilation are matched.

Monitoring based on respiratory rates and tidal minute volumes may be useful for detecting trends, and can signal changes in the underlying status of the patient, but their value alone is limited because they do not provide information about physiologic dead space and functional alveolar ventilation (Haskins, 2015). These more detailed parameters require assessment of alveolar or blood gas measures (Bourgoin et al, 2017).

Capnography, which is the graphic display of expired carbon dioxide concentration versus time or versus expired volume during a respiratory cycle (Pypendop, 2015), is a valuable monitoring tool to identify whether ventilation is adequate and whether cardiac output may be changing (Williamson et al, 1993), providing trending information to indicate the development of excessive alveolar dead space (Haskins, 2015) and, therefore, prompting the anaesthetist to search for underlying causes. However, as the clinical status of a patient changes, so too may dead space and the relationship between end-tidal carbon dioxide, and arterial partial pressure of carbon dioxide (PaCO<sub>2</sub>) may become less predictable.

In this situation, periodic serial blood gas determination needs to be undertaken to calibrate the two – particularly when changes in pulmonary function are indicated by end-tidal carbon dioxide or capnography changes (McSwain et al, 2010).



*Anaesthesia of elephants presents particular challenges, such as adequate respiratory management, prevention of neuropathies and myopathies, and temperature control. Risks to both operator and patient exist with the use of etorphine. Image: Nigel Dougherty.*

### Importance of knowledge

Current best practice in human anaesthesia is that monitoring is carried out by combining these techniques with more sophisticated methods where necessary. These include monitoring of systemic and peripheral haemodynamics, microcirculation and tissue oxidation (Kipnis and Vallet, 2016), use of electroencephalographic sensors and mathematical algorithms for assisting with anaesthetic depth estimation (Musizza and Ribaric, 2010), and the application of various means to serially assess gas



exchange, respiratory system mechanics and patients' readiness for withdrawal from positive pressure ventilation (Kipnis et al, 2012).

In veterinary anaesthesia (and particularly in zoo animal anaesthesia), anaesthetic monitoring is often much more basic, increasing the risk of adverse effects and introducing more uncertainty about whether procedures are being conducted within acceptable margins of safety for the patient. In many cases, this also means that anaesthesia safety and success is assessed simply and crudely by the nature of recovery from anaesthesia and survival of the animal beyond the immediate procedure.

Lack of knowledge about the disturbances to homeostasis occurring and lack of understanding of the reasons for them make it more difficult to make safety-enhancing refinements to anaesthetic procedures.

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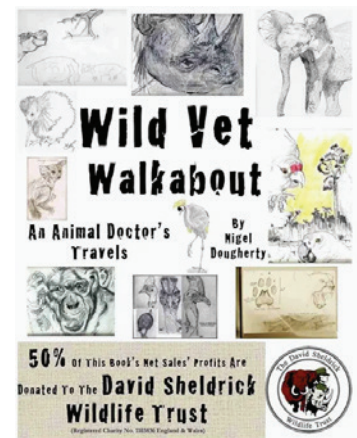
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## Author Biography

Nigel Dougherty is a Kenya citizen. He is the author of *WILD VET WALKABOUT* - an illustrated veterinary travelogue available from Amazon.



Half the book's sales' profits are donated to support the awesome wildlife veterinary work being done by the David Sheldrick Wildlife Trust.

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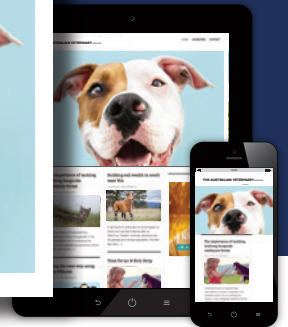


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# IT'S YOUR CASE - 2.5YO FE NORWEGIAN ELKHOUND AFTER 5 HOURS OF RESTING HAD A BREATHING FREQUENCY FROM 60 IYC

*Species: Canine*

*Breed: Norwegian  
Elkhound*

*Sex: Female Entire*

*Age: 2.5 Years Old*

## Clinical History:

She was hunting yesterday for 2.5 hours. When she came home everything was normal but after 5 hours of resting the dog had a breathing frequency from 60 while resting and putting her head up/stretching her neck.

The CRP (C- reactive protein) was measured and was a little bit higher (16, normal < 10).

## Anatomic regions: Thorax

### Details of study and technical comments:

Three view radiographs of the thorax (three films)

## Diagnostic interpretation:

### THORAX:

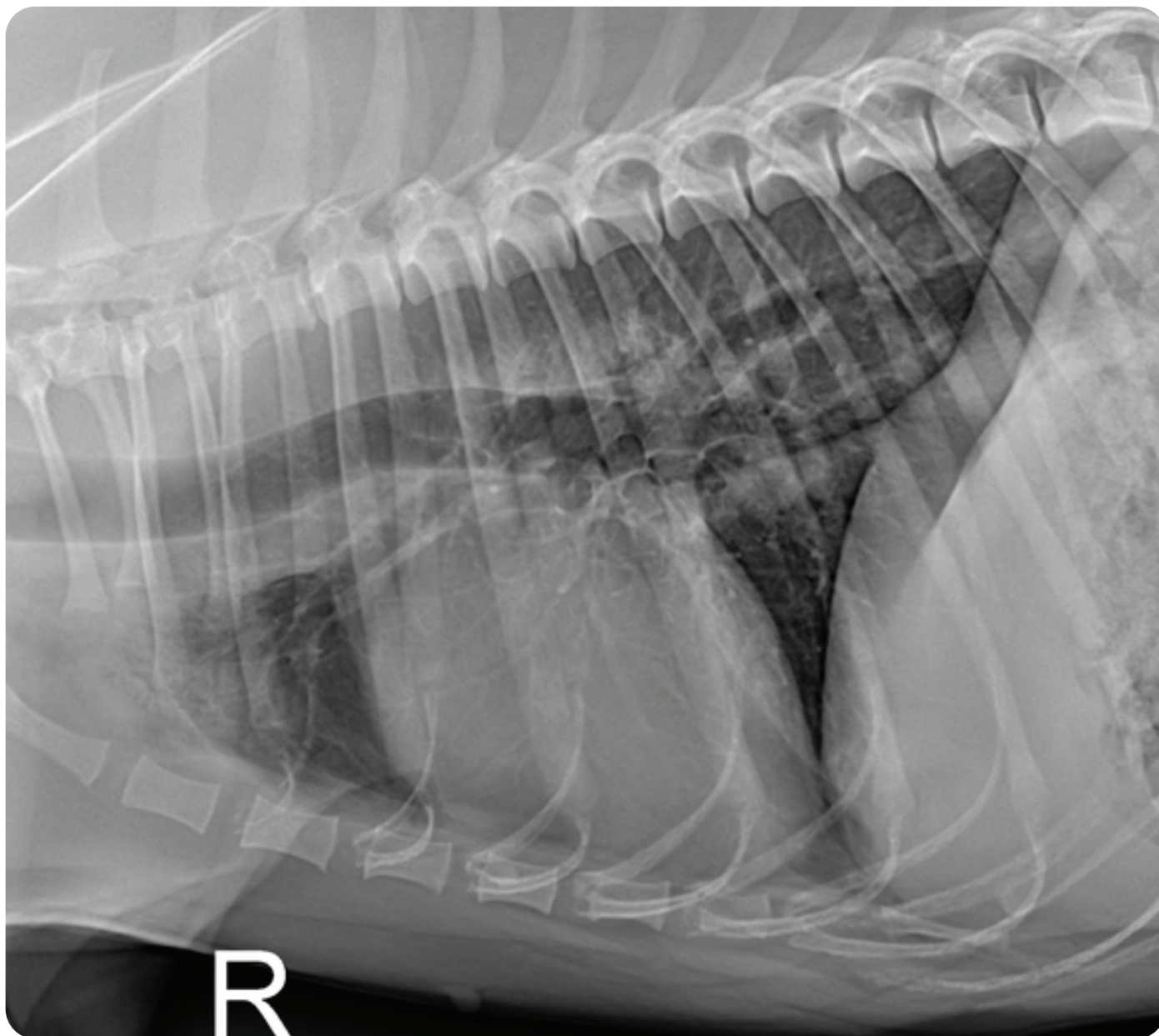
Noted in all lung fields, but worse caudodorsally and worse on the left compared to the right, there is a mild to moderate increase in soft tissue opacity which partially to completely obscures pulmonary blood vessels, creates some air bronchograms, and a partial lobar sign (pink arrow heads). The caudal lobar vessels are near completely obscured by this process, whereas cranioventrally the distribution is more patchy and left sided (lime circle) with other cranioventral pulmonary vasculature being well visualized. The left caudal lobar bronchi are prominent and subjectively dilated.

On the right lateral view associated with the dorsal aspect of the trachea there is soft tissue opacity (grey stars). This is not apparent on the left lateral view. There is scant oesophageal gas without evidence of oesophageal enlargement.

The heart, great vessels, plural space, diaphragm and thoracic margins are within normal limits. The skeletal structures included in the study showed no evidence of an aggressive process. Limited assessment of the cranial abdomen is unremarkable.







#### Conclusions:

1. Moderate diffuse alveolar lung pattern, substantially worse caudodorsally and worse on the left
2. Tracheal appearance is most likely due to redundant trachealis muscle and is considered incidental

#### Additional comments:

Although there is pathology throughout the lungs especially on the left, the overall impression is that this is worse caudodorsally making pulmonary oedema the most likely differential. Given the reported history, the hunting related pulmonary oedema of Swedish hunting dogs is considered most likely.

The right-left asymmetry may be due to a component of hypoinflation/atelectasis on the left. Other differentials for this appearance could include atypical pneumonia (aspiration pneumonia, fungal pneumonitis), haemorrhage (if correlated to trauma or coagulopathy), pulmonary lymphoma, or noncardiogenic pulmonary oedema due to other causes (such as upper airway obstruction, near drowning, seizure).

#### Literature:

- Egenvall, A., Hansson, K., Säteri, H., Lord, P. F., & Jönsson, L. (2003). Pulmonary oedema in Swedish hunting dogs. *Journal of small animal practice*, 44(5), 209-217.
- Agudelo, C. F., & Schanilec, P. (2015). Pulmonary oedema in a hunting dog: a case report. *Veterinari Medicina*, 60(8).

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# TALKING PET LOSS AND PALLIATIVE CARE WITH DR KATRINA WARREN AND DR JACKIE CAMPBELL

Having to say goodbye to your beloved pet can be one of the most difficult moments in life. The bond and unconditional love shared can transcend many relationships. So, when a senior pet begins struggling, or an animal receives a terminal diagnosis, it's important for owners to understand the options they have, and to know that expert support is available.

Dr Katrina Warren, a well-loved TV personality and Veterinarian and Dr Jackie Campbell, Founder of Sunset Vets Palliative and End of Life Care (Sunset Vets) and Australia's first Internationally Certified Palliative Care Veterinarian, recently joined forces to answer some questions about this very important topic for pet owners. These two powerhouse Veterinarians share a common goal for palliative care advocacy and education; and were excited to sit down for the first time together to talk all things loss, grief and palliative care.

**Dr Katrina recently joined the Australian Veterinary Palliative Care Advisory Council as a public education Ambassador. What is the goal of the Council and the purpose of the Ambassador role?**

**Dr Jackie:** "The Council was established in 2017 with the goal being to develop and support best end-of-life care practices within veterinary medicine. What we wanted was to bring a range of specialists and leading experts together and begin to have a more in-depth conversation about the way in which we currently deliver

care, accepted medical protocols, and where we can do better for patients and families needing palliative support. Our goal as a Council is to provide resources and education for vets looking to deliver care, and also to encourage conversations about death and bereavement within the wider industry and the public. We are so thrilled to have Dr Katrina join the Council as an ambassador."

**Dr Katrina:** "The goals of the Council are something I completely support and I was delighted to be invited to become a part of it. My role as an AVPCAC ambassador is to inform and educate the public on palliative care for pets, and the important role it plays in the healthcare plan for both pets and owners. I want people to know they have options and support and to understand this very special type of care. Palliative care and compassionate at-home euthanasia adds dignity and respect to an extremely difficult time. My Facebook community actually began as a tribute when I lost my border collie Toby. Spreading awareness and helping people cope with loss is something I've been passionate about for a long time."

**How did the interest in palliative and end-of-life veterinary care begin?**

**Dr Jackie:** "Palliative care as a philosophy for bond-centered medicine was something that I always connected to as a GP. I struggled with watching how some of the difficult conversations around end-of-life care played out in the clinic and whilst being







in hospital is absolutely the place to be when you have a treatable disease, I started to ask myself ‘what happens when it is beyond our capacity to cure this? Can we rework our model of care and do things better whilst delivering support in ways more aligned with best practices in human health?’ This led me to start Sunset which exists to provide access to home-based care, in collaboration with primary health care teams. Later I founded the council in an effort to encourage and keep the conversation around palliative care continuously growing.”

**Dr Katrina:** “For me it was my beautiful border collie, Toby that initially sparked my interest. When Toby was aging, I did acupuncture and palliative care with him but there weren’t many services for this at that time, and very few Vets were able to dedicate time to come to the house. But our pets are family and deserve to be comfortable, with their pain managed. I am passionate about educating others on the importance and relevance of this type of medicine.”

**What do you think the benefits are of having a palliative care team support families through the end-of-life journey?**

**Dr Jackie:** “Instead of focusing on curative outcomes of care, palliative care aims to deliver comfort care. As a palliative care clinician, my core priority is ensuring I am identifying and managing anything that causes my patient pain whilst helping owners prepare for the end stages of care. This type of supportive care is beneficial to both the pet and their family.”

**Dr Katrina:** “There are huge benefits to having palliative care provided at home. We know our pets are more comfortable in their own environment. The stress of cars and clinics can be very upsetting to a pet, particularly an aging one. To be able to offer palliative medicine in the comfort of our own home is priceless.”

**Saying goodbye to a pet is heart wrenching. What advice would you have for pet owners struggling with the difficulties of making end-of-life decisions?**

**Dr Jackie:** “The loss of a pet is devastating, but it’s also often the grief associated with end-of-life decision making that owners really struggle with. At Sunset Vets, our goal is to help families to feel supported on all fronts and to more confidently navigate the care decisions they are faced with. We can help with ensuring comfort for the pet in the days and weeks before a goodbye and we spend a lot of time helping families come to terms with changes in quality of life and knowing when to say goodbye. We also offer free professional counselling and support for people struggling at any stage throughout the end-of-life journey.”

**Dr Katrina:** “Making that final call can be one of the hardest decisions you have to make. You have to ask yourself are you keeping the pet alive just for you? Is their quality of life okay, are they interested in surroundings, do they have dignity, can they eat? If their quality of life is poor, is it kinder on your pet to say goodbye? You need to take your feelings out of it. Palliative care Vets can help guide you, but your pet will often let you know. And remember, it is a privilege to be there for them right at the end, and to be able make that choice.”



# NEW \$350 000 EXTENSION DOUBLES SIZE OF ST. VINCENT VETS PRACTICE

**CVS Australia's St. Vincent Vets in Virginia, Queensland has received a new \$350 000 100m<sup>2</sup> extension and full refurbishment over the last twelve months to significantly grow its practice.**

The surgery has been considerably extended and redesigned - with the very latest facilities and equipment - in order to accommodate more than double the number of clients and offer more veterinary services to the local area.

For clients and pets entering the building, the reception area has been adapted to be more sunny and spacious. A new external car park has also been built to provide dedicated spaces for clients off a quiet street, away from the main road.

Internally, the layout of the building has been extended and altered to create three new modern consulting rooms, whereas previously there were two. This includes a cat specific consult room with its own access from the carpark. A dedicated vets and nurse administration area has also been installed to tend to clients pre and post pet consults.

Behind the scenes, a dedicated new cat ward, consult room and feline procedure area has been built to comply with feline friendly clinic requirements. Cats each have quiet cages with igloos to hide in and a large mural of a goldfish tank to look at. Next door is a dedicated bird ward and bird and wildlife examination and procedure area. These extra spaces separate species and keep stress to a minimum for each animal.

The practice has also invested in cutting edge facilities and equipment to diagnose and treat its animals. These comprise; a new digital X-ray and teleradiology suite with DR digital Xray machine; a new dental surgery suite with an AAS low flow anaesthetic machine with state of the art anaesthetic monitoring, patient warming, digital dental X-ray and the latest im3 dental machine; a comprehensive modern laboratory with Olympus

binocular microscope, IDEXX diagnostic lab machines and links to external lab expert support; and a new ophthalmology equipment including tonometer and corneal burr.

To staff the extended practice, the St. Vincent Vets team is set to increase to nine strong, with the recruitment of new vets Dr. Gayle Taylor and Dr. Chelsea Nahous, along with a new vet technician, Jasmine, new junior nurse Holly, and new administration assistant Alexis. In order to accommodate all colleagues, a new staff kitchen and dining area dedicated to the much-loved practice Golden Retriever 'Roland' named 'The Roland Room' has also been constructed. Plus vet study desks have been built and nurse station established.

Dr. Megan Bredhauer, Practice Director at St Vincent Vets said: "It's been our long term vision to build our practice. This project is the culmination of over two-and-a-half years' work. Our new clinic and hospital will offer a comfortable, friendly environment to put pets' mind at ease and minimise fear and anxiety.

"We are grateful to our clients for entrusting us to care for their beloved pet. We treat our patients as though they were our own pets - with the utmost care and kindness. We offer a personal and professional service of a very high standard."

The newly refurbished St. Vincent Vets is fully open to clients. Opening hours remain 8am to 6pm Mon to Fri and 8.30am to 1pm on Sat.

CVS Group operates across small animal, farm animal, equine, laboratories and crematoria, with over 500 veterinary practices and referral centres in the UK, the Republic of Ireland, the Netherlands 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.



## About St Vincent Vets

Husband and wife team Dr Bernie Bredhauer and Dr Megan Bredhauer (nee Parker) trained together at The University of Queensland. They both graduated with First Class Honours in 1991 and after a few years in practice went on to become PhD students at the University of Queensland in the mid-nineties. Since then they have enjoyed diverse, rich and rewarding careers in the veterinary profession; collectively acquiring over sixty years' experience in veterinary practice, postgraduate training, study and research, and the animal health profession. They are both committed to life-long learning, animal welfare, the human-companion animal bond and the delivery of the highest quality veterinary medicine and surgery possible. Plus having fun at work.

Northgate Veterinary Surgery as a practice has serviced the community and surrounds of Northgate for over 50 year. Drs Bernie and Megan took it over in 2003 and steadily grew it into the dedicated team of veterinarians, veterinary nurses and pets that clients will meet today. Drs Bernie and Megan see animals as integral members of a family.

St Vincents Vets is a family-run, friendly, neighbourhood practice delivering best-practice medicine and surgery. The new surgery on St Vincents Road includes the benefits of a modern, professional veterinary practice with the caring, personalised service lots have come to love at Northgate Vets.

## About CVS

Established in 1999, CVS Group is a leading provider of integrated veterinary services with around 500 practices throughout the UK, Netherlands, Republic of Ireland and Australia.

The company is listed on the AIM market of the London Stock Exchange.

CVS is built upon recommending and providing the best clinical care every time and we believe this is what drives the success of our practices. We aim to deliver the highest standard of healthcare

and empower our colleagues to make the right clinical decisions for our patients.

Alongside around 500 practices we provide great facilities and equipment and we operate:

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- 35 dedicated out-of-hours sites – to provide emergency care 24 hours a day
- 2 diagnostic laboratories and MiLab, a desktop analyser business - offer fast and accurate diagnostic services
- 10 pet crematoria – act with care and compassion at the end of life
- Healthy Pet Club – a scheme that provides preventative veterinary care and helps clients to spread the cost of regular health checks
- MiPet pet insurance
- AnimedDirect – our online retail business
- VetDirect – our buying group

We support and develop our teams to be the best in their role, which includes access to industry-leading learning, education and development.

We are a great place to work and have a career and our practices benefit from the strengths of operating within a group that at every level combines the talents of vets and non-clinical leaders.

For further information on CVS Australia visit <https://www.csvets.com.au/>



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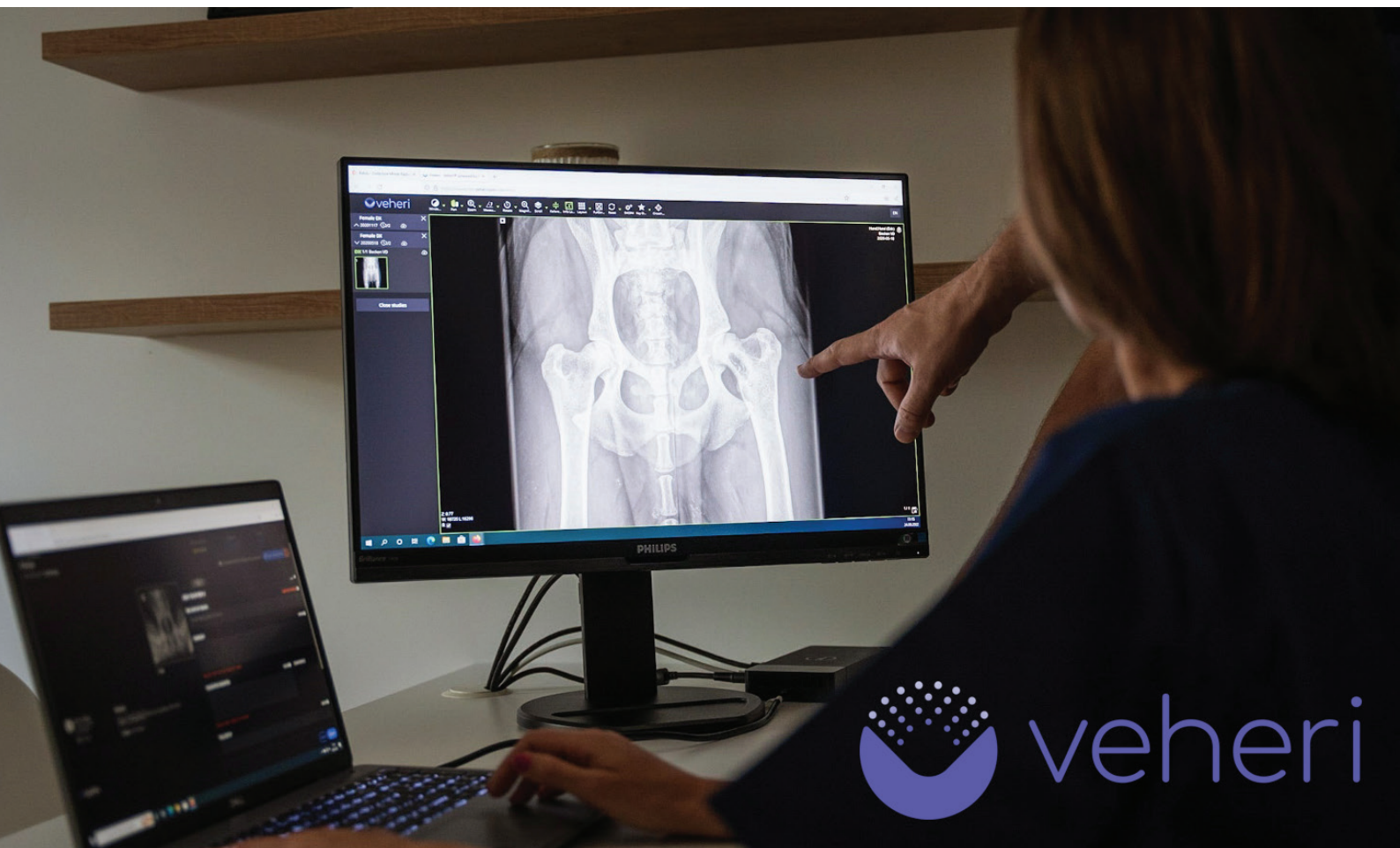
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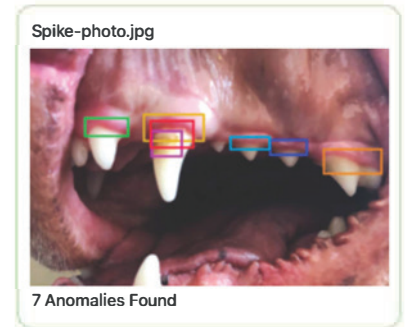
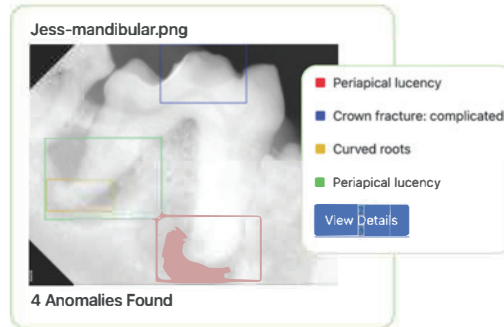
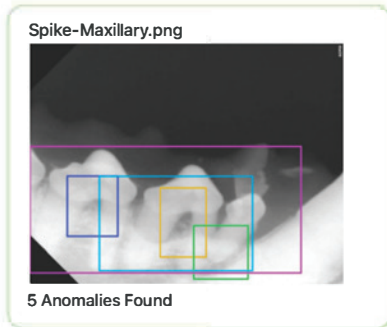






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