Veterinary Nursing of the Wild, Exotic and Unusual

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Edited by

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This book is dedicated to my 9-year-old son, thank you for helping me decide on a title and for contributing many snake ‘fun facts’.

‘You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make’

-Jane Goodall

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PREFACE

Welcome to the first published collection of presentations from the 2023 Exotic Veterinary Nurse Training Conference.

Before Exotic Veterinary Nurse Training started, I locumed at multiple different vet clinics in my area and was disappointed at how the presence of exotic pets and wildlife were treated as an afterthought in the clinic, so received less than ideal care. This was never out of malice but due to a lack of interest and a lack of education. I would search for resources to help improve this situation; however, after being unable to find any in Australia, I decided I would need to do something about it myself. And so, Exotic Veterinary Nurse Training was born.

I never expected that six years later, it would be so popular. I was always the 'exotic person' of my clinic and never knew there were so many others like me. I am constantly impressed by our followers' passion, positivity, and inclusiveness. The long days, hard work and late nights were worth it because of you all.

This book contains chapters from many contributors from across Australia and the world, many of whom I have admired for years. Their expertise and willingness to share it with everyone at both the EVNT conference and in this book shows their dedication to the field and teaching of others in the industry.

This collection is not comprehensive of all the exotic pets and wildlife seen in Australia, however, is designed to be a starting point for your understanding.

I hope it will become a valuable resource for your clinic.

ACKNOWLEDGEMENTS

I would like to say thank you to all contributors to this book and those who have contributed to our conferences and webinars. Without you, this would not be possible. I am continuously in awe of how much knowledge you all possess.

To everyone who has watched a webinar, completed a course or attended one of our conferences, thank you for appreciating the value these small animals' lives have.

I would like to acknowledge Oliver, one of the best humans I know, who seems to have the answer to any question I have for him.

Jaimi, thank you for helping with my son so I could work on this book and for not judging my procrastination.

Tamara, your ability to know when to pick up where I need is astounding. Thank you for everything you do at the conferences.

And lastly, I want to acknowledge Cathy, who has taught me so much about zoo husbandry and enrichment and who has helped me survive this insane industry. I love you very much.

Because of you all, I have gotten to the point where this book was possible.

CHAPTER 1

ANAESTHESIA IN AVIAN PATIENTS

ADAM GREGORY

Avian species are an incredibly diverse lineage with an estimated 11,000 separate species globally (Corey T. Callaghan, Shinichi Nakagawa & William K. Cornwell, *2021).* These species are then divided into around 27-44 separate orders with their own species-specific considerations (Encyclopaedia Britannica*, 2024)*. Birds, despite possessing many evolutionary adaptations, are truly unique in only one specific way, that is, the possession of feathers. Other features, such as endothermic, lightweight bones, production of eggs, a beak and air sacs, whilst highly important considerations within birds, can be found in different taxa (Butler and Jones*, 1997, 837-899).*

Many avian species have also evolved species-specific considerations, and thorough research of a species prior to anaesthesia is always best. Many behavioural adaptations, for example, display, are linked to the bird's anatomical system, i.e. respiration cycle (Maina, 2002*, 97-152*). Differing species that are seemingly distantly related and not thought of in the same context can have very similar adaptations. An example of this is seen with Emus of both sexes, and the male ruddy duck, both of which have a tracheal sac-like diverticulum that can be easily confused for a ruptured trachea. This inflates during communication; however, under anaesthesia, some gas is sequestered into this and could result in anaesthetic depth being affected (Maina, *2002, 97-152).*

The reasons for performing general anaesthesia upon an avian patient within the practice are varied. In avian species, it is more likely to occur due to investigational procedures than traditional companion animals. Such procedures can include phlebotomy, radiographs, disease screening and so forth. The reasons for this are varied but largely centre around the reduced ability to safely perform basic procedures in many individuals without the addition of general anaesthesia. The impacts of stress must also be considered here, and whilst behavioural training can allow some procedures to occur without the need for general anaesthesia, it is uncommon for owners to train birds to allow such procedures in general. In the authors practice, general anaesthesia occurs within avian patients for investigations around 80% + of time.

Prior to performing general anaesthesia (GA), the benefits and costs of performing a general anaesthesia must be assessed carefully as it is not without risk. A study by Dobb et al. (2021) showed a 3.88% occurrence of anaesthesia-related mortality whilst those avian patients with an "abnormal health status had a 15.53-fold increased risk of death, compared with those with a normal health status". The study concluded sicker patients and longer general anaesthesia resulted in a much higher risk of mortality due to general anaesthesia related causations.

The use of an appropriate patient assessment prior to general anaesthesia being undertaken will help predict the potential patient-associated risks and categorise patients accordingly. The American Society of Anaesthesiology system ASA, of scaling has been in use for over sixty years now and while originally developed for human use, its scaling system was transferred to the veterinary industry successfully.

The purpose of the scaling system is to assess a patient's comorbidities and then grade them into a risk category prior to a GA being performed. This system, when used correctly, aims to prepare for multiple potential patient-specific outcomes and plan accordingly in advance. Preparations can include pre-drawing of emergency drugs, alterations to medication protocols and anaesthesia maintenance.

ASA 1: A normal, healthy patient

ASA 2: A patient with mild systemic disease

ASA 3: A patient with severe systemic disease

ASA 4: A patient with severe systemic disease *that is a constant threat to life*

ASA 5: A moribund patient not expected to survive without a procedure

ASA 6: A declared brain-dead patient whose organs are being removed for donor purposes

(Committee on Economics, 2020)

The ASA system is a useful tool and one which the author believes should be utilised for every general anaesthetic, both avian and other species. However, it is important to always remember that its use as a scaling system is limited by the individual using it. Only by understanding the system and implementing appropriate measures will the ASA become a useful tool for the anaesthetist performing the anaesthesia. Those avian patients who are scaled with a higher ASA grade should have emergency drugs, CPR equipment, and air sac breathing tubes on standby.

Examples of ASA grading in birds:

ASA 1: Healthy bird with no known issues, i.e. only in for routine health check

ASA 2: Suspected pregnant patient

ASA 3: An obese bird

ASA 4: Congestive heart failure

ASA 5: A patient with large open trauma

Appropriate pre-assessment checks must be completed to allow correct ASA grading and anaesthesia preparation. Whilst at times of critical occurrence, a thorough pre-assessment may be impossible to undertake, i.e. due to emergency trauma, it is always best practice to properly assess patients prior to any level of general anaesthesia. There is always a balance, however, between the stress of physical examination and the risks of general anaesthesia, which can often be of fine margins. The ability to assess a patient remotely is a key skill set particularly useful for avian patients, and learning to read their often subtle physical and behavioural signs is imperative.

The key areas of focus are like those of other patients, i.e. body condition, demeanour, and behaviour. However, bird-specific areas of focus can include feather condition, waste quality and vocalisation quality. Other areas of questioning to focus upon include management style, feed style, ability to express behavioural symptoms naturally and so forth.

By dividing the patient into physical sections, thorough assessment of the avian patient can occur from top to bottom.

- Assess the eyes → Are they damaged, shut/slitted, can they follow fingers etc?
- Assess the ears → Blood from ears can indicate trauma and can indicate fractured skulls. Do they respond to sound?
- Assess the beak → Damaged, dirty, nare quality, if the bird is breathing with its beak open, is it in respiratory distress or has blocked nares?
- Head → Is the bird able to hold its head normally, leaning?
- Wings, Legs → Any obvious crepitus, damage, ability to stretch or stand normally?
- Torso → Any distension, quality of feathers?
- Feet → Ability to grip (Do not use fingers to test in raptors), placement?
- Rear end → Clean or stained, off-colour faeces etc?

These checks should always be performed as fear-free as possible, both to reduce stress and any impact upon the general anaesthesia outcome, but also as a welfare consideration and future planning. Birds will likely remember negative events, and if a young bird is traumatised, then it is likely that this bird will be stressed for all future visits going forward (Lorenzo Crosta, 2020). Understanding the species of bird and its individual traits is important for stress reduction, and by discussing with the owner prior to obtaining a thorough background on the individual, techniques and thought processes can be altered to patient specifics. Handling, whilst perhaps a gold standard approach to assessment, is not always suitable for that individual, and assessing if it is required is an important step in the pre-anaesthetic process.

Correct handling techniques are essential, and species specifics particularly come into play in this area. Raptors will require different techniques to psittacine, and different species will carry different risks to the handler as well as themselves. An animal used to being handled, such as a pet parrot, will require very different techniques compared to a parrot unused to handling. In turn, birds of prey, which are free-flown versus those free-lofted in aviaries, will also require differing techniques.

Time is of the essence and minimising time minimises stress and risk to the individual bird. Preparing everything in advance is key to the minimisation of time. Understanding your patient and its likely requirements for handling and having the right equipment prior to the bird being handled will all facilitate a faster handling session. Handling should only ever be done within a secure room by competent handlers. Understanding the bird's anatomy here, i.e. no diaphragm, is key to preventing any negative handling effects (Bairbre O'Malley, 2008).

If general anaesthesia has been decided upon, then setting up the equipment prior is the next logical step after patient assessment has taken place. In emergency situations, the basics of equipment can be prepared prior to the patient's arrival, but as with all anaesthesia, preparation is best to promote a successful outcome. An anaesthetist confident in their equipment set up will result in a more efficient anaesthesia.

Choice of equipment can be generalised for most species and individually adapted as needed. The use of a face mask for gaseous induction means the selection of a mask appropriate to the patient's size and beak structure. Indeed, most accessible face masks will be suitable for many species; however, in the longer-beaked individuals, flexibility and adaptability may be required to think outside the box for solutions. The use of endotracheal (ET) tubes is individual-specific and may be limited by patient size and reason for general anaesthesia. The author feels capnography is the requirement for all intubated patients to monitor patient respiration readings. Other multiparameter devices can be utilised if desired but capnography is essential.

Fig. 1-1

Anatomically birds have important areas of consideration relevant to anaesthesia. Within birds, the proximal trachea extends from the base of the tongue to the primary bronchi in the thoracic chest, with birds having no epiglottis. Instead, a rima glottic is present at the base of the tongue (Neill Forbes, 2015*)*. As such, visualisation for intubation is often straightforward and does not require the use of a laryngoscope. The use of a suitable light source and forceps to extend the tongue is often all that is needed in many species. Birds have complete tracheal rings, so they are less likely to collapse; however, rough handling can cause this, and it is important not to use cuffed ET tubes for similar reasons (Casteleyn, et al. 2018 89-99). In turn, the presence of complete tracheal rings can increase the risk of secondary tracheal mucosa, so it is imperative to monitor for any signs of blockage within the tube. Capnography, as mentioned, is an essential piece of equipment, in the author's opinion, for avian anaesthesia, and an increase in ETC02, which doesn't reduce even with IPPV, could indicate a mucus build-up in the ET tube. The lack of diaphragm within avian species means positioning and handling are key, so ensuring correct ETCO2 levels will indicate if any assistance is required to remove carbon dioxide from the bird's respiration cycle, with an acceptable range of 40-55mg (Crosta, 2020).

Within the bird's respiration cycle, fresh air goes to parabronchial lungs for gaseous exchange to air sacs. Remember birds don't have alveoli like mammals for this. In turn, avian lungs are small when compared to mammals. However, the air sacs evolved to fill this void and effectively act as the birds 'bellows'. However, avian lungs are around ten times more efficient than mammalian (Crosta, 2010). Though there are species differences, small, more active avian species are generally considered to possess 'superior lungs' while larger, less active species have less well-refined lungs. Whilst not essential to a successful avian anaesthesia outcome, it is good to have a rough knowledge of the neopulmo and paleopulmo systems as blood flow and gaseous exchange differ and can affect anaesthesia. The Neopulmo is less efficient and a minimum 75% of lung tissue in birds is paleopulmo (Casteleyn et.al, 2018, 89-99*)*. Neopulmo is absent in penguins and very reduced in Anseriformes and Psittaciformes; however, the neopulmo system is extremely developed in Galliformes, Columbiformes, and Passeriformes (Maina, 2002, 97-152). As these tissues differ in species, individuals' levels of gaseous exchange under general anaesthesia will differ, so pre-empting any alterations to requirement will assist the anaesthetist.

Air sacs are theorised to have evolved in birds to fuel metabolism for flight. Air sacs themselves have very few blood vessels, thin walls and are best considered as the bellows to ventilate the lungs. Most caged birds kept within captivity have one unpaired clavicular and four pairs of air sacs: cervical, cranial, caudal, thoracic and abdominal. The abdominal air sacs are the largest and can be interwoven with the abdominal organs, especially in domestic species (Casteleyn et.al, 2018, 89-99). Not all species of bird have nine, with some species not possessing the cervical. Air flowing through the air sacs move within birds in a unidirectional way, as opposed to mammals which is bidirectional. This results in a more efficient system by allowing fresh air in through this two-breath cycle. In times of upper respiratory trauma or surgery, this system means a bird can 'breathe' with an air sac cannula without needing the nares/beak.

Fig. 1-2

Air sacs are interwoven throughout the bird's body; however, they are not the only important consideration for the respiration cycle of birds. Birds have evolved for flight, and regardless of their possession of ability to fly or not, birds' bones are highly evolved to be lightweight and strong. Birds possess a smaller number of bones than mammals or reptiles, and their bones are more rigid to provide greater strength for flight. Their clavicles are fused together with a keeled sternum, which flight muscles attach to, and the beak is largely made from keratin, so it is lightweight. Different species have different levels of pneumatized bone, and any breakages within these will result in a potentially open airway cycle. Ratites have large areas of pneumatization within their femurs to reduce weight, whilst penguins possess none to assist in buoyancy control. Areas of pneumatization can include the femur and humerus, which is an important consideration for intraosseous placement in (Infinite Spider, 2017). Air sac involvement within pneumatized bones assists not only in flight and strength but also in internal temperature control.

These adaptations result in respiration rates on average at a $1/3^{rd}$ rate of a comparable-sized mammal. The provision of pure oxygen gaseous provision means birds can tolerate apnoea periods due to air sac reservoirs; however, medical air provision reduces this time. They have higher oxygen requirements than mammals; however, they have lower minute ventilation requirements (Crosta, 2020).

Avian species have evolved, in turn, cardiovascularly with a four-chambered heart. The right ventricle is for blood supply to the respiratory system, whilst the left side is for supply to the rest of the body. The left ventricle is, therefore, thicker, which provides the higher pressure required to reach the extremities. Avian heart size is similarly larger for their body size compared to mammals (Litchenberger, 2007). When compared to most mammals, higher levels of parasympathetic and sympathetic nerve fibres are present within the heart in avian species, which, from an anaesthesia perspective, results in greater changes in heart rate in much shorter time periods. In turn, during stress and pain, endogenous catecholamines are released, which can have a direct impact on anaesthesia as it can sensitise to arrhythmias. Blood pressure (BP)differs across species, and whilst it is important to monitor for extended anaesthesia, the anaesthetist must know what the right value for that species is (if such data exists). Galliformes and pigeons have lower BP than Psittaciformes, which are lower than Raptors. The average BP in a Psittacine is 90-150mmHg under GA, whilst resting can be up to 180mmHg (Litchenberger, 2007). Other birds are reported to range from 90-250mmHG resting (O'Malley, 2008).

Vitals monitoring can be highly varied depending on species, health and normal activity levels. Such variations within the same species can be highly individualistic, similar to when people commonly refer to racing greyhounds versus pet greyhounds. The heart rates of most avian cases will be comparatively high and range between 150-350 at rest. Generally, the smaller the bird, the higher the heart rate; however, individual health plays an important consideration in this presumption. The respiration rate for small birds up to 300g will be around 30-60 per minute, whilst those above

400g will be around 15-30 per minute. Temperature, in turn, fluctuates to a lesser degree between 39-42 degrees Celsius. However, it is important to note that this is 3 degrees higher than mammals on average and, in turn, is an important consideration for overheating or underheating in species. For example, a Gyr falcon evolved for artic conditions will quickly overheat with overzealous use of external heating equipment, whilst a feather-plucked African grey parrot will lose heat very quickly under anaesthesia and require more support than an individual of the same species with a higher feather component.

Reflex monitoring of avian species is similar for most species. Corneal reflex time replaces palpebral responses as seen within mammals. It can be conducted by gently rolling a damp cotton bud and assessing the time it takes for the nictating membrane to come across the eye. A fast reaction likely indicates a lighter plane of anaesthesia, whilst a slower or absent one likely represents a much greater depth plane. It is, however, important to remember that overstimulation of the eye can result in the response being removed regardless of depth, and damage can occur if it is stimulated too harshly. Remember to do so gently, with an appropriately wet cotton bud and alternate eyes as much as possible. In turn, muscle tone can also be used, with wing flexion, leg extension, or toe pinch the most common. Do remember not to utilise the feet within birds of prey as a safety consideration alongside remembering the automatic evolution of muscles for perching birds. The feathers themselves can also be a great indication, with a lighter plane bird likely showing raised or slightly fluffed feathers whilst, in turn, beak tone can be used sparingly as required.

The use of capnography has already been outlined previously; however, it is imperative to consider minimisation of dead space and patient positioning when doing so. A patient expressing high End Tidal Carbon Dioxide (ETCO2) readings may require ventilation assistance or show an ET tube blockage; however, it may also be as simple as patient positioning preventing full expression of waste gases. In turn, patient size and dead space are key considerations where the patient may be physically unable to effectively expire all of its waste gases from a circuit with a high flow and high dead space, so the author advises a step-by-step process to any issues, within a timely manner, before jumping to the worst-case scenario. The use of a side stream sampling line is best to minimise circuit dead space.

Birds will often go apnoeic under general anaesthesia so the ability to provide correct respiration support is key in these scenarios. Manual Intermittent Positive Pressure Ventilation (IPPV) can be done within the short term, but given its proven variance, the author's preference is for machine IPPV support via a ventilator for those undergoing longer-planned general anaesthesia. Theoretically, IPPV support can be provided via a tight-fitting face mask, but an ET tube is always preferable during such situational requirements.

Fluid therapy within birds' maintenance is around 50-100ml/kg per day. It can be provided in multiple ways, i.e. subcutaneously, intraosseous or intravenously, and the rates can be adapted depending on anaesthetic and surgical impact.

Due to the higher metabolic rates seen within birds, an avian patient generally recovers faster than a mammal within the same time frame of anaesthesia. Antagonist drugs are rarely required to facilitate recovery times. Birds often go through a period of activity before subduction, so it is important to monitor closely to ensure they are not 'falsely' recovering. Ensuring a patient is supported and then monitored closely afterwards is required to ensure no post-anaesthesia mortalities. A general rule to follow is that if a bird is perching and 'ruffs' its feathers into their correct position, then it is recovered enough to reduce the monitoring.

As with all anaesthesia, mortalities can unfortunately occur, either through expected or unexpected events. However, it is important to remove the stigma that a bird will die just because it's a bird, as this is simply untrue and a gross misinterpretation. Preparation is key, alongside a knowledge base of at least the basic anatomical considerations for avian species. Ensuring a logical thought process through anaesthesia is key and follows a similar pattern as with any other species. A willingness to learn and adapt will result in a more confident anaesthetist for future avian anaesthesia, a sense of enjoyment within the role, and increased safety for the patients themselves.

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CHAPTER 2

BUNNIES BEHAVING BADLY

GRETEL CORNELL

Rabbits are one of the more common pets that clinicians see in exotic pet practice. Despite their popularity, there is often a gap in the owner's understanding of rabbit behaviour, which can lead to frustration on the owner's part and situations that are stressful for the animal. Misunderstood animals are often set up to fail by well-meaning owners. Clinicians can better assist clients and their rabbits to live happier, healthier lives together by better understanding what normal, healthy rabbit behaviour looks like.

Rabbits are social creatures and, by nature, seek company and interaction, which makes them great pets. Domestic rabbits are not so far removed from their wild cousins. As such, we can get a much better understanding of the origins of normative behaviours by looking at what behaviours are expected in wild rabbits. In the wild, rabbits live in large warren groups. These small prey animals benefit from relying on the other members of their group to alert them to danger to allow swift retreat if a threat is perceived, so that all bunnies can safely slip back into their warren systems until the coast is clear. In this way, the company of other familiar bunnies reduces the stress each rabbit experiences as the responsibility of keeping watch and the group safe is shared. Similarly, other jobs within the warren group are shared amongst the group. For example, territory boundaries are maintained with scent marking, and access to vital resources is ensured by constant bunny patrols (Varga. 2014, pp. 3-108). In a large warren group, all rabbits share this responsibility, thus reducing the burden on individuals.

Fig. 2-1

Rabbits will constantly maintain their territory, inspecting escape routes and pruning back any roots, leaves or branches obstructing escape routes. The patrols continuously check the warren borders for signs of foreign scents that indicate intruders or predators, maintain scent marking and add to the communal latrine spots within the warren territory. The burden of all this maintenance is lessened by living in a larger group, so rabbits living in warren groups benefit greatly from sharing the load.

Living in such large groups necessitates clear strategies to be in place for fast and effective communication so that harmony amongst the group of rabbits is maintained. Rabbits within large warren groups operate with an understanding of hierarchy that is constantly negotiated and affirmed between members via various rabbit behaviours. It is essential to understand rabbit-to-rabbit communication because rabbits have had to develop and refine communication styles suitable to their precise needs. Rabbits are prey animals, so on top of their group communication needs, rabbits also require urgent and clear communication when threatened.

Rabbits have evolved to spend many of their active periods in situations of low light, such as in warren systems underground. Rabbits also experience out-of-warren activities that often occur at periods of changing light, such as dawn and dusk, making rabbits crepuscular. This means that many of their modes of communication have developed and are used in low light situations. (McBride, et al. 2004 pp.164-182) Being crepuscular benefits rabbits, as many of their predators are nocturnal, such as owls and foxes. Daytime predators find the changing light conditions challenging to hunt in.

At this time, nocturnal animals are not yet ready to hunt, thus allowing a brief period of grace for rabbits to be most active above ground.

Clinicians and rabbit owners should understand that communication using body language may not be the most suitable communication for rabbits as it requires a level of proximity for sight, and these conditions are not always afforded to rabbits. As such, rabbits will use scent to swiftly communicate identity and ownership to other group members and potential intruders. A situation such as running into another rabbit in a tight warren passage can be quickly diffused by identifying the other rabbit as a group member, which may not be as easily ascertained by sight alone. Additionally, avoiding confrontations with other warren groups can be avoided by clearly marking territory perimeters with scent. For the most part, rabbits will avoid conflict by taking note of these markings; equally, rabbits ignoring boundary markings can quickly be identified as intruders by their scent. The intentional act of ignoring the territory markings can be seen as an act of aggression. Factors like these are important prerequisites to enable an understanding of rabbit behaviour when forming our own expectations of how our domestic rabbits will behave when placed in different situations, especially when it comes to interactions with other rabbits. Having a good understanding of rabbits as prey animals and that rabbit's function in a complex social network that necessitates constant negotiation will facilitate a better understanding of rabbits' predilection to hide signs of illness. Advertising themselves as an easy target to predators or weak amongst peers poses a risk to the health of individual rabbits.

Fig. 2-2

In addressing any problematic behaviours of rabbits, the veterinary professional should always begin by ruling out underlying medical causes. This is particularly relevant if there has been a sudden behavioural change. For example, a previously litter-trained rabbit suddenly begins soiling the area outside its litter tray. This could indicate anything from a urinary tract infection (UTI), sludgy urine, bladder or kidney stones to kidney disease (Varga. 2014 pp. 3-108). Thus, a health check should be recommended for a rabbit presenting with problematic behaviour.

Often, well-meaning clients and veterinary staff will unknowingly contribute to the exacerbation of an existing undesirable behavioural response or contribute to the development of further undesirable behaviours. As rabbits are prey animals when they feel threatened, they are inclined to become fearful and, as a result, will logically react with a fight-or-flight response. Attempts by clients or clinicians to punish, reprimand, or dominate rabbits for bad behaviour will rarely result in the desired response (Bradbury, 2020).

Our role as clinicians is to advocate for our patients. To do so, we must, at the very least, have a basic understanding of normal behaviours and the factors that will impact the well-being of rabbits and their expression of normal behaviours. Unfortunately, we cannot control every factor affecting the patients we advocate for, which is why clinician-client communication plays such a vital role in correctly identifying and addressing issues as they arise. Our rabbit-owning clients cover a wide range of people, from those with low levels of interest in caring for their rabbits and minimal understanding of the internal worlds of their pets to those who are very interested, educated, and invested in their rabbits. We will also see clients in practice who are very attached and invested in their pets but have a poor understanding of their pet's emotions and behaviour (Bradbury, 2018).

Client behaviour is another reason clinicians should have a sound understanding of rabbit behaviour. The differences in client behaviour are important because not all of our clients will be the best historians of the drivers and motivations of particular rabbit behaviours. Asking the correct questions will allow clinicians to have a clearer understanding of the actual situation at hand, resulting in an increased ability to facilitate the resolution of the concerning behaviour for both the client and their rabbit.

It is important to educate clients on realistic expectations of rabbit behaviour, as often client expectations of rabbits are both unreasonable and unrealistic (Bradbury, 2018). In general, the pet owning population tends to