From small animals to zoos

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ABSTRACT: As a qualified veterinary nurse there are many different career pathways that can be followed, including working within a Zoological/wildlife park. Zoological collections with an onsite vet team/facility are uncommon and so gaining a zoo nurse position can be challenging and competitive to achieve. Gaining experience and recognised qualifications can help.

Having an insight into the role of a zoo nurse is beneficial as working with wild animals is often not what many people expect when they think of working within a zoo as a nurse.

Keywords: exotic; zoo; nurse; wildlife

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Sam qualified as a veterinary nurse in 2003. She always had an interest in wildlife and exotics and has gained a certificate in nursing exotic and zoo species. In August 2015 she became the veterinary nurse at Twycross Zoo. Email: Samantha.ashfield@twycrosszoo.org

Small animals experience

Growing up all I wanted to do was work with animals, becoming a zoo nurse was never my plan. My career started when I was 14, I volunteered at my local veterinary practice, which lead to a Saturday job. This involved mostly cleaning but I loved it and after working alongside the veterinary nurses there I decided this is what I wanted to become.

When I left school, I worked full time at this practice as a nursing assistant, and after a year, I moved on to another small animal practice to start my nurse training.

In 2003 I qualified as a veterinary nurse and remained at this practice for a further 14 years. During my time working in small animal practice I also got to see a variety of wildlife that members of the public would bring in, everything from injured birds, hedgehogs, bats and foxes. My knowledge on these species was initially limited and I really wanted to learn more about them to improve my nursing care and knowledge so we could return them to the wild as soon as possible. I therefore looked for a suitable qualification to help me learn and develop my skills with wildlife (Figures 1, 2 and 3).

Exotic further education/ experience

In 2011 I obtained a City and Guilds certificate in nursing exotic species (known now as the 'Advanced programme in veterinary nursing of zoo and exotic species'), which included British wildlife (my main reason for doing it).' The course was very in depth and covered biology, husbandry, reproduction, nutrition, anaesthesia, handling, fluid therapy and common diseases. This knowledge proved very useful when caring for the wildlife. This particular course is no longer available but has been replaced with the Girling and Francis advanced programme vet nursing of exotics, wildlife and zoo animals.

Figure 1. Practice patient.

Figure 2. Practice patient.

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Figure 3. Practice patient.

Figure 4. Ground squirrel patient.

The course also covered other exotic species, including avian, reptiles/amphibians and small mammals and sparked a new found interest in exotic animals for me.

To use this new knowledge I had gained, I decided to move to a small animal practice, which had an exotic department within it. During my time at this practice, I got to see all the weird and wonderful (sometimes inappropriate) exotic pet species. It wasn't unusual to walk through the waiting room and there would be a ground squirrel dressed in a tutu waiting to be seen or a parrot chatting away with its owner (Figures 4, 5 and 6).

Here I gained a lot of valuable experience dealing with exotic medical and surgical cases and became head nurse of this expanding exotic clinic in 2013 (Figures 8).

This practice also covered a few local zoos therefore we also got to treat some zoo animals. This was when I started to get interested in zoo animals and wondered about what being a zoo nurse entailed.

At this time ZSL offered a 2-week work experience placement for qualified nurses where you shadowed some of the inspiring zoo nurses at work. This gave me a realistic insight into a zoo nurse job and I decided this is what I would like to progress to (Figures 9 and 10).

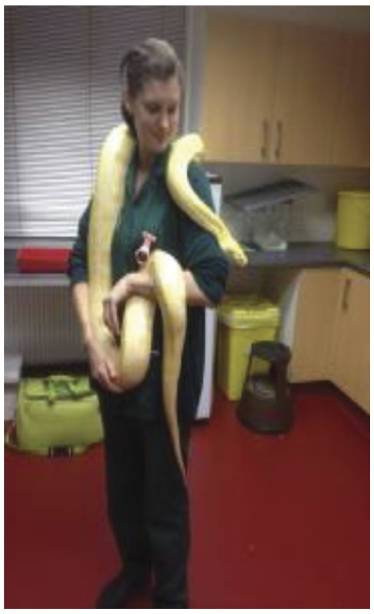

Figure 5. Exotic patient.

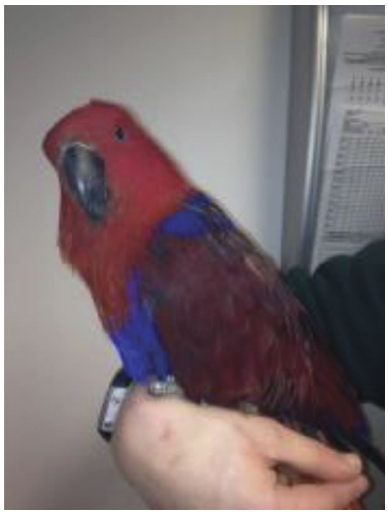

Figure 6. Parrot patient.

Volunteer work/further studies

Becoming a zoo vet nurse can be challenging and competitive as there are not many zoological collections with an onsite veterinary team/facility. I continued working on gaining further exotic experience and managed to persuade ZSL to let me volunteer on weekends when I was not working.

As well as volunteering for ZSL I volunteered at a local falconry centre, we were seeing quite a few birds of prey in practice and I felt I required more experience to feel more confident in dealing with them (Figure 11).

Volunteering and gaining this extra hands on experience was essential to enable me a better chance of securing a zoo nurse

Figure 7. Varied practice patients.

Figure 8. Surgical case in practice.

position. It was hard work at times and a big commitment as I was working full time in practice and giving up all my spare time to do it.

To further increase my knowledge in these species I studied for a diploma in herpetology and birds of prey, both by distance learning so it could be done alongside work.

Zoo job

In 2015 a Twycross zoo nurse position was advertised and I had gained enough knowledge and experience to be successful in obtaining the position.

Twycross is a medium size zoo and was established in 1963 and is the home to >500 animals and 125 species and is the only zoo in the UK to have all 4 great apes.

In 2010 Twycross had only one full time veterinary surgeon onsite and two veterinary nurses. Over the years the department has changed and at present we have one full time vet and one part-time vet and one full time nurse.

Figure 9. Zoo animals seen in practice.

Figure 10. Zoo animals seen in practice.

Figure 11. Experience at falconry.

My job role

The day to day role of a zoo nurse will vary between zoological collections and the daily workload can differ greatly and be unpredictable at times.

Clinical procedures

At Twycross we carry out preventative health checks as part of the management of these species. These are carried out every two years for most of our animals include weight, body condition score, full clinical examination, full body radiographs, abdominal ultrasound, full bloods and rectal swab. These health checks are a vital tool for the health and wellbeing of our animals. Any results gained aid us in understanding normal ranges for particular species.

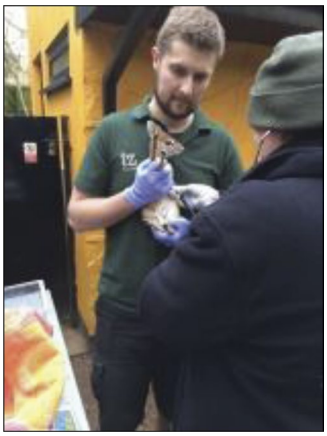

Figure 12. New born animals are checked.

Figure 13. New born animals are checked.

New born animals are also checked early for any birthing defect, and to allow for sexing and microchip placement and the details recorded (Figures 12 and 13). All information gained during these early examinations provide us with valuable information for both the individual and species.

We also carry out pre export/post import health checks to ensure any animals arriving into or leaving the collection are healthy. These preventative health checks are carried out on a Tuesday and a Thursday. Any sick/emergency cases are dealt with when necessary.

My roles in these procedures is firstly to set up, if it is a dangerous animal or one too large to come to the veterinary centre then the procedures are carried out within their enclosure. This makes setting up a huge task as it involves packing everything we possibly may need, as we could be some distance from the veterinary centre. Due to the unpredictability of the work load things can always change at the last minute.

During the procedure my role is to monitor the anaesthetic and maintain a thorough anaesthetic record. Anaesthetic monitoring

Figure 14. Monitoring anaesthesia.

Figure 15. Getting equipment ready.

of any animals can prove to be stressful, but if the animal is endangered or classed as dangerous this can greatly add to the intensity. Due to the constant concentration during these procedures it can be quite draining (Figures 14 and 15).

After the procedures, the patient is visually monitored until fully awake. They are then returned to their social group as soon as possible. Samples are recorded and sent to an external laboratory and everything is cleaned down ready for the next patient.

As we are dealing with many non-domesticated animals some may require a general anaesthetic to carry out these health checks but some, we can carry out conscious. Positive reinforcement training is a very useful tool when managing the animals at the zoo, especially to carry out veterinary procedures; ensuring they are carried out efficiently with minimal stress to the animal and staff involved. For example - scales training, crate training, positioning to allow blood sampling or injections, body area presentation to examine wounds, check teeth and auscultate heart and also medication administration.

Medicines and prescriptions

The veterinary team are responsible for medical treatment of all the animals within the collection. In the cases of illness or

emergency the keepers will radio the veterinary team and we will arrange for one of the vets to go and make an assessment. If treatment is required the vet will do a prescription then I will dispense the prescription and liaise with the appropriate keeper and make a note on the diary for a re check.

Some of our animals are on long term medication; it is my job to check these animals each month to make sure they are maintaining health. This involves visually checking the animal and liaising with keepers and reporting any concerns to the vets. If all is ok then I will renew the prescription for another month. In some cases where the animal may have a mobility problem, I will take a gait video for comparison to check for improvement or deterioration, for example one of our penguins is on Carprofen for osteoarthritis and requires frequent gait reviews.

Preventative health care

We do not routinely worm all of the animals in the zoo but we do routinely carry out faecal testing.

I make sure the animals are tested at the right times of year and to arrange with the keepers to collect a 3-day pooled sample when required. The samples are sent to an external laboratory and appropriate treatment is given out if required once we have received the results.

Upkeep and maintenance of vet Centre

It's not all exciting work, my role includes the upkeep and maintenance of the veterinary centre, which involves cleaning, and making sure all equipment is serviced and fixed when broken. I also carry out all ordering for the department which can by quite a lengthy process and ensure protocols and processes are in place ready for inspections e.g. VMD or zoo licence inspection.

Administration

There is also a surprisingly large amount of administration work involved in working as a zoo nurse. The system we use is called ZIMS which is a global zoological information management system –it is an online record keeping system and also allows zoos to share information. I am responsible for a lot of data input including anaesthesia, notes and observations, pharmacy inventory, sample and all laboratory reports along with general administrative work. I have a set admin day per week but due to the unpredictability of my job this rarely happens so it just gets fitted around other duties.

Staff training and student supervision

I am required to carry out training on important subjects e.g. zoonotic disease to our keepers, this is carried out for every new member of staff and anyone who requires a refresher.

We offer 3-week placements for Nottingham Trent University veterinary nursing students; my role is to arrange the student's placements and to support and supervise them during their time with us. We also have vet students on 2-week placement for elective and EMS placements which I also support alongside the vets.

Differences between zoo/ practice nursing

There are various similarities and differences with zoo nursing compared to general practice.

Keepers are our clients

We have keepers rather than clients. Keepers are generally more knowledgeable than your average client as they have an animal related degree to become a keeper. They know their animals very well as they spend a lot of time with them and can pick up on problems quickly.

Dealing with non-domesticated species

Working alongside a wide variety of species, some endangered and some dangerous, makes for a fascinating and varied career but can also bring many challenges. Working with wild animals is very hands off and is often not what many people expect when they think of working as a zoo vet nurse.

Surgery or hospitalisation of these animals is minimal and, in many cases, not deemed appropriate for many reasons, often these cases are returned to their social group and managed by the keepers to aid in their recovery.

Due to the nature of many of these animals post anaesthetic monitoring is not always possible (apart from visual observation) therefore making sure their temperature is maintained during a general anaesthetic is imperative as correcting this to improve recovery is not as easy.

Figure 16. It's a hard day.

Figure 17. You smell nice.

Planning/referral

For safe management when working with dangerous animals within a zoo there must be good communication between colleagues and extensive planning in all aspects of work. This includes any veterinary procedures that may need to be carried out routinely or during an emergency situation.

With many of the procedures we are able to plan in advance to make sure we have everything and everyone required, if a specialist is required, they are arranged to attend and also to make sure the patient is prepared with any extra training required for the day.

A plan is written for the procedure and we review previous anaesthetic record, making notes of previous parameters, tube sizes etc. For many of the species there are not recorded normal parameter data available so this can be useful.

For large procedures there may be meetings running up to it and there is always a brief on the day before we get started and a de-brief would be held if things do not go to plan.

Communication

Communication between zoo staff is via a radio, it involves carrying a radio with you and being tuned in at all times in case you are needed – this can take some getting used to!

Firearms licence

I can truly say this is the first vet nurse job I have had that requires a firearms licence. In case of an animal escape we have a dart and gun team who are on a rota to cover each day, I am on the dart team and I am expected to respond in the event of an escape.

Darting animals for anaesthetic induction or vaccination is now very rarely carried out as many animals are trained enabling hand injections to be carried out

As part of the dart team I have to attend regular training days and practice animal escape drills.

Post mortems

For any animal that dies or is euthanased at the zoo we do a gross post mortem and send samples off for histopathology. This is part of the zoo licencing process but is also as a useful tool to monitor the health of our zoo population.

Pro/cons

There are some pro and cons to be considered within a zoo nurse role. The positive aspects include the hours of work with no regular night shifts and limited on call, a varied and interesting caseload where no two days are the same. Also working with amazing species and being involved with conservation is rewarding.

The limited hands on nursing and unpredictability of the workload could be considered a negative aspect of this job. Personally, working as a lone nurse can be isolating at times and involves extra pressure; especially when I have a holiday planned, I need to prepare and make sure my jobs are covered, having to rely on the vets to help a lot. Generally, the salary is lower than in small animal practice, but I don't think anyone becomes a vet nurse to become rich.

I feel very lucky to have a role as a zoo nurse and work alongside some amazing species without all my hard work, dedication and experience from my earlier career I would not be where I am today (Figures 16 and 17).

Disclosure statement

No potential conflict of interest was reported by the author.