Development of an undergraduate ferret clinical handling programme

Author : Bev Panto

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ABSTRACT

As part of their undergraduate training, veterinary students at the University of Liverpool Institute of Veterinary Science attend a week-long exotics and wildlife rotation at RSPCA Stapeley Grange Wildlife Centre. During this week, students visit the South Cheshire Ferret Rescue to gain experience handling and performing a thorough clinical examination of ferrets.

On this practical session, students are also taught appropriate husbandry and preventive health care and, given the opportunity, see a range of normal ferrets, as well as get involved with the care of sick and injured patients. The visit is an excellent opportunity for students to revise their ferret knowledge and discuss some of the more common conditions presented to veterinary practice. They are often also involved with routine surgical procedures of rescue ferrets and gain experience in anaesthesia and surgery.

After rotation, students invariably feel much more confident handling ferrets and are much better prepared to encounter this species in clinical practice on graduation.

Unsurprisingly, given their natural curiosity and intelligence – and often hilarious antics – ferrets are becoming increasingly popular pets.
The species was once considered a working animal and mainly associated with the industrial north of England, but the vast majority of Britain’s ferrets are now much-loved pets. With this shift in relationship between ferrets and their owners, they are presenting more frequently for routine examinations and preventive health care, as well as with illness and injury.

Vets are often expected to be omnicompetent – able to turn their hand to a huge range of species that come through the door. However, ferrets, with their reproductive idiosyncrasies, and range of unique and unusual diseases, may pose something of a challenge to the clinician less familiar with the species.

**Wildlife and exotics clinical rotation**

The RSPCA has a remit to raise standards of care for pets of all species, which includes supporting education of the veterinary sector. As part of the University of Liverpool Institute of Veterinary Science’s undergraduate training, students attend a wildlife and exotics clinical rotation, based primarily at RSPCA Stapeley Grange Wildlife Centre (Figure 1).

The RSPCA works closely with South Cheshire Ferret Rescue (SCFR) to rehome hundreds of stray and unwanted ferrets each year. As part of this rotation, students often come into contact with healthy, sick and injured ferrets brought in to the hospital – either as strays or case animals.
During the early days of rotation, it quickly became apparent students were much less confident with ferrets than many of the other exotic small mammals encountered, such as rabbits, guinea pigs and hedgehogs. Since the beginning of the collaboration between the University of Liverpool’s veterinary school and Stapeley Grange, the past three years have seen the rotation evolve dramatically to meet the training needs of final-year students.

One of the most significant and popular additions to the rotation has been a visit to SCFR to build students’ confidence in a consistent and controlled environment.

**Handling**

Gaining confidence to effectively and safely handle, and perform a thorough clinical examination of a ferret is often half the battle for vets and students not familiar with the species. Many students have heard horror stories about aggressive ferrets and are very wary, or even frightened, of handling them.

With SCFR’s dedicated team of well-handled ferrets, in a range of sizes, colours and sexes, students are first instructed in correct and safe handling (Figures 2 and 3). Different techniques are demonstrated and how these might apply to different situations and individual ferrets. Colour types are also discussed, and gender and seasonal variations seen in the species are demonstrated where possible (Figure 4).
Figure 3. Students getting to grips with handling ferrets of different sizes.

Ferrets are a little unusual, with their arched backs, dooking (vocalisation) and “all or nothing” activity levels, so students are exposed to many clinically normal ferrets to become familiar with the idiosyncrasies of the species.

Vet examination

Once students have built their confidence with basic handling, they progress to the veterinary approach to ferrets. Students are shown how to conduct a thorough clinical examination – from safe techniques to carry out dental examinations and capillary refill times, to cardiac auscultation, and abdominal palpation (Figure 5). Key differences in anatomy and physiology are discussed, and the clinical relevance of these pointed out.

All the ferrets admitted to SCFR undergo a period of quarantine where they are given regular veterinary checks. This allows for reinforcement of topics, such as biosecurity and management of infectious and zoonotic diseases, covered in other areas of their curriculum. Alongside exposure to cases at Stapeley Grange, the visit to SCFR allows expansion on some of the concepts of shelter medicine, and the difference between individual animal medicine and treating a group of animals, as found in a shelter environment.

Students are exposed to a wide range of clinical cases, as these teaching visits also serve as the weekly veterinary site visit to examine any ferrets admitted, or those requiring clinical examination, vaccination and/or microchipping.

Once students have developed confidence handling and examining “novice” ferrets, rescued ferrets provide them with the opportunity to put their skills into practice. In pairs, students conduct full clinical examinations (including obtaining a heart rate – a skill in itself), and vaccinate and
microchip the animals under close supervision. They are shown the magic of “ferret oil” (Figure 6) and learn, first-hand, how tough the skin on a ferret’s neck is. Students also get the opportunity to practise claw clipping and really put their handling skills to the test (Figure 7). Techniques for easily medicating ferrets are discussed and demonstrated where possible (Figure 8) to help students understand some of the challenges their future clients may have.

Where caseloads permit, they may also be involved with diagnostic work-up of sick ferrets presenting to SCFR or the RSPCA. Students assist with diagnostic procedures, such as imaging, blood sample collection, faecal analysis and echocardiography (Figure 9). Common conditions, such as adrenal gland disease, lymphoma, dermatoses, cardiac and gastrointestinal diseases, are discussed as part of an overview of the clinical aspects of ferret medicine.

Figure 4. Learning how to sex a hob by palpating the os penis.
Prescribing medicines

Teaching on common conditions and treatments, as well as clinical cases at SCFR, present a good opportunity to discuss the prescribing cascade and its relevance to exotics practice, along with an explanation of the small animal exemption scheme, with which most students are unfamiliar. Many students are very surprised to discover a number of drugs are, in fact, licensed in ferrets. They are
also keen to learn about safe and appropriate drugs and dosages to be used in different exotic species when no licensed product is available.

Rotations provide an invaluable opportunity to reinforce the need for responsible prescribing of medications, especially antimicrobials, in a field of veterinary medicine where fluoroquinolones are often considered to be the first-line antibiotic where no alternative product is licensed.

**Neutering**

The reproductive management of ferrets is a topic many students find confusing and particular attention is given to discussing the various management options available, and the pros and cons of each.

As rehoming and welfare charities, the RSPCA and SCFR neuter all domestic animals they rehome. Despite the associated risk of subsequent adrenal gland disease in ferrets, the need exists for an irreversible technique to render ferrets sterile, and, as such, all ferrets are surgically neutered at the hospital. This gives students an excellent opportunity to gain confidence and obtain first-hand experience in ferret anaesthesia and analgesia, and to observe routine surgical procedures in a less commonly encountered species. They practise skills such as endotracheal intubation and IM injection, as well as anaesthetic monitoring when the opportunity arises.
**Figure 7.** Students clipping a ferrets’ claws.

**Figure 8.** Crushed antibiotic tablets administered to a ferret under veterinary care.
Husbandry

At SCFR, students receive training in husbandry and ferret preventive health care to equip them with the knowledge to effectively advise future clients. A range of diets is demonstrated and the pros and cons of commercial feeds versus raw food diets (Figure 10) are discussed. SCFR has a wide range of sheds, enclosures, hutches and runs (Figures 11 and 12), which students are able to critique to give them a good understanding of appropriate housing, social grouping, and environmental enrichment and exercise requirements. These represent the diverse housing set-ups ferret owners employ and give students first-hand experience of good accommodation options.

Once all the serious teaching and practice is done, a bit of time is always left for play. Whether it be jumping into the play pen – where ferrets explore ball pits, swings, tunnel systems and climbing frames – or socialising a group of kits, this, undoubtedly, contributes to the ferret visit. It consistently comes out as one of the favourite sessions of the rotation on student feedback.

Confident

Students often arrive at the ferret rescue feeling a little nervous about handling ferrets, and feel they know very little about the species. Actually, with some encouragement, they are able to apply their existing knowledge and skills with other species, and when they leave a couple of hours later, they invariably feel more confident and are looking forward to seeing their first ferret patients.

The local and national ferret-owning community enthusiastically support this teaching initiative, with videos and photos of student teaching sessions posted on social media sites – reaching tens of

Figure 9. Performing electrocardiography on a conscious ferret.
thousands of hits. It is still a commonly held perception many general practice vets lack confidence with ferrets. Providing the University of Liverpool’s undergraduates with species-specific training can only positively contribute to the public perception of veterinary training, and moves the profession a little closer to the goal of graduating omnicompetent vets.

Much of the teaching on the wildlife and exotics rotation is focused on encouraging students to apply their vast range of clinical skills and knowledge to less familiar species, and how to adapt these where necessary. The ferret handling programme, as well as being a lot of fun, enables students to learn how to adapt existing skills to provide high-quality care to these playful, wriggly, slightly smelly, cats.

Figure 10. Young ferret kits tucking into raw mince and lactose-free milk.
Figure 11. Ferret rehoming sheds at South Cheshire Ferret Rescue.

Figure 12. A play and exercise pen for ferrets at the rescue to demonstrate environment enrichment and stimulation.