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Are we underestimating tick-borne diseases in cats?

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Shaping the future of animal health
I am delighted to introduce the new-look Veterinary Practice magazine. Besides the obvious changes to the format and design, we have reviewed the magazine to provide vets, vet nurses and practice managers with an enhanced range of content. The values of Veterinary Practice have not changed – we strive to provide reliable, useful, and interesting content every month, written by expert authors you can trust.

We will continue to provide content from across the board, with small animal, large animal, equine and practice management subjects featuring in every issue. Gareth Cross and David Williams will share their opinions and experiences on hot topics (pages 70 and 60, respectively), and our finance column will still feature regularly (page 66).

The veterinary profession is evolving and in line with new developments we are pleased to introduce some new columns. These include regular mental health, animal welfare and nursing columns, as well as discussions about customer experience and veterinary law. Clinical topics remain a key focus for the magazine, with a new clinical ‘Masterclass’ delivered by an expert every month, head to page 28 for the first in this series, where David Williams explains how to perform an ophthalmic examination.

We are also embracing the digital age and to make the contents more accessible, our website (www.veterinary-practice.com) is being revamped too. Readers will have the option to view articles online and can use our search feature to find archived material stretching back 10 years. Follow us on Twitter (@VetPractice_Mag) and Facebook (Facebook.com/vetpracticeonline) to continue the conversation.

It is fitting that in the re-launch issue, we report on the RCVS Innovation Symposium. At the event, the audience was advised to embrace change and innovate to shape the future of the veterinary profession from within (page 10). Several other event reports can also be found in this issue, including the Official Veterinarian Conference in Swindon (page 48) and the BVNA Congress in Telford (page 19). Looking forward, we have put together a full preview of the London Vet Show this month to help readers navigate the busy programme (page 31).

I hope you enjoy browsing the renewed mixture of news, features and regular columns in Veterinary Practice magazine. Please do let us know what you think and if there are any topics you would like to see covered in future.

Jennifer Parker Editor

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70 Gareth Cross
“It is clear that becoming a vet takes as much commitment and dedication as it ever did.”
85% of vets report intimidation by clients

According to figures from the BVA’s Voice of the Veterinary Profession survey, 85% of vets report that either they or a member of their team have felt intimidated by a client’s language or behaviour, with comments that support staff often bear the brunt of threatening behaviour.

Vets who work with companion animals or in a mixed practice are particularly likely to have experienced difficult clients, with 89% reporting some form of intimidating experience. Younger vets and female vets were significantly more likely to have experienced some form of intimidation.

The survey showed that clients’ intimidating language and behaviour is often related to the cost of treatment. Nine out of 10 vets working in clinical practice said that either they or a member of their practice team had been challenged over their fees or charges, with 98% of vets saying they have felt pressure from clients to waive fees or to accept the promise of late payment.

BVA president, John Fishwick, said: “These figures emphasise the importance of managing expectations around fees by ensuring a two-way discussion about options and costs so clients can make a decision in collaboration with the veterinary team.”

The BVA and BVNA have provided some advice on how to deal with intimidating clients, as one of the two organisations’ first actions of collaborative working under their new Memorandum of Understanding.

The advice includes:

- Try to remain calm; be confident but never aggressive.
- If you feel intimidated by a client, try to not be alone with them. If you do not feel able to resolve the immediate scenario and are concerned about your safety, politely ask the client to leave. If you see other team members facing difficult clients, do not leave them alone.
- Try not to take it personally. Being on the receiving end of this behaviour can be upsetting and cause significant stress.
- Discuss with your colleagues any difficult situation you have encountered with a client. Consider how well you handled the situation. Work together to have a practice policy on how to deal with intimidating situations.
- Inform the practice manager or practice principal so that appropriate practice-level steps can be taken.
- Use clear messaging within the practice that harassment and violence will not be tolerated. Clients should be made aware of what unacceptable behaviour means.
- It can help to diffuse a situation if the owner can have the opportunity to get their concerns out. Actively listen and ensure the client knows you have heard by reflecting these concerns back.

First global veterinary dentistry guidelines unveiled

The first set of global guidelines for veterinary dentistry has been launched by the World Small Animal Veterinary Association to support veterinarians around the world in improving recognition of dental disease and providing a higher standard of dental care to patients.

The WSAVA says it hopes the guidelines will help to bridge what it perceives as a significant gap in veterinary education globally and to encourage a greater emphasis on dentistry in the veterinary curriculum.

The ‘global dental guidelines’ include information and images of oral anatomy and common pathology, as well as best practice recommendations for oral examinations and an ‘easily implementable’ dental health scoring system.

Evidence-based guidance on periodontal therapy, radiology and dental extractions is also included, with details of minimum equipment recommendations. A key theme is the WSAVA’s rejection of anaesthesia-free dentistry, which it describes as ineffective and a cause of unnecessary stress and suffering to patients.

Dr Brook Niemiec, a board-certified specialist in veterinary dentistry of the American and European Veterinary Dental Colleges and a fellow of the Academy of Veterinary Dentistry, said: “Dental, oral and maxillofacial diseases are, by far, the most common medical conditions in small animal veterinary medicine. “They cause significant pain, as well as localised and potentially systemic infection but, because pets rarely show outward signs of disease, treatment is often delayed or not performed with a corresponding impact on the welfare of the patient. In developing the global dental guidelines, we felt that the lack of perception of patient pain was a key issue.

“Our committee members were also unanimous in their opposition to anaesthesia-free dentistry. We believe that anaesthesia is essential for the execution of any useful dental procedure and this is a central recommendation of the guidelines. To support it, we have provided a detailed analysis of anaesthesia and pain management approaches.”

www.wsava.org/guidelines/global-dental-guidelines
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Agria Pet Insurance is supporting the Veterinary Poisons Information Service (VPIS) on its stand at London Vet Show this month. The VPIS provides 24/7 emergency telephone guidance for its members – it has advised on over 230,000 cases of poisoning across small animals, exotics, livestock and wildlife – and runs the Animal PoisonLine, a triage service for pet owners concerned their pet may have been exposed to something harmful. VPIS highlights how to handle the effects from four key poisons that present risks with Halloween and Bonfire Night:

**Glow sticks, necklaces and bracelets**
These consist of polyethylene tubing filled with a liquid mixture of two components – a luminescer and an activator. The chemicals they contain (e.g. dibutyl phthalate) can be an irritant, but are of low toxicity. The quantity ingested is usually small due to the bitter taste; consequently, systemic effects are not reported from accidental exposure. Signs start immediately and can include frothing and foaming at the mouth, vomiting and lethargy, but usually only last a few minutes. Induction of emesis is not required.

**Pumpkin**
Pumpkin contains tetracyclic triterpenoid cucurbitacins. Accidental ingestion may cause a mild gastrointestinal upset in non-herbivores.

**Sparklers**
The combustible material in sparklers is most commonly a gunpowder-type material comprising of sodium and/or potassium nitrates with sulphur and carbon. The sparks are provided by powdered metals such as iron, aluminium or magnesium, coated with paraffin wax to prevent oxidation during storage and to allow the metal to fall off the sparkler as it burns, producing the characteristic sparks. Sparklers generally only cause gastrointestinal upset and toxicity is not expected as the quantity of chemicals present is small.

**Chocolate**
The amount of the toxin theobromine differs in milk and dark chocolate due to the difference in the percentage of cocoa solids they contain. Signs of chocolate toxicity include GI upset, and neurological and cardiac abnormalities. VPIS has data on the amount of chocolate different products contain and can advise whether treatment is necessary depending on the weight of the animal and amount they have ingested.

Janet Hughes, head of Veterinary Business at Agria Pet Insurance, says, “It’s incredibly important that those of us in the sphere of pet health do all we can to promote keeping pets safe.

“Cases of pet poisoning are very often avoidable – owners simply need access to the right information – so we’re delighted to support VPIS both on our stand at LVS and by distributing their Key Pet Poison poster for use in-practice.”

For further information, visit www.vpisglobal.com, and for your copy of the VPIS Key Pet Poisons poster, contact Agria’s Veterinary Support Team on 03330 30 83 90 or admin.vet@agriapet.co.uk.
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Monoclonal antibodies make leap to veterinary medicine

Zoetis has launched the first monoclonal antibody therapy approved for veterinary use in the European Union.

Cytopoint (lokivetmab) is a targeted treatment for atopic dermatitis in dogs. The monoclonal antibody targets and neutralises canine interleukin-31 – a key cytokine involved in the itching and inflammation associated with atopic dermatitis. The therapy helps the dog to stop scratching, allowing wounds to heal.

At the launch event, Thierry Olivry, professor of immunodermatology at NC State University, noted that "recombinant biotherapeutics have been used for some time, but monoclonal antibodies are new because of their unique target". Unlike steroids, which can cause an array of side-effects, the therapy should affect the itching cytokine without impacting other immune functions.

Atopic dermatitis is very heterogeneous, so no treatment works for 100% of patients, Thierry said, but he claimed Cytopoint has had an impressive success rate in studies. The therapy makes a significant difference in just one day and the antibodies can stay in circulation for up to a month, says the firm.

The therapy "brings great benefits for quality of life", it says – both for the dog and the owner. Cytopoint is easy to administer and long-lasting – it doesn’t have to be applied daily like current treatments, and can be given in the form of a monthly, vet-administered injection. It can also be used in combination with other medications, including vaccinations. These factors make a huge difference, particularly for a disease that often requires lifelong treatment, Zoetis says.

Speaking at the product launch, Andy Hillier, senior veterinary specialist at Zoetis, commented: "Monoclonal antibody therapy is the fastest-growing therapeutic area in human medicine, and Zoetis has focused on how these therapies can be translated to animal health."

There is potential for application to many more chronic veterinary diseases. Monoclonal antibodies could be beneficial for supporting diagnosis and therapy of cancer in veterinary oncology and some believe they will be part of standard care for canine lymphoma within five years.

In the 40 years since their discovery, there has been a focus on the potential of monoclonal antibodies in human medicine. The launch of Cytopoint marks the first step for monoclonal antibodies in veterinary medicine in the EU, but the potential stretches far beyond canine atopic dermatitis. In future, monoclonal antibodies may come to be commonly used for the treatment of infectious diseases, cancer, immune diseases, and arthritis – in human and veterinary medicine.

Submit your evidence gaps

Veterinary Evidence, RCVS Knowledge’s flagship journal, has launched an initiative that will allow practitioners to submit questions on the evidence gaps they encounter. The initiative aims to provide a bridge between research and clinical practice.

Dubbed the PICO Project, the scheme will initially run via a series of specialism-specific surveys that let respondents select individual species or topics and input the research questions they would like to see covered in Veterinary Evidence.

RCVS Knowledge will make the list of submitted questions available online for the veterinary community to answer as ‘knowledge summaries’ (‘critically appraised topics’), which will be peer-reviewed and published in the open-access journal.
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6-26 November 2017: Cutaneous Mast Cell Tumours in the Dog
Dr Chiara Penzo DVM PhD Dip. ECVIM(Oncology) MRCVS European Veterinary Specialist in Oncology. RCVS Veterinary Specialist in Oncology.
Mast cell tumours (MCTs) represent the most common cutaneous neoplasia in dogs. MCTs can be very aggressive requiring additional treatment after surgery. This online course offers practical answers to the most frequent challenges encountered in their clinical management. Aimed at vets.

Francesco Cian, DVM, DipECVCP, FRCPath, MRCVS, European Specialist in Veterinary Clinical Pathology.
Paola Monti DVM, DipACVP (Clinical Pathology). FRCPath,MRCVS, RCVS Specialist in Veterinary Clinical Pathology.
This comprehensive course will give you the basics you need for interpretation of the most common haematological disorders in dogs and cats. Participants will learn how to review blood smears and develop a logic diagnostic approach to the alterations of red blood cells, white blood cells and platelets. All this will be achieved through a case-based approach. Clinical case challenges and diagnostic algorithms will also be provided to help you understand the concepts presented and to consolidate your knowledge. Aimed at vets, vet nurses and lab technicians.

6-26 November 2017: Feline Medicine Update
Samantha Taylor BVetMed(Hons) CertSAM DipECVIM-CA MRCVS
Cats can be challenging to treat but fascinating and rewarding too. This interesting and up to date feline medicine update will cover key areas of feline medicine including: infectious diseases, respiratory medicine, urinary tract disease, gastroenterology and oncology. Clinical cases will be presented throughout the course to illustrate the topics and show how to apply the latest research to cases seen in first opinion clinics. Aimed at vets.

6-26 November 2017: Anaesthetic Emergencies for Veterinary Nurses
Denise Prisk DipAVN (Surgical), VTS (Anesthesia & Analgesia), LTCL, LGCI, RVN
Everyone who is involved in anaesthesia should be able to deal with common complications. This course focuses on various emergency conditions, how and why they arise and the actions to take to try and remedy the situation, as well as any preventative measures that may be taken. Current techniques of performing CPR and resuscitation will be covered, and case studies will provide a platform for discussion. Aimed at vet nurses.

6-26 November 2017: Companion Animal Behaviour for General Practice Part 2
Clare Wilson MA VetMB CCAB MRCVS PGDipCABC
The aim of this course is to progress on from the foundations learned in part one - looking in more detail at practical aspects of behaviour and training for the veterinary environment and some more complex cases with more detail about diagnosis and behaviour modification. There is a pre-requisite to have completed a prior behaviour course.

6-26 November 2017: Diabetes in Cats & Dogs
This course explores the following topics: • Module 1: Pathophysiology and aetiology of diabetes mellitus (DM) in cats and dogs • Module 2: Diagnosis and monitoring of routine cases • Module 3: Creating a multimodal management plan • Module 4: Rational approach to the complicated and unstable diabetic patients • Module 5: Diabetic emergencies – ketoacidosis, hyperglycaemic hyperosmolar syndrome (HHS) and hypoglycaemia • Module 6: Feline DM clinical case • Module 7: Canine DM clinical case • Module 8: Final MCQ exam to gain your CPD certificate. Aimed at vets and vet nurses.

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Is it time to embrace change and shape the future of animal care?

The potential impact of new technologies on animal health and welfare was discussed at the first RCVS Innovation Symposium.

In the UK, the faint buzz about new technologies and services that might alter daily life for those in the veterinary profession is often drowned out by louder cries of cautiousness and scepticism.

The RCVS Innovation Symposium, held at The Shard on 20th September, offered a timely opportunity to discuss what the future of the profession might look like and, importantly, why these changes should be embraced, not feared – and certainly not ignored.

Professor Richard Susskind, the keynote speaker at the event, warned that technological advancement is going to have a significant influence on the professions. Consider that 60 million disputes are resolved by eBay every year – not in a courtroom, but by online dispute resolution.

Like it or not, technology is going to continue to change our lives – and the health sector is no exception. In September, it was announced that artificial intelligence can diagnose Alzheimer’s disease in humans almost a decade before symptoms appear. A system has also been developed that can outperform dermatologists in diagnosing myeloma.

As systems become increasingly capable, we may not require as many people with such high levels of training. Richard described two futures for technology: one in which technology is used to optimise the service that has been given for years, and the second in which technology “fundamentally challenges, changes and replaces the traditional way of working”; this future, he suggested, is what the professions must be prepared for.

How might technology change veterinary practice?

Computers will become better at some aspects of a veterinarian’s work than humans are. This may sound daunting, but embracing technology could bring about some almighty benefits to everybody in practice.

Technology could save time and resources and in turn, more animals could be reached and a higher quality of health and welfare offered; moreover, it could initiate a much-improved work-life balance for the veterinarian.

Adam Little, director of Veterinary Innovation and Entrepreneurship at Texas A&M University, thinks the next decade will see more change in the vet space than the last 50 years. These changes, he says, will fall into four key categories:

1. Our evolving relationship with pets.
2. The empowered customer.
3. Innovation at the fringes.
4. The profession’s response.

Adam noted that we value our pets more than ever before and are spending much more money on them. We’re already using devices to improve our relationship with our pets, and this is likely to increase.

Technology will unlock new models of service delivery, he said, and student vets and vet nurses will have new, tailored ways to learn. PayPal, AirBnb and Uber were all illegal when they started. Innovation happens at the fringes because these...
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companies do things that big companies can’t or won’t do. The profession is responding to changing expectations, he said. In 2016, a record number of health investments were made and start-ups born. Bigger companies are making moves too, providing, for example, online services, pet activity trackers, mobile services and Uber-type models for vets.

In their whirlwind talk, Dr Greg Dickens and Dr Guen Bradbury from Innovia described what the future could look like in veterinary practice in five to 10 years.

Their list of achievable innovations included, to name just a few, strain gauges on surgical needles, teleconsultation appointments (aided by gait-tracking software), augmented reality glasses (with thermographic imaging), drug-carrying drones, disease trend-tracking software, and computer-derived surgery risk analyses based on genomics data.

How should the profession make the jump?

Adam Little’s advice to the veterinary profession is to “generate awareness, develop training in areas of rapid growth, upgrade existing practices and unlock new models of care”.

There will undoubtedly be hurdles to overcome along the way and some of these were raised during the question session. For example, it might seem unlikely that all farm animals will be monitored remotely using 5G when vets struggle to get even the faintest mobile signal on many farms in the UK.

As a regulator, the RCVS must have an appropriate system in place that will be able to adapt in this very fast-moving, volatile and uncertain market.

Anthony Roberts, director of Leadership and Innovation at the RCVS, commented: “Technologies are developing exponentially, new business models are emerging and there is huge investment into the animal health sector. As a regulator, the RCVS must have an appropriate system in place that will be able to adapt in this very fast-moving, volatile and uncertain market.”

The profession must be proactive and get involved with innovation. To do this, the RCVS has launched ViVet (www.vivet.org.uk) – an initiative designed to help the profession stay up-to-date and at the centre of innovation in animal health. It will encourage veterinary professionals to recognise and seize the opportunities innovation can bring to improve the way they work, how they offer services to clients and how they can access new markets.

Online resources, blogs, case studies and events will be used to encourage innovators and support professionals engaging with innovation.
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The capsule offering a 3D view of the GI tract

Find out about the latest diagnostic imaging technology in the first article in our innovation column

ALICAM enables veterinarians to measure GI transit times and capture images of the GI tract without sedation, anaesthesia or restriction of movement.

What is its key use?
ALICAM is indicated for use when a dog or horse is displaying any of the following signs:
- Weight loss
- Reduced appetite
- Vomiting
- Diarrhoea
- Food intolerance
- Abdominal pain
- Dark stools or blood in stool
- Unexplained anaemia
- Suspected ulcer or mass

What problem does it solve?
GI disease is very common; however, establishing a diagnosis and treatment plan can be problematic. ALICAM allows a veterinarian in any setting to acquire intra-luminal images of the GI tract and obtain a consultation from a specialist. ALICAM is most frequently used:
- When traditional GI work-up has failed to provide a diagnosis.
- When endoscopy or anaesthesia are not viable.
- When lesions are present beyond the reach of an endoscope.
- As a non-invasive follow-up to monitor the progress of previously prescribed treatments.

How does it work?
Four on-board cameras image the GI tract, giving a 360-degree view as the capsule is propelled by peristalsis. Thousands of images are captured during the study and are stored on on-board memory chips.

These images are then downloaded, correlated with clinical history and analysed by internal medicine specialists who offer a report containing their interpretation and recommendations.

Has it been proven in practice?
Yes. In the past 18 months, there have been a number of peer-reviewed publications and clinical abstracts demonstrating safety and efficacy as well as its utility in a number of different clinical scenarios.

Why should a surgery invest in it?
- It helps to improve care for patients with GI disease.
- Up-front costs are minimal.
- It requires no training and only a few minutes to administer.
- The images are interpreted for you by a board-certified internal medicine specialist.
- It can be helpful in a wide range of clinical settings.
- Clients love it!

How do you use it?
No special training is required to operate/administer the capsule. Simply removing the capsule from its package turns it on. ALICAM is administered in much the same way as a pill. The capsule is returned to the manufacturer via courier and the data is downloaded and interpreted by specialists who will generate a report with treatment recommendations. The report and video are then sent to the veterinarian via email.

What sets this product apart from the competition?
ALICAM is the only capsule imaging service designed specifically for veterinary use. The image quality, device safety and clinical efficacy have been documented for veterinary applications. The workstation to download and read images has been eliminated as well as the need for external sensors. All that is needed to image a patient is the capsule itself. This minimises the cost to adopt the technology. ALICAM is also a service, not just a device. The burden of downloading images, interpreting them and then generating a report with treatment recommendations is performed by the company.

How much does it cost?
The cost for the entire study (including the capsule, outward/return shipping and the interpretation/reporting by a specialist) is approximately £525 (accurate as of October 2017).

More information can be found at www.alicamvet.com; the ALICAM main line is 02085 33 99 22. Readers can access discounted rates by completing the contact form on alicamvet.com and quoting the code VP2017.
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Slaughter without stunning

With a dramatic increase in animals being slaughtered while conscious over the past four years, should a meat labelling programme be introduced?

Bruce Vivash Jones, BVetSts, MRCVS, graduated from the RVC in 1951. After retiring from his consultancy business in 2003, he began studying and writing on the history of the profession and veterinary medicine.

Currently, UK meat production, particularly from sheep and goats, is a buoyant market sector being driven by the increasing demand for meat slaughtered according to religious rites – termed shechita in the Jewish faith and halal in the Muslim.

Humane slaughter is widely recognised as a part of good animal welfare practice, with the essential part of the procedure being the use of stunning, to ensure that it is sensation- and pain-free. However, according to survey figures released by the Food Standards Agency (FSA), almost one quarter (24.4%) of sheep and goats slaughtered between April and June this year had their throats cut while conscious – an increase from 15% in 2013. The number of chickens slaughtered without pre-stunning has risen from 3% in 2013 to 18.5% in 2017.

The growth in the British Muslim population (forecast to double by 2030), together with the increasing export of halal meat (particularly lamb) to the EU with some 15.4 million Muslims, already accounts for – according to the National Farmers Union (NFU) – about 40% of British lamb production.

The religious ritual

Religious slaughter, according to Islamic rules, is termed dhabihah, but usually called halal. The ritual requires the animal to be both alive and healthy before the approved Muslim slaughterer commences. He must say continually “Bismillah wallahu Akbar” at the time of killing, with a sharp blade of not less than 12cm. The one stroke must sever the neck of the animal below the glottis and cut the trachea, oesophagus and both carotid arteries and jugular veins without lifting the blade, but a sawing action is allowed.

While some Islamic scholars agree that stunning is acceptable for halal slaughter, others argue against it, claiming that it affects both exsanguination and the quality of the meat.

Lord Trees, our veterinary spokesman in the Upper House, has said: “We provide non-stunned meat and it is something many of us regret, but not something we can alter because the UK and many European countries defend religious minority rights to have non-stunned meat.”

However, Denmark, Lithuania, Poland and Sweden do not allow non-stun slaughter and since 2012 Cyprus, Estonia, Finland, Germany and Luxembourg have not used the practice. Non-stun slaughter is also banned in New Zealand, one of the world’s largest producers of sheep meat.

The BVA has campaigned against non-stun slaughter for some time as an essential part of animal welfare in the slaughterhouse. Public opinion is reflected in requiring stunning before slaughter by the NFU’s Red Tractor Food Assurance Scheme, the RSPCA’s Freedom Food and the Soil Association’s Organic Food Schemes.

The BVA also strongly supports a meat labelling programme so that customers can see the slaughter method used for their purchase. To date, calls have been rejected for legislation to enforce both compulsory stunning before animal slaughter and informative labelling. A labelling scheme has been proposed by the Agriculture and Horticulture Development Board and is under discussion.

Meanwhile, the number of conscious animals slaughtered under a religious rite involving the cutting of their throat continues to rise.
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The importance of empathy

What are the three types of empathy and how can they be used to help those in practice thrive?

Cognitive empathy
By using cognitive empathy, we understand how the other person’s mind works. We can see things from their perspective. We understand the language they use and can use similar language back to them effectively so they hear us. Cognitive empathy is essential when giving performance feedback and when communicating with clients. Communication is key. Unfortunately, it can also be used by those with twisted motivations to manipulate others; bullying in the workplace would be one example. These people lack the second type, emotional empathy.

Emotional empathy
Emotional empathy means we can feel a person’s distress and rejoice in their good news, which can bring team members together at joyful times. Emotional empathy is essential for good leadership, effective teamwork and understanding the needs and desires of our clients.

When running at high levels, emotional empathy creates a sense of rapport with clients and an emotional connection between team members. This gives rise to an overall harmony in teams, which are more productive as a result.

However, if you are a leader who takes it upon themselves to be the sounding board for the team, but aren’t able to metabolise other people’s concerns, this can lead to emotional exhaustion and eventually emotional burnout.

As a counsellor and as a team member in my veterinary practice to whom colleagues in distress often turn, I have to exercise a degree of self-regulation to prevent burnout. Counsellors debrief onto supervisors, who in turn debrief onto others and so the chain of avoiding emotional exhaustion is strong. Alongside that chain of debriefing, we must use self-awareness to be conscious of the toll it takes on us, and self-regulation to avoid it burdening us and affecting our own mental well-being.

Empathetic concern
Empathetic concern means we see a person in distress and have an overwhelming need to spontaneously help them out. These are the proactive leaders who speak to the VDS on their vet’s behalf when something terrible has happened. They organise the CPD for struggling employees. They see someone is distressed and take them somewhere for a confidential chat before it becomes an untenable situation. They find counselling for their team members who need it before the crisis or the resignation happens.

In successful practices, especially these days when many of us are working for corporate practices (or will be soon), these three types of empathy need to be running at full capacity from grass roots up to HR to help the people facing customers thrive, be productive, proactive and remain in the profession.
The nurse’s role in One Health

Raw food, pet travel and outreach work were some of the topics discussed in the One Health lecture stream at BVNA last month.

One Health is a global initiative forging collaborations between health and environment disciplines; at its heart is the unity of the veterinary profession with human physicians and scientists to advance healthcare through accelerating research, enhancing public health efficacy, expanding the knowledge base and improving medical education and clinical care. The One Health stream at the BVNA Congress attracted many interested vet nurses – some of whom hadn’t heard of the initiative.

Raw feeding
Matt Bernard, from APHA, described several key One Health issues that may affect veterinary nurses. The first was raw pet food, which is becoming increasingly popular and may have risks for food safety.

The food undergoes different bacteriological checks to human food, with fewer pathogens tested for, Matt explained. An owner’s decision to feed his or her pet raw food is usually an educated one, but there is advice that should be given to owners to reduce the concern about pathogens from a One Health perspective; Matt suggests advising that owners:

- Keep raw pet food separate from human food
- Always label raw pet food to avoid accidental human consumption
- Defrost the food outside the human fridge (or at least make sure it is in a sealed container)
- Use Tupperware rather than bags, which may leak
- Use separate utensils for raw food
- Give the thaw juice to the pet – it has nutritional value and pouring it down the sink will contaminate the surrounding area
- Remove the pet’s bowl after feeding, especially if there are children in the house
- Wash hands thoroughly after touching raw food
- Be very careful when disposing of faeces

Pet travel
Matt also spoke about rabies transmission and the importance of vet nurses in noticing potential issues with how an owner acquired their pet. If you are suspicious that an animal may not have been imported legally, you should report it to the local health authority and/or APHA. But talk with your practice beforehand, says Matt, and come up with a practice policy if there isn’t one in place.

Joy Howell is a veterinary nurse, now working as a practice support adviser for Bayer. Her talk focused on parasitic disease threats, which are on the rise due to increased pet travel and pet importation, expanding distribution of established vector-borne diseases, and emerging parasitic diseases.

In 2012, the pet passport rules changed. Requirements for ticks were removed and tapeworm requirements were altered. Joy explained that following the legal requirements is not enough because pet passports exist to protect humans, not pets.

She recommends using ESCCAP (European Scientific Counsel Companion Animal Parasites; www.esccap.org for information and resources. The site has editable, downloadable PDF sheets about pet travel and maps showing the distribution of parasites across the world. The benefits of good control are immeasurable. Joy said vet nurses should educate owners to make sure they are protecting their animals, use products that will repel vectors and/or prevent disease, and consider heartworm-preventive treatments and available vaccinations.

Outreach
Welfare is an important aspect of One Health and the final speaker of the day, Sue Bartlett, discussed the importance of outreach work in building relationships with clients and gradually changing behaviours.

A startling proportion of dogs are fed scraps as their main meal and many have had no primary vaccinations. The vast majority of cat owners underestimate the lifetime costs of ownership and owners often say their cat has a behaviour they would like to change. Sue thinks these statistics can be changed through an increase in:

- Specific vet/nurse clinics
- Client information sessions (perhaps with guest speakers)
- Posters/advertising (but keeping messages simple and not telling people off)
- Social media (posting at least two to four posts per week)
- Stocking relevant over-the-counter products
- Practice open days with behind-the-scenes tours
- Collaborations with pet charities to offer discounts and free services
- Attending local community events
- Education sessions for kids, youths or adults
- Practice competitions
- Editorial in local papers and magazines
How is raw food regulated?

Exploring EU legislation for raw pet food and the key differences between commercial and homemade raw diets

How is raw food regulated?

Ro

aw feeding domestic dogs and cats has grown in popularity in the last few years. While it is a fast-growing sector of the pet food market, many veterinary professionals feel ill-informed about raw diets, sometimes dismissing them as a ‘fad’ or even reprimanding clients who admit to raw feeding.

Advocates of raw feeding suggest it’s the most natural way to feed their beloved pet – one in which the food is minimally processed and is close to what (they say) their animal would choose to eat. Detractors cite concerns over safety, like the possibility of bacterial pathogens being present on raw meat, along with concerns that it may increase exposure to parasites and that the diet may not be nutritionally complete and balanced.

Even if you wouldn’t personally choose to feed your pet a raw diet (just as you may choose not to feed a wet diet or kibble diet), it is our duty as veterinary professionals to be informed enough to discuss the topic openly and knowledgeably with clients, explaining the potential benefits and risks, along with how to pursue raw feeding in as safe and responsible way as possible, if the client so desires.

Natures Menu regards a ‘responsible raw’ pet food product to have the highest possible safety, quality and ethical standards. We are a Defra-registered raw food company, meaning we must abide by specific EU legislation that covers raw pet food manufacture.

There are over 50 pieces of legislation that govern the manufacture of pet foods, but some of the most pertinent for raw feeding relate to EU Animal by-products regulations 1069/2009 and 142/2011.

These regulations highlight a few key points when it comes to commercial raw pet food manufacture, which distinguish ‘responsible raw’ feeding from homemade diets, composed of ingredients from the supermarket or local butcher.

There is a restricted list of raw materials that Natures Menu is permitted to use in pet foods. Things like feathers, pelts, hooves and horns are not permitted because the potential pathogen risk in raw food would be too high. These animal by-products are allowed in pet food intended to be cooked.

EU legislation also dictates that all raw material used for pet food by Defra-registered companies must be gland-free, eliminating the potential for animals to develop endocrine disorders such as hyperthyroidism, which has occasionally been reported in dogs consuming raw thyroid tissue.

EU legislation also has a ‘zero tolerance’ policy towards Salmonella in raw pet food products; Defra-registered raw food manufacturers must send samples of their raw food to verified, independent labs to be tested for Salmonella. The results are sent to APHA. The agency also carries out regular inspections of the manufacturing facilities of Defra-registered raw pet food companies.

Interestingly, the zero tolerance policy for Salmonella in commercial raw pet food is stricter than the legislation for raw materials intended for human consumption, which does allow Salmonella to be present in raw meat (providing it is not Salmonella typhimurium or enteritidis), as the intention is that this meat will ultimately be cooked, thus killing the bacteria.

This is a clear difference between buying commercial raw pet food from a Defra-registered manufacturer and buying raw meat from the local butcher or supermarket to make a homemade diet.

EU legislation dictates that all raw materials used in raw pet food manufacture must be traceable, so concerns that may arise further down the line can be easily traced back to their source.

In the next article, I will discuss other potential concerns regarding raw diets, such as parasites, ensuring a raw diet is complete and balanced, and how commercial and homemade raw diets may differ in these respects.

References


For more information, visit www.naturesmenu.co.uk.
Pancreatitis is the most common disease of the exocrine pancreas in canine patients, and acute pancreatitis is characterised by inflammation and/or oedema and necrosis.

The exocrine pancreas produces digestive enzymes that are made within acini as inactive forms (zymogens). These are stored in vacuoles until they are released. Once the zymogens reach the duodenum, they are activated by decreased pH and by enzyme-mediated cleavage. Pancreatitis occurs when the activation of ‘trypsinogen’ into ‘trypsin’ occurs within the pancreatic acini. Once activated, the trypsin auto-digests the pancreatic tissue, causing serious and severe inflammation.

Theories as to why pancreatitis occurs include: failure of the normal breakdown of excess enzymes and lysosomes within the acini (‘autophagy’) leading to build-up of enzyme and lysosome within the acinar cells; and development of an ‘apical block’, whereby the zymogen and the lysosome cannot cross out of the acinar cell membrane into the pancreatic duct.

A significant number of suspected and confirmed predisposing causes have been documented. These are detailed in Figure 1. It is important to note, however, that pancreatitis is likely to be a multi-factorial condition and that the presence of one or more risk factors does not guarantee development of the disease.

Clinical signs

Typical signalling in pancreatitis is relatively well-described. Patients tend to be middle-aged to older (over five years), but pancreatitis can occur at almost any age and reports in the literature describe dogs between a few

<table>
<thead>
<tr>
<th>COMMON CLINICAL SIGNS</th>
<th>OTHER CLINICAL SIGNS</th>
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<tr>
<td>Anorexia (91%)</td>
<td>Jaundice</td>
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<tr>
<td>Vomiting (90%)</td>
<td>Pyrexia</td>
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<td>Weakness (79%)</td>
<td>Hypothermia</td>
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<td>Abdominal pain (58%)</td>
<td>Bleeding diathesis</td>
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<td>Dehydration (44%)</td>
<td>Ascites</td>
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<td>Diarrhoea (33%)</td>
<td>Shock, DIC, multi-organ failure</td>
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<th>Dietary</th>
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<td>Colitis</td>
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<td>Dietary intolerance</td>
<td>Constipation</td>
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<td>Diet change</td>
<td>Foreign body</td>
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<td>Drugs/toxins</td>
<td>Gastric dilatation/DIV</td>
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<td>Alpha-2 agonists</td>
<td>Gastric ulceration</td>
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<td>Chemotherapy drugs</td>
<td>Gastritis/stenitis</td>
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<td>Doxycline</td>
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<td>Ethylene glycol</td>
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<td>Glucocorticoids</td>
<td>Paralytic infection</td>
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<td>Lead</td>
<td>Viral infection</td>
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<td>NPK fertilisers</td>
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<td>NSAIDs</td>
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<td>Paracetamol</td>
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<td>Potassium bromide</td>
<td>Intestinal volvulus</td>
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<td>Pyridostigmine</td>
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<td>Sulphasalazine</td>
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<td>Zinc</td>
<td>Neoplasia</td>
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<td>Etc.</td>
<td>Pyloric stenosis</td>
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<td>Endocrine disease</td>
<td>Central disease</td>
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<td>CNS disease</td>
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<td>Hyphaematochoriocarcinoma</td>
<td>Motility/sickness/vesiculobursitis</td>
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<td>Hypothyroidism</td>
<td>Psychogenic</td>
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<td>Hyperlipidaemia</td>
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<td>Neoplasia</td>
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<tr>
<th>BIOCHEMISTRY</th>
<th>HAEMATOLOGY</th>
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<td>Increased ALT, AST, ALP, GGT</td>
<td>Haemoconcentration or anaemia</td>
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<td>Increased total bilirubin</td>
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<td>Azoaemia</td>
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<td>Hypocalbuminaemia</td>
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<td>Increased inflammatory markers, e.g.</td>
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<td>C-reactive protein</td>
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**Canine acute pancreatitis**

How does pancreatitis occur, what approaches are involved in reaching a diagnosis and what are the various treatment options available?

Daniel Thompson, MA, VetMB, MRCVS, is a senior clinical training scholar at the University of Cambridge. Supported by Royal Canin, Daniel aims to become an authority in small animal nutrition.
months of age to 15. Predisposition due to breed is also a well-demonstrated factor (see Figure 1).

Common presenting signs, along with some less common but well-described signs, are presented in Figure 2. Although vomiting and anorexia are by far the most commonly seen, it remains a heterogeneous disease and dogs with pancreatitis may present with any combination of these clinical signs. Clinical examination findings are also important. They are dependent on disease severity and duration, and in mild disease the clinical examination may be relatively unremarkable. It is important to note that this does not exclude pancreatitis as a plausible aetiology in patients with other consistent presenting signs.

In more severe cases or longer durations, detectable abnormalities often reflect both abdominal discomfort and/or dehydration. The classically cited observation in these patients is the prayer posture. Other indications of pain on examination can include a tense abdomen, tachycardia and mild to moderate increases in rectal temperature.

Other signs include hypersalivation as a result of nausea and evidence of dehydration with tacky mucous membranes and reduced skin elasticity. It is important to note that all of these signs are non-specific, leading to a significant number of differential diagnoses (Figure 3).

**Diagnosis**

Initial diagnostic investigations for pancreatitis are general and focus on excluding differential diagnoses listed in Figure 3. Findings on minimum database tests are generally non-specific. Common changes in biochemistry and haematology (Figure 4), and the combined presence or absence of any of these, is potentially consistent with pancreatitis. Urine samples are often unremarkable; however, proteinuria is detected with relative frequency due to loss of permselectivity of the glomerulus due to systemic inflammation.

Abdominal radiography is another commonly-performed diagnostic test; however, sensitivity and specificity for pancreatitis are low, with sensitivity reported at 24%. Common findings can include increased soft tissue opacity in the cranial abdomen, reduction in serosal detail, displacement of the stomach and duodenum and gaseous distension of bowel loops adjacent to the pancreas. A number of tests have been reported to be more specific for pancreatitis. Assays for serum amylase and lipase have been available for many decades, but as neither are specifically of pancreatic origin, increased levels may not necessarily reflect pancreatic inflammation. They can also be increased by other disease processes such as renal, hepatic, intestinal and neoplastic conditions, and also by steroid therapy or Cushing’s disease.

Overall, sensitivity is poor (as low as 14%). Specificity has also been reported to be low (around 50%) and so amylase and lipase cannot be recommended for diagnosis of pancreatitis.

Trypsin-like immunoreactivity measures serum trypsinogen and trypsin which, unlike amylase and lipase, are only manufactured in the pancreas. When the pancreas is inflamed, the trypsin and trypsinogen are released into the circulation and therefore should be high in pancreatitis.

In some cases, a high TLI level can be detected. However, it has a short half-life and has often reduced back to the normal range within about three days of disease onset; this reduces sensitivity.

Although not produced elsewhere, there are other causes of increased TLI. Trypsinogen and trypsin are renally excreted. Therefore, anything that reduces GFR can increase TLI artificially. That said, reported specificity for TLI is relatively high.

Another marker – specific canine pancreatic lipase (Spec cPL) – is generally agreed to be the most useful current test for diagnosis of pancreatitis. Like for TLI, it is an enzyme produced only in the pancreas and uses antibodies to detect the Spec cPL by ELISA. Spec cPL has three possible results ranges, detailed in Figure 5.

This test has been the subject of a significant amount of work with regard to sensitivity and specificity; results are variable. Considering the design of these studies, the overall sensitivity for a ‘positive’ Spec cPL (>400mcg/L) is likely to be 72-78%, with a specificity of 77-88% at the same level. The reduction in specificity from 100% is likely due to factors that may artificially increase the level of Spec cPL (see Figure 6).

The Spec cPL has also been adapted into a patient-side SNAP test. This uses the same reagents as the quantitative Spec cPL and is read as positive or negative by comparison of a test spot to a control spot in a semi-quantitative manner.

It is important to note that the ‘positive’ result is set at the 200mcg/L level, however, meaning that the positive result also includes the inconclusive zone. This results in an increased sensitivity (82-94%), but a considerably lower specificity (59-77%).

The SNAP cPL is a useful test for ruling out pancreatitis, but it cannot be used to confirm the diagnosis and therefore it is mandatory to perform a quantitative Spec cPL on any
Canine acute pancreatitis case with a positive SNAP result.

DGGR lipase is an alternative pancreatic-specific parameter that is entering common usage. Considerably less work has been done on this parameter, but it has recently been validated to be broadly equivalent to Spec cPL with good agreement reported.

A final useful diagnostic modality for diagnosis is abdominal ultrasound. This has a relatively low reported sensitivity, however (56-68%), and is both equipment- and operator-dependent with respect to its utility. Common ultrasonographic changes are presented in Figure 7.

Initial management of acute pancreatitis is relatively formulaic. Patients require intravenous fluid therapy to correct dehydration and hypovolaemia, and to improve pancreatic perfusion as poor perfusion and hypoxia are known to both cause and worsen pancreatitis.

In haemodynamically-stable patients, an isotonic crystalloid such as Hartmann’s solution is advised, whereas in severe cases where hypovolaemic shock is suspected, patients may benefit from the addition of a colloid.

Analgesia is also vital as pancreatitis is a very painful condition. Opioid analgesia with buprenorphine or methadone is initially indicated, but can be gradually staged down or augmented with alternatives such as paracetamol and gabapentin. In very severe cases, ketamine and lidocaine infusions are indicated. Alongside analgesia, anti-emetic drugs such as Maropitant can be utilised to improve comfort, reduce vomiting and promote eating, and gastroprotectants such as omeprazole can assist in reducing nausea further.

Key to the management of pancreatitis is early enteral nutrition. Previous assumptions that the pancreas requires a period of rest are incorrect; recent evidence shows that early enteral feeding leads to a shorter hospitalisation period. This reduced gastrointestinal tract inflammation and enterocyte sloughing improves motility.

A low-fat diet should therefore be offered as early as the patient will tolerate feeding (for example Royal Canin GI Low Fat), and patients who have not eaten in more than five days should have a feeding tube placed (Royal Canin GI Low Fat Liquid Diet), starting at roughly 20% of their resting energy intake and increasing to 100% over five days. The introduction of the liquid diets has allowed non-invasive naso-oesophageal tubes to assume an important role in pancreatitis management and these can be strongly recommended.

To watch a webinar from Dan on this topic, visit: vetportal.royalcanin.co.uk/cpd/webinars. References are available on request.

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Hypoechoic and enlarged pancreas +/- nodular appearance
Hyperechoic peri-pancreatic fat
Hyperechoic mesentery
+/- abdominal free fluid
May not be visible in chronic end stage pancreatitis

▲ FIGURE 7 Common ultrasonographic changes in dogs with pancreatitis
Updates for all at ESVD congress

A variety of new dermatology information was discussed at the European Society of Veterinary Dermatology Annual Congress in Lausanne, Switzerland

ESVD congresses are for everybody – not just dermatologists, although having an interest in the subject and wanting to learn more is a good start.

This year’s congress was held in Lausanne and there were three themes. The basic one was called ‘New Trends in Dermatology’, the intermediate one was ‘Advances in Clinical Dermatology’ and the third, at the highest level, was the ‘Cutting Edge’ programme of special interest for the academics.

Just reviewing the basic level, someone relatively new to veterinary dermatology could be brought right up-to-date in many areas assuming little prior knowledge. Topics covered included a review of microscope use, new information on PCR, allergy diagnosis, ectoparasite control, anti-allergy and antibacterial therapy, and new information on otitis, all on the first day.

The next morning, the same slot was entirely devoted to cats, starting with professor Stephen White from Davis, California, who talked about dermatology emergencies in cats. Dr Ekaterina Kusnetsova, who gave a superb lecture on feline immune-mediated and autoimmune diseases, and another on feline pyoderma, followed him.

Further sessions on geriatric and paediatric feline dermatology followed, with new information on food trials for the diagnosis of feline allergies. On the third day, there was a whole morning on equine dermatology, with Stephen White again prominent.

The academic dermatologists were well-catered-for with presentations from world experts such as Thierry Olivry and Claude Favrot, both originally from France but now in the USA and Switzerland respectively, and many others.

As is often the case at the ESVD congress, human specialists were brought in to expand on comparative aspects. For example, Carsten Flohr from St John’s Hospital for skin diseases in London spoke on ‘Lessons from studies on the epidemiology of atopic eczema’.

The opening ceremony and welcome reception was held in the magnificent Lausanne Olympic Museum, with spectacular views over Lake Geneva. We were entertained by alpine horns and there was time afterwards to roam around the exhibition. The traditional banquet, which takes place on the Friday evening, was held in another spectacular Lake Geneva setting in Grandvaux, and attended by 450 people.

Reflecting on success

At the well-attended ESVD AGM, Sue Paterson, the outgoing president, reflected on the success of this year’s congress. There was initially a worry that potential delegates would be put off by the location being perceived as too expensive. This did not prove to be the case. There were more than 725 registered, comparing favourably with last year’s successful congress in Krakow, where there were 827 (of whom 233 were Polish colleagues).

Furthermore, there were delegates from a total of 59 countries, with Germany and the UK leading the way (99 and 86 respectively) and an amazing 26 from Latin America. At the AGM three British veterinary surgeons – Ian Mason, Aiden Foster and myself – were honoured with life membership of the ESVD.

I always feel after attending an ESVD conference that it would be a hard act to follow. Each conference seems to rise to the challenge, however, and next year it is the turn of Dubrovnik in Croatia. This will be 27th to 29th September 2018. It will be in a prestigious setting but with a limit of 1,000 delegates, so keep an eye open for early registration to avoid disappointment.

Plans are afoot for a possible UK conference in 2019 with the 2020 world congress in Sydney.
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Bone regrowth success in orthopaedics

Bone regrowth technology is now being used in the repair of nonunion long-bone fractures in dogs

Five years ago, UC Davis veterinary oral surgeons started using recombinant human bone morphogenetic protein-2 (rhBMP-2) as a bone stimulator to repair fractures and large defects in mandibles. To date, they have successfully regrown nearly three dozen jawbones. Now that technology has made its way to orthopaedic surgery, and data from those cases are being utilised to facilitate the application of this substance in the repair of nonunion long-bone fractures in dogs.

“Nonunion after long-bone fracture repair in dogs represents a potentially devastating complication,” comments Dr Amy Kapatkin, chief of the Orthopedic Surgery Service at the UC Davis Veterinary Medical Teaching Hospital. “We are excited about this new treatment and are optimistic that our use of orthopaedics can have the same long-term positive results our oral surgeons have seen with jawbones.”

Though the rate of nonunion bone fractures is unknown in veterinary medicine, it can be as high as 10% in reports in human literature.

What is rhBMP-2?
Bone morphogenetic proteins are endogenous, signalling peptides that stimulate mesenchymal stem cells to differentiate into osteocytes, creating new bone formation.

Two recombinant human bone morphogenetic proteins (rhBMP-2 and rhBMP-7) are FDA-approved for use in specific human medical conditions in the United States, including maxillofacial, spinal fusions, open tibial fractures and compassionate use in long-bone unions.

Application in dogs
Nine dogs with 11 fractures were enrolled into the study at UC Davis. All patients had had at least one previous surgery, while some had had up to five previous surgeries, with continued nonunion of their fracture. These cases were considered at high risk of failure with the traditional technique of rigid fixation and autogenous or allogenic bone graft, and amputation may otherwise have been recommended.

The dogs underwent general anaesthesia, with removal of previous implants and debridement of fracture ends. The bones were then secured with bridging implants. The defect was measured and compression-resistant matrix infused with rhBMP-2 was placed, ensuring bone contact.

Nine of 11 nonunion limbs returned to full function post-operatively; the other two patients had acceptable function. One patient, followed for 24 months, had decreased carpal range of motion and mild muscle atrophy with limb shortening resulting in a mechanical lameness.

The other dog had occasional proprioceptive deficits at 10-week follow-up. Radiographs demonstrated progressive integration of bone at the site of rhBMP-2 placement, with time to healing varying from seven to 20 weeks (median: 10 weeks).

Repairing Charlie
Charlie, a one-year-old Jack Russell terrier, presented to orthopaedic surgeons at UC Davis following surgery at a different veterinary hospital. That surgery came after a traumatic event (most likely hit by a car) in which he suffered a right open (unknown grade), comminuted tibial fracture and a craniodorsal left hip luxation.

Charlie had a femoral head osteotomy performed on his left hip and a bilateral uniplanar external fixator was placed on his right tibia and fibula fractures; 1cc of Osteoallograft was placed during the procedure.

On radiographic follow-up, the tibia progressed to an avascular nonunion and the fibula showed signs of a hypertrophic nonunion, so he was brought to UC Davis for revision.

Anna Massie, DVM, received her Bachelor’s and DVM degrees from the University of Illinois. She is currently in her third and final year of a surgical residency at UC Davis.
Charlie’s general examination was all within normal limits. He was ambulating on all limbs, but was lame in the right pelvic limb. He had a bilateral, uniplanar external fixator (with five pins – three full and two half) placed on his right tibia.

There was significant muscle atrophy of the right pelvic limb. The mid diaphysis of the right tibia felt thin and the fracture had movement. There was some pain on extension of left stifle and hip. Radiographs at UC Davis of his right tibia and fibula showed a suspect atrophic nonunion of the tibia with punctate radiolucencies that suggested a low-grade bone infection.

Without histopathologic and ultrasonographic analysis, atrophic nonviable nonunions cannot be definitively differentiated from oligotrophic viable nonunions. The fibular fracture was consistent with hypertrophic nonunion secondary to increased motion. There was also poor alignment of the right femur and right tibiotarsal joint.

The external fixator was removed from Charlie’s right tibia and movement at the fracture site was confirmed. Dr Kapatkin performed an ostectomy (approximately 1cm distal and 2cm proximal) of the avascular tibia. A 2mm, 13-hole locking plate was placed bridging the entire tibia. A total fracture gap of approximately 3.5cm was created with this procedure.

This could open the door for further applications that may allow regrowth of bones and repair of fractures.

Three locking screws proximal and two distal were placed. A 3.5cm compression-resistant matrix (CRM) was soaked with rhBMP-2 and placed in the 3.2cm gap, ensuring contact with the bone ends. Vancomycin osteoset antibiotic beads were then placed all along the edges of the locking plate and within the screw holes.

The procedure yielded no complications; post-operative radiographs showed adequate plate and screw positioning, and joint alignment. The rhBMP-2 and Vancomycin beads were also visible on the radiographs.

Charlie’s owners were warned to strictly limit his activity for at least eight weeks to allow for the bones to properly heal and to prevent the plate from breaking. He was to be carried outside for elimination purposes.

They were given instructions to keep Charlie’s incisions clean and dry and warned that it was not unusual for the incision to be mildly swollen and red with a small amount of red-tinged discharge for the first few days.

Additionally, the rhBMP-2 commonly causes a flare-type reaction and the entire leg may appear red and inflamed for about a week. This is expected with the use of BMP; excessive swelling and inflammation have led to the discontinuation of its use in cervical spinal fusion in humans due to the risk of upper airway obstruction.

At his four-week recheck examination, Charlie’s right pelvic limb was weight-bearing and not painful on palpation. He did, however, display a partial hock drop and conscious proprioceptive deficits.

Radiographs of his right tibia and fibula showed complete resorption of the CRM and the antibiotic beads. There was incorporation of the rhBMP-2 at both sites with significant boney callus, but no remodelling had occurred yet – expected at only four weeks.

At 10 weeks, radiographs of the right tibia and fibula showed complete healing and a start to remodelling of the bone. Charlie was green-lit to resume normal activity, being able to walk and run with no adverse effects.

Though his conscious proprioceptive deficits were present at that visit, the owner reports they have since resolved.

Implications of this study
This study combined fracture fixation with regenerative technique to provide successful outcomes in cases with otherwise guarded to poor prognoses. This could open the door for further applications that may allow regrowth of bones and repair of fractures not previously considered for surgical repair.

A full list of references is available on request.
Ophthalmologists, whatever their gender, might be seen as just grown-up boys with toys! Slit lamp biomicroscope, head-mounted indirect ophthalmoscope, Finhoff transilluminator and more; it seems that you have to have a lot of cash and a fair bit of expertise to be a dyed-in-the-wool ophthalmic expert.

Yet the man who taught me just about everything I know about the subject, Dr Keith Barnett, carried around a direct ophthalmoscope in his back pocket and made the vast majority of diagnoses with that and that alone. Now the vast majority of veterinary surgeries will have these simple facilities for basic ophthalmological examination, yet very few veterinary surgeons use the direct ophthalmoscope to best effect.

The key to ophthalmology is first being able to obtain an adequate view of all parts of the eye and secondly being able to describe what is seen. We will cover the first important topic of adequate visualisation in this article.

A prerequisite of good ophthalmological examination is adequate immobilisation of the animal. For the vast majority of examinations, holding the animal’s muzzle lightly with one hand and the ophthalmoscope with the other is sufficient, but in some cases a restraining hand from an assistant to avoid the animal moving backwards is invaluable.

### Pen-torch external examination

The first technique to use on any dog presenting with an ocular problem is an overall external examination with a pen-torch in a light and then moderately darkened room. Gross abnormalities of shape, colour or position of the globe and adnexa will be obvious.

Use of the pen-torch should present no problems, but one useful tip is to move the light around in a circular motion in front of the eye: this avoids mistaking reflections from the cornea or lens as opacities, for while a genuine lesion will remain still, reflections move with the light beam.

Direct and consensual light reflexes should be assessed. A crisp, clear reflection from the ocular surface shows a devent tear film and a healthy epithelium, but a broken-up reflection denotes either a defective tear film or an eroded corneal epithelium or both.

This is also the time to observe eye movements and obvious sight deficits. Sometimes a low-power head loupe can prove useful to obtain higher magnification if examination of the eyelid margin for distichia, or the lacrimal puncta is required although this is often left until direct ophthalmoscopy is used.

### Distant direct ophthalmoscopy

Before taking a close examination of the eye with the direct ophthalmoscope, visualisation of the tapetal reflex from a distance of around two feet should be achieved. The ophthalmoscope is set at 0 dioptres and the bright tapetal reflex is seen when the observer’s eye is in line with the optical axis of the animal’s eye.

This has a number of purposes. First it allows the animal to become accustomed to examination with the ophthalmoscope. Second it allows assessment of any opacities in the ocular media such as cataracts which reduce the reflex. Third, it allows note to be taken of increased tapetal reflex such as would be seen in advanced
retinal atrophy. Fourthly, it can be a very useful method for assessing mild anisocoria, since the size of both pupils can be easily compared as reflected light passes through them.

**Direct ophthalmoscopy**
This is the most common use of the ophthalmoscope, but also the area which is found most difficult by those using it for the first time. Each operator will have a preference for the order of use of the instrument and that described here is merely a personal preference.

1. **The posterior segment** With the ophthalmoscope set on 0 dioptres, the instrument is brought close to the observer’s eye and then 2-3cm from the animal’s globe. It is wise to become accustomed to using both eyes so that nose-to-nose contact can be minimised by using the right eye to look at the right eye of the animal and left for left.

   The direct ophthalmoscope gives a highly-magnified view of the fundus, which can be disconcerting especially if the animal moves its eye a great deal. The easiest landmark to visualise is the retinal vessel running vertically from the disc. Having located this vessel, any adjustment in dioptres can be made to compensate for myopia or hypermetropia on the part of the animal.

   The observer’s eye should be relaxed to accommodate for the far distance. Then a systematic survey of the optic disc and the four quadrants of temporal and nasal tapetal and non-tapetal fundus can be made. This is much facilitated by the use of mydriatics such as tropicamide, although many prefer to leave this until the iris has been observed because of the possibility of missing small lesions such as persistent pupillary membranes with a widely-dilated pupil. Changes in tapetal reflectivity, in pigment distribution or in vessel appearance should be sought. The position of lesions not at the focal plane of the eye such as optic disc colobomata and retinal detachments can be estimated by changing the dioptric power of the ophthalmoscope until they are in focus. Similarly, abnormalities in the vitreous can be identified and placed.

2. **The anterior segment** The structures between and including the lens and the posterior cornea form the anterior segment of the eye and can be visualised best when the dioptric power of the lens is changed to +10. Because of the transparency of the lens, it is often easier to start by focusing on the pupil edge and then observing the front and back of the lens by moving one’s head forward and back slightly.

   The different parts of the lens can be identified in several ways. By moving the head slightly from side to side, or watching while the animal’s eye moves, parallax can be utilised to show whether an opacity is at the posterior or anterior part of the lens.

   Another way of differentiating the front from the back of the lens is by using the underwater rule – that is to say ‘Y fronts’: the anterior subcapsular suture lines make the form of a Y while the posterior suture lines form an inverted Y.

   Opacities of the lens should be classified as to form and position. One important point to make is that nuclear sclerosis, the grey pseudo-opacity seen on pentorch examination of the eye of older dogs should be differentiated from true cataract by distant direct and direct ophthalmoscopy as the tapetal reflex is not obscured by this change in refractivity of the lens nucleus and inner cortex.

   Abnormalities of the iris should be noted at this point, including persistent remnants of the embryological pupillary membrane system, changes in pigmentation or vasculature. At this point any flare or cloudiness of the aqueous reducing visibility of the iris detail should be noted.

   The estimation of cell number in the aqueous is only really practical on slit lamp examination, but gross increases in cells or fibrin will be noticeable especially if the aqueous is viewed by retro-illumination, that is to say with light reflected back from the tapetum.

3. **The cornea and adnexa** When the ophthalmoscope is set at +20 dioptres, it acts basically as a simple powerful magnifying glass but requires close apposition of the observer and the animal.

   Focusing on the transparent cornea can be difficult for the beginner, but two helpful tips are first to practice focusing on one’s hand to get a feel of how close one needs to be, and secondly to begin the corneal examination at the limbus, where the pigment and vessels of the cornea-scleral junction provide an easy landmark upon which to focus.

   As with the lens, the most difficult task is to localise a lesion within the otherwise transparent cornea. Here a slit beam or pencil beam can be very helpful if available on the
How to make best use of the direct ophthalmoscope

by directing this beam at an angle, an optical cross-section of the cornea can be obtained and the lesion localised in the beam.

As with the lens, the situation is much improved if a slit lamp biomicroscope is available. By using the ophthalmoscope at the same diopter, the conjunctiva and lid margins can be magnified to facilitate localisation of ectopic cilia in the conjunctiva or distichial lashes on the lid margins.

**Indirect ophthalmoscopy**

The direct technique, as its name suggests, produces a direct, real and thus upright but highly-magnified image of the retina for the observer using just one lens close to the observer’s eye.

The indirect method uses a lens close to the animal’s eye, but with the observer at arm’s length, producing a virtual image, inverted but much less magnified which can be seen with the naked eye or with a loupe.

A plastic 20 dioptre lens, around two inches wide, which can be purchased online for a few pounds is ideal while achromatic mounted glass lens is ideal but costly. The unocular method utilising a cheap lens and a direct ophthalmoscope or pentorch is a relatively easy technique, though it requires an assistant to hold the dog’s head.

For best results, the pupil should be dilated. To look in the left eye, the lens is held at around arm’s length in the right hand, resting on the dog’s muzzle and orbital rim with the lens close to the eye. The direct ophthalmoscope or another suitable focal light source is held adjacent to the left eye and moved so that the tapetal reflex is seen through the lens. The lens is then moved slightly away from the animal’s eye until the image of the retina fills the field of view.

At this point, a large amount of the fundus will be seen. To visualise the edges of the tapetal fundus, the head and ophthalmoscope are moved, keeping the lens still. Because of the inverted image, to view the left fundus the head must be moved left or to view the inferior fundus the head must be moved down.

This takes a few minutes of practice, since it is the opposite of the direct method, but the advantages of such a wide view of the fundus are tremendous.

A more expensive, but much easier type of indirect ophthalmoscopy uses a binocular head loupe with coaxial mains illumination. This has the advantage that both hands are free to hold the head and the lens and moreover that the image is three-dimensional so that colobomas and retinal detachments are very easily seen.

The mains halogen illumination means that in cases where cataractous changes or vitritis obscure the view with a direct ophthalmoscope, the retina can still be seen with the binocular indirect method. Another type of indirect ophthalmoscope has an integral first lens, but only monocular vision. This has been designed to have a moderately-magnified upright image, but again has the disadvantage of expense.
Make the most of the 2017 London Vet Show

Don’t miss out on the pop-up practice, career development stream and chance to win a trip to Goa at this year’s London Vet Show

This year marks the ninth London Vet Show – an unmissable two-day CPD event taking place in central London. The show is based at ExCeL in London’s east end and runs from 16th-17th November, with registration opening at 7.45am each day. Doors close at 6pm on Thursday and 5pm on Friday.

In association with the RVC and BVA, the show covers the world of companion animal, equine, farm and business. The conference programme runs over the course of both days, offering delegates even more expert-delivered lectures than last year, totalling over 150 hours. As well as world-leading CPD and the opportunity to network with peers, there will be over 450 stands in the exhibition area showcasing their products and services.

Companion animal programme
Programmed by Jill Maddison, professor of General Practice from the RVC, the companion animal stream covers a wide range of conditions that you’re likely to see in practice, including conditions affecting exotic animals. Run across three clinical theatres, the companion animal stream hosts a mini-theme every year. This year’s theme is ‘More than one problem’ and will feature a series of lectures on what to do when presented with more than one problem or disorder at once. The series will be presented by world-class speakers, often pairing up or presenting as a panel. Also speaking is Kieran Borgeat, covering cardiology, and Craig Griffin presenting several lectures on dermatology.

Equine programme
The equine programme is in its fifth year at the London Vet Show and is once again organised by RVC Equine and the
The equine stream has been designed to equip both equine vets and mixed practitioners with new skills and knowledge.

BVA, in partnership with BEVA. The equine stream has been designed to equip both equine vets and mixed practitioners with new skills and knowledge.

In addition, running for the second year is the ‘Meet the equine professor’ sessions, where delegates can chat informally with leading opinion-makers in the field. Joining the expert line-up are speakers including Bettina Dunkel, Phillip Ivan and Brian Patterson.

Farm programme
The BVA farm programme is back at London Vet Show and is perfect for the general practitioner, particularly those in mixed practice who may not be treating farm animals exclusively. The programme covers a variety of topics, from vaccines to post-mortems.

New this year, the London Vet Show is also hosting the BVA Farm Association Rooms. This is where the BVA specialist divisions – BVCA, BVPA, GVS, PVS and SVS – will host more in-depth, species-specific content on cattle, pig, poultry, sheep and goat clinical topics.

Vet Practice Live!
Also new for 2017, the London Vet Show is launching Vet Practice Live at the 2017 event. Vet Practice Live is a full-scale interactive practice, right at the heart of the exhibition. Vet Practice Live will showcase the latest innovations for the practice and give delegates the opportunity to get hands-on with new products and technologies.
Business programme
The Business programme is not to be missed – join discussions and debates on processes, models and principles that can help to improve practices. The lectures in this stream look at behaviour change, leadership and mental health, among other interesting and useful topics.

BVA Congress
BVA Congress is back at the London Vet Show and will host thought-provoking and inspiring sessions. Presenting the Wooldridge Memorial Lecture (the keynote address) is Dr Ben Goldacre – best-selling author, broadcaster, campaigner and medical doctor who topped paperback non-fiction charts with ‘Bad Science’. In his talk, developed especially for and open to all London Vet Show attendees, Dr Goldacre will draw on his years of experience to highlight how quacks and charlatans misuse evidence and the placebo effect to bamboozle the public; an issue of interest for the veterinary profession, considering the topical focus on evidence-based medicine.
Deworming. Why are pet owners not listening to you?

Deworming, when is enough, enough?

Research shows that only 25% of cat owners are deworming their pets 4 times a year.1 Similarly, for dogs the average deworming rate is only 2.3 times per year, and over 20% of dogs have not received any worming treatment in the last year.2 This is not frequently enough according to guidelines from the European Scientific Counsel Companion Animal Parasites (ESCCAP) which advise that:3

• Risk assessments should be carried out to assess an individual animal’s risk and determine the recommended deworming frequency.
• If the individual risk of an animal cannot be judged clearly, the animal should be dewormed at least 4 times a year as deworming 1–2 times a year does not provide sufficient protection.4

So why don’t pet owners follow veterinary advice?

One of the major causes of suboptimal worm control in pets is lack of compliance by pet owners.1 There are many reasons for poor compliance. Some of these are due to busy lives and forgetting treatment, but many are due to a lack of client knowledge about the risk parasites pose to their pets. Owners maybe unaware:

• How worms are transmitted.
• The clinical impact parasites may have on their pet.
• The zoonotic threat to their family, especially to children.

How do we help pet owners understand their pets’ individual risk?

An understanding of the psychology behind pet owners’ thoughts and actions can help guide our discussion with them, to improve compliance.

• Get personal: Perform a risk assessment for each pet, enabling owners to see that they are receiving tailored advice.
• Challenge myths: Many owners assume that giving a one-off dewormer to treat worms will also provide ongoing protection; challenge this myth and explain the importance of personalised, risk based worming strategies.
• Build strong habits: Discuss their preference for administration and prescribe a worming product which is easy to give and which their pet will love, such as Milbemax® chewable tablets, and encourage them to create a ‘cue’ to remind them, such as a calendar or email reminder.

Wormwise! How Elanco is supporting you in your deworming conversations:

Elanco is launching a new campaign to increase awareness of the changing and increased risks of worms and the need for personalised worming regimes, to encourage pet owners to visit their vet for worming advice.

The campaign centres around ‘Being Wormwise’, which is ‘EASY’:

✓ Educate yourself,
✓ Assess your pets’ risk,
✓ Seek your vet’s advice and;
✓ You can take worming to the max.

Look out for educational resources and materials to use in your practice which will be launched soon!

<table>
<thead>
<tr>
<th>RISK GROUP A</th>
<th>Worm 4 times a year</th>
</tr>
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<tbody>
<tr>
<td>✓ Minimum recommendation by ESCCAP³</td>
<td></td>
</tr>
<tr>
<td>✓ Reduces roundworm and tapeworm burdens</td>
<td></td>
</tr>
<tr>
<td>RISK GROUP B</td>
<td>Worm monthly</td>
</tr>
<tr>
<td>✓ Preventing possible local build up of zoonotic roundworms</td>
<td></td>
</tr>
<tr>
<td>✓ Prevention against lungworm infection</td>
<td></td>
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<tr>
<td>✓ Treats against potential zoonotic tapeworm infection</td>
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 AND

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Exhibition, workshops, and a chance to win!
Sponsor-led workshops will be on offer throughout the two days. Besides keeping you up to date with the latest products and services, visiting the stands in the exhibition could win you a two-week adventure trip to Goa with WVS. When you arrive at the show, make sure you pick up a ‘holiday passport’.

By collecting stamps from the listed exhibitors and returning the passport to the WVS stand by 4pm on 17th November, you could be in with a chance of winning the trip.

Besides keeping you up to date with the latest products and services, visiting the stands in the exhibition could win you a two-week adventure trip to Goa with WVS.

Career development
As well as running some clinical streams, the BVA is offering a career development programme, where advice can be given on personal and professional development suitable for all, whatever stage you’re at in your career. Financial and career one-to-ones are also available for BVA members, though places must be booked in advance through events@bva.co.uk.

Social events
On the evening of 16th November, London Vet Show invites all delegates to join them for a party at NY-LON lounge bar in the O2. The event promises food, drinks and entertainment, and offers an excellent networking opportunity and a great way to wind down after your first day at the London Vet Show! Tickets are available for just £49+VAT all-inclusive – available now at www.londonvetshow.co.uk/the-london-vet-show-party.

The BVA Gala Dinner also takes place on the Thursday, featuring a three-course dinner and dancing until 1am. The black-tie event starts at 7pm in the London Marriott Hotel, West India Quay – just a short distance from the ExCeL. Tickets are now very limited, so please contact the BVA directly to book at 0207 908 6336.
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¹Kynetec Vet’Trak Sales Data, MAT values (August 2017)
²Study conducted by the Royal Veterinary College.
West Barn, Fairclough Hall Farm, Halls Green, Weston, Herts, SG4 7DP
Sarcoptic mange in dogs

A case example of the negative effects sarcoptic mange can have on patients, clients, and their relationship with the veterinary practice

MARY DAVEY
VETS4PETS BALLYMENA

Mary Davey, MVB MRCPVS, graduated from University College Dublin in 2001 and has since worked in small and mixed animal practice. Her practice, which she opened in 2013 under the Companion Care model, is a growing Vets4Pets surgery.

I’ve been fortunate in my years in practice that I’ve not seen many cases of sarcoptic mange in dogs. Part of that is probably because most places where I have worked regularly used products containing selamectin or imidaclopid/moxidectin as part of their routine parasite control plan.

These products are both very effective at eliminating Sarcoptes scabiei var. canis when used at regular monthly treatment intervals, as would be common as part of a flea prevention programme.

On the odd occasion where an animal would be presented with characteristic signs of sarcoptic mange, the re-introduction of our regular flea control programme would quickly have the sarcoptes under control. However, a recent case of sarcoptic mange in a German Shepherd puppy had me reflecting on how much distress this parasite can cause and how this then impacted the client’s experience of getting a new puppy and developing a bonded relationship with the veterinary practice.

Leo, the German Shepherd, was purchased from a breeder as an eight-week-old puppy and his new owners noted him scratching almost as soon as they got him home. He came to my practice for his first veterinary exam about 10 days later, when the clients realised the pet shop shampoos and flea treatments they had applied at home were having no effect on his scratching and he was losing hair around his eyes and face.

On presentation he had a severe, generalised, crusty pyoderma and a thin hair coat over his entire body, with almost complete alopecia around the eyes and ear margins. There was no evidence of fleas, flea dirt or lice in the coat. We discussed the high possibility of sarcoptic mange with the owners, but they declined to have skin scrapes taken at that time. It was decided to start treatment for the secondary bacterial pyoderma, with a course of parenteral antibiotics (cephalexin 25mg/kg BID). A single injection of dexamethasone (0.04mg/kg SC) was given to alleviate the pruritus. A parasiticide was not applied that day, as the family member who brought the dog was unsure about what products had already been used in the last week, so we were waiting on this information before supplying any other treatments.

A review appointment was booked for two weeks later and the client was advised to bring the other information as soon as possible so we could start suitable parasite treatment. Ten days later, when we next heard from the client, both they and the pup were very unhappy. Some of the initial advice appeared to have been forgotten or misunderstood, and they had not returned for their parasite treatment. The client also reported that the litter mates of this pup had been handed into the local animal rescue centre with similar signs of skin disease.

Those pups were responding very well to chlorhexidine/miconazole baths, had negative skin scrapings and apparently received no treatment for mites. The client was upset that his pup had been distressed and scratching for the last few weeks.

He felt we had misdiagnosed the condition by suggesting Sarcoptes scabiei mites were most likely responsible for the skin condition and that oral antibiotics were unnecessary when a shampoo seemed to be working well for the other pups.

Although, as clinicians, we could see an improvement in the dog’s general skin condition with the reduction in secondary bacterial infection, the owner was not able to appreciate this and the level of pruritus was severe and distressing to both the animal and owner.

The client agreed to skin scrapings which were taken...
from the ear margins and elbows. These were found positive for *Sarcoptes scabei var. canis* and an imidaclopid/moxidectin spot-on treatment was prescribed. A buster collar was used to help reduce the ongoing self-trauma and chlorhexidine/miconazole baths were started twice-weekly. There was a noticeable improvement in clinical signs every two weeks at his re-checks, but it was two months after the first application of imidaclopid/moxidectin before the owner was able to remove the buster collar for the last time.

In my experience, clients who are upset and feel their animal is suffering, especially after they have already received treatment, can quickly decide to leave for advice elsewhere. Infestation with the *Sarcoptes scabei var. canis* mite causes intense pruritic, which is distressing for owners to watch and can quickly lead to dissatisfaction with the veterinary service being provided. In this case this was exacerbated by the impression that other similar cases were being treated more successfully.

Thankfully we were able to manage the client’s expectations and reassure them that treatment of the mites, once diagnosed by skin scrapings, would be effective. Later research into the case of the pups at the rescue centre revealed that they had received an oral fluralaner treatment as soon as they had arrived in the centre, as is standard as part of their routine parasite control programme.

There have been anecdotal reports of the efficacy of fluralaner being used off-licence against *Sarcoptes scabiei var. canis*, and recently there have been some papers published on this subject which showed negative skin scrapes and improvement in clinical signs within two to four weeks (Romero et al., 2016; Taenzler et al., 2016).

In the increasingly competitive veterinary market, we cannot overlook the importance of parasite control. It is an area where clients have endless options on how to treat their pets and we need to continue to work hard to educate clients on which parasites are a problem in our local areas.

Comprehensive preventive healthcare plans can help with this by showing our clients we want to help them keep their pets well and protected from disease and parasites. It’s important to me that the health plans in my practice incorporate a full range of parasite protection, using quality products and are good value for the client, as well as profitable for the practice.

References


Are we underestimating tick-borne diseases in cats?

The potential consequences of ticks and tick-borne diseases in cats are often overlooked; what is best practice for tick prevention and removal?

Ticks and tick-borne diseases in dogs have received a lot of publicity in the veterinary press and wider media over the last 18 months. The Big Tick Project, the outbreak of babesiosis in Essex (sometimes reported sensationalistically in the press – Figure 1) and high-profile human Lyme disease cases all led to increased public awareness and concern regarding canine tick-borne disease potential zoonotic risk. What has been largely overlooked, however, is the number of cats that are also exposed to ticks and the role they might play in spreading tick-borne diseases.

As well as gathering data on dogs, the Big Tick Project (Abdullah et al., 2016; Davies et al., 2017) asked vets to check cats coming into practices, record if any ticks were present and submit any they found: 1,855 cats were examined for ticks across 278 practices and 6.6% of cats were found to have ticks.

This is not as high a number as dogs (approximately one in three), but purely indoor cats are at very low risk of tick infection so prevalence in cats with outdoor access is likely to be much higher.

Male cats, those four to six years of age, those living in rural areas and those not neutered were found to be at greatest risk of infestation. This demonstrates that lifestyle factors (young, male entire cats are more likely to roam) and geographic factors (rural areas are likely to have higher number of ticks) influence the likelihood of cats being exposed.

The observation that cats with outdoor access are vulnerable to tick infection is also supported by real-time data such as that recently published by Liverpool University (Tulloch et al., 2017). This study confirmed that ticks were being found on cats throughout the year in most parts of the country, but with marked seasonal peaks through the summer.

Cats also experienced a second marked seasonal peak in the autumn. Infection rates in cats were found to be very comparable to dogs. The ticks in both studies were identified as *Ixodes* spp (predominantly *I. ricinus*, 57.1% – Figure 2 – and *I. hexagonus*, 41.4% – Figure 3) capable of transmitting Lyme disease and *Borrelia* spp were found in 1.8% of ticks examined. Small Babesias such as *B. microti* and *B. vulpis* capable of causing disease in pets were also found in 1.1% of the ticks (Davies et al., 2017).

Exposure of cats to ticks, therefore, has a number of potential consequences:
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References:
1. STRONGHOLD® PLUS Summary of Product Characteristics.

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Are we underestimating tick-borne diseases in cats?

1. Owner revulsion

Ticks are ugly! If they caused no other disease, this would be reason enough for many owners to want to avoid infestation in their pets or have them removed. A strong human-animal bond between pets and their owners has been demonstrated to have numerous psychological and physical benefits and this bond is eroded by the presence of visible infestations.

2. Local skin reactions

Tick attachment can lead to skin reactions at the bite site and subsequent bacterial infection.

3. Anaemia

Large numbers of ticks can induce anaemia, especially in small cats and in co-infestations with fleas.

4. Tick-borne disease infection

Cats have been demonstrated to be competent hosts for *Anaplasma phagocytophilum*, which is endemic in the UK. Infection can lead to lethargy, lymphadenopathy and fever and is likely responsible for some pyrexias of unknown origin in cats.

Data concerning the current incidence of Lyme disease and prevalence of *Borrelia* spp in UK cats is lacking. A small study of cats with clinical signs possibly associated with Lyme disease was carried out by Shaw et al. (2005). PCR analysis was used to determine the prevalence of tick-transmitted infections in 60 systemically unwell cats and *B. burgdorferi* was detected in two of them.

There were no statistically significant associations, however, between the infections and the clinical signs shown.

Cats appear to have some natural resistance to developing the clinical signs of Lyme disease if infected, but show similar histological changes to dogs and humans, suggesting that some pathology as a result of infection can occur. Avoiding exposure to infection is therefore desirable.

Although not present in the UK, *Cyttauxzoon* spp found in North America and Africa and *Babesia felis* found in Africa are highly pathogenic in cats and a concern for cats travelling abroad or that have been imported from these countries.

5. Spread of endemic tick-borne infections

Although the prevalence of many tick-borne diseases in cats is unknown and the prevalence of *Borrelia* spp in cats across Europe is thought to be low, cats have the potential to act as transport hosts, visiting wildlife guilds maintaining Lyme disease and being exposed to ticks there.

Although unlikely to carry the numbers of ticks carried by deer, or transport them similar distances, cats may bring ticks back from wildlife guilds to more peri-urban areas where infected tick populations may then establish in much closer proximity to human-populated areas.

6. The introduction of ticks and tick-borne diseases from abroad

*Ixodes* spp are the predominant tick on cats and widely distributed across Europe. *I. ricinus* is the primary vector for tick-borne encephalitis, which has spread rapidly across Europe (Figure 4) and carries a 1-2% mortality in infected people.

The risk of introduction to the UK of infection through travelled and imported pets is high and infected *Ixodes* ticks may be brought into the UK on infested cats. Cats may also be infested with *Rhipicephalus sanguineus* ticks, which carry a range of tick-borne diseases and can establish infestations in centrally-heated homes.

It is important that ticks found on imported pets are identified to establish if house infestation is a risk and which tick-borne pathogens they may be carrying.

It is important that ticks found on imported pets are identified to establish if house infestation is a risk and which tick-borne pathogens they may be carrying. This can be done by veterinary professionals in practice using the University of Bristol tick identification key (www.bristoluniversitytickid.uk) or sent to the Public Health
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*Of ticks affecting dogs in the UK. †In addition, in laboratory studies, sarolaner was shown to be active against mite species D. canis and O. cynotis. ¹For ticks (I. ricinus), the onset of efficacy is within 12 hours of attachment during the 28-day period after product administration.


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AH484/17 − Date of preparation: July 2017.
Tick-prevention products should therefore be used in cats with a history of tick exposure or those at high risk of infection. This includes young cats, those with prolonged and regular outdoor access and those living in rural areas. It should be clearly explained to clients that not all flea-preventive products also provide tick protection as 29% of owners surveyed in the Big Tick Project said their cats were protected but the products they were using had no label claim against ticks (Davies et al., 2017).

It is important to discuss compliance. Some owners may only be able to apply a spot-on, tablet or collar and some may prefer to come into the practice to have the product applied. Use of products that rapidly kill or repel ticks will significantly reduce disease transmission.

The isoxazolines (Bravecto, Stronghold plus) or an imidacloprid/flumethrin collar (Seresto) are all useful for this purpose, but none are 100% effective so if possible, it is also important that owners regularly check their cats for ticks and remove any found.

Ticks should be removed with a tick-removal device (Figure 5) or fine pointed tweezers. If tweezers are used, the tick should be removed with a smooth upward pulling action. If a tick hook is used, then a simple ‘twist and pull’ action is employed.

It is important that owners are instructed how to remove ticks without stressing them and without leaving the head and mouthparts in situ.

Squashing or crushing ticks in situ with blunt tweezers or fingers will stress the tick, leading to regurgitation and emptying of the salivary glands, potentially leading to increased disease transmission.

Traditional techniques to loosen the tick such as the application of petroleum jellies, freezing or burning will also increase this likelihood and are contra-indicated. There will also be a very limited window of opportunity with most cats to remove the tick, so delay should be avoided!

The increased awareness surrounding dogs is vital if tick-borne disease control for pets and humans is to be achieved, but to overlook and underestimate the role of cats in the distributing of ticks and tick-borne disease would be a fundamental error.

The importance of their control in relation to the health of cats is only just beginning to be fully explored in the UK, but their potential to expand the range of tick-borne diseases and their vectors should also not be underestimated.

As veterinary professionals, there is now a range of safe and effective tick-preventive products for cats, which should be employed in high-risk cats to help keep them, their owners and the wider public safe.

References


A Collar For Those Who Don’t Believe In Collars

*Please refer to the safety leaflet supplied for details on how to correctly fit the charms to prevent any interference with the collar safety mechanism. Use Medicines Responsibly (www.noah.co.uk/responsible). Efficacy tick repellency & Melfhorn et al. Parasitol Res (2001) 87:198-207, information is regarding mode of action and is not intended to imply parasites can be completely stopped from biting. An attachment of single ticks after treatment cannot be excluded. Seresto® contains imidacloprid & flumethrin POM V (UK) POM V (IRL). Advice should be sought from the medicine prescriber. Further information from the datasheet at noahcompendium.co.uk or on request. ®Registered Trade Mark of Bayer AG. Bayer plc., 400 South Oak Way, Green Park, Reading, Berkshire, RG2 6AD. Tel: 0118 206 3000.

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A look through the latest literature

Prophylactic and therapeutic efficacy of insecticides against Old World screwworm

Peter James and others, University of Queensland, St Lucia

*Chrysomya bezziana*, the Old World screwworm, is a major cause of death and economic losses in small ruminant flocks throughout Africa and Asia. These obligate myiasis flies pose a significant threat to the Australian sheep industry as they are present in many south-east Asian states including New Guinea. The authors investigated the efficacy of those insecticidal products available should the parasite reach Australia. They found that dicyclanil and ivermectin capsules were effective for longer than the currently recommended treatment, subcutaneous ivermectin.

*Australian Veterinary Journal*, 95, 265-272.

Intestinal parasite burdens in free-roaming and owned dogs in south western USA

Heather Cornell and others, Midwestern University, Glendale, Arizona

There are five common gastrointestinal parasites found in dogs in the United States: roundworms, hookworms, whipworms, *Giardia* species and *Cystoisospora* species. The authors compared the prevalence of each group in pet dogs and free-roaming animals admitted to a welfare shelter in the Phoenix metropolitan area. One or more of these five parasites were found in 42.5% of faecal samples from the shelter dogs and 13.7% of pet dogs – both much higher figures than expected. As many of these parasites are a source of zoonotic disease, they say these results should be of concern to pet owners, veterinarians, shelter personnel, medical staff and public health officials.

*Journal of the American Veterinary Medical Association*, 251, 539-545.

Experimental transmission of *Toxocara canis* via cockroaches

Tabata Gonzalez-Garcia and others, National Autonomous University of Mexico

The domestic dog is the definitive host for the nematode parasite *Toxocara canis*, which has a complex life-cycle involving the transmission of its larval stages to paratenic hosts, normally rodents but occasionally other mammalian species. The authors demonstrate that the parasite can also survive in an invertebrate host. Rats were experimentally infected by consuming the bodies or faeces of two common cockroach species, *Blatella germanica* and *Periplaneta americana* that had eaten *T. canis* eggs. Therefore, the insect could potentially transmit toxocariosis to other paratenic hosts, including humans.

*Veterinary Parasitology*, 246, 5-10.

Atypical leishmaniasis case in a dog causing chronic duodenitis

Ignacio Ayala and others, University of Murcia, Spain

Canine leishmaniasis normally appears as a chronic wasting disease with anaemia, cutaneous lesions and generalised lymphadenopathy. The authors describe an unusual case in a one-year-old intact male boxer which presented with chronic diarrhoea and poor body condition. An endoscopic biopsy of the duodenum revealed increased macrophages with basophilic bodies in the cytoplasm, suggestive of *Leishmania* and confirmed by immunostaining. The patient received meglumine acetate and allopurinol therapy, causing a progressive decline in the anti-leishmanial antibody titre; there was no evidence of continued infection seven months later.


Efficacy of ivermectin and moxidectin against equine endoparasites

Cheryl Shea Porr and others, Murray State University, Kentucky

In many equine centres around the world, there are reports of a reduction in the efficacy of some of the main products used to control gastrointestinal parasites. An increase in faecal egg counts and a reduction in the egg re-appearance period following treatment are the two factors taken into account when monitoring the emergence of anthelmintic-resistant nematodes. The authors evaluated the efficacy of ivermectin and moxidectin against parasites in horses stabled at a university site where the use of anthelmintic agents had been limited. Faecal egg counts were zero following treatment in horses treated with both drugs, but eggs began to re-appear in the faeces of ivermectin-treated horses after six to eight weeks and in the moxidectin-treated animals at 10 to 12 weeks. The results suggest that moxidectin’s efficacy may be decreasing and so the authors propose a greater reliance on pasture management methods and on regular egg counts to ensure that the agent is used appropriately.

Bravecto® contains fluralaner and is indicated for the treatment of flea and tick infestations in dogs and cats. *POM-V Pesticides* Bravecto Chew provides 12-week immediate and persistent killing activity against fleas (Ctenocephalides felis), 12-week immediate and persistent killing activity against the ticks Ixodes ricinus, Dermacentor reticulatus and D. variabilis and 8-week immediate and persistent killing activity against Rhipicephalus sanguineus. Bravecto Spot-on for Dogs provides 12-week immediate and persistent killing activity against fleas (Ctenocephalides felis and Ctenocephalides canis) and 12-week immediate and persistent killing activity against ticks (Ixodes ricinus, Dermacentor reticulatus and Rhipicephalus sanguineus).

Refer to the packaging or package leaflet for information about side effects, precautions, warnings and contraindications. Further information is available from the SPC / Datasheet or MSD Animal Health, Walton Manor, Walton, Milton Keynes MK7 7AJ.

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OVs and international trade

What is the role of OVs in international trade, and how might this change after the UK’s exit from the EU?

There was a noticeable overseas aspect to the OV Conference this year. Not only was the theme ‘safeguarding international trade through disease control and surveillance’, but many languages were overheard as the delegates passed from the seminar rooms to coffee and refreshments via the exhibition area.

This conference is well-attended by vets within the State Veterinary Service and the statistic related to non-UK graduates within the service was very evident.

Mauricio Lopez (APHA) is involved in developing and implementing international trade policies and he left the audience in no doubt about the sensitivities of market access. His experience is that trade agreements take a long time to arrange and they are built on trust that the various tests and standards are effectively and honestly applied. OVs underwrite international standards and are the guarantors of official controls. One error can undermine an agreement and threaten future trade.

Reputation is everything. Other countries see the current UK approach of paying private vets to act on behalf of government as being a conflict of interest. It is very important that OVs remain impartial, professional and independent.

Potential areas of conflict are involvement with a relative or partner, being an employee, having a financial interest and an exporter contributing a significant percentage of the OV’s income. Any potential conflicts of interest should be discussed with APHA so that certification is seen as being ‘cleaner than clean’.

Advice from APHA and the Royal College is readily available and the onus is on the OV to consider any issues and ‘get it right’. It is a reality that one faulty export can start a countrywide ban. An example is the export of wild venison and rabbit to Singapore where a certificate for farmed meat was submitted – the consignment was destroyed. Sorting errors and their aftermath ‘wastes’ official resources.

In the year to March 2017, 18,160 certificates were inspected and 947 (5.21%) had errors. The speaker highlighted ‘reckless certification’ that leads to a loss of trust, loss of trade, increased scrutiny by trading partners, a possible countrywide ban and disciplinary procedures for the OV. Brexit means the UK is coming under increased scrutiny.

Nick Perkins (Veterinary Defence Society), recalling his experiences as an OV in practice and now being aware of legal and other aspects from working with the Society, indicated that vets generally put in a great deal of effort to ‘get it right’. It is important to recognise that anything that is signed as a veterinary surgeon, or as an OV, becomes a certificate. An online tick box is still a certificate. TB test results certify that the test is conducted within the instructions laid down and that any other form of test is a false certification. Fitness to travel and emergency slaughter certificates can arise suddenly and take place in difficult and highly-stressed situations.

It is not always possible for a veterinary surgeon to be right with certification, but it is important to demonstrate that enough care has been taken. “Don’t be rushed; step back and think”; “trust your instincts – if you are questioning that what you are being asked to do is correct, you probably shouldn’t be doing it”.

It is not always possible for a veterinary surgeon to be right with certification, but it is important to demonstrate that enough care has been taken.

The advice is to refer to the RCVS and the 10 principles of certification, ask a colleague or contact the VDS. Getting it wrong is viewed as misconduct when the actions of the vet fall below the standards expected. Negligence is indicated when a reasonable body of peers would have done, or not done, something different. Dishonesty is when the actions fall far below the standards expected and the vet knows that what was done was wrong, and this is usually because the vet was trying to help somebody.

Difficulties with by-products

Scott Reaney (APHA) highlighted the current and past difficulties with animal by-products that are not intended for human consumption. These include waste from slaughterhouses, fallen stock, dead pets and international catering waste. Consumer confidence has been
challenged by foot and mouth disease, bovine spongiform encephalopathy and dioxins related to food processing and agriculture. Technology drives animal by-products, e.g. energy costs, with the constitution of products always changing. By-products are classified according to risk with the lowest-risk used for medical devices (heart valves, etc.), hides and skins, fertilisers and pet food. Rendering, incineration and deep land fill are applied to the risk categories.

Animal by-products are traded as a commodity. There are 4,409 registered animal by-product premises and 1,806 approved premises. It is important to know where the risk material is located, with documents following the material through the production chain from point of origin to point of destination. Recognised risks are illegal diversion into the food chain with subsequent illness, illegal dumping with animal access, damage to the environment and contaminated waterways from spreading onto farmland. The export of hides to China is now a multi-million-pound industry with additional rules to treat pallets for wood-boring beetles.

Ryan Waters (Pirbright) raised the question: how likely is another UK outbreak of foot and mouth disease? Improvements in rapid tests and a quick diagnosis are ongoing with an enzyme test under development, but the disease is global with spread between endemic countries. There are seven serotypes, with serotype 0 involved in the UK in 2001, defining antigenic production and vaccine development.

The UK is at risk from introduction of the virus with past experience indicating sources likely to be live animals, animal products, illegal imports and the release of pathogens. Worldwide, the aim is to eliminate FMD with better animal welfare contributing to exports and the home market. The reputation is for quality and safety, with better animal welfare contributing to exports and the home market. The CVO emphasised that it is important for the whole sector to understand the value of reputation and the opportunity for a veterinary surgeon is to be the trusted adviser who understands exports. Products that could be unacceptable or fraudulent must not be certified for export.

The UK is seeking frictionless trade, with new arrangements made with other countries outside the EU. Competition horses and racehorses now travel in this way between the UK, Ireland and France. Complex trading issues may result in bespoke solutions. However, veterinary surgeons must not assume that everything has been thought of and any concerns about specific aspects should be raised with APHA as soon as possible.

**TB updates**

Lots of information on bovine TB was presented. James McCormack (APHA) gave an update on the current badger control programme in England. The aim is for England to achieve TB Free status by 2038.

The data from the first culling in Somerset and Gloucester indicate that 3.5 badgers per square kilometre were culled in year one and one or fewer badgers in years two to six. Before starting the cull in Somerset, there were 106 herd breakdowns and 79 after three years. Comparative figures for Gloucester were 90 and 76. In Somerset, there was an increase in herd breakdowns on farms within a 2km buffer zone outside the culling area, possibly due to perturbation of badgers.

No data are available on the effectiveness of a badger vaccine in reducing bTB in cattle. Annual vaccination of badgers is required with a new supply due in 2018 for use in the Edge area. Since 2009, some £17 million has been spent on development of an oral badger vaccine, with variable results. It is estimated that it will be at least 2025 before an effective vaccine will be available.

The differentiation test (DEVO) to show natural infection of vaccinated cattle is not likely to be available for many years. Developments to date have yielded very variable results. PCR tests on badger faeces have demonstrated many false positives. An infected badger does not shed M. bovis every day, which is not helpful in applying a screening test for badger setts. Surveys have shown that farmers greatly underestimate the number of setts and the activity of badgers on their farms.

In answer to questions from the floor, the situation with TB was referred to as ‘a festering sore with some signs of improvement’. The clarity of forms is recognised as a concern, particularly for OVs encountering specific situations infrequently and reviews are in hand, but the appeal was for everyone to do their very best to get it right. With Nigel Gibbens planning to step down from the CVO role next February, it will be for someone else to complete the direction of travel and manage the changes Brexit will bring.
The Vet of the Future awards were presented and a new TB advisory service for farmers was launched at this year’s South West Dairy Show.

For the fifth year, the Bath and West Society has organised the Vet of the Future awards at the South West Dairy Show. Veterinary colleges are invited to put forward student projects of relevance to dairying. The standard of the submissions was praised by Alan Cotton, chairman of the judging panel. The awards were the brainchild of Peter Clarke, who as a local veterinary surgeon has been involved with the Society for many years. Unfortunately, Peter was unable to participate this year; Phil Kenward took his place and summarised the successful topics.

David Melleney, formerly at Cambridge and now working at a West Yorkshire practice, was awarded the trophy. David assessed whether the milk fat to protein ratio can predict sub-acute ruminal acidosis (SARA) and analysed ruminal fluid. The diagnosis of SARA was described as ‘difficult’. Jessica Reynolds, formerly at Nottingham and now working in Leicestershire, reviewed some 30,000 cow records for the impact of Johne’s Disease on milk yield and pregnancy rates and was awarded a runner-up prize, together with Sarah Boulding.

Sarah, formerly at Liverpool and currently unplaced in practice, worked on gene sequencing (metataxanomics) for mastitis with cows in Columbia. A paper is due for publication. Each participant is interviewed by the judging panel and their approach to dairy work and future opportunities are discussed. All veterinary schools are encouraged to put forward candidates for 2018.

Reducing antibiotic use

The presentations were followed by a seminar session on reducing antibiotic use by Paddy Gordon (Shepton Veterinary Group). Such was the popularity of this session that people had to stand. Utilising various sources for data, Paddy pointed out that more antibiotics in mg/kg are administered to farm animals in Europe than to humans, but in the UK there is greater human use.

That 390,000 people are expected to die from antibiotic-resistant organisms in Europe by 2050, unless practices change, shocked the audience. Active health planning is seen as essential for dairy herds with a review of antibiotic use and targeted reductions. Farmers were encouraged to become antibiotic guardians (www.antibioticguardian.com).

There was an upbeat forecast for future milk production profitability at the show. The average farm profit in 2016/17 was 0.28p/litre, predicted to rise to 3p/litre this year. The Old Mill and Farm Consultancy Group indicate a rise in vet and medicine costs as more businesses are expected to increase the volume of vaccinations. Farmers are warned that over-production could start another downward cycle, but milk price is expected to average 29p/litre.

Bovine TB updates

A new, free, TB Advisory Service (TBAS) for farmers, within the High Risk and Edge areas of England, will operate for the next three years. The project’s technical director is Phil Elkins (Westpoint Veterinary Group) who, together with Sarah Tomlinson (Ashbourne Vets), launched the initiative at the show. The project is funded by Defra through the Rural Development Programme for England and will enable 2,400 advisory visits on a first come, first served basis. Following an initial enquiry from a farmer, an advisory visit will be arranged by a trained consultant within ADAS,
Kingshay and Westpoint Farm Vets. It is intended that the farmer’s veterinary practice will be involved, particularly in agreeing the four interventions for the farm that will be specifically targeted at the herd situation.

The aim is to maximise farm biosecurity and minimise risks associated with cattle movements. The project will not be judged on any reduction in TB incidence. A telephone advice service is also available for farmers wishing to clarify aspects of bTB control.

Leaflets are available for practices to pass on to clients. Contacts are: info@tbas.org.uk; www.tbas.org.uk; telephone 01306 779410.

Global experience
Anthony Duignam (DAFF Ireland) reviewed how the rest of the world deals with bTB. An important point from the Australian experience is that on-farm controls have to be tightened as eradication progresses. There are implications here for the UK approach if farmers and vets expect to be control-active for a few years and then slacken off.

In New Zealand, the reduction in bTB is directly related to the vector controls expenditure (possum and ferrets). Mozambique is utilising BCG as a cattle vaccine and in South Africa, clinical TB in the joints of lions is restricting their ability to breed.

France was officially TB-free, but breakdowns are increasing. In Ireland, badgers are trapped within 2km of an infected herd and in 2002, 50% were found to be positive; this has dropped to 15% in the high TB areas and 10% in low-incidence areas. The detection of bTB lesions at slaughterhouses has been very variable, with lesions not detectable with the naked eye. The variable quality of tuberculin production is a concern.

Ifan Lloyd (St James Veterinary Group) updated delegates on the Gower Project that began in 2009. At the start, 73 of the 110 herds (two dairy) had been under restriction for over five years and in July 2017 eight were restricted, with 10% restricted at any one time. Dead badgers are examined for bTB and within the Gower, three have been found positive.

Best practice events for farmers have been developed with benchmarking, risk reduction assessments and agreed control actions. A biosecurity risk scoring tool has been applied on 30 farms. The Gower includes common land with mixed grazing, which requires particular consideration for biosecurity planning.

In 2017, 85% of the land has been surveyed utilising six surveyors working in pairs. Each surveyor is able to survey 0.7km sq per day with the number of holes per sett recorded. Main setts, satellite setts and latrines are mapped. It has been necessary to obtain the consent of all landowners and the work is ongoing to relate badger activity with cattle TB.

The disease status of the badgers on restricted farms is not available. The Gower peninsula has a limited land boundary and the movement of badgers within and between herds may help to guide future control policies.
How NSAIDs improve pain control

Assuming they are used appropriately, NSAIDs can decrease suffering, increase profitability, and decrease use of antimicrobials

Douglas Palmer, BVMS, MRCVS, graduated from Glasgow in 2002 with a merit for Large Animal Clinical Studies. He joined Norbrook Laboratories (GB) as the veterinary adviser for the northern UK in 2015.

I don’t think anyone would disagree that preventing and treating pain in livestock can only be a good thing. There are many ways of doing this, such as breeding for better limb conformation, having good handling facilities and prompt treatment of wounds; however, use of non-steroidal anti-inflammatory drugs (NSAIDs) during routine procedures and in painful conditions plays a key role.

As vets, we use NSAIDs wherever appropriate – but this is just the tip of the iceberg. How do we encourage farmers to use them more? Firstly, it helps to understand their motivations. In 2016, Norbrook completed a survey of vets and farmers to find out what current practices and attitudes were around analgesia. When asked why farmers would use pain relief, an overwhelming 83% said better welfare was the main reason for controlling pain – not profitability.

Despite this, a recent survey by Hambleton and Gibson (2017) showed that only 14% of farmers are using NSAIDs for disbudding and 14% are not using local anaesthetic. Further to this, 49% of vets in the same survey said they thought NSAIDs should be compulsory for this procedure.

If it is widely agreed that NSAIDs should be used more often, why aren’t farmers using them? Perhaps they need more training on which conditions and procedures are painful, how to recognise the signs of pain, and how to treat pain effectively.

Farmers recognise lameness, and the AHDB Dairy Healthy Feet Programme goes some way to help record and manage it properly, but how many farmers are good at picking up signs of pain other than lameness, including inappetence, increased lying down or an altered facial expression? And how many know how to choose between the various licensed NSAIDs (carprofen, meloxicam, flunixin, ketoprofen) or NSAID/antimicrobial combinations available, which differ in their speed and duration of action, potency, withdrawals, licensed indications and additional properties (e.g. anti-endotoxic effect)?

Granted, they are all prescription products and ideally there will be standard operating procedures in place as part of a health plan, stating what to use and when, but if farmers understand the products better, they are likely to use them more.

It is useful to be able to tell farmers what evidence there is behind production benefits of treating pain and inflammation. Examples include: dehorning, where NSAID use can result in quicker weight gain post-procedure; calf diarrhoea, where animals treated with NSAIDs alongside other therapies, such as fluid therapy and anti-infectives, may start eating and drinking earlier and eating more, resulting in faster bodyweight gain and therefore earlier weaning; mastitis, where administration to cows with E. coli mastitis could result in higher milk yields after treatment and reduced somatic cell counts; and bovine respiratory disease, where there is a negative correlation between animals’ average daily weight gain and the extent of lung lesions due to BRD.

I haven’t mentioned the law, on the basis that the carrot tends to work better than the stick. Farmers want to relieve pain – we need to help them do this rather than threaten them.

Farmers want to relieve pain – we need to help them do this rather than threaten them

References


农民认为防止和治疗牲畜的疼痛是一件好事。有许多方法可以做到这一点，例如培育更好的肢型，拥有良好的处理设施和及时治疗伤口；然而，非甾体抗炎药（NSAIDs）在常规程序和疼痛状况中起着关键作用。

作为兽医，无论何时何地使用NSAIDs——但这只是冰山一角。如何鼓励农民使用它们更多？首先，了解他们的动机。2016年，诺尔布鲁克完成了对兽医和农民的调查，以了解当前的实践和态度。当被问及为什么农民会使用止痛药时，83%的人表示更好的福利是控制疼痛的主要原因——而不是盈利能力。

尽管如此，哈姆布尔顿和吉布森（2017）的一项调查发现，只有14%的农民在断角时使用NSAIDs，14%的农民不使用局部麻醉剂。进一步讲，49%的兽医在同一次调查中表示，他们认为NSAIDs应该强制使用这种程序。

如果广大人士一致同意NSAIDs应该被更频繁地使用，为什么农民不使用它们呢？也许需要更多的培训，了解哪些条件和程序是痛苦的，如何识别疼痛的迹象，以及如何有效治疗疼痛。

农民们认识到跛行，而AHDB奶牛健康足部计划在这方面有所帮助，但有多少农民能识别出除跛行外的疼痛迹象，包括食欲不振、增加的躺着或面部表情的改变？有多少人知道如何在不同情况下选择各种合法的NSAIDs（卡布芬、美洛昔康、氟尼辛、酮洛芬）或NSAID/抗菌药物组合，这些药物在作用速度和持续时间、效力、撤药时间、许可用途和额外特性（例如抗内毒素效果）方面有所不同？

承认，它们都是处方产品，理想情况下将有标准的程序在健康计划中说明应使用什么和何时使用，但如果农民更好地了解这些产品，他们可能会使用更多。

它很有用，能够告诉农民有关证据。例如：截角，NSAID的使用可以导致断角后更快的体重增长；犊牛腹泻，治疗NSAIDs和其他治疗（比如液体疗法和抗感染剂）的动物可能开始更早进食和饮水，导致更快的体重增长和更早断奶；乳房炎，向牛投给E. coli乳房炎可能会在治疗后增加牛奶产量和减少细胞计数；和呼吸系统疾病，当肺损伤的负相关与动物的平均每日体重增长和肺损伤的负相关时，由于BRD。

我没有提到法律，基于胡萝卜往往比棍子好。农民想要减轻疼痛——我们需要帮助他们这样做而不是威胁他们。
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Why no one should break our semen rules

Vets are increasingly asked to inseminate mares with imported semen that isn’t accompanied by the original health certificate

Jonathan Pycock is an equine claims consultant for the Veterinary Defence Society and an equine reproduction expert. He is the current president of the British Equine Veterinary Association.

The UK, as an island, has always taken biosecurity seriously, and never more so than within the veterinary sector. However, it seems that certain elements of the equestrian breeding industry may be taking risks with imported semen that jeopardise our valuable health status. The consequences of this could be disastrous and potentially irreversible.

It has come to light that equine vets are regularly being asked to break the law by inseminating imported equine semen that doesn’t have an accompanying health certificate. We know this because such vets have been expressing their grave concern; this practice not only jeopardises the current high health status of the UK horse population, but also risks the professional status of the vets involved.

Thousands of shipments of equine germinal product (semen, ova or embryos) are imported into the UK every year. It is a legal requirement for all imported equine semen to be accompanied to the place of destination (usually to the side of the mare) by an original, valid health certificate (ITAHC), issued in the country of origin.

Recently, consignments of equine semen have been imported without the appropriate health certificates, meaning there is no guarantee that the semen is free from the stated diseases or even that it is from the chosen stallion. Shockingly, well-known importing agents have advised mare owners that these certificates are unnecessary. These businesses have also openly criticised vets who refuse to inseminate mares with uncertified imported semen.

The use of uncertified semen leads to the real risk of a recipient mare becoming infected with diseases such as CEM or EVA, a potentially rapid spread of disease in breeding stock and eventual restrictions being placed on breeding premises. Recent outbreaks of equine infectious anaemia (EIA) in Europe have exacerbated such health threats to the UK herd.

The personal and professional reputation of any vet involved with using uncertified semen is also in danger; the RCVS is likely to take a stringent line with any vets who disregard animal health laws and the high health status of British horses.

A difficult position

Malcolm Morley, partner at Stable Close Equine Practice, was recently placed in a difficult position with a long-standing client when semen arrived without the requisite documentation. Following a discussion between the semen importer and his client, where the client was told that Malcolm was being pedantic and that the client should find someone else to inseminate the mare, Malcolm contacted the importer, stating: “We have no intention of inseminating the mare without the correct health papers. Please will you ensure that when you speak to the mare’s owner you make it clear that you do not expect us to inseminate the mare in these circumstances and that the health papers should have been shipped with the semen.”

Another BEVA member, who wishes to remain anonymous, has voiced the concerns of numerous equine stud vets. She told us: “I have one very big client I think I may be about to lose because of my refusal to inseminate his mare without papers... [the importing stud] did not feel it worth a three-hour drive to get papers done. The semen importer has made it clear to my client that [they believe] I am just being awkward.”

These are just two of several cases demonstrating the additional pressure import agencies have been placing on vets to inseminate mares without the necessary paperwork. Not only is this action illegal, but it places recipient mares under a direct threat from a notifiable and incurable disease. This seems particularly cavalier given the recent outbreaks of EIA across Europe.

Remember: no one should inseminate a mare with imported semen that isn’t accompanied by the original health certificate. If the UK wants to retain its high health status and continue to utilise the international market, it needs the breeding industry and the veterinary profession to use the disease controls that are in place until such a time as we can implement a more efficient system.
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In partnership with ESVPS and Harper Adams University
How to perform an oral exam

In the dentistry stream at the BEVA Congress, Neil Townsend walked delegates through the steps involved in performing a routine oral examination.

There is growing awareness among vets and owners about the importance of dentistry for equine health – particularly with an increasing geriatric horse population – and many equine vets are keen to develop their skills and understanding in this area. In his talk at the BEVA Congress, European specialist in equine dentistry Neil Townsend explained the importance of performing regular oral examinations and described what a vet should be doing every time they look in a horse's mouth.

**Before you go into the mouth**

Neil began his talk by reminding the audience that whether presented with a horse for a routine check or to treat dental problems, there will be a horse attached to the mouth.

"Dental disease can be manifestations of other systemic disease and can cause other problems – like weight loss and coat changes," he said.

The next stage is to watch the horse eat. Does it chew with both sides? Be aware of any semi-masticated bits of food around the stable – this may mean the horse is experiencing mouth pain.

It is then recommended that you part the horse’s upper and lower lips and look at the lateral excursion to molar contact – distract the mandible to either side and look at the point where the incisor separates. It should be symmetrical to both sides. By moving the horse’s head up and down, you can also look at the rostro-caudal mobility of the mandible and get a general idea of the temperament of the horse, Neil explained.

Other things he recommends looking for are: deviations in the nose, sharp enamel points, packing food up into buccal spaces (which can suggest it’s trying to stop ulcers in that area contacting the teeth), temporomandibular joint swelling, enlarged submandibular lymph nodes, and food in the cheeks; also, palpate the masseter muscles to feel if there is any difference between the two sides.

**Going into the mouth**

Neil listed a minimum level of equipment that is required for an oral examination:

- A bright light source
- Speculum
- Gloves
- A syringe
- A mirror

Some explorers

- A headstand

An incisor speculum can also be useful, as can a cheek retractor so you can show owners what's going on.

**Sedation**

While it can be possible to examine a horse’s mouth without sedation, explained Neil, it won’t be in every case. If you can’t see everything, you need to be honest with the owner and, if possible, have that horse sedated. If a horse has known dental problems, it’s best to insist on sedation. To do this, Neil routinely uses an alpha 2 agonist in combination with butorphanol.

**Checking the incisors**

It is recommended that you first inspect the incisors without a gag in place; Neil says you should:

1. Check for an overbite or overjet, or underbite.
2. Look at the occlusal surface of the incisors, checking for any pulp or exposure.
3. Count the incisors (checking for supernumerary incisors, retained deciduous dentition, or any missing incisors).
4. Check the incisors for mobility (if they are loose and mobile, the horse may not settle with a speculum).
5. Check for draining tracts, which can be apical or present on the gingival margin.
6. Check for calculus.
7. Check for diastemata between incisors.
8. Check for pulps exposed on the occlusal surface (make sure you know the difference between the infundibulum and the pulpar anatomy).

**Canines and wolf teeth**

By palpating the mouth, you can feel for blind wolf teeth or unerupted canines before putting a speculum on, Neil said. Once the speculum is on, he washes the mouth out and looks at the canine area, checking for fractures and palpating the bars of the mouth for blind wolf teeth. These
are usually more rostrally or medially displaced and angled buccally, he noted.

**Wash the mouth out**
In diastema and periodontal disease cases, the food doesn’t come out when flushed with a hose or dental syringe, so you will still be able to see where food is packing. Without a mirror, Neil recommends looking for evidence of overgrowths, soft tissue trauma and dental fractures, and checking the angles of the teeth.

Then you should palpate the teeth with your fingers or an instrument – this, he says, is the only way of assessing mobility. The occlusal surface, both margins and the interdental space should be palpated.

**Using a mirror**
“It is a minimum standard to use a dental mirror now in every single case,” Neil claimed. You should check the occlusal surface of every tooth. Use a systematic approach – front to back in the first quadrant, looking at the occlusal surface and interdental spaces, then go through the other quadrants.

- On the mandibular teeth, look for pulpar exposure and diastema formation.
- On the maxillary teeth, look at pulps in infandibulae, and interdental spaces.
- On the occlusal surface, look for evidence of food in the infandibulae and occlusal fissure fractures.

**Pulpar explorers**
Using pulpar explorers is often overlooked. These should be used to test the integrity of secondary dentine over the pulp cavity, Neil said. “In mandibular teeth, this is very easy – every single black bit in the top of the tooth is pretty much going to be a pulp cavity. Just remember that in the upper cheek teeth, there’s the infandibulae in the centre.”

This can be very important in cases where the horse is showing signs of pulpitis – in those cases, Neil suggests that every tooth in that quadrant is probed. If you probe them all, you won’t miss anything. If you aren’t going to do them all, choose which to probe based on their occlusal appearance – probe pulps that are bigger and blacker than they should be or have food packing in them, Neil advises, adding that if the horse is showing clinical signs, you should probe those teeth.

**Evaluate the periodontium**
Ensure the mouth is as clean as possible. If the horse has very bad periodontitis, Neil advises sedation and sometimes a local anaesthetic gel. The food should be removed from the interdental spaces using double-jointed forceps and a graduated periodontal probe should be used to probe the depth of the pockets, he explained.

**Documentation**
Document your findings. Use charts with occlusal surface anatomy on and plan the follow-up treatment.

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Dealing with atypical myopathy

What causes the seasonal pasture myopathy and how should cases be managed?

Outbreak characteristics
The earliest UK cases of atypical myopathy, formerly known as atypical myoglobinuria, were described in the veterinary literature in the early 1940s, but the condition was probably encountered long before this according to historical veterinary texts in the preceding decades.

In the early 1980s, vets in Scotland reported an outbreak of myopathy among grazing horses and investigators of this outbreak defined atypical myopathy as a specific disease. The clinical signs reported in these earliest cases were associated with postural and respiratory muscle failure, and horses demonstrated biochemical evidence of a myopathy (elevated creatine kinase and aspartate aminotransferase) and myoglobinuria.

The first large atypical myopathy outbreak in continental Europe occurred in Germany in the late 1990s and since this time most northern European countries have recognised outbreaks with reported numbers of affected horses and mortality rates varying from year to year.

Veterinarians in the Midwestern USA and eastern Canada have reported a ‘seasonal pasture myopathy’ since the 1960s, which has been described as a degenerative muscle disease of grazing horses with the same characteristics and aetiology as ‘European’ atypical myopathy.

Likely cause
Over the decades, ingested environmental toxins had been considered the likely causative agent in atypical myopathy due to the trend for multiple co-grazing horses to be affected, and because epidemiological studies revealed common pasture characteristics (sparse grazing, trees surrounding pasture) and feeding practices such as lack of supplementary forage.

Recent studies have demonstrated that horses with atypical myopathy (and seasonal pasture myopathy) have an acquired multiple acyl-CoA dehydrogenase deficiency. Analysis of urine and blood from affected cases demonstrated the presence of hypoglycin A metabolites (Votion et al., 2014). European horses probably acquire atypical myopathy via ingestion of hypoglycin A in the seeds (in autumn/winter) and seedlings (spring) of the tree Acer pseudoplatanus (European sycamore).

When seeds from sycamore trees on the pastures of affected horses were analysed, variable concentrations of the toxin were found within and between trees on the same pasture (Unger et al., 2014). The factors affecting the concentration of hypoglycin A in an individual seed or tree are yet to be established.

Epidemiological studies have identified horse management practices associated with an increased risk of atypical myopathy. These factors probably influence the likelihood of toxin exposure, e.g. inclement weather causing seeds to fall onto pasture; or ingestion, e.g. inactive horses, lack of provision of supplementary forage, time spent on pasture v. stabled.

Clinical presentation
Atypical myopathy results from a deficiency of the fatty acid oxidation pathway, which is the primary energy source in type I muscle fibres. Hence, clinical signs relate to postural and respiratory muscle damage and failure and a cardiomyopathy is also present in many cases.

Clinical signs include lethargy, stiffness, reluctance to move, muscle tremors, and increased recumbency and tachypnoea. Tachycardia is often present due to anxiety, pain, hypovolaemia, and intrinsic cardiac pathology. Some horses have a persistent low head carriage, resulting in pharyngeal and generalised head oedema, partial respiratory obstruction and exacerbation of the respiratory distress. Increased vocalisation, head-tossing and oesophageal obstruction are also seen less frequently.

Frequently atypical myopathy cases have myoglobinuria that is recognised practically as dark red/brown and concentrated urine with high specific gravity (SG) and a positive dipstick for blood (haemoglobin and myoglobin are not distinguishable on urine dipstick testing).

A horse with cardiovascular compromise or hypovolaemic shock from another cause (strangulating intestinal obstruction/enterocolitis) will have concentrated dark...
brown urine with a high SG, but is unlikely to have a positive dipstick for blood/myoglobin.

Blood sampling and biochemical analysis (CK and AST) of co-grazing horses is important to identify sub-clinical cases and to confirm the urgent need to remove grazing horses from those fields or provide supplementary forage.

**Case management**

All cases of atypical myopathy are in need of adequate analgesia. Treatment with non-steroidal anti-inflammatory drugs should be accompanied by appropriate isotonic fluid resuscitation, to minimise the risk of acute kidney injury.

Additional analgesia such as opioids and constant rate infusion of lidocaine should also be considered. Parenteral nutrition (minus lipid component) may be required if oral intake is unlikely to meet daily caloric requirements.

The importance of intensive 24-hour nursing care cannot be over-emphasised – recumbent horses require turning to minimise ischaemic muscle damage, horses with low head carriage require head/neck support and those with inappetance/dysphagia require assistance with enteral feeding or provision of parenteral nutrition. It is no surprise that one recent study identified an increased rate of survival in horses that received hospitalised veterinary care compared to those managed ‘in the field’.

**Prognosis**

Prognosticating atypical myopathy is a challenge – survival rates vary year on year, and initial presentation and vital parameters do not necessarily correlate with survival. Large epidemiological studies have identified negative prognostic factors such as tachycardia, tachypnoea, respiratory acidosis, and prolonged recumbency.

There is hope that measurement of biochemical parameters and toxin metabolites may offer much-needed accurate prognostic information to better inform owners of the probability of survival.

**References**

OPINION

“A comparative view of ophthalmology is, to me at least, at the same time awe-inspiring and humbling. Casey Wood found it just the same”

I left you last month with a hint that I might tell you more about one of my heroes, Casey Wood (Figure 1). 2017 marks a century since the publication of his key work on the avian eye, of which more later. Wood was born in Ontario in 1856 and studied medicine at McGill University in Montreal. It was at this early stage that his passion for ophthalmology began. But even from childhood, his second passion, for nature study and particularly ornithology, took root in the wild spaces of rural Ontario.

Together, ophthalmology and ornithology would guide Wood through his life. Having no children, he, his wife Emma and their pet parrot John Paul toured the globe after his retirement in 1906, collecting material for his magnum opus The Fundus Oculi of Birds, Especially as Viewed by the Ophthalmoscope. Just look at the superb drawing of the retina of an owl (Figure 2), one of hundreds in the atlas.

Wood spent months at London Zoo examining the eyes of the hundreds of birds there. This was not just a work arising from a general ornithological interest. Wood considered that the superior optics and visual capability of many birds when compared with the human eye might lead to discoveries which would improve human vision. These ideas continue today; my particular interest in avian ophthalmology arises from the same issues.

We might think that humans – and thus human eyes – must be at the pinnacle of evolution. Yet at the same time we use phrases such as ‘eagle-eyed’, showing how much better a visual acuity these birds of prey have compared with our eyes.

And while we see in three colours and might consider ourselves above our dogs and cats seeing in only two, all birds – and bees and beetles too – see in ultraviolet as well as red, green and blue.

A comparative view of ophthalmology is, to me at least, at the same time awe-inspiring and humbling. Casey Wood found it just the same.

Wood was described as ‘one of the most colourful and outstanding figures in ophthalmology at the turn of the century, nationally and internationally’, writing scores of books and articles including his 17-volume American Encyclopedia of Ophthalmology. But more than that, Wood was fascinated with the history of ophthalmology and, of course, comparative ophthalmology.

A masterpiece is his translation of the earliest printed book on ophthalmology, De Oculis Eorumque Egritudinibus et Curis, written by the 12th-century physician, Benvenuto Grassi. Wood liked to show how advanced ophthalmologists were even in that era, with their limited equipment.

Travelling widely in pursuit of his ornithological interest, he collected specimens in British Guiana, the Caribbean, the South Pacific, India, Ceylon, Australia and New Zealand. Wood spent much of his last decade at the Vatican Library in Rome, immersed in the translation of mediaeval European and Arabic ophthalmic manuscripts.

From a political perspective, Wood held views with which we would not agree – he was an ardent fascist, supporting Mussolini in the 1930s. But he had progressive views on the importance of holding the benefits of animal experimentation to human medicine in balance with animal welfare.

These opinions stemmed from his interest both in human medicine and in environmental conservation, developed in his early childhood in the fields around his home in Ontario. Today having such a broad range of interests might be seen as a diversion from focusing on a specific line of research, but Wood shows how valuable a broad view of life can be.

ABOUT DAVID

David Williams, MA, MEd, VetMD, PhD, DECWBM, CertVOphthal, CertWEL, FHEA, FRSB, FRCVS, runs the ophthalmology clinic at Cambridge University Veterinary School and teaches at St John’s College in Cambridge, where he is a Fellow. He has interests in animal welfare and veterinary ethics, is a diplomate of the European College of Animal Welfare and Behaviour Medicine, and is currently studying for a doctorate in education.
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Using self-employed vets

What could the gig economy mean for veterinary practices?

MARK STEVENS
VEALE WASBROUGH VIZARDS

Mark Stevens is an associate in the Bristol office of law firm VWV. He specialises in providing both contentious and non-contentious employment law.

Getting employment status wrong can have a significant impact on a business. Unfortunately, establishing whether someone is an employee, a worker or genuinely self-employed is not always straightforward.

The legal position

Important legal rights only apply if an individual is an employee (such as the right to not be unfairly dismissed), although a number of important statutory rights are enforceable by workers (including the right to receive the National Minimum Wage and entitlement to paid annual leave).

Whether an individual has employment status is also a crucially important consideration when assessing whether that individual’s income should be taxed as income through PAYE, or whether the individual should account for tax in a different way.

Getting employment status wrong can have a significant impact on a business. Unfortunately, establishing whether someone is an employee, a worker or genuinely self-employed is not always straightforward, as Uber discovered at the Employment Tribunal.

The Uber decision

In Aslam, Farrar and others v Uber, two Uber drivers successfully argued that they met the definition of ‘workers’ under the Employment Rights Act 1996.

Uber gave evidence to say it contracted with its drivers on the basis that the drivers were self-employed partners, rather than workers.

In support of this interpretation of the arrangements, Uber argued that its driving partners were free to choose when they switch on the app and therefore when they work. The drivers also owned and maintained the vehicles they used to pick up fares.

The Employment Tribunal judge found in the drivers’ favour, determining that the drivers were not self-employed partners of Uber, but rather workers.

The judge said that it was relevant that Uber:
- Interviewed the drivers
- Controlled information regarding the passenger
- Logged drivers out of the app platform if they do not accept fares
- Set the drivers’ routes
- Did not allow drivers to agree a higher fare with a customer
- Imposed various conditions on drivers regarding their vehicle
- Operated a driver rating system
- Administered a customer refund process that does not involve the driver
- Handled passenger complaints
- Reserved the power to amend the drivers’ terms without consultation

The drivers in the Uber case are now entitled to 5.6 weeks’ paid annual leave each year, statutory rest breaks, a maximum 48-hour working week and the national minimum wage (and, if the driver is aged 25 or over, the national living wage).

When you consider the number of Uber drivers operating across the UK, you can see why Uber is appealing against the decision.

The impact on vets

Problems may arise where vets use those that claim to be in business on their own account – either as a sole trader or through a limited company, especially where the practice
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owner provides the contractor with patients, equipment, materials and support staff.

The problem becomes more acute if the contractor works when told to, doesn’t address errors at their own expense, and cannot use a substitute in their place (in other words, the contract is personal).

In light of the decision in the Uber case, could a purportedly self-employed contractor successfully argue that he or she should be treated as a worker in the same way as the Uber drivers did? If such an argument were to succeed, it could have a significant impact on practice owners.

Are they genuinely self-employed?

Whether someone is an employee, ‘worker’ or is genuinely self-employed is a question of fact in every case. What is clear is that the label the parties put on the relationship themselves is not a determining factor.

An Employment Tribunal (and HMRC if it is investigating whether the engagement has been taxed in the correct way) will look at the reality of the arrangements that are in place. Simply agreeing that an individual is self-employed will not of itself be sufficient to stop them subsequently arguing that the relationship was that of employer/employee or employer/worker. Where the individual contracts via a limited company, this would be one factor which points away from an employee/worker relationship. However, it would not be determinative.

A worker is defined under section 230(3) of the Employment Rights Act 1996 as an individual who has entered into or works under a contract of employment; or any other contract, whether express or implied, where the individual undertakes to do or perform personally any work or services for another party to the contract.

Do they undertake under the contract to personally perform work or services for a practice? This will depend on the terms of the agreement that is in place, but a degree of personal service is likely.

Other relevant factors that might point toward them holding worker status (or even employee status) are:

1. If the practice owner provides and maintains the tools or equipment used.
2. If they do not actively market their services to the world in general.
3. If they evidence that they have been recruited by a principal to work as an integral part of the principal’s operations (tending to infer worker status).
4. If they are integrated into or help manage the business. Someone that becomes integrated into the practice and is involved in the day-to-day management of its business is more likely to be considered an employee or worker than someone who would not be as integrated into the practice’s business.
5. If they do not have the opportunity to profit from their own good performance. Someone whose income fluctuates depending on the amount of work that they undertake is less likely to be considered an employee than an individual who receives a fixed and unvarying salary regardless of how they – or the business – performs.
6. If they are paid when absent due to holiday or sickness.
7. If the practice owner handles and administrates bookings and customer complaints.

Next steps

Veterinary practices should take this opportunity to review their existing arrangements with contractors, including locum vets. In particular, practices should ensure contracts with contractors (whether with individuals or personal service companies) include appropriate protections and indemnities in the event of a status challenge, whether by the individual or a third party – including HMRC.

Review results coming

These issues are not likely to go away. The Department for Business Energy & Industrial Strategy launched an Independent Review of Employment Practices in the Modern Economy (the Taylor Review).

The review, which was expected to run until last month, considered the implications of new models of working and their impact on the rights and responsibilities of individuals going forward. The results of the review are likely to inform the government’s industrial strategy in the future, which could mean further changes in legislation and regulation going forward.
Vets and Brexit

What should EU nationals consider in light of Brexit?

Brexit should have little impact on EU nationals already living and working in the UK. The current proposals envisage protection of EU workers currently exercising their rights of free movement, with a streamlined process for establishing a continuing right to remain in the UK post our exit from the EU in 2019. That’s good news for the veterinary sector, which is so heavily reliant on EU vets and vet nurses.

If the statistics are to be believed, there has been a mass exodus of EU workers since Article 50 was triggered on 29th March. Retaining your EU staff may require a mix of reassurance and clear communication. Do your staff feel welcome and appreciated? Talk to them about how their future plans may be affected by our exit from the EU. If they want to stay in the UK permanently, but have not yet formalised their permanent residence (or need to wait until they can do so), offer assistance and guidance in gathering their documents together at an early stage so they are ready to apply for the new ‘settled status’ when required.

After the UK’s exit, there will be more stringent requirements for EU workers to enter the UK. Employers wishing to recruit into skilled roles, such as vets, could be required to sponsor employees in a similar manner to international migrants entering under the existing points-based system and in that case, priority would be given to existing UK-settled workers. Identifying the requirements for future roles may enable employers to recruit while we can still benefit from free movement. It is hoped that veterinary roles will be included as shortage occupations so that the recruitment process will be simpler.

The size of this problem will be difficult to determine until there is more clarity around migration into the UK post-Brexit, but protecting your existing staff will be key to the efficient operation of veterinary practices for the foreseeable future. For now, focus on keeping hold of your existing talent by providing support and assistance to protect their status in the UK.

If you have a legal question that you’d like to put to an expert, email jennifer.parker@5mpublishing.com. If you have any specific questions on this topic, email Claire Thompson at cthompson@hcrlaw.com.

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CLAIRE THOMPSON
HEAD OF IMMIGRATION, HARRISON CLARK RICKERBY'S SOLICITORS
Clare qualified as a lawyer 20 years ago and advises businesses and individuals on employment and immigration issues involving EU and international migration into the UK.

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Six common investment terms

What do ‘rebalancing’ and ‘asset allocation’ mean for those investing into pooled investment funds?

When you’re thinking about investing, whether via a pension or a NISA, it can be quite bewildering to be confronted with the endless technical terms and jargon facing you. Therefore, in this article I’m going to go through some of the common terms you are likely to come across and attempt to explain them in a manner which everyone can understand.

As most private investment is done via collective investment funds, all of the terms mentioned are related to investment into pooled investment funds. Direct equity investment has many more terms and phrases related to it, but this can be dealt with at another time.

1. Alpha
Investing might seem like an art sometimes, but it is more of a science in my opinion. And like all sciences there are ratios and other measures that are unique to investing, and which can really be confusing.

Alpha is one of five technical risk measures. For the purposes of this article it can be described as the performance of a fund compared to its benchmark.

So, if a fund is investing in UK shares, its benchmark may be the FTSE All-Share index. The manager of the fund is aiming to beat the performance of the index by choosing what he or she believes are the best stocks from those available in that particular index or market.

If the index rises by 5% and the fund rises by 6%, the fund would have an Alpha of +1. If the market rises by 5% and the fund only rises by 4%, the fund would have an Alpha of -1. Alpha is fundamentally a backward-looking measure. It shows how a fund/manager has done, which may or may not indicate how they might do in the future.

2. Beta
Beta is another measure of risk, in particular that pertaining to investment volatility, and shows the extent to which a fund will respond to movements in the market.

A Beta of 1 means that the fund in question will move in line with the market. A Beta of less than 1 shows that the fund is less volatile than the market and a Beta of more than 1 means that the fund is more volatile. For example, if a fund has a Beta of 1.2, it is 20% more volatile than the underlying market.

Again, this measure is a backward-looking one, but it is nonetheless important. It can be a useful indicator of the risk that a manager is taking to achieve their returns. If you are considering investing in a fund which has performed brilliantly, you should take a look at the Beta and see what kind of a ride the manager has taken. If, in the pursuit of great gain, the fund has fluctuated in value wildly, with double-digit losses during certain periods, then you need to ask yourself if you can cope with this kind of volatility.

Beta is a particularly useful investment measure as it adds context to performance numbers and is a key measure of risk and return.

3. Standard Deviation
This is another useful measure of risk and for anyone who did statistics in maths at school, you’ll understand that this is not unique to the investing world. Standard Deviation is the extent to which a fund’s return deviates from its mean or average return.

A volatile stock will have a high Standard Deviation and a less volatile stock will have a lower one. It is therefore a measure of how rocky a ride the fund has been on.

The calculation of Standard Deviation is particularly complicated, but it does provide a useful benefit as it allows an investor to accurately compare a fund with its peer group.

If two funds have performed largely the same over a set period of time, and yet Fund A has a higher Standard Deviation than Fund B, then Fund A has been a riskier choice because it has fluctuated more widely in value than Fund B.

4. Asset Allocation
I’ve provided an overview of Asset Allocation in previous articles. Put simply, asset allocation is the process of investing your money in different asset classes in a given proportion. Or, in layman’s terms, the process of not putting all your eggs in one basket.

Asset allocation shouldn’t usually be rigid, but should be a more fluid process. Strategic Asset Allocation is a long-term process and usually acts as a baseline for allocating one’s portfolio dependent on the objectives set. Tactical Asset Allocation, on the other hand, is much shorter-term and takes account of whatever’s going on in the world right now. Using both to your advantage is key to delivering long-term consistent and dependable investment performance.

5. Rebalancing
When you have set an Asset Allocation at the outset of an
investment, it will gradually get out of line from the original weightings. One asset class performs well and another one not so well.

You end up with the first asset class being a larger proportion of your portfolio than it was at the outset. If this gets too far out of line, you can end up with a far riskier portfolio than you intended.

As a result of this, many investors undertake a regular programme of rebalancing. Usually done once a quarter or even once a year, rebalancing resets the weightings between the assets to bring things back to how they were at the start. Many funds and platforms will do this for you automatically.

Doing manual asset allocation is a difficult discipline as you may not feel like selling out of the higher-performing asset class in order to put more back into the lower performing one. However, while painful, this is often a wise course of action to ensure you remain within your desired risk bracket.

6. Absolute Return

Absolute Return funds have become popular in recent years, not least due to the volatile stock markets of the last five to 10 years. The idea is that an Absolute Return fund will make a return no matter what the market does.

Most conventional funds seek to outperform their competitors or the market – you could say these funds are looking for a relative return, relative to their peers or to the market that is.

But an Absolute Return fund is looking for just that, an absolute return. Not based on anything else, just a positive investment return. To do this, an Absolute Return fund might employ techniques which other funds might not, such as short-selling, using futures and options and other complex financial instruments.

My recommendation is that you and your adviser complete careful due diligence when selecting such a fund within your portfolio. Not all Absolute Return funds have lived up to their name and many have actually delivered negative returns over recent years due to the challenging investment conditions over the last five to 10 years.

Summary

I have just provided six definitions of terms which can be confusing to many people when they are investing. There are hundreds more I could have chosen and I do empathise with the common investor trying to make sense of the jargon-filled, often complex world of investment.

It is worth mentioning that these definitions are by necessity very cursory. There is plenty more detail to many of them which there simply isn’t time to cover within this article.

However, there are a number of excellent websites which can be referred to for further information. My personal favourite is www.investopedia.com, which is an excellent resource for investing education and personal finance guidance.
How to deal with high expectations

GEOFF LITTLE

Although retired from practice, Geoff Little is still actively involved in the profession. His positions within the VDS Training Team and as president of Vetlife bring him into close contact with practice team members of various ages and positions.

I don’t believe that anybody turns up for work with the intention of not doing their best. I guess whether doing one’s best is good enough depends on how good that ‘best’ is, what the situation is and who is on the receiving end of their effort.

We live in challenging times where expectations from clients, colleagues, bosses and from within ourselves are high. The latter can be the most challenging – those doubts stay with us and often grow in magnitude.

For the last 17 years, the VDS has organised graduate reunion seminars for the UK veterinary schools and in Dublin, which have served well as a means of measuring the type and extent of challenges recent graduates face in practice. Representatives from the leading veterinary organisations and societies are present to listen to concerns, offer advice and take the issues back to their respective bodies to see what they can do to alleviate the problems. It’s interesting, but somewhat depressing to hear that the challenges which faced our profession 17 years ago are still present. It’s not just recent graduates who have to cope with these challenges – it’s the whole practice team. The discussions reveal that some individuals and practices cope better than others. Doing one’s best is part of the answer, as long as everyone’s ‘best’ is the best it can be and the workforce is acting as a team, not merely a collection of individuals.

There are challenges that didn’t really exist 17 years ago – social media is one of them. It’s a double-edged sword: very useful in marketing terms, but potentially very corrosive to individuals’ confidence and self-esteem. Too often we hear of individuals deeply affected by comments posted online. Practices must find ways to support and boost the resilience of their team members, especially vulnerable new graduates.

Discussions at reunions highlight disparity in how prepared individuals are to deal with people, whether they be colleagues or clients. The client experience is vital to the success of the practice and that experience is only as good as the weakest link in the team. I believe the level of expertise and preparedness of each individual is the joint responsibility of that individual and their leader. There seems to be far too few leaders in veterinary practice and too many bosses.

The same issues keep cropping up but, often, the solutions are out there. If we can provide our team members with enhanced non-clinical skills, they will be better placed to increase levels of concordance and compliance, and to deal with challenging situations and/or clients.

The best teams are those that comprise individuals with different abilities, and those talents should be recognised, encouraged and allowed to flourish. We need to appreciate that everybody has their strengths and allowable weaknesses and feed off each other’s abilities. We should support one another. Those individuals who are not appreciated for what they can bring will leave and find somewhere they are!

We live in a time where there appears to be a dearth of veterinarians – leaders need to have an understanding of what motivates their colleagues, not only to stay, but to actively contribute.

What behaviours do good or great leaders demonstrate? As a leader, do you display them? If not, how can you acquire them? In next month’s article, we will look at what makes an effective leader and the vital role a leader plays in creating, developing and nurturing a veterinary team.
Q&A with head of Veterinary at FTA Finance

An interview with Helen Skinner, head of Veterinary, offers an insight into the FTA Finance team. Helen has an extensive banking background and has worked in the healthcare sector since 2000. She works directly with all FTA Finance clients who are looking for funding.

Describe a typical day in the FTA Finance office
It’s constantly busy in our office; we’re a small team, but we deal with a considerable number of clients on an ongoing basis. I spend most my time talking to healthcare professionals about their finance options. This could be because they need funding for a new business purchase or perhaps they’re looking to update equipment in their practice – it doesn’t matter what the requirements are, I’m always happy to have an initial conversation to see if we can help.

What do you enjoy most about your job?
I enjoy how busy I am and the fact that I get to talk to lots of different people. I work with a great team and it makes my day when told that a client I’ve worked with has got the funding they need agreed.

What’s been your proudest moment at work?
There have been lots over the years as I’ve worked with so many great people and clients both in my previous roles in the bank and here at FTA Finance. Our 2017 award win is definitely high up the list of proudest moments. The FTA Finance team was named the London Healthcare Broker of the Year in the Lloyds Banking Group Business Development Professional Awards 2017 and I was delighted to be at the event in May when the winners were announced and we were presented with our trophy.

When not working, what do you enjoy doing?
I’ve got two teenage boys so they take up most of my spare time. If I’m not helping them with homework or driving them around, you’ll find me standing on the side of a football or rugby pitch at the weekend!

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“It is clear that becoming a vet takes as much commitment and dedication as it ever did”

Hopes, dreams and aspirations... Have yours been dashed upon the rocks of working life as a vet or are you still on the up? Is this purely age-related? How does it change along the career path of a working vet, from pre-vet to retired? This is the theme of the current series of articles in the column.

Last month we heard from an A-level student who is in the process of applying to vet school, and today we hear from Chesley Thorn, a vet student at Liverpool. It is clear that becoming a vet takes as much commitment and dedication as it ever did.

Why do you want to be a vet?
It’s always been a passion of mine. I’ve grown up with a family that loves animals and have always had an enthusiasm for science. Veterinary allowed me to combine the two.

What other careers have you considered?
I’ll be honest, I’ve focused a lot of my life on veterinary and tried not to think of any other options. Obviously, knowing how difficult getting into vet school is, I did also consider the possibility of entering another science-based course.

Is what you’ve seen on work experience what you expected vet work to be like?
Work experience before vet school is completely different to EMS placement; you get a much more hands-on approach. Before I ever set foot in a vet practice, I thought it would have been fewer hours, but with experience I grew to accept that the hours are long and often unsociable.

What aspect of practice interests you most?
Tough question as it changes each year. I started off passionate about conservation in wildlife. However, since completing more EMS, I am drawn to surgery. I have also always had an underlying interest in public health, which keeps me swaying over where I would like to be when I graduate.

What sort of career path do you imagine?
I would love to have some part of my life taken up in general practice, be that mixed or small animal. I’d also
Dog Bites: A Multidisciplinary Perspective
Daniel S. Mills, Carri Westgarth
Dog Bites brings together expert knowledge of the current situation on dog bites and dog aggression directed at humans, from a wide variety of disciplines.

Veterinary Ethics: Navigating Tough Cases
Siobhan Mullan, Anne Fawcett
Veterinary Ethics presents a range of ethical scenarios that veterinarians and other allied animal health professionals may face in practice. The scenarios discussed are not only exceptional cases with potentially significant consequences, but often less dramatic everyday situations.

A Practical Approach to Animal Welfare Law
Noël Sweeney
A Practical Approach to Animal Welfare Law - designed to be informative and interesting to a broad, lay audience - covers all aspects of the Animal Welfare Act 2006 and the Dangerous Dogs Act 1991 as they affect animals in our care.

No Way to Treat a Friend
Lifting the lid on Complementary and Alternative Veterinary
Niall Taylor and Alex Gough
An informative and readable analysis of Complementary and Alternative Veterinary Medicine based on evidence-based science.

Animal Personality
The Science Behind Individual Variation
Jill R. D. MacKay
Animal Personality discusses how understanding the implications of animals having personalities affects how we treat them and how we can care for them.

Avian Anatomy
Textbook and Colour Atlas
Horst E. König, Rüdiger Korbel and Hans-Georg Liebich (Translated and revised by Corinna Klupiec)
Bringing together annotated images and anatomical terms, this reference book is a unique combination of a practical, clinically oriented textbook and pictorial atlas of avian anatomy.

Clinical Veterinary Echography
Federica Rossi and Giolita Spattini. Translated by Claudio Porcellana
This practical manual, focused on small animals, provides a rich visual guide to using echography in clinical practice in a range of conditions.

Honeybee Veterinary Medicine
Apis Mellifera L
Nicolas Vidal-Naquet
This book provides an overview of bee biology, the bee in the wider environment, intoxication, bee diseases, bee parasites (with a large part dedicated to the mite Varroa destructor) pests, enemies, and veterinary treatment and actions relating to honeybee health.

The Science Behind a Happy Dog
Canine Training, Thinking and Behaviour
Emma Grigg and Tammy Donaldson
Making use of the latest in animal behaviour research and studies, The Science Behind a Happy Dog covers both scientific approaches to dog raising and practical solutions to common behavioural problems in a clear and accessible style.

Sheep Keeping
Phillipa Page and Kim Hamer
Sheep Keeping provides veterinary information to the sheep smallholder and hobbyist farmer. Providing practical advice on common problems seen in small sheep flocks and answering questions beyond those covered in a veterinary consultation, subjects covered include: feeding and nutrition, housing, organ systems, disease, treatments and sheep behaviour.

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I’ve always had a realistic approach to the income I’m likely to get – I assume for small animal practice it will vary from £23-26,000 per year.

Having seen a bit of veterinary work, what do you like and dislike about it?
I like the satisfaction of problem-solving, and communicating with clients to get the best outcome. I don’t particularly like the pressure of out-of-hours and long hours, but this is something I will adapt to.

Last month our A-level student asked you, “Is vet school what you expected it to be like?”
Vet school is an amazing experience, it has its ups and downs, but if you keep motivated it’s such a rewarding community to be part of. I try to live by the ‘work hard, play hard’ rule! I don’t think I was prepared for the change in teaching; you cannot just make endless notes and memorise them. It is all about smart learning, and it took me a good six months to get my head around that.

What sort of salary do you envisage as a vet?
I’ve always had a realistic approach to the income I’m likely to get – many vets don’t sugar-coat the facts of new graduate vet life. I assume for small animal practice it will vary from £23-26,000 per year.

Do you imagine being a vet is a career for life?
It is certainly a degree for life and this is what I believe pressures vet students – you are working for the rest of life and not just a piece of paper you can hold up after three years.

About Gareth
Gareth Cross, BVSc, MRCVS, graduated from Liverpool vet school in 1998. Gareth is now a director of a small animal practice in Devon, where he began working in 2003.

Opinion

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