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Using antibacterials to treat canine gastrointestinal disease

Plus
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Shaping the future of animal health
Following a successful VetsSouth event earlier in the year, preparations are now well underway for VetsNorth in Manchester. Find all the details of the conference, which will be returning to AJ Bell Stadium on 20 and 21 June, inside this issue.

Also in this month’s magazine, Marion McCullagh finds out about life in a remote New Zealand veterinary surgery, where the nearest small animal referral centre is a six-hour drive away. The practice owner, Geoff Woodhouse, describes how the practice’s isolation has made him try new things.

Evidence-based medicine is in the spotlight this month. Lee Danks explains the importance of embracing evidence in practice, while RCVS Knowledge introduces a system to help users turn their ambiguous queries into answerable research questions.

Madeleine Campbell has shifted out of the equine section and into animal welfare this issue, where she discusses sentience and the impact Brexit might have on welfare legislation. We also have a fascinating piece by Bruce Vivash Jones, who looks at 4,000 years of the profession’s history.

In our dermatology columns, David Grant weighs up the options for treating canine recurrent superficial pyoderma and Jayne Clarke describes the role of antimicrobial peptides.

Feline expert Sheila Wills looks at the pathogenesis and clinical signs of feline ureteral obstruction in the first of a two-part series on the condition. Next month, she will consider the treatment options. Another under-recognised condition in cats is tackled by Natalie Borrill, who discusses the importance of diagnosing feline hypertension.

Elsewhere, gastroenterology specialist and VetsNorth speaker Ed Hall offers a lesson in choosing the right treatment for the various forms of canine gastrointestinal disease. Richard Gard covers the importance of regular bovine TB testing in the large animal section, and in Equine, Jamie Prutton considers the options for diagnosing two difficult conditions: equine pituitary pars intermedia dysfunction and equine metabolic syndrome.

Finally, in practice management, Adam Bernstein offers advice on motivating practice staff. Richard Pull explains the finance options available to those wishing to expand their practice, and Stephenie Malone analyses the complicated legal issues relating to holiday pay.
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Exotic pet-labelling scheme proposed

A report published in the Journal of Veterinary Behavior calls for a pet-labelling scheme to enable informed decision making by consumers about the types of animals they keep. The Brighton-based Animal Protection Agency supports the proposed scheme, which they say is much-needed to ensure people don’t acquire difficult or demanding pets.

Authors of the report, entitled “Exotic pet suitability: understanding some problems and using a labeling system to aid animal welfare, environment and consumer protection”, conclude that the more scientists learn about the needs of exotic animals, the more they appreciate their complexity and how generally unsuited they are to life as pets. Also, the time, money and expertise in keeping, particularly exotic, animals is commonly underestimated.

In addition to many species being unable to adapt to captivity, the report highlights low quality care information given by animal dealers and hobbyists as a cause of animal suffering and premature mortality; for instance, at least 75 percent of reptiles die within their first year in the home.

The labelling scheme would require sellers to indicate how challenging animals are to keep by categorising them as "easy", "moderate", "difficult" or "extreme" based on independent scientific information. Also included in the labelling would be important public health notices, as many exotic animals carry germs that are transmissible to people.

A key finding of the report is that there are currently at least 13,000 animal species in trade and private ownership, which places enormous burdens on enforcement authorities and rescue centres. The report’s authors also support the introduction of Positive Lists, which limit the types of species that can be legally kept and sold as pets to those for which sound, scientific evidence exists to show they are straightforward to keep in the home and do not harm people or the environment.

New courses from Improve International

Improve International has introduced new courses for veterinary surgeons interested in cardiac medicine, dentistry and arthroscopy. The cardiac medicine courses will be led by Luca Ferasin, a European and RCVS Recognised Specialist in Veterinary Cardiology. A Practical Approach to Diagnosis and Management of Cardiac Arrhythmias (20 September 2018) will support delegates in developing an analytical approach to electrocardiogram (ECG) trace interpretation and help them to identify bradycardias and narrow and wide complex tachycardias and to select appropriate management options.

Cardiac Emergencies in Small Animal Practice (21 September 2018) will equip delegates to select the latest techniques to diagnose and manage cardiac emergencies. It will cover the theory and practical application of point-of-care ultrasonographic techniques for diagnosis of pleural effusion, pulmonary oedema, pericardial effusion and ascites.

The first of two new courses at the Sheffield facility is a two-day Feline Dentistry course (17 to 18 July 2018) led by Bob Partridge, a Recognised European and RCVS Specialist in Veterinary Dentistry. The course will help delegates to develop dental radiographic skills and identify and manage cases of periodontal disease, tooth resorption, chronic gingivostomatitis, oro-facial pain syndrome, oral tumours and facial trauma.

The other Sheffield course, a two-day Arthroscopy course led by Nick MacDonald, will take place 4 to 5 September 2018. The course will equip delegates with the practical skills they need to add arthroscopy to their diagnostic and therapeutic armoury.

Get up to speed with Red Tractor Assurance standards changes

Vets are being urged to familiarise themselves with changes to Red Tractor Assurance’s livestock and dairy standards, which will be effective as of 1 June.

Requirements regarding antibiotics on farm are changing for assured beef, lamb and dairy farms as the scheme continues to play its part in the campaign to use medicines as responsibly as possible. Farmers have been informed of the amendments and in order to comply with the amended assurance standards, will need to involve their vets.

Beef and lamb farms need to create a written annual livestock health and performance review with their vet. The review should make recommendations on any key health or performance issues that are identified on farm. Data on total antibiotic usage must be used as the basis for advice on how the farm can use antibiotics as responsibly as possible without compromising animal welfare. A further change, which affects beef, lamb and dairy units, is that the use of Highest Priority Critically Important Antibiotics must be a last resort and their use must be under the direction of a vet, backed up by sensitivity or diagnostic testing.
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Vets must remain guardians of animal health and welfare in post-Brexit agri policy

Earlier this year the government’s recognition of animal health and welfare as public goods was considered a victory and welcomed in BVA’s response to Defra’s consultation paper on the future for food, farming and the environment in a Green Brexit.

However, more detail is needed on the schemes that will see these public goods incentivised.

BVA has recommended the use of an animal welfare stewardship programme to financially support animal welfare as a public good, alongside further development of farm assurance schemes and a modernisation of the UK’s disease surveillance networks.

BVA has welcomed the government’s proposals to pilot schemes that offer payments to those farmers who deliver welfare outcomes that are higher than the legislative minimum and to introduce schemes that reward new approaches to improve welfare outcomes that are not industry standard.

More detail is needed on how these proposals could be realised and BVA has recommended an animal welfare stewardship programme to incentivise progress.

The programme would be based on the principles of environmental stewardship schemes, which reward land management practices that benefit the environment. It would compensate for the additional costs of improving animal welfare outcomes, alongside providing incentives to support continuing and long-term investment into these activities.

Any scheme that aims to improve animal welfare requires monitoring, and BVA believes that placing evidence-based animal welfare outcomes at the centre will allow this to be done in a way that facilitates continuous improvement.

In its response to the consultation paper, BVA supports the government’s proposal to provide clear information to consumers on ways to support higher health and welfare through their purchasing choices.

BVA encourages the uptake of farm assurance schemes to allow citizens to make informed choices about the food products they buy and the impact of these products on animal health.

Farm assurance schemes have already made important inroads into identifying measurable animal welfare outcomes and this could help provide an infrastructure for the development of animal welfare stewardship programmes.

BVA has developed seven principles with the aim of guiding consumers in their consideration of farm assurance schemes and helping to ensure that animal health and welfare standards are further embedded in schemes as they develop post-Brexit.

The UK’s withdrawal from the EU has implications for biosafety and disease surveillance in the UK, providing a good opportunity to modernise our animal health and disease monitoring networks. BVA welcomes the government’s suggestion for greater collaboration to develop a clear action plan to tackle endemic disease and drive up animal health standards.

The veterinary profession plays a crucial role in monitoring disease and preventing outbreaks. As well as maintaining current scanning surveillance networks, BVA has called for new approaches to data collection, rethinking traditional approaches to funding and better education to increase awareness around the benefits of reporting to the veterinary profession.

Vets with Horsepower set off for Arctic Circle

Norbrook will support a motorbiking team of vets travelling 3,800 miles in 14 days from the UK to the Arctic Circle. The trip involves the delivery of CPD lectures for vets, while raising money for charity.

Vets with Horsepower is in its eighth year and has set the bar high for 2018, with the team hoping to raise £75,000 through sponsorship. Funds raised will be shared between three charities – conservation organisation Saving the Survivors, The Interstate School of Veterinary Science and Medicine of Dakar, which trains vets across West Africa, and the children’s charity SmileTrain.

Eight bikers will leave the UK on 15 June with GPS navigators set for Denmark, Sweden, Norway and Germany, where they will deliver five days of lectures and wet labs to vets interested in equine health.

In the past eight years, Vets with Horsepower has raised more than £565,000 for 12 charities, while delivering CPD training in Morocco, Russia, South Africa, Eastern Europe and the UK and Ireland.

Antimicrobial eye drop solution Tiacil is back

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Blue Cross has launched its Emergency Care Fund to help loosen the grip poverty holds on some of the UK’s most in-need pets and their owners. In partnership with private practices, Blue Cross is offering financial support of up to £200 towards emergency procedures, without which euthanasia may be the only option.

Blue Cross has worked with practices to understand how the Emergency Care Fund can really make a difference and be practical to use in practice. They found that practices had been reluctant to proceed with treatment because the decision on funding was often made retroactively. “That’s why we no longer check eligibility for funding ourselves,” said Richard Casey, Blue Cross Clinical Development Manager. “We entrust the practices we work with to make the decision on qualifying clients and treatments as it’s them managing the case.”

Vet practices participating in the fund each receive their own annual budget of £6,000 and are already seeing the benefits. “The Emergency Care Fund works particularly well as we can make quick decisions on funding when we need to. Knowing there is help with treatment costs gives clients ‘breathing space’ to consider other finance options,” said Jenny Stone, Practice Manager at Seymour Vets in Totnes.

Blue Cross hopes the fund can also help with compassion fatigue and build resilience in the practice. Richard added: “We know first-hand the impact on our team when we’re not able to help a pet or client. Our fund is another tool practices have to strengthen the practice-client bond and ultimately improve well-being for all.”

Survey reveals that vets who move to non-clinical work do so after seven years

With widespread concern about the recruitment and retention of vets, new figures from the BVA reveal a mix of “push” and “pull” factors in vets’ decisions to leave clinical practice.

The vast majority of the vets polled who are now in non-clinical roles (92 percent) had worked in clinical practice in the past and, on average, these vets decided to make the move to non-clinical roles seven years after qualification.

Finding a new challenge was the most popular motivation for making the career change. The figures from the BVA Voice of the Veterinary Profession survey showed that 43 percent of vets who had moved were looking for a new challenge through a non-clinical role.

Nearly three-quarters (73 percent) of those vets who had moved from clinical to non-clinical work had worked in mixed practice at some point in the past. Nearly half (49 percent) had worked in companion animal practice and one in three had worked in production animal practice (33 percent). Around one in eight had worked in equine practice (12 percent) at some time during their clinical career.

The survey showed that nearly a third (32 percent) of working vets who are not in practice are in academia. Commerce and industry was also a popular non-clinical role with one in five vets in non-clinical roles choosing to work in these fields.

Many vets (43 percent) cited that they were looking for a new challenge as one of the reasons for leaving clinical practice with 33 percent saying they were looking for a different type of work.

Vets also based their decision on improving their work-life balance, with a quarter saying they wanted a role with no out-of-hours work, 14 percent saying they wanted more flexible working hours, and one in ten reporting that clinical work was not compatible with family life or outside commitments.

More than one in five (21 percent) respondents cited difficulty in progressing with their clinical career as a reason while just under one in five (19 percent) were looking for less stress at work.

In return for accessing the Emergency Care Fund, Blue Cross asks its partners for a pledge to fundraise towards the fund’s future. To find out more, you can contact Blue Cross by emailing vetgrant@bluecross.org.uk or phoning 0300 777 1988.
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APHA grants access to new tests for chronic TB breakdowns

A new highly sensitive and specific blood test for bovine TB, Actiphage, has been accepted for exceptional private use in England, according to an APHA protocol published on 8 May 2018.

Berwyn Clarke, CEO of PBD Biotech, which has developed the bacteriophage-based detection method, explains that this is a significant step forward: "In situations where a farm has had an ongoing chronic bovine TB problem, APHA’s protocol offers a promising new approach to controlling the infection.

“Actiphage is now included within a series of measures that farmers can use in conjunction with their vet and with specific APHA approval as a means to improving their disease management strategy.

“For many farms that have been struggling for years it provides the first step to becoming TB free. This move by the APHA is a really positive step towards tackling this devastating disease.”

Much of this new strategy, as part of a private TB eradication plan, has been driven by the success of vet Dick Sibley, who incorporated Actiphage into a disease management strategy last autumn to help clear a dairy herd that had been stricken with TB since 2012.

Dick said: “The approach of directly measuring the presence of live bacteria in the blood in just six hours is a totally different, but complementary, measurement to other technologies and has enabled enhanced testing, early detection and containment of the infected animals.”

The exceptional private use of non-validated tests for TB on cattle in England protocol enables any private veterinary surgeon to request APHA permission for exceptional use of Actiphage and the other non-validated tests, subject to certain criteria that include herd supplementary interferon-γ (IFN-γ) testing, discussions with the APHA case vet and the farmer’s written consent.

Berwyn added: “We are working with international governments, and the test is being trialled on bovine, ovine as well as exotic species, but we appreciate it is new to the UK market so we’re keen to answer any queries vets or farmers may have.”

Actiphage will require further testing before it is officially approved for standard veterinary use in the UK, but under the APHA protocol it is now permitted for private use where herds have experienced persistent breakdowns and this will contribute to the evidence-base required for official validation by the OIE and acceptance by APHA.

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Caroline is an equine vet, award-winning personal performance coach, mentor, international speaker, researcher and lecturer. She is currently undertaking a PhD in veterinary team health, well-being, performance and engagement and is a training consultant for VDS training.

MIKE HERITAGE
Mike is an RCVS and European Specialist in Small Animal Medicine. He is a professor of Small Animal Medicine at the University of Cambridge and Dean of the Cambridge Veterinary School, and oversees small animal medicine and diagnostic imaging services at the Queen's Veterinary School Hospital.

MOLLY VARGA
Molly received an RCVS Certificate in Zoological Medicine in 2001 and a Mammalian Diploma in 2007. She is an examiner for the RCVS Diploma in Zoological Medicine and leads the exotics referral service at Rutland House Veterinary Referrals.

ED HALL
Ed is a Professor of Small Animal Internal Medicine at the University of Bristol. Ed undertook a postgraduate clinical and research training and is a Diplomate of the ECVIM-CA. He is the only RCVS Recognised Specialist in Small Animal Medicine (Gastroenterology).

DAVID WILLIAMS
David graduated from Cambridge in 1988 and has worked in veterinary ophthalmology at the Animal Health Trust. He gained his Certificate in Veterinary Ophthalmology before undertaking a PhD at the RVC. David now lectures at the University of Cambridge and teaches at St John’s College, where he is fellow.

PAUL ALDRIDGE
Paul qualified from Liverpool University and after a short spell in mixed practice, joined a hospital-based practice in Manchester. Paul currently works for Vets Now as a Surgical Referral Clinician in their Manchester hospital seeing referrals in orthopaedic and soft tissue surgery.

DANIELLE GUNN-MOORE
Danielle graduated from the University of Edinburgh with the Dick Vet Gold Medal in 1991. She later joined The Feline Centre, University of Bristol, and completed a PhD. Danielle returned to Edinburgh to establish the Feline Clinic and became Professor of Feline Medicine.

ALASDAIR HOTSTON MOORE
Alasdair qualified from Cambridge in 1990. He was a lecturer and senior clinical fellow at Langford, before becoming head of referral surgery at Bath Vet Referrals. Alasdair is now Group Veterinary Adviser for Independent Vetcare and accepts cases in soft tissue surgery.

STEPHEN BARBAS
Stephen is a graduate of veterinary medicine and zoology. He has worked in mixed practice and as a technical director, and is the London regional representative of the BVVA Council.

AARTI KATHRANI
Aarti graduated from the RVC in 2006 and completed her PhD in 2011. She is board certified in small animal internal medicine and small animal nutrition. Aarti is currently a senior lecturer at the University of Bristol.

PIP BOYDELL
Pip qualified from the RVC in 1984 and worked in general and referral practice before completing a residency in ophthalmology. He co-founded AMC Referral Services, where he takes ophthalmic and neurological cases in all species. Pip has also been added to the Martial Arts Illustrated Hall of Fame.

JON KING
Jon graduated from the RVC in 1999 and spent seven years as a mixed practitioner and VN assessor. Since then, he has worked as a large animal vet, he has worked with the APHA field services and as a TB-testing assessor for Improve International. Jon is currently a centre manager and lecturer.

GEOFF LITTLE
Although retired from practice, Geoff 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.

JON HALL
Jon graduated from Cambridge in 2004 and has worked in small animal practices, interned at the RVC and was an affiliated lecturer after becoming an ECVS diploma holder. Jon is a senior lecturer in small animal soft tissue surgery at the Royal (Dick) School of Veterinary Science.

NEIL HOMER FORBES
Neil qualified from the RVC in 1983. He is a Diplomate of the European College of Zoological Medicine, Specialist in Avian Medicine and Surgery and an RCVS. Neil has lectured and headed Great Western Exotic Vets. He now consults at Fitzpatrick Referrals and works with critically endangered vultures.

JULIET POPE
Juliennet qualified in 1993 and has worked in mixed and small animal practices. She obtained an RCVS Certificate in Small Animal Surgery and worked in private referral practice for 10 years before joining Improve International as Veterinary Operations Manager in 2017.

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Jacky graduated from Glasgow University and was awarded her PhD in 1984. She specialised in veterinary anaesthesia and is a founding member of the Glasgow University pain and welfare group. Jacky is currently an honorary senior research fellow and director at NewMetrica.

CLAIRE ROBERTS  
Claire has been a veterinary nurse for over 20 years and has a Diploma in Advanced Veterinary Nursing and the VN Certificate in Emergency and Critical Care. She works as a theatre nurse at a referral centre and runs her CPD company, SynergyCPD.

ALAN ROBINSON  
Alan has been a practising veterinary surgeon for over 20 years and a business consultant to over 600 practices. He owns a successful mixed practice and is a director of Vet Dynamics, which aims to help independent practice owners improve performance.

HELEN ROONEY  
Helen qualified in 1996 and has worked in a referral hospital in the soft tissue service, then as a senior ward manager. She has also worked as a lecturer and in 2016, became Head Nurse at Vets Now’s referral hospital in Manchester.

DAVID SEWELL  
David graduated in 2003 from the University of Edinburgh and has been in small animal practice for over 14 years. He completed an RCVS Certificate in Veterinary Cardiology in 2011 and is currently working as a cardiologist and general practitioner in Southampton.

CHARLIE SALE  
Charlie is an RCVS and European Specialist in Small Animal Surgery. He graduated from Glasgow in 1991 and has over 20 years of experience in orthopaedic and spinal referrals. In 1997, he attained the RCVS Certificate in Small Animal Orthopaedics and began accepting external referrals.

FIONA GOSLING  
Fiona graduated from Glasgow University in 2011 having completed an intercalated honours degree in veterinary pathology at the RVC. She passed the AVCP diploma in 2016 and is now a Veterinary Clinical Pathologist at PTDS (a member of SYNLAB) in Hertfordshire.

MARCELO ALVES  
Marcelo graduated as a medical doctor in 2004 and specialised in general and family medicine in 2008. He holds an MBA and has worked as a medical affairs manager for Janssen. He now works as the managing director of Vet Inflow.

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Charlie is an RCVS and European Specialist in Small Animal Surgery. He graduated from Glasgow in 1991 and has over 20 years of experience in orthopaedic and spinal referrals. In 1997, he attained the RCVS Certificate in Small Animal Orthopaedics and began accepting external referrals.

FIONA GOSLING
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Remember the path you are following

A reminder about the importance of your contribution to the veterinary profession

Graduation is probably the most important event in a veterinarian’s professional life. Five years of mental exertion and absorption result in them being judged competent in the art and science of veterinary medicine. An additional fillip for British graduates is that at the same time, they become members of the RCVS. Yet, I wonder how many think about the significance of those two sets of letters after their name.

Unfortunately, there seems to be little effort by the veterinary schools, and even less from the Royal College, to explain the significance of graduation. No one tells you that by becoming a veterinarian, you are not only joining an exclusive group (and accepting the responsibilities that go with that membership), but you have joined a profession with a long and interesting history that can be traced back at least 4,000 years.

The use of “at least” is necessary because dating can be difficult. Civilisation only really exists when there is a literate society, the culture is then able to leave a record of their activities. For veterinary medicine, the two earliest written surviving records are both dated about 1900 BC.

One from Egypt, the el-Lahun (or Kahun) papyrus, was written in a particular form of religious cursive hieroglyphs, an indication of its importance. This, the only ancient veterinary papyrus, not only provides our first written record of a veterinary procedure, but is arranged in a particular presentation – exactly the same as that used in the few surviving medical papyri. The priests/healers treated both animals and humans – one medicine existed 4,000 years ago. There is little new in this world!

The other text, written at about the same time in Mesopotamia (now mostly Iraq), was in a cuneiform script. Emperor Hammurabi produced his famous Legal Code and had the laws inscribed on a large diorite stele. This is now preserved in the Louvre Museum, Paris.

For those unable to read Akkadian language cuneiform, the word Asos, or Azul, is translated as “healers” or “doctors”, and used for those who treated humans or animals. The laws deal with responsibility (rather like the RCVS), and indicate that, as in Egypt, there was one discipline, with two clinical endpoints – one medicine again.

In those ancient times there were individuals who were recognised as specialising in veterinary work. By today’s standards, their learning was limited, but some of them must have been reasoning and starting to build a knowledge base. Not a veterinary profession, but a beginning.

In both Egypt and Mesopotamia, cleanliness and hygiene were understood, and in Babylonia there was a recognition that isolation of a sick animal or person was advisable; they did not understand contagion, but they were taking the correct action.

What is learned at veterinary school is the endpoint of a path that can be traced back four millennia – it has not been a smooth or easy journey, and it was not until 1761 that the first veterinary school was established in Europe, in Lyon, France, by Claude Bourgelat.

Britain, as usual, did not follow the pattern of other European countries who all sent students, mostly government sponsored, to learn from Bourgelat and then return home to start national veterinary schools. We waited until 1791 and then opened a private school, at Camden Town, with no government support.

When you enter the profession, you start to add your own contribution to the treasury of veterinary knowledge, by every action that you take as a veterinarian. You may never publish a paper or speak at a meeting, but every animal you see, diagnose, treat or discuss with a colleague forms part of the records of the profession. Never forget that what you did yesterday is history; your case notes in 50 years’ time may provide the evidence for… who knows? But the record you left is there.

I have used the word “veterinarian”; I like it as, not only is it less cumbersome than “veterinary surgeon”, it is, in fact, our original name, first used by Sir Thomas Browne (1605-1682), a medical man and renowned polymath. Then in 1755, Samuel Johnson ensured its place in the English language by including it in his famous dictionary. When the Camden Town College began to produce its “graduates”, the term veterinary surgeon came into common usage – probably because the “veterinarian” word had little public recognition, whereas the word “surgeon” was recognised and added status.

Remember also our first journal, published in 1828, was named The Veterinarian. It was a long way from the hieroglyphs and cuneiform texts where our written history began, but the message – to advance and promote animal health and welfare – has always been the same. Remember the path you are following, and where it started.
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Tell me about the veterinary scene in New Zealand compared with the UK
The profession here is regulated by the Veterinary Council of New Zealand, which functions in a similar way to the Royal College of Veterinary Surgeons in the UK. We also have our New Zealand Veterinary Association, founded in 1923, which represents veterinary surgeons and aims to push forward public recognition of the values of the veterinary profession to animals, individual people and society in general. The Association has its eye on the future with a 2030 project which will make sure that the profession is adapting in line with the rapid changes in climate, population and human needs.

How long has your practice been going and how is it developing?
I started out 14 years ago, doing 95 percent of the out-of-hours work. Now we have a one-in-four rota. The practice is still independent with a mixed case load. Cattle breeds include Hereford, Angus, Simmental and Belted Galloway but as it is a high, dry area, there is no dairying. We do about 80 percent small animal, 10 to 12 percent equine and the rest is large animal. Most of our equine patients are pleasure horses with some doing dressage or eventing. On the sheep front, we have the Merino, famous for its fine wool, and cross-bred, half-bred and Perendale for meat production. We have some deer farming as well to add variety.

How do you get along with paraprofessionals? Do you have problems with recruiting and retaining staff as we do in the UK?
Pregnancy testing of sheep, cattle and deer is contracted out to specialist scanners rather than being done by vets in practice. Vets and farriers are working together with many farriers spending time abroad developing their skills. I welcome this cooperation between vet and farrier as it benefits the horse’s treatment. Sadly, physiotherapists are still a rare breed. I have no difficulty in recruiting and keeping staff with a good input of vets from the UK. My biggest problem is finding accommodation for them as Queenstown is full of a transient population of workers serving the tourist trade.
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How much are you using innovative technology to advance your practice?

I am moving with the times as much as possible. My digital X-ray is a great advance; I can work faster, get better images and share them with referral vets. Telemedicine has upped the game and cloud-based software allows access to a huge amount of technical data in a cost-effective way. I took on an Idexx in-house laboratory two years ago in response to increased demand and it has proven to be very successful.

On the surgical front, being so isolated has spurred me on to attempt new procedures. I have found that being exposed to challenging situations has been incredibly rewarding. Now we have our own orthopaedic specialist and I find that all my team members are strongly supportive of each other. Client expectations are steadily on the increase and I am confident that the skills offered by the practice are increasing to fill the demand.

How do you get on with referral centres? Does the geography affect practice structure?

Referral is becoming more acceptable these days. My nearest small animal referral centre is in Christchurch, a six-hour drive away, and the nearest equine referral clinic is two and a half hours away. Corporate practices are on the increase, especially in the dairying areas. Dairying is industrial farming and it fits the corporate structure. The population is very spread out so some practices, like my own, find that local small units are best adapted to providing 24-hour care. Even so, some regional practices are struggling just because of the low density of population.

Is the attitude towards animals here much different from how you found it when you worked in the UK?

People are showing an increase in the intensity of the bond between themselves and their pets. This is especially obvious among younger people. I want my practice to continue being family friendly; I attach huge importance to interpersonal skills and excellent communication both within the practice team and between practice and clients. I am happy to live by my practice and for my practice, carrying on the James Herriot tradition.

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Be a pet trip advisor!

Key considerations when advising clients on taking their pets abroad

While the Pet Travel Scheme (PETS) has made it easy for owners to take dogs and cats (and ferrets) abroad, for a first-time traveller, meeting the requirements of the scheme can seem daunting. From making sure vaccinations are up to date, to understanding health problems to look for and what is required on return to the UK, there is a lot to get right. Failing on one element could result in a disappointing, or even cancelled, trip.

Trip advice checklist

With owners coming to you to organise the pet passport side of things, you are in the ideal position to advise clients travelling overseas of what to do and what to expect. So, once you have covered the basics of microchip-check, rabies vaccination and passport, what else can you do to ensure their trip abroad goes smoothly?

1. Explain compulsory flea and worm treatment

One aspect of using PETS that can be overlooked is the need to give the pet worm and flea treatment no less than 24 hours and no more than 120 hours (five days) before coming back to the UK. Without an official stamp to prove this from a vet in the country they are travelling back from (with few exceptions), the pet will not be allowed back into the UK (gov.uk, 2018). Anecdotally, the cost for these treatments increases the closer the vet is located to the port. Whether this is the case or not, owners can make this aspect of compliance easier by identifying an English-speaking vet in a convenient location before travel.

2. Advise on diseases and prevention

It can be life-saving to make owners aware of specific dangers and diseases to look out for while overseas, and what can be done to minimise the risks.

Mosquitoes, sandflies and ticks are the most common sources that pass diseases to pets while on holiday, even at locations as close as France. Babesiosis, Echinococcus multilocularis, ehrlichiosis, heartworm and leishmaniasis – together with, most recently in the news, the deadly encephalitis, which is carried by the brown dog tick or kennel tick – are all threats.

The importance of tick treatment cannot be over-emphasised. Compulsory tick treatment was actually removed from PETS in 2012, yet in 2017, a study by the Big Tick Project (University of Bristol, 2018) found that 76 percent of dogs returning to the UK were carrying ticks.

Other threats include Thelazia callipaeda – an eye worm that can cause blindness – and the potential for anaphylaxis and necrosis of the tongue from pine processionary moth caterpillars.

Ensure you and your team are always up to date with evolving risks, preventative care and treatments to pass on as much information as possible to your clients. Visit the ESCCAP website for more advice.

3. Pet insurance

Many owners aren’t aware that their pet insurance policy might not automatically cover their pet while they are overseas, or that usual cover may be restricted while they are out of the country.

Agria’s policies give owners the choice of whether to include “overseas travel” within their policy. This way, owners that don’t travel with their pets don’t pay for cover they don’t need, while those that do take their pets abroad can add this benefit at any point in the policy year, and enjoy the same comprehensive cover they would get in the UK for up to 120 days.

Overseas travel from Agria also covers emergency expenses – for example, the costs involved with replacing a lost pet passport while on holiday.

Always advise your clients to carefully check the details of their pet insurance cover before they travel. Should an accident or illness happen while overseas and without adequate pet insurance, the full cost of treatment would be down to the owner, which could, in many circumstances, exceed the cost of the whole holiday.

Bon voyage!

Talking your clients through this checklist will help them to prepare and have a happy, healthy holiday with their pet.

References

gov.uk (2018) Bringing your pet dog, cat or ferret to the UK [online]. Available at: gov.uk/take-pet-abroad [accessed 4 May 2018].

University of Bristol (2018) Results of the Big Tick Project – the largest ever study of ticks in dogs in the UK [online]. Available at: bristol.ac.uk/news/2016/september/big-tick-project.html [accessed 4 May 2018].

For more information about Agria’s policies, visit: agriapet.co.uk/vpc. As a veterinary professional, you are entitled to a fantastic six months half price lifetime pet insurance. To find out more, visit: agriapet.co.uk/vp
Turning clinical queries into answerable questions

Using queries entered on the website, RCVS Knowledge can help vets undertake evidence-based practice

There are times in practice when all you have to go on is your judgement, when what you really need is some information.

A client has come to you with a query you haven’t had to deal with before – perhaps they have heard that the risk of mammary tumours in bitches can be reduced by spaying, or a family member has told them a pressure vest has worked wonders for their dog’s anxiety and they want you to try the same with yours. Or maybe they have presented you with something so obtuse we haven’t thought of it yet!

Either way, to advise appropriately – whether you’re a vet, vet nurse, advanced practitioner or specialist – you need evidence. Not only will this ensure you combine your expertise with current medical knowledge to come to the best clinical decision, it will also reassure your client that their pet is in well-informed hands.

There are a host of questions that have already been analysed and had the findings from their evidence published as Knowledge Summaries – you see a selection of them in this monthly column – but some, especially those that are particularly ambiguous, are yet to be answered.

Finding this evidence yourself, which entails scouring veterinary literature and critically appraising any relevant research, is no easy feat – in fact it’s often impossible when you take into account time pressures, workloads and the variety of clinical conundrums.

So what do you do? How can you get an answer to your clinical query without having to find the evidence yourself? You put the query out to the veterinary community.

To make it easy for you to do this, RCVS Knowledge has created a system that allows you to submit your query and share it for someone to answer.

An online form will guide you through the entire process, starting with that ambiguous query and culminating in an answerable research question.

To do so, it uses something called the PICO (patient or population, intervention, comparison and outcome) method to break down your query into its key components.

Applying the pressure vest example above, the PICO would be:

<table>
<thead>
<tr>
<th>Patient or population:</th>
<th>Fearful or anxious dogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention:</td>
<td>Pressure vests</td>
</tr>
<tr>
<td>Comparison:</td>
<td>No pressure vests</td>
</tr>
<tr>
<td>Outcome:</td>
<td>Reduction in stress</td>
</tr>
</tbody>
</table>

And as an answerable question it would look like this:

In fearful or anxious dogs does wearing a pressure vest, compared to not wearing one, result in reduced signs of stress?

Turning your clinical query into an answerable question like this is an important step; it helps ensure all relevant articles are found and reduces the likelihood of leaving out any important evidence when someone searches the literature.

We will check your question and, if it hasn’t been answered already (you can check the Veterinary Evidence website to see if it has), we will add it to the list of open questions, where it will be available for anyone in the community to answer.

So the next time a client (or a colleague, or just your own curiosity) presents you with a query or suggestion you aren’t certain about the response to, share it with the tens of thousands of fellow professionals to get the information you need.

To submit a query, go to: knowledge.rcvs.org.uk/forms/submit-a-clinical-query/
A 97% LIKELIHOOD OF WEIGHT LOSS¹,²* STARTS WITH A CONVERSATION ABOUT BEGGING BEHAVIOUR

Resisting a begging pet is difficult and may lead to overfeeding.³,⁴ Find common ground with pet owners with a new conversation around begging behaviour, and improve adherence to your weight loss recommendations.

Sentience, welfare and Brexit

Does Brexit present an opportunity to rationalise legislation?

Last November, a public outcry erupted about the fact that the draft EU Withdrawal Bill failed to transpose into British law the recognition of animal sentience, which is explicit in Article 13 of the Treaty of Lisbon. This was portrayed in some parts of the media as a refusal on the part of the government to recognise that animals are sentient beings (eg *The Independent*, 2017). In fact, the issue was more complex.

Article 13 places a responsibility upon the EU and Member States (ie governments) to pay full regard to animal welfare requirements when drafting and implementing a wide range of legislation “since animals are sentient beings”. In contrast, the UK’s Animal Welfare Act (2006) – one of the main pieces of legislation which will continue to protect animals after Brexit – places a duty upon the person responsible for an animal to prevent “unnecessary suffering”, and does not explicitly mention sentience at all.

Possibly as a result of the very obvious strength of public feeling about the issue, and the political dangers of being portrayed as “anti-animal welfare”, the government moved swiftly to introduce the Animal Welfare (Sentencing and Recognition of Sentience) Bill. That bill has been consulted upon, and is now going through Parliament.

Those processes afford an interesting opportunity to reflect upon the role our understanding of sentience plays in the development of animal welfare policy, and also upon the inconsistencies between two of the major pieces of legislation which currently protect animal welfare in the UK.

Research into animal sentience is a huge area of scientific endeavour, characterised by an acceptance among those working in the field that current understanding of which animals are sentient, and indeed of what exactly sentience is, is incomplete. Donald Broom’s book *Sentience and Animal Welfare* (2014) serves as an excellent introduction to the topic. Broom describes components of animal sentience as including brain complexity and cognitive ability; the ability to discriminate and recognise; the capacity for metacognition (ie knowing what you know); capacity for innovation; capacity to experience feelings and emotion; and the capability of feeling pain.

**Why is sentience important?**

Sentience is important because it provides one basis for our moral concern about animals. For many of us, the fact that animals are capable of suffering is at least one of the things we feel makes them worthy of our moral consideration. Harm to sentient animals, we feel (adopting a utilitarian approach), needs to be justified.

**How is our understanding of sentience reflected in British legislation?**

Recognition of animal sentience and the need to consider it underwrites current legal protections of animal welfare in the UK. Thus, although sentience is not explicitly mentioned, our understanding of sentience provides the rationale for both the 2006 Animal Welfare Act (AWA) and the
1986 Animals (Scientific Procedures) Act (A(SP)A). The core of the AWA is the prevention of “unnecessary suffering” (section 4). Similarly, the A(SP)A aims to protect animals against unjustifiable “pain, suffering, distress or lasting harm equivalent to, or higher than, that caused by the introduction of a needle in accordance with good veterinary practice” (section 2.(1)).

**Does Brexit offer opportunities for improving sentience-based legal protections of animal welfare?**

There are currently some interesting discrepancies between the AWA and the A(SP)A. The AWA applies only to (non-human) vertebrates. In contrast, the A(SP)A, as it was amended in 2012 to bring it into line with European legislation, applies to (non-human) vertebrates, and to any living cephalopod not in its embryonic form (cephalopods are invertebrates).

Furthermore, whereas the AWA does not apply to animals in their foetal or embryonic form, the A(SP)A does apply to mammals, birds or reptiles in the last third of gestation or incubation, and to other foetal, larval or embryonic forms once they become capable of independent feeding.

The sentience-based protections given by the A(SP)A are currently more wide-reaching than those provided by the AWA. The provision already exists in section 1 (3, 4) of the AWA for the “national authority” to widen the scope of the animals being protected if it is satisfied, on the basis of scientific evidence, that animals of the kind concerned are capable of experiencing pain or suffering.

It is difficult to understand why the national authorities responsible for the protection of those animals falling under the AWA have not updated the AWA to include cephalopods and specified pre-natal forms, in line with the scope of the A(SP)A. Indeed, some researchers suggest that some decapod crustaceans, such as lobsters, should also be protected by legislation, based on emerging evidence about their sentience (Elwood, 2012).

Brexit is not a necessary prerequisite for bringing sentience-based protections of animal welfare in the AWA and A(SP)A in line with each other, but the whole debate about animal sentience which the Brexit process has inspired provides an excellent opportunity to do so.

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**References and recommended reading**


*The Independent* (2017) The Tories have voted that animals can’t feel pain as part of the EU bill, marking the beginning of our anti-science Brexit [online]. Available at: independent.co.uk/voices/brexit-government-vote-animal-sentience-cant-feel-pain-eu-withdrawal-bill-anti-science-tory-mps-a8065161.html [accessed 1 May 2018].
Compassion in the practice

Why aren’t we more compassionate towards each other at work when we can be so caring and thoughtful about our patients?

There is a new field in brain science called "social neuroscience". It analyses the impulses in two individuals’ brains when they interact and shows that the default wiring when one person senses that another is in distress is to help. The “mirror neurons” feel with the other person and we are automatically prepared to help. The question is, why don’t we?

I wrote last month about self-compassion and observed that people can be delightful to complete strangers they meet for the first time while the same person may be hideous towards a sibling. As vets and nurses, usually we find it easy to be patient, empathic and caring to our clients and yet so often we don’t spare a thought for our colleagues with whom we spend so much of our lives.

There are many reasons for that, varying from dislike to complete self-absorption to narcissism. But lack of compassion in the workplace is noticed by the clients, reduces productivity and increases absenteeism.

What causes an apparent lack of compassion?

A recent experiment was done at Princeton Theological Seminary; a group of theologians were told that they were going to give a practice sermon. They were each given a topic for their sermon: half were given the parable of the good Samaritan who stopped to help a stranger in need by the side of the road and the other half were given various random bible topics. Then they were told to go to the next building and give their sermon.

As they walked to the next building, they passed an actor who was bent over by the side of the path moaning in pain and clearly in need. Did they stop to help? Some did, and some didn’t. What was of interest was that it didn’t make any difference whether they had been in the group who had been studying the good Samaritan or the other group. What determined whether they stopped or not was whether they were in a hurry and running late or not, and how absorbed they were in their sermon so that they hadn’t noticed.

It shows that we may not take the opportunity to help because our focus is in the wrong direction to make that possible. Sometimes our focus is entirely on ourselves. Sometimes it is on another task or simply not on others.

So how do we change? And why would we want to?

Not only does mutual compassion in the workplace make for greater productivity, happier clients, happier teammates and greater job satisfaction, being compassionate to others has a profoundly satisfying effect on ourselves. Imagine the typical scene of the elderly poorly sighted lady trying to cross the road. We help her across the road, she’s happy and we feel amazing. So simple.

Driving mindfully and considerately, allowing others to pull out where they need to and thanking those who allow you onto the road all feel calming and wholesome. At work, we are in a perpetual state of multitasking – and that’s good – it feels good and we get things done if we can multitask efficiently. Most of us get a buzz from having half a dozen cases on the go. Where it prevents us from being a good citizen of the practice and from being a great team member is when it stops us from noticing the others. And we don’t notice that we don’t notice.

Now I’m not promoting a workplace culture where we have group hugs at staff meetings or bake a compassion cake every Friday. Not at all.

But what separates us from sociopaths and Machiavellians is the fact that we can be compassionate towards our colleagues. And if that makes us feel good about ourselves and motivates us to do more then it’s a win-win situation.

Compassion is derived from empathy. I introduced the three types of empathy in November’s issue of Veterinary Practice magazine. With cognitive and emotional empathy at the forefront of our minds, compassion will naturally follow and become part of us which brings reliable and repeatable satisfaction.

Laura Woodward has been the surgeon at Village Vet Hampstead for over 10 years. Laura is also a qualified therapeutic counsellor and is affiliated with the ACPNL and the ISPC. She runs Laurawoodward.co.uk – a counselling service for vets and nurses.
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Embracing evidence-based medicine

Could an evidence-based approach to veterinary medicine help vets to outplay “Dr Google”?

Evidence-based veterinary medicine is described as the integration of the best research evidence with our clinical expertise and our patient’s unique values and circumstance (Straus et al., 2005).

If you are anything like me, you will view the concept of evidence-based veterinary medicine (EBVM hereafter) with fluctuating fits of enthused interest and guilt-ridden exasperation. The former comes from the knowledge that EBVM helps us “do better”, and a keenness in knowing that it’s a timely topic which will shape the veterinary world of tomorrow. The latter sentiment is borne of the awareness that perhaps this is the way I should always have conducted my work, searching even harder to always use the right information to make the best choices, and to remove all traces of subjectivity from those two words. With this comes hard work, and the resources I’m not sure I possess, hence the exasperation.

This article incorporates some reflections which will balance these considerations, and make a case for how we might find an ever-stronger answer to the “what’s in it for me?” question, particularly in the age of “Dr Google” and apparent attrition in the value of expert opinion in the eyes of pet owners.

We are rational people

I feel we have little to worry about when it comes to integrating EBVM into practice. Approaching clinical work with a critical mindset and balancing scientific truths with working pragmatism underpins much of the work I see being done both in practice and within industry. Vets and nurses are implicitly trained to make decisions based on what we know works. The culture shift to complete integration entails our follow-through on the internal challenges (which some may frame as healthy scepticism, some as downright doubt) we face.

It is about taking time to answer the question: “Will this make a difference to the life I’m helping to manage?” to the very best of our ability. For me, as I learn more about the topic, EBVM is shaping up to be the structure by which I can have more conviction in the recommendations I make and a source of confidence in the rationale I have used to come to a decision.

Learn through doing

The 70:20:10 model for learning and development, most often referred to in management circles, states that a learner best develops new skills through 70 percent learning through doing, 20 percent learning from others and 10 percent via formal, written or presented materials, such as text books and CPD courses. This workplace learning approach can certainly be applied in veterinary practice, particularly when learning EBVM.

Undertaking the five steps summarised in Figure 1 (detailed guidance can be found in the EBVM Network’s learning tutorial) to find a well-researched bottom-line conclusion to a tangible clinical question is an irreplaceable learning experience. The tangible benefits from this include not only optimised patient outcomes and client satisfaction, but the development of improved practice protocols, business gains and staff engagement. As a learner, you will acclimatise yourself to dealing with evidence, particularly facing the unique challenges of retrieval and access within the veterinary sphere, but also the critiquing process, which is essential to evidence appraisal before in-practice changes are embarked upon.

Take the next step

At a business management event I recently attended, the panelists were asked, “What will the veterinary profession of the future look like?” Replies calling out vets’ imperviousness to change and risk aversion, alongside Brexit uncertainties and shifting expectations towards greater individualisation in pet care were given, but most attention was paid to the reality of technology changing the way we practise. Many are anxious about the loss of trade to e-commerce and unsure about how to capitalise on the connectivity that the internet offers.

In the UK, Google was the most nominated go-to electronic resource among 3,572 veterinary professionals undertaking an online questionnaire (Neilsen et al., 2015).
Embracing evidence-based medicine

We are plainly in the same league as our clients in using this resource to find evidence. Our point of difference is a working understanding of proven models to judge the quality of that evidence, and to find more of it, from reliable platforms. We can offer perspective and demonstrate how unreliable Google search results are. I can’t help but wonder if EBVM skills should be proactively communicated by vets and nurses, to increase our value as experts.

Increased engagement in EBVM is also a product of the computer age. We all have the technology to digitise our interactions right by our sides, most hours of the day. By this I mean that we have all realised the value of creating digital records – of storing information and interactions in electronic format which will make our lives easier, and then transferring and transforming it to clinically significant data.

Not only are we given the gift of online access to evidence, we can create it of our own accord. Insights from clinical-based research such as the offerings of VetCompass and SAVSNET, as well as easy access to applicable evidence syntheses such as BestBETS for Vets (Figure 2), can be communicated as a value-add to pet owners, as markers that we are a future-embracing profession. Making clear that our recommendations come from an evidence base should drive greater client compliance.

Don’t miss out on a good thing

While the RCVS now lists “How to evaluate evidence” as a day one competence, veterinary educators are making relevant changes to vet and nurse student curriculums. For those of us well beyond our undergraduate years, learning and applying an EBVM approach is a differentiation opportunity for early adopters. It may also be just the ticket for promoting and developing leadership skills in recent graduates. By demonstrating ownership of the shift in thinking and having young “EBVM champions” set a new pace, these colleagues will likely become more engaged with their workplace, and receive often-needed recognition among peers.

Call to action

The ask is to change your mindset if you haven’t already, and accept a culture of evidence-driven practice. Start adapting your personal and the clinic’s way of working, creating a healthy buzz of curiosity and open question-asking. Let the fact that you don’t have answers to so many “why” questions be a motivator, and a catalyst for some of the most important conversations we can have in practice.

Eventually, I would like to see us using technology on both sides of the equation. While the “Acquire” step of our flow-chart can be answered by searching online bibliographic databases and many other secondary sources of evidence, we should offer and email the fruits of our evidence searches directly to our clients. The fine details of our search results may not mean much to the owner but they do at least demonstrate the efforts taken in caring for their pets.

Complete transparency of the clinical decision-making process will demonstrate the value of a veterinary professional’s opinion and experience, as well as the ability to standardise and maximise the likelihood that their pet’s health will benefit. With an evidence-based approach, we become the communication specialists who outplay “Dr Google”, and maintain our leadership in pet health.

A full reference list is available on request
Canine recurrent superficial pyoderma

With the current focus on antimicrobial resistance, it is important to take a responsible approach to treating canine recurrent superficial pyoderma

Clinical signs are often sufficient to classify the depth of infection, once the lesions are recognised as pyoderma. Superficial infections extend to the level of the intact hair follicle and can be between follicles or involving follicles.

Potential problems

Most problems associated with recurrent canine superficial pyoderma arise from three main areas: difficulties in diagnosis of the pyoderma itself and underlying causes; the presence of antimicrobial resistance; and owner compliance.

Diagnostic problems

- Lesions not initially being recognised as bacterial
- Failure to recognise or difficulties investigating underlying causes

Treatment problems

- Antibacterial therapy not effective against the causative bacterium
- An effective agent used but at an incorrect dose or for insufficient time
- Presence of a multi-resistant organism
- Failure to treat underlying disease – a major cause of recurring cases

Underlying causes of canine recurrent superficial pyoderma may be (after Hnilica and Patterson, 2017):

- Demodicosis
- Scabies
- Other ectoparasites
- Hypersensitivity – flea bite, atopy, food
- Endocrinopathy – hypothyroidism, hyperadrenocorticism, sex hormone imbalances
- Anti-inflammatory or immunosuppressive therapy
- Autoimmune and immune-mediated disorders
- Trauma or bite wound
- Any chronic skin disease

Compliance problems

Recurrent canine superficial pyoderma inevitably involves quite complex concepts and requires a dedicated owner.

Traditionally, canine pyoderma has been classified according to the depth of infection as surface, superficial or deep

Traditionally, canine pyoderma has been classified according to the depth of infection as superficial cases. Pustules tend to be transient and other lesions such as epidermal collarettes (Figures 1 and 2), papules (Figure 2), crusts (Figures 1 and 3) and (in short-haired dogs in particular) moth-eaten alopecia are more frequently seen.

The causative bacterium in most cases is Staphylococcus pseudointermedius (formerly S. intermedius). Other staphylococcal species, such as S. schleiferi and S. aureus, or Gram-negative rods are less frequently isolated.

Traditionally, canine pyoderma has been classified according to the depth of infection as surface, superficial or deep.
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Considerable communication is involved and adequate time will need to be found. Common problems include the inability to treat the dog topically, not finishing the antibacterial course and the costs involved in both treatment and investigation of underlying causes.

**Making a diagnosis**

In recurrent superficial pyoderma cases, it is important to differentiate between true recurrence and resistance/treatment failures. A detailed history is essential. True recurrence is in those cases where the problem is correctly treated and resolved but recurs at a variable time due to an ongoing underlying cause or immune system deficiency. Additional detailed history taking is essential to enable diagnostic tests to be focused on potential underlying factors.

The main differential diagnoses are:

- Demodicosis
- Dermatophytosis
- Scabies
- Pemphigus foliaceus
- Other underlying diseases listed above

Two diagnostic tests are available to enable an accurate diagnosis. Firstly, cytological examination will confirm the presence (or absence) of bacteria. This is advised in every case. It is easy, quick and extremely cost effective. Secondly, culture of pathogenic bacteria followed by antimicrobial sensitivity testing will identify the target organism and...
aid selection of appropriate drugs if systemic drugs are indicated. Note that growth of bacteria from a skin sample in the absence of cytological examinations may not confirm a diagnosis of pyoderma, as it is possible for microflora organisms to be cultured even from healthy skin.

**Tape stripping**

Clear adhesive tape is applied to lesion sites, stained with Diff-Quik and examined using the X100 oil immersion objective. In mixed infections, rods and cocci may be seen. Tape stripping may also isolate Demodex mites.

**Direct impression**

Direct impression with a glass slide is very useful when pustules are present. These can be punctured using a sterile needle and the glass slide applied to the pus, before air drying and staining. Usually, large numbers of degenerate neutrophils with intracellular and extracellular cocci are present. Sampling of epidermal collarettes can be obtained by impression smears of inflamed skin under peeled-back scale.

**Bacterial culture**

With the increasing emergence of multi-drug resistant bacteria, culture and antimicrobial sensitivity testing is of extreme importance. It is never contraindicated. If multi-drug resistance becomes more common it is likely that culture and sensitivity testing will be considered mandatory and the use of empirical antimicrobial treatment will cease entirely.

**Therapy options**

Until recently, virtually all cases of superficial pyoderma could be treated with oral antibiotics. In many instances, these drugs were used empirically since the main pathogen, *S. pseudintermedius*, was sensitive to many antibiotics and resistance was rare. The recent rise of multi-drug resistance has prompted the strongly advised use of topical therapy as an initial treatment for superficial pyoderma.

Suitable topical products include chlorhexidine, either alone or in combination with miconazole, benzoyl peroxide, ethyl lactate shampoos and products containing sodium hypochlorite and hypochlorous acid.

Efficacy comparable to systemic antibiotics has been shown for chlorhexidine products and to date, clinically relevant resistance to topical therapy has not been reported. In addition, some multi-drug resistant skin infections have been shown to respond to topical therapy alone – particularly with shampoos containing chlorhexidine.

Systemic antibiotics may be required if topical therapy fails or is not practical. Traditionally, those antibacterial drugs effective against *S. pseudintermedius* have included potentiated sulphonamides, clindamycin, first generation cephalosporins (such as cephalaxin) and co-amoxiclav. If empirical treatment has been used with any of the above drugs, it is suggested that only one course should be prescribed and in the event of failure or recurrence, culture and sensitivity testing should follow.

Guidelines for the judicious use of antibiotics in the treatment of superficial pyoderma have been published (Hillier et al., 2014).

It is important that the right antibacterial agent is chosen. Equally important is the need for an adequate duration of treatment. Most cases show improvement within two weeks and it is suggested that as a minimum, a course should be for three weeks.

More severe cases may require longer and it is recommended by most texts to continue for a week after resolution of all signs. Further study is required to justify this statement but in the absence of evidence to the contrary, it is suggested that conventional protocols in treatment are followed.

**Summary**

There are considerable potential problems in the diagnosis and management of recurrent canine superficial pyoderma. These include: recognition of the various lesions and evaluation of underlying causes, identification of the pathogen, selection of appropriate antimicrobial agents of adequate dose duration, and cost and compliance problems.

It is important to eliminate bacterial infection before considering the use of glucocorticoids. Pyoderma is infections and therefore require antibacterial therapy. This alone will, if correctly instigated, clear lesions in most cases, allowing investigation of underlying causes. Glucocorticoids will mask any underlying pruritic cause and will suppress the antibacterial effect of the immune system.

The increasing issue of antimicrobial resistance has highlighted the need for a responsible approach to how we treat canine recurrent superficial pyoderma. More cytology and more bacterial culture allied to good antimicrobial stewardship will help solve many of the problems.

Topical antimicrobial therapy, effective management of underlying causes and alternatives to systemic antimicrobial therapy, such as autogenous staphylococcal bacterin therapy, should be considered. The most serious cases, especially those involving multidrug resistance, will benefit from referral to a veterinary dermatology specialist.

A full reference list is available on request
Antimicrobial peptides

What are they, how do they work, and why should we use them?

Antimicrobial resistance is a hot topic in both human and veterinary medicine, with concerns flagged that inappropriate use of antibiotics may have contributed to an increase in bacterial resistance worldwide (Santoro and Maddox, 2014). This has largely driven the search for novel compounds to either replace or supplement conventional antibiotics and there are now numerous products on the veterinary market that utilise anti-microbial peptides (AMPs), either through the addition of synthetic AMPs or through the inclusion of compounds known to stimulate production of naturally occurring ones.

AMPs are small, cationic polypeptides which play a fundamental role in the innate immune system. They possess broad spectrum activity against bacteria, viruses and fungi, and modify the local inflammatory response through promotion of leucocyte chemotaxis. They are secreted from epithelial and immune cells, with upregulation occurring in the face of infection or injury. The two major sub-families in mammals are defensins and cathelicidins, which exhibit similar physical and functional properties.

In the face of invasion from a pathogen, AMPs are involved in many different processes such as the recruitment of other immune cells and through more direct effects on bacteria/fungi. Defensins can directly attach to the cell wall of these pathogens and, due to being positively charged, they are drawn into the negatively charged cell membrane and pair up to create a pore, ultimately causing cellular disruption and death.

The potential importance of skin defensins has been highlighted in studies of various skin disorders, for example, the comparison of lesional skin from humans with atopic dermatitis to the skin of humans with psoriasis. The former group demonstrate a significantly lower defensin expression and are more prone to skin infection, despite both conditions being associated with a defective skin barrier (Howell, 2007). It has therefore been hypothesised that a decreased production of AMPs or production of non-functional AMPs could be a possible cause of the higher susceptibility to skin infection in atopic dermatitis.

However, in contrast to this, other studies have noted a significant increase in the expression of some AMPs in human and canine atopic dermatitis patients. A study by Santoro and colleagues (2013) specifically studied AMP expression in actively infected skin of canine atopic dermatitis patients and found higher expression of some AMPs and lower expression of others. They suggested it could be possible that an alteration of the ratio between AMPs is the cause of increased infections in these patients.

Harnessing this knowledge for therapeutic application is an area of increasing interest. Certain plant extracts affect levels of AMPs; a recent study in atopic dogs demonstrated a reduction in *Staphylococcus* spp. after 14 days of daily treatment with a water-based spray containing 0.1 percent *Peumus boldus* leaf and *Spiraea ulmaria*, compared to a control group who just received a water-based spray (Santoro et al., 2018).

From conducted studies, it is clear that AMPs are an important component of the innate immune system to defend against external micro-organisms and clearly warrant further investigation with regards to their role in modulating skin disease and how they can be utilised further as therapeutic agents.

**References**


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A case of acral lick dermatitis

A look at the diagnosis and treatment of acral lick dermatitis in a Dobermann

Huw Stacey, BVetMed, DipAS(CABC), MRCVS, graduated from the Royal Veterinary College in 2000. He undertook a postgraduate diploma in companion animal behaviour counselling and joined Companion Care as Commercial Manager. Huw is now Director of Clinical Services for the Pets at Home Vet Group.

An 11-month-old female entire Dobermann presented with a skin lesion. She had been in the clients’ possession since she was seven weeks old and had an unremarkable medical and behavioural history. The lesion had developed over several weeks and the owners reported that the dog licked the area frequently. It had improved while the owners were on holiday and the dog had been cared for by a dog-sitter, but had worsened again after the owners returned.

The owners had three young children and a busy household. The dog seemed to try to avoid the children if possible, and on a few occasions, had growled at the four-year-old boy, for which she had been verbally punished.

Questioning revealed that the dog had knocked this boy down in the park as a puppy, that he sometimes smacked her, had fallen against her in the kitchen and had surprised her by jumping out of a Wendy house in the living room.

The dog was shut in a utility room overnight and would urinate and sometimes defecate there, for which the owners would verbally punish her in the morning. The owners felt that the dog constantly sought attention and seemed unable to relax.

Making the diagnosis

Physical examination identified an inflamed skin plaque, approximately 20 by 15mm, was present on the dorso-distal aspect of the left hind limb. No other abnormalities were detected on physical examination, although the bitch displayed physical signs of pseudocyesis.

Routine biochemistry and haematology were unremarkable, as were orthogonal radiographs of the affected region. Histopathology of a punch biopsy demonstrated acral lick dermatitis with secondary furunculosis. Bacterial culture produced a heavy mixed growth including coliforms, group G streptococci and coagulase-positive staphylococci, all of which were sensitive to cephalaxin.

A diagnosis of acral lick dermatitis (ALD) due to anxiety, with secondary bacterial infection, was made.

Treatment and follow-up

Cephalaxin (Cefaseptin 600mg tablets, Vétoquinol, 900mg bid for 14 days) and cabergoline (Galastop, Ceva Animal Health, 5µg/kg sid for approximately 8 days) were prescribed to treat the bacterial infection and pseudocyesis respectively. An Adaptil diffuser was to be placed where the dog spent most of her time.

A behaviour modification programme was developed in conjunction with the owner; this included information on learning theory and advice to stop punishment for indoor toileting. The owners had started putting the dog in the porch at night, which had reduced the incidence of indoor toileting. They were encouraged to continue this and a housetraining guide was supplied. A “learn to earn” protocol was discussed to increase the predictability of interactions and to reduce excessive attention-seeking.

The clients were advised that the dog’s growling at their son was motivated by fear and, as such, punishment could worsen the problem. Interactions between the owners’ children and the dog were to be supervised and structured.

The children were allowed to supply the treats during training sessions and the dog was taught a “drop” command, enabling her and the children to play with toys together.

Activity toys such as stuffed Kongs and puzzle feeders were recommended to provide rewarding activities. Treatment with clomipramine (Clomicalm, Elanco Animal Health) was considered as an additional measure if the initial treatment programme did not resolve the problem.

Two weeks after the behaviour consultation, the owners rehomed the dog to a young, childless couple who also owned a young adult male neutered German Shorthaired Pointer. It was possible to re-examine the Dobermann on two occasions after rehoming, and the lesion rapidly and completely resolved without further intervention.

Discussion of the case

The improvement observed when the dog was cared for by the dog-sitter suggested that a behavioural aetiology was
likely. This was confirmed when other differential diagnoses (Table 1) were ruled out. The behavioural history was inconsistent with a compulsive disorder.

Pseudocyesis can present as maternal aggression, but may also cause increased arousal and anxiety, which could have been an inciting factor. Once established, inflammation and secondary infection can cause intense pruritus, resulting in maintenance of the lesion even when initiating factors have been resolved.

It is reported that up to 70 percent of dogs diagnosed with ALD have concurrent fear or anxiety-based conditions, and Dobermanns were significantly over-represented in a retrospective analysis of a group of ALD cases.

While the dog’s environment was clearly the source of her anxiety, she had lived with the family since seven weeks of age and there was no identifiable increase in environmental stressors associated with the problem. It is possible that the episode of pseudocyesis increased chronic low-grade anxiety to the point of precipitating ALD in a predisposed individual.

Due to the rapid rehoming of the dog it is unclear whether the resolution of the bacterial infection and pseudocyesis, in combination with the behaviour modification programme, would have resulted in a satisfactory outcome had she remained with her original owners.

<table>
<thead>
<tr>
<th>AETIOLOGY</th>
<th>EXAMPLE</th>
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<tbody>
<tr>
<td>Neoplasia</td>
<td>Mast cell tumour</td>
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<tr>
<td>Parasitism</td>
<td>Demodicosis</td>
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<tr>
<td>Mycotic dermatitis</td>
<td>Dermatophytosis</td>
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<td>Bacterial</td>
<td>Pyoderma</td>
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<tr>
<td>Inflammation</td>
<td>Osteoarthritis; foreign body</td>
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<td>Allergic skin disease</td>
<td>Atopy; food allergy</td>
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<td>Acral mutilation syndrome</td>
<td>Compulsive disorder</td>
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<tr>
<td>Behavioural</td>
<td>Chronic anxiety; conflict</td>
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TABLE 1 Differential diagnoses for acral lick dermatitis

Why veterinary practice managers must consider investing in air purifiers to tackle inevitable nasty odours

There are probably some people out there who quite like the smell of their own pets. But for most, a nasty whiff of an animal they have no emotional connection with isn’t ideal. That’s why most veterinary practices have things in place to tackle odours, with maybe some quick fixes like a few cans of Febreze or a plug-in air freshener.

However, these are only temporary solutions to mask the unavoidable smells that come from veterinary practices – usually down to accidents or untrained animals. In order to eradicate odours for good, veterinary practice managers need to start investing in technologies that remove odours from the air completely, like air purifiers.

Most veterinary facility managers want the same thing – to provide clean, comfortable environments for their clients and their pets. That’s why all respectable practices are cleaned regularly and have well-organised processes in place to ensure hygiene standards are monitored round the clock.

No matter how many easy fixes practice managers try, veterinary surgeries still seem to have that familiar animal smell, but that doesn’t have to be the case.

We all love our pets, but some unwanted smells just aren’t pleasant. One way veterinary practices can tackle these inevitable odours is by installing air purifiers like the AeraMax Professional, which is proven to remove odour from the air.

Another benefit of air purifiers, particularly to veterinary practices, is that they are able to filter out 99.9 percent of airborne contaminants – like dust, pollens and allergens – providing a safe environment for clients that suffer from allergies.

So, if veterinary managers want to take their facilities to the next level of clean, it’s up to them to invest in quality equipment that will remove lingering smells for good. Providing cutting-edge air purifiers is one way to stand out from competitors, giving customers more reason to choose the veterinary practice that cares most.

Find out more about air purifiers by visiting: aeramaxpro.com/uk/
Diagnosing feline ureteral obstruction

Ureteral obstructions (UOs) are most typically caused by calculi (in around 80 percent of cases), with a smaller proportion caused by ureteral strictures (around 20 percent of cases). In cats, more than 92 percent of these calculi are calcium oxalate stones and the remaining 8 percent are calcium phosphate, magnesium ammonium phosphate (struvite) or dried solidified blood (DSB)/inflammatory debris calculi (eg purulent material associated with pyelonephritis).

There does not appear to be any gender predisposition to ureteral calculi in cats but the DSH and DLH are the most commonly affected breeds. Most cats tend to be middle-aged to older at the time of presentation but this condition can be seen at any age so this should not preclude screening of younger cats with a suspicion of UO.

Pathogenesis
UO leads to a rapid build-up of uraemic toxins and progressive renal damage. The presence of azotaemia depends on the contralateral kidney function, the number of ureters affected and the severity and duration of the obstruction. UO can result in life-threatening azotaemia, especially if a bilateral obstruction (as in around 15 percent of cases) is present or if the cat has concurrent pre-existing renal insufficiency (seen in 70 to 95 percent). UO is a challenging disorder requiring knowledge of the condition, an index of suspicion to assess for UO and often highly sophisticated therapeutic aids and specialist surgical/interventional skills to manage the condition.

Most cats with UO present for medical care with advanced disease; however, a significant proportion of cats may only show subtle clinical signs in the early stages of unilateral obstruction/partial obstruction which may go undetected. The mechanical obstruction is aggravated by secondary local inflammation and spasm. Local ureteral damage (eg stricture or rupture) is a potential complication of UO but increased intra-ureteral hydraulic pressure and decreased renal blood flow are more common consequences. The increased hydraulic pressure results in increased pressure within the renal tubules and Bowman’s space causing direct nephron damage and a precipitous decline in GFR.

If the contralateral renal function is preserved, clinical signs, if present, are pain-related and often overlooked, thus the episode may go unnoticed. If the obstruction is dynamic, it may also resolve spontaneously. The progressive damage to the obstructed kidney is determined by the severity of obstruction (partial vs complete) and the chronicity of this obstruction.

Limited work has been performed assessing the timing of renal insult in cats but this has been more extensively reviewed in dogs. If the canine kidney is completely obstructed, renal blood flow decreases to 40 percent of normal within 24 hours and to 20 percent of normal by two weeks. As a result, GFR permanently declines by 54 percent after 14 days and by 100 percent after 40 days, indicating

How to diagnose ureteral obstruction is covered in the first of a two-part series on the under-recognised condition

SHEILA WILLS
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FIGURE (1) Right lateral abdominal radiograph indicating ureteroliths (red arrows) and renoliths (blue arrows). Please note the volume of faeces identified in this radiograph may have obscured other ureteroliths, hence the importance of performing an enema.

FIGURE (2) Ultrasound image of a right feline kidney with severe renal pelvic dilation (1.27cm)
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* Endoscopy & Endosurgery is currently not recognised by the RCVS as a designated Advanced Practitioner subject.
the need for urgent intervention in patients with complete UO. It is also worth noting that the canine models above had no evidence of pre-existing renal disease and hence we can conclude that a worse outcome would be expected in feline patients with complete UO.

In contrast, partial UO appears to result in less severe nephron destruction and in one dog model, GFR returned to normal with intervention after a partial obstruction had been present for four weeks. Many feline patients present with suspected chronic partial UO and it may be questioned if intervention is required if the cat is “coping” with the partial obstruction. The above models indicate that improvement in renal function is possible even after chronic partial obstructions are identified, hence treatment should be pursued in these patients.

“Big kidney-little kidney syndrome”
If a unilateral obstruction resolves (the cat may not even be presented to the practice due to subtle signs), the affected kidney may have residual damage or normal function. If a complete UO does not resolve, renal fibrosis of the ipsilateral kidney and compensatory hypertrophy of the contralateral kidney occurs. This results in the finding of “big kidney-little kidney syndrome”, which can be detected on abdominal palpation. At this stage of the disease process, cats may be free of uraemic signs as the compensatory hypertrophy allows steady state renal function, and hence a degree of suspicion is again very important if the “big kidney-little kidney syndrome” is to be detected (with or without azotaemia, these cats need to be investigated urgently). Prompt intervention will reduce the degree of nephron damage.

An acute uraemia will develop following obstruction of the hypertrophied kidney. The severity of the clinical signs depends on the degree of UO and the function of the contralateral kidney. Unfortunately, this is the stage at which many cats typically present in practice and this can easily be diagnosed as “simple” chronic kidney disease (CKD) and treatment implemented for that alone (acute on chronic kidney injury). If only one ureter is obstructed and the cat is azotaemic, this is a clear indication of reduced function in the contralateral kidney, but again, these cats are often diagnosed as CKD and the ureteric obstruction can be missed at this crucial early phase. Therefore, if a cat presents with acute onset azotaemia or apparent rapid progression of pre-existing CKD, possible ureteral obstruction should be urgently investigated.

Clinical signs
Cats with ureteral obstructions can present with varying signs ranging from no or very subtle signs (inappetance and lethargy) to signs associated with severe azotaemia and pain. The pain associated with ureteral obstruction is the result of direct ureteral stimulation at the site of obstruction and stretch of the collecting system and the renal capsule.

Clinical signs are usually non-specific, including inappetance and lethargy, but may progress to more marked signs on development of azotaemia and uraemic signs such as vomiting, polyuria (PU) and polydipsia (PD), weight loss, haematuria and renal pain. With complete bilateral obstruction, more advanced signs of acute kidney injury (eg oliguria/anuria, bradycardia, vomiting, severe depression/obtundation) will be seen. Abdominal palpation may reveal renal/abdominal pain and asymmetric kidneys – this should ring alarm bells for a possible ureteric obstruction, especially if one kidney is small and irregular and the other is large and painful. If renal pain is detected, this should prompt investigation for a ureteric obstruction as many cats may present with only vague clinical signs and unremarkable blood results.

Diagnosis of partial and complete ureteric obstructions
Physical examination findings
Abdominal palpation may reveal signs of abdominal or renal pain. Findings of the “big kidney-little kidney syndrome” should also prompt investigation. Detection of pyrexia may be associated with pain but may also be indicative of pyelonephritis.

Blood and urine tests
Serum biochemistry in affected cats can range from being completely unremarkable (for example in unilateral ureteric obstruction with normal function of the contralateral kidney) through to changes consistent with severe CKD or acute kidney injury (eg severe azotaemia, hyperphosphataemia, hyperkalaemia and anaemia of chronic disease). USG is often less than 1.035 and pyuria, proteinuria and crystalluria may also be detected.

Urine culture should be performed in all cases, as pyelonephritis can be an exacerbating problem and a UTI is found in approximately 30 percent of cats with ureteric obstruction. It should be noted that more than 75 percent of cats are azotaemic with a unilateral obstruction, indicating contralateral renal insufficiency.
Radiography and ultrasound

The combination of abdominal radiography and ultrasound has been demonstrated to be the most sensitive, readily available diagnostic tool for detection of ureterolithiasis in general practice. More advanced techniques such as intravenous pyelography, antegrade pyelography and computed tomography (CT-IVP) have been found to be inconsistent in diagnosis of UO and may offer very little additional clinical information. The use of intravenous contrast agents and additional anaesthesia should also be questioned in these renally compromised patients.

Radiography

The retroperitoneal space should be carefully scrutinised for any mineral opacities (Figure 1). Ureteroliths can be obscured by gas in the gastrointestinal tract during ultrasound assessment, hence the combination of ultrasound with radiography increases the sensitivity of detecting UO. Renal size and shape should also be assessed together with the renal pelvic area for nephroliths (commonly found with ureteroliths). Plain abdominal radiographs can readily be performed in practice and are crucial for reaching an early diagnosis of ureterolithiasis allowing intervention at the earliest possible stage with the aim of preventing further nephron damage. An enema is highly recommended prior to performance of radiography to ensure ureteroliths are not obscured by faecal material.

Abdominal ultrasound

DSB calculi, strictures (found in 20 percent of cats with UO) or inflammatory debris obstructing the ureter (eg pyelonephritis) may not be observed on plain radiographs. Abdominal ultrasound is a sensitive imaging modality for detection of hydronephrosis and/or hydroureter and can be valuable in cases where ureteroliths are not observed on plain radiographs. Hydronephrosis (Figure 2) is usually readily detectable on renal ultrasound; however, detection of hydroureter (Figures 3 and 4) can be more challenging and is dependent on the quality of the ultrasound machine/probe and the skill of the veterinarian performing the procedure.

Renal pelvic mineralisation may also be noted during ultrasound examination (Figure 5) and radiography (Figure 1). Dilation of the ureter and/or renal pelvis is usually apparent on ultrasonography within three to four days of obstruction. Although there is significant discussion of renal pelvic size as an indicator of UO, the presence of renal pelvic dilation (more than 1.5 to 2mm) with concurrent hydroureter raises concern for UO until proven otherwise. Observation of the above with a ureteric obstruction (stone, DSB, inflammatory debris) is of course diagnostic and should prompt immediate intervention to decompress the renal pelvis and allow return of renal function.

It is possible that no structural obstruction will be observed despite a very strong suspicion for UO. This is usually due to either a ureteric stricture or DSB calculi that do not shadow on ultrasound or are not radiopaque on radiographs. In this instance, antegrade pyelography may be helpful to more clearly define the ureteric obstruction; however, the clinician should also consider if this will provide any additional benefit to the patient in terms of management (if there is a strong index of suspicion of UO).

A full reference list is available on request
Cats under pressure

Feline hypertension can cause target organ damage if it isn’t managed early, but is the condition going undiagnosed?

The clinical importance of feline systemic hypertension has been recognised for many years and most veterinary surgeons in the UK are aware of the disease and its implications. Despite this, it has been revealed that many cats with elevated blood pressure are not being diagnosed or treated until late on in the disease process.

Known as the “silent killer” because there are no early warning signs, feline hypertension is common, with one in eight cats over nine years of age suffering from idiopathic hypertension. The risk increases as cats age or if cats have other conditions such as chronic kidney disease (CKD) (where one in three cats suffer with hypertension) or hyperthyroidism (where an estimated one in four cats suffer with hypertension).

The lack of early diagnosis is concerning because feline systemic hypertension can cause target organ damage (TOD) if not managed early. TOD can be sudden and acute, such as blindness caused by retinal detachment, or subtle, such as accelerated renal deterioration. Once feline hypertension has been identified, long-term management of the patient is needed to avoid these changes.

Veterinary attitudes to blood pressure screening

A recent survey conducted of 100 veterinary surgeons practising in the UK revealed some interesting data. The vets questioned conducted 143 feline consultations per month on average, yet under half of these vets diagnosed feline hypertension routinely and a diagnosis was made less than once per month. Most vets (88 percent) stated that senior cats would benefit clinically if blood pressure was monitored routinely (the ISFM recommends the annual measurement of blood pressure from the age of seven), yet 82 percent of vets did not monitor the blood pressure of healthy senior cats.

Despite this, over 90 percent of the vets questioned agreed that treating feline hypertension in its own right was beneficial to the patient – so what are the barriers? Why aren’t more cats being tested before clinical signs appear?

It would appear that the main barrier to the measurement of feline hypertension is time – short consultation times and busy surgeries mean vets do not have the capacity to add the measurement of blood pressure into routine visits. The perception of the average time required for each cat was 10 minutes.

Interestingly, a 2016 study conducted in France showed that 87 percent of the 139 cats enrolled had their blood pressure measured by experienced investigators in less than five minutes.

Other barriers stated include a perception of additional cost, hassle for owners and the concern that a stressed cat will not deliver an accurate reading in the consultation room.

In 93 percent of cases it is the vet that makes the decision about whether to take a blood pressure measurement, yet all vets agreed that they would be happy for an RVN to take the measurement. In fact, 90 percent of the time, measuring blood pressure in cats is considered a two-person job and vet nurse support is critical.
Change in approach
Feline hypertension can lead to devastating and life-changing problems. The potential for significant TOD to the ocular, renal, nervous and cardiovascular systems cannot be ignored. Veterinary health care teams need to find ways to remove some of the barriers to monitoring, ensuring hypertension in cats is picked up early. The good news is that a simple daily treatment, Amodip (amlodipine), is available to reduce blood pressure once a diagnosis has been made – so what can we do differently?

It is important to assess certain groups of cats regularly:

- Those over seven years old
- Those presenting with TOD
- Those presenting with commonly associated conditions, such as CKD and hyperthyroidism, as secondary hypertension occurs in 80 percent of cats with hypertension

Getting an accurate blood pressure measurement
To save time during the consultation, it may be useful to invite owners to attend the clinic 15 minutes before their appointment to allow the nursing team to reassure patients and take a blood pressure reading before seeing the vet (lowering the risk of situational or “white coat” hypertension). It is useful to take enough readings to obtain a reliable average that can be entered into the patient’s records. Ideally, a cat’s blood pressure should be below 140mmHg but readings of up to 160mmHg can be expected in stressed individuals. In these healthy cats, no treatment is needed and typically, annual monitoring of cats over seven is recommended.

Cats with primary (idiopathic) hypertension
If a cat’s blood pressure is over 160mmHg and the patient is not showing signs of any concurrent disease associated with hypertension or TOD, it is worth repeating the measurement in one to two weeks to assess for primary hypertension. A second reading above 160mmHg, even if no other clinical signs are present, requires immediate treatment to prevent future TOD. Following a diagnosis, cats need to be monitored every three to four months unless there is a change in clinical status.

A full reference list is available on request

The Mercury Challenge is the biggest pan-European study ever conducted to assess the prevalence of feline systemic hypertension in practice. If you or your practice would like to take part, please go to: goo.gl/forms/qTH0hALgzwvxtZd2 or email cevauk@ceva.com to register your interest
Antibacterials in canine gastrointestinal disease

How to treat canine gastrointestinal disease responsibly based on the nature of the condition

**Acute gastroenteritis**
Antibacterials are most frequently used in dogs with acute gastroenteritis, and since it can take several days for a stool culture to rule out a bacterial cause, it is likely that they are often used unnecessarily. While acute gastroenteritis in vaccinated dogs is often attributed to *Campylobacter jejuni* infection, a study in Germany using electron microscopic examination of faeces showed that over half of dogs with haemorrhagic diarrhoea had a viral infection. As well as parvovirus and distemper, there is an emerging range of enteric viruses infecting dogs, from astrovirus, circovirus, coronavirus and rotavirus, to bocavirus, kobuvirus and sakovivirus, and even norovirus.

*Campylobacter*
When *Campylobacter* spp. are identified on routine stool culture, the likelihood is that it is *C. upsaliensis*; indeed, this can be isolated from about 30 percent of young dogs in the UK. Although potentially a zoonotic pathogen, *C. upsaliensis* may actually be a commensal in dogs and not need any treatment.

*C. jejuni* can only be reliably identified by PCR after culture, and so antibacterials are usually started before a confirmatory result of infection is obtained. However, it can also be isolated from the stool of healthy dogs, and so isolation does not prove it is the cause of any signs. Furthermore, most *C. jejuni* infections appear to be self-limiting and antibacterials are often unnecessary, although pet owners often expect antibiotics to be prescribed when their dog has diarrhoea. Appropriate fluid therapy is the most important treatment, but on the principle of “first do no harm”, when there is an expectation to treat in likely self-limiting diarrhoea, it is safer to use adsorbents (eg kaolin, pectin, etc) and/or probiotics.

**Salmonella**
With the increasing popularity of feeding raw foods, there appears to be increasing numbers of dogs excreting *Salmonella* in their faeces. Freeze-thawing raw food before feeding does not kill all potential pathogens, and unless each batch is microbiologically tested, a risk of infection exists. However, use of antibacterials is not generally recommended as *Salmonella* infection may be asymptomatic or self-limiting, whereas treatment increases the chances of antibacterial resistance and induction of a carrier state. Only when there is evidence of sepsis is treatment warranted, and this is seen more frequently in cats than dogs.

**Haemorrhagic gastroenteritis**
Renamed “haemorrhagic diarrhoea syndrome” (AHDS), because there is no gastritis, the general consensus is still that dogs with haemorrhagic gastroenteritis...
(HGE)/AHDS should be given antibacterials because of the risk of sepsis. The presence of blood in the stool (Figure 1) indicates the mucosal barrier has been breached, and therefore bacteria can potentially enter the bloodstream. However, Unterer et al. (2011) in a randomised trial showed that administration of potentiated amoxicillin in cases of HGE did not affect morbidity or mortality, suggesting that the common use of this antibiotic is unnecessary. Closer review of this study reveals that dogs with evidence of sepsis (pyrexia, raised WBC count) were excluded. Therefore, prescription of antibacterials is still justifiable in sick dogs with AHDS, and potentiated amoxicillin with or without metronidazole are reasonable choices as they cover the typical spectrum of enteric bacteria.

Parvovirus
Although antibacterials have no efficacy against viral infections, use is justified in dogs with canine parvovirus (CPV-2) infection. Not only may the patient have bloody diarrhoea, they are also likely to be immunosuppressed; they are typically young with an immature immune system, and parvovirus can cause concurrent neutropenia and lymphopenia. Thus, parvo puppies are at real risk of bacterial sepsis and death, and should be given prophylactic antibiotics.

Giardia
Although Giardia is sensitive to metronidazole, a high dose (25mg/kg q12h for 5 days) is required, and this is close to the neurotoxic dose. It is more rational to use fenbendazole (50mg/kg/day for a minimum 3 doses), as it is licensed for this use, is safe and is not an antibacterial.

Chronic enteropathies

Antibiotic-responsive diarrhoea
Canine chronic enteropathies (CCE) are currently subdivided into food-responsive enteropathy, antibiotic-responsive diarrhoea (ARD) and steroid-responsive enteropathy (equivalent to idiopathic inflammatory bowel disease), based on their response to empirical treatment trials. Dogs where there is no suspicion of underlying neoplasia, where no bacterial pathogen has been isolated and where an empirical fenbendazole trial has failed are typically given a food trial, usually with a hydrolysed diet. Dogs that do not respond could be trialled with steroids next, but it is less likely to harm the patient if an antibiotic trial is commenced first. This approach has been criticised as it risks induction of resistance, and so critically important antibacterials should not be used, but trials with oxytetracycline or tylosin are justifiable.

ARD is seen most often in young German Shepherds and is managed with long courses of oxytetracycline (Figure 2) or tylosin. Metronidazole can also be used, but long courses can lead to toxicity. Treatment should be stopped periodically to see if relapse occurs as many dogs grow out of the problem by about two years of age.
Chronic bacterial enteritis

Most cases of bacterial enteritis are acute and self-limiting. However, persistent infection is a potential cause of diarrhoea if organisms can attach to the mucosal surface (e.g. attaching and effacing enteropathogenic *E. coli* (EPEC)) or can invade (e.g. *Salmonella*). Diagnosis cannot be confirmed by stool culture, as these organisms can be found on the stool of clinically healthy dogs. Identification of organisms in biopsies using fluorescent *in situ* hybridisation (FISH) analysis is needed.

Granulomatous colitis

Boxer colitis (formerly histiocytic ulcerative colitis) is a severe condition seen in young Boxers and French Bulldogs. It is now known to be caused by infection with an "attaching and invading *E. coli*", and can be cured by a prolonged course of fluoroquinolones (Mansfield et al., 2009). However, granulomatous colitis is rare in comparison to other forms of colitis in Boxers. Inappropriate, empirical use of enrofloxacin in any Boxer with colitis in the USA led to emergence of resistance, with amikacin often being the only effective antibiotic left. Thus, confirmation of infection by FISH is mandatory before prescribing fluoroquinolones for Boxer colitis.

Conclusion

Acute bacterial enteritis is likely to be self-limiting and probiotics should be prioritised over antibacterials initially. Antibacterial usage is generally justifiable in haemorrhagic diarrhoea if the dog appears septic or has parvovirus infection.

References


A look through the latest literature

New viruses associated with canine gastroenteritis
Sarah Caddy, University of Cambridge

Viral gastroenteritis is a common condition in canine patients with virus particles detectable in up to 60 percent of diarrhoeic faecal samples. Canine parvovirus has long been the major cause of viral gastroenteritis in UK dogs but at least seven novel viruses have been isolated in recent years. The author reviews the current evidence on the epidemiology and clinical impact of these newly described pathogens, along with the four main viruses identified before 1980 (ie parvovirus, enteric coronavirus, rotavirus and distemper). The new conditions include three members of the calicivirus family (norovirus, vesivirus and sapovirus), one member of the parvovirus group (bocavirus), a circovirus, a picornovirus and an astrovirus. At present, none of these emerging viruses appears to rival parvovirus in its pathogenicity or is found with comparable frequency. However, it is important that veterinary surgeons are aware that five have RNA-based genomes and are capable of mutating at faster rates than DNA-based pathogens. The Veterinary Journal, 232, 57-64.

Outcome of stent placement in 44 dogs with benign ureteral obstruction
Philippa Pavia and others, Animal Medical Center, New York City

Ureteral obstruction will cause severe clinical signs in canine patients, requiring prompt attention to prevent renal damage. The authors review the clinical records in 44 cases treated over a four-year period of benign ureteral obstruction caused by uroliths or strictures. In 26 dogs there was evidence of a urinary tract infection before stenting and in 11 cases an infection occurred afterwards. The results show that ureteral stenting is a viable treatment option but patients should be carefully monitored for signs of urinary tract infections. Journal of the American Veterinary Medical Association, 252, 721-732.

A novel non-azole topical treatment for Malassezia dermatitis in dogs
Yiva Sjöström and others, Blue Star Animal Hospital, Gothenburg, Sweden

Azole-based antifungal drugs are the standard treatment for Malassezia dermatitis in dogs but these products have significant side effects and there is evidence of emerging resistance problems. The authors describe a trial of a commercially available tropical treatment (Aptus; Orion Pharma) in 18 dogs with naturally occurring disease affecting the paws. After 14 days of treatment, there was a significant reduction both in Malassezia numbers and in the clinical score for the treated paws, compared with controls receiving placebo. Owners described the product as “easy” or “very easy” to use. Veterinary Dermatology, 29, 14-18.

Comparing two treatments for canine congenital extrahepatic portosystemic shunts
Marine Traverson and others, University of Montreal, Canada

Ameroid ring constrictors (ARC) and cellophane banding (CB) are the two most commonly used surgical techniques for the gradual attenuation of congenital extrahepatic portosystemic shunts in dogs. The authors describe the prognostic factors and outcomes in 49 dogs treated at different institutions using the ARC (23 patients) and CB (26 cases) methods. Their results show that both methods were effective for shunt attenuation with excellent outcomes and minimal adverse events but there was a higher incidence of residual shunting in the CB treatment group. Veterinary Surgery, 47, 179-187.

Serum creatinine and sodium as prognostic factors in dogs with acute pancreatitis
Veronica Marchetti and others, University of Pisa, Italy

Acute pancreatitis is regarded as a significant clinical condition in dogs but its true prevalence is unknown as the condition may be mild and self-limiting in some dogs. The authors look at the prognostic factors associated with 50 cases in client-owned dogs examined over a four-year period. Their findings suggest that hyponatraemia (below 139mmol/L) and elevated serum creatinine (greater than 2.4mg/dL) were significantly associated with an increased risk of death. Australian Veterinary Journal, 96, 444-447.
Two experienced cattle vets were discussing the testing of cattle for bovine TB. One noted that it appeared that the incidence of bovine TB went "whoomph" due to the lack of testing during the 2001 foot and mouth outbreak. The implication is that if testing were to be reduced now, incidences of the disease would increase considerably.

With all that has gone on with successive administrations over the years, there have been many changes and no one doubts that the UK has a serious issue with bovine TB, but it seems worthwhile to consider the "whoomph" effect.

Analysing 20 years of data
The Defra-published dataset includes the testing records up to the end of January 2018 and this is dubbed the "latest official statistics". Detailed notes accompany the dataset, which is available to download from the Defra website, making it easier to interpret.

The first point of note is that the number of cattle herds within England, Wales and Scotland has fallen over the past 20 years by 50,000 herds and now stands at just over 75,000. During the five years up to and including 2000, the number of herds fell by 19,000; the herds that were not TB free doubled, with just under 3 million animals tested. The number of animals slaughtered doubled over the five years to 8,500 and the number of herds with movement restrictions also doubled to around 1,000.

By 2010, the national herd had reduced by a further 8,500; the number of herds not TB free increased by a thousand; testing increased by another 2.5 million animals; new herd incidents went up by 1,000 herds; animals slaughtered increased to over 32,000; and over 6,000 farms were under movement restrictions. It seems fair to say that nine years after the lack of testing in 2001, bovine TB was continuing to increase. During that time, there was a fourfold increase in slaughtering and a major increase in testing numbers, on fewer herds.

Jumping forward to 2015, the situation is similar to the situation today. During the five years from 2010 to 2015, there was a loss of another 7,000 herds; an increase in herds not TB free of nearly 400; an increase in testing to past 20 years by 50,000 herds and now stands at just over 75,000. During the five years up to and including 2000, the number of herds fell by 19,000; the herds that were not TB free doubled, with just under 3 million animals tested. The number of animals slaughtered doubled over the five years to 8,500 and the number of herds with movement restrictions also doubled to around 1,000.

So, prior to the outbreak of foot and mouth disease, it appears reasonable to say that the incidence of bovine TB was increasing.

Looking at the next five years of data to 2005, the number of herds reduced by a further 13,000; the herds not TB free almost trebled; the number of animals tested increased to a little under 5 million; the new herd incidents doubled; the number of animals slaughtered rose to nearly 30,000, and over 5,000 herds were under movement restrictions. This is probably suggestive of the "whoomph". By this time, most of the animals that were not tested in 2001 were probably dead.

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Jumping forward to 2015, the situation is similar to the situation today. During the five years from 2010 to 2015, there was a loss of another 7,000 herds; an increase in herds not TB free of nearly 400; an increase in testing to
9.5 million beasts; a small increase in new herd incidents; a rise in animals slaughtered to over 36,000; and a fall in the number of farms under movement restrictions of over 1,000 herds. Table 1 shows the figures from the data for 12 months up to the end of January 2018.

During the past three years, the annual figures have remained roughly the same except for a rise in bovine TB slaughter cases. The overall decline in the national herd appears to have slowed.

The number of UK milking cows remains fairly stable at 1.9 million and similarly with beef cows at 1.6 million. Information from AHDB Dairy shows that the number of dairy herds in England and Wales continues to fall, with 9,314 (England 7,591) reported in May 2018 – a reduction of 118 herds from the year before and a loss of over 2,000 herds since 2010.

One in nine of the 4.5 to 5 million cattle movements in England are tested each year and around 10 percent are found to be positive for bovine TB.

There has been little change in the number of herds that are not TB free since 2015 in the South West and in January 2018, individual counties contributed as follows: Cornwall 366, Devon 728, Dorset 116, Gloucestershire 189 and Somerset 237. The figures for each region and county are available from the Defra website.

**Bovine TB in dairy herds**

Information on bovine TB data for dairy herds does not appear to be available. There is a general analysis that larger herds have more disease, but this doesn’t open up an awareness of the role of the dairy herd in maintaining the levels of bovine TB in the national herd. It is the dairy herds that receive the in-depth attention from veterinary practices and the impact of a new incident on the farm workload is a concern.

Where there has to be repetitive testing, it is difficult for the farmer and the farm vet to maintain standards for other disease control and animal management. At the start of an outbreak, the vet is unable to predict whether more cows will be taken in 60 days, whether the one or two animals slaughtered today will increase to many more over the next year or whether the disease will die out in a few months.

When the farmer has to adjust to a large number of cattle slaughtered, he cannot be confident that the disease will then decline. Do more slaughtered animals mean less disease to come, or is a greater incidence of slaughter an indication of a longer-term problem?

There appears to be a valuable project for one of the universities to interrogate the data and analyse the detail of bovine TB and dairy herds.

The larger cattle veterinary practices may prefer to carry out their own analysis on the data from their clients. Vets increasingly use robust handheld computers on farm for the recording of TB tests. There are discussions ongoing about adapting the programs to accommodate wider interrogation as well as recording. This is happening with other diseases.

Being able to use mobile phones to interact, or replacing the phone with the computer so that one tool satisfies veterinary requirements, is becoming a possibility. Whatever the tools, the involvement of veterinary practices in working with a dairy client and their dairy and beef neighbours to control bovine TB will go beyond gates, fences and movement security. Recognising local changes would increase confidence that management improvements are having beneficial effects.

Arguably, a greater local understanding of bovine TB will lead to more effective disease control and initiate a national reduction. The managers of the 25-year eradication plan may consider that there has not been one “whoomph” in 2001, but a series of “whoomphs” over the past 20 years.

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**TABLE 1**

The latest data published by Defra for 12 months up to the end of January 2018

<table>
<thead>
<tr>
<th>Herd Incidents</th>
<th>GB total</th>
<th>England</th>
<th>Wales</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATTLE HERDS</td>
<td>75,279</td>
<td>50,093</td>
<td>11,946</td>
<td>13,231</td>
</tr>
<tr>
<td>NOT TB FREE</td>
<td>4,010</td>
<td>3,294</td>
<td>663</td>
<td>31</td>
</tr>
<tr>
<td>CATTLE TESTS</td>
<td>9,823,460</td>
<td>7,554,203</td>
<td>2,055,026</td>
<td>214,231</td>
</tr>
<tr>
<td>NEW HERD INCIDENT</td>
<td>4,431</td>
<td>3,790</td>
<td>794</td>
<td>44</td>
</tr>
<tr>
<td>ANIMALS SLAUGHTERED</td>
<td>44,103</td>
<td>33,683</td>
<td>10,108</td>
<td>312</td>
</tr>
<tr>
<td>MOVEMENT RESTRICTED</td>
<td>5,547</td>
<td>4,534</td>
<td>882</td>
<td>127</td>
</tr>
</tbody>
</table>

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Equine welfare on a global scale

A look at the welfare issues facing horses worldwide and the importance of continuing education in tackling them

was recently fortunate enough to be asked to speak at the World Equine Veterinary Association (WEVA) Conference in Beijing, China. WEVA works incredibly hard to advance the health of horses worldwide by promoting and offering quality continued education for equine practitioners, specifically in countries with limited access to high quality, broad-based professional education.

One of the main organisers was an old friend of mine, Chris Riggs. Chris shares my view that the best way to improve the welfare of the horse is via continuing education of equine veterinary surgeons and the allied sciences and professions. One of my presentations in Beijing was on the importance of an association for veterinary surgeons. There is no such association in China at the moment – what a wonderful legacy it would be if the conference encouraged the development of an association for vets.

It won’t be easy in China, not least given the vast size of the country. Others are far more qualified than me to speak about the particular equine welfare issues China has, but suffice to say the formation of an equine veterinary association should be a force for good. Meanwhile, I felt very privileged to have a room full of seemingly enthusiastic vets when giving my presentation.

Our own British Equine Veterinary Association also shares the view that the welfare of the horse can be beneficially promoted via the veterinary and allied sciences. By providing such education and forums for discussion we can help tackle the welfare problems we face here in the UK.

Horse and Hound recently reported that the number of horses rescued by the RSPCA has reached a four-year high. The charity rescued almost one thousand horses last year, with many suffering from horrendous health issues. In a similar vein, the BBC reported on the RSPCA’s grave concerns about horses regularly being “fly-tipped” and left to die. While the reasons for this may well be multifactorial, the RSPCA has highlighted the undeniable fact that some horses can be bought incredibly cheaply. In turn, this means they can be bought by owners who can ill-afford to look after them if they remain healthy, let alone should they suffer health problems.

In a particularly horrifying incident last month, an eight-month-old filly foal appears to have suffered an acid attack, resulting in severe burns to her face. Our amazing veterinary colleagues at Rainbow Equine Hospital are providing expert care for the filly. Pioneering surgery has been funded by the hospital, the RSPCA and generous donations from the public. Veterinary specialists have even flown over from California to help, free of charge. Such a united front of care, compassion and support has literally saved a life.

Prevention is always better than cure and we all hope that the new Central Equine Database will help to encourage responsible horse ownership. On another positive note, BEVA Trust is working in partnership with the BHS to deliver the Education and Welfare Castration Clinics around the UK. At the first clinic of 2018, a total of 65 horses were passported and microchipped, a significant number were wormed and 32 were castrated. These clinics are certainly helping to encourage responsible ownership, even if it’s just in a small way. Further clinics are planned and BEVA members are encouraged to volunteer their support.

While some of our equine colleagues are somewhat critical of this project, in the light of the current equine welfare crisis we are facing here in the UK it is surely better to actively do something, no matter how small. Of course, if anyone wishes to see BEVA Trust engage in other projects, please do not hesitate to get in touch and we will certainly consider your suggestions.

It is important as equine veterinary surgeons that we respond to the welfare crisis as a matter of urgency. It is not a time for carping from the sidelines, rather we all need to pull together to improve this sad state of affairs. Surely we owe this much to the horse, on whom we have all founded our careers?
Having moved to new premises in Ashington, Sussex Equine Hospital held an open day to show off its new facilities

The Sussex Equine Hospital was founded in 1951. It was formerly known as the Arundel Equine Hospital and moved to Ashington, West Sussex, in July 2017. Currently there are 21 vets working there with a dedicated staff covering all aspects relating to equine surgery. The practice is independently run and has built up an excellent reputation across Sussex, Surrey and Hampshire. Director Ed Lyall said, "We have invested a lot in the move but our directors and stakeholders felt it had to be done. Already it is proving to us that we made the right decision. Our aim is to provide excellence in veterinary practice made possible by vets that care passionately about their patients and provide a unique service tailored to each individual client’s needs."

The practice decided to open its doors and hold its first open day, which was an outstanding success. Even the West Sussex Fire Service was in attendance with their horse lifting gear, which proved very popular with the children. It was a “walk around” event with vets and staff members present to show how each department works. A concerted effort had been made in providing dedicated imaging to show visitors how procedures are carried out in each area of the hospital.

Speaking to some of the visitors, there is no doubt that it has given them the opportunity to see just what goes on behind the scenes of an established equine practice. One even said that she was now looking at becoming a veterinary nurse when she leaves college, having met several nurses there and seeing the pictorial display on what is involved in their work.

(1) The West Sussex Fire Brigade were in attendance to demonstrate how they rescue horses from mud and water (2) The Brooke, which supports conditions for working horses and donkeys, was the chosen charity at the open day (3) Paula Broadhurst, one of the practice directors, explained the use of the intensive care foal “Maverick” (4) The hospital team opened the doors to visitors of all ages to showcase their work
The diagnostic minefields of PPID and EMS

How to choose the best diagnostic tests for equine pituitary pars intermedia dysfunction and equine metabolic syndrome

Equine pituitary pars intermedia dysfunction (PPID) and equine metabolic syndrome (EMS) are two clinically relevant metabolic diseases seen in the equine population. Both diseases can have profound effects on the health of horses and therefore warrant diagnosis and ongoing treatment. There are numerous tests available for both diseases, making it difficult to know which is the best to undertake and how to advise the owner based on the results.

Overview of the conditions
PPID is a neurodegenerative disease that is progressive due to the loss of dopaminergic input to the pituitary leading to an overproduction of pars intermedia-derived hormones, including adrenocorticotropic hormone (ACTH). Many other hormones are produced, but ACTH is the most tested and clinically validated.

Clinical signs associated with PPID can include: hypertrichosis, delayed coat shedding, changes in body conformation/regional adiposity, laminitis and PU/PD, among many others.

PPID testing
Basal ACTH concentration in plasma is the most easily accessible test available, but is not without its drawbacks. The cut-off values have been debated; there are various viewpoints as to where the exact cut-off should be.

At Liphook Equine Hospital, we have a reference range that changes weekly based on over 30,000 samples that have been run through our lab thanks to the Talk About Laminitis scheme. This allows us to very accurately guide clinicians on the appropriate treatment course and clinical relevance of each result. It should be noted that treatment with pergolide should always be based on the presence of clinical signs and age as well as the exact value on the test.

If the basal ACTH result is borderline or within a grey area proposed by the Equine Endocrinology Group (30 to 50 pg/ml in the non-autumn months and 50 to 100pg/ml in the autumn period), further testing with a thyrotropin-releasing hormone (TRH) stimulation test should be undertaken. Although reference ranges are available for the autumn period, there is some question as to their sensitivity and specificity. As such, it may be more appropriate to run a basal ACTH during the autumn period due to its high sensitivity and specificity. The TRH stimulation test is affected by feeding, so horses should not be given supplementary food for approximately four hours prior to the test.

Repeat testing, whether it is a basal ACTH or a TRH stimulation, is essential once pergolide treatment has been initiated. Most horses will have responded maximally within one month following initiation of pergolide, but a few outliers can take longer. If repeat samples are taken early and the results do not reflect complete endocrinological control, the test can be repeated one to two months later to ensure that there are no ongoing reductions in ACTH at the dose.
being given. It should also be noted that repeat tests should be interpreted alongside the reference range for that time of year. In autumn, it can appear as though the absolute ACTH value has increased, but it may fall within the reference range in an endocrinologically controlled horse.

EMS testing
There are multiple tests available for insulin dysregulation, each with its own strengths and weaknesses.

A resting, or even fasting, insulin can be run and when positive (>20µIU/ml), it likely indicates insulin dysregulation. Note, however, that there are lots of false negatives, so this is likely the least appropriate diagnostic modality for EMS.

High molecular weight adiponectin is a hormone produced by metabolically active fat. In non-insulin dysregulated horses, this value is high, leading to increased insulin sensitivity in peripheral tissue. When it is low there is an increased risk of insulin resistance. Although not a direct marker of EMS, it is highly correlated with the risk of laminitis associated with insulin dysregulation. The biggest advantage of this test is that it can be taken throughout the day with no need to starve the horse. Monitoring the values, as with dynamic insulin testing, can be disappointing if excellent weight loss is not achieved. Retesting should only be undertaken once good weight loss has been achieved.

Dynamic glucose/insulin testing can be performed in one of two ways: either 1g/kg dextrose or glucose powder can be added to feed and a blood sample taken two hours later for glucose and insulin (the former to confirm adequate absorption of glucose has been achieved); or, 45ml/100kg BW of Karo-light corn syrup syringed into the mouth (gentle warming makes this much easier) with samples taken for glucose and insulin at between 60 and 90 minutes. The higher dose of 45ml/100kg compared with previously advised 15ml/100kg has a higher sensitivity and specificity and is therefore recommended.

The final test available is the two-step insulin tolerance test. This is the only test that directly assesses the sensitivity of the insulin receptors. It involves basal blood glucose being taken followed by the administration of 0.1IU/kg of soluble insulin IV with a blood sample taken 30 minutes later for glucose testing. Insulin sensitive horses should have a reduction in glucose of greater than 50 percent, while insulin resistant horses will not (Bertin, 2013).

Horses should not be fasted prior to this test as fasting will lead to a decreased response to the administration of insulin. When performing this test, it is advisable to have access to IV glucose (50 percent) in case of a hypoglycaemic incident, although this is very rare.

Normal advice is to feed the horse following the second blood sample.

Once a diagnosis of EMS has been made, the owner should be advised on how to minimise the inherent increased risk of laminitis. The primary treatment is to ensure an appropriate diet is undertaken; the use of scales to weigh food is essential, alongside exercise if the horse is not currently suffering from laminitis. Metformin can be added to decrease the absorption of glucose and so reduce the insulin peak, but it should be used as an adjunctive therapy rather than a curative one.

Testing for PPID and especially EMS is complicated by the number of tests available and the different ways of interpreting the results. No single test will always be the most appropriate; they should be chosen based on clinical knowledge and the case being presented.

References


Summertime, and the living is... well, pretty stressful if you’re a student and it is exam time! We’ve all been through them, haven’t we? GCSEs, A levels, innumerable tests at vet school. What are all these exams for? To test whether we have managed to take in all that information thrust at us in lectures and practical classes. Educationalists will tell you that this is a view of assessment that is well past its sell-by date. IQ tests, the eleven plus, psychometric testing; that was a time when intelligence was considered to be innate and thought to be accurately assessable with tests that defined how much information was recalled months after it was taught.

Now though, this is considered very shallow learning. What we want to impart is a deep understanding that comes from grasping the links between topics and the foundation on which individual facts are based. All too often we test students as individuals sitting on their own in examination halls or singly answering questions posed in a viva examination.

It was years ago that Lev Vygotsky (1896-1934), a Soviet psychologist, suggested that the key to assessing education is not what a young person can do on their own, but what advances they can make when helped, be that by an educator or one of their peers. This is what he called a person’s zone of proximal development.

How might that work with vet students? Our final year students all undertake a major elective with a supervisor. This year one of my students investigated the increase in prevalence of cataract in dogs in New Zealand compared with dogs in the UK. Another is assessing how easy owners find it to give their dogs eye drops with the aim of developing a tool to improve ocular drug delivery. A third is looking at the welfare of birds involved in the British Trust for Ornithology’s ringing survey. What a great trio of studies – and that’s just a tiny proportion of the whole year’s projects.

The issue is how we should mark such a project. Do I leave it until the student has finished their work and then grade them on what they have done unaided? Or do I work with them through the year making helpful suggestions as to how they might optimise what they are doing? Some would say that helping them in this way is annulling the assessment which should evaluate what each student can do on their own, compared with the other students. That is what educationalists term “norm-referencing”. Since students cannot change the grades of their peers, they cannot really influence their own grades either.

Alternatively, we can assess students against criteria of what they achieve when given assistance from their supervisors. Some consider this too messy an approach to student evaluation. Yet it’s one more attuned to the real world. You will not take a new graduate and leave them on their own to fend for themselves in a branch surgery on their first day. Or I very much hope you won’t!

You want a vet who will be able to grow and mature under your instruction. So that is the sort of ability we want to develop in our students. And that’s true of vets who have students seeing EMS too. Are you helping students seeing practice with you to develop, giving them tasks to do and encouraging them to stretch themselves in consultations or surgeries?

Assessment should not just be a test of how far the student has come, it should be a way of stimulating them to develop more. I say we try to ensure that’s the case for each student we encounter!
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How to motivate practice staff

Having highly motivated staff will lead to a better environment at work, improved staff retention and a more efficient workplace.

How often have you wished that your staff would go just that little bit further, both for the practice and the client? How often have you heard that you can’t force someone to go the extra mile, that they have got to want to do it for themselves?

It is true – motivation cannot be imposed; it must come from within. But it is also true that practices can create structures that bring out the best in people. If done properly, you too can have staff chomping at the bit willing to stay a little longer at the end of the day to help a client.

Your ideal is a workplace that does well financially, but that is also fun to be a part of, where staff willingly work hard and push themselves further. And with the rise of the corporately owned practice, getting this right gives you a good chance of beating the multiples – after all, people buy people, and a strong service ethic will rub off on your clients.

Offer work that is important and useful

No one wants to go to work and waste their time; everyone wants to feel like they are achieving and doing something useful.

Employ the right staff

Employment law is very prescriptive about the recruitment process and what employers can and cannot do. However, there is nothing to stop you seeking out high achievers (on a non-discriminatory basis), because by definition they will be self-starting, self-motivating and their enthusiasm will rub off and raise the morale of the others.

By extension, the law allows you, through a fair process, to remove those who underperform or who are not team players. If they are not working for the practice, they need to leave before they irreparably infect other employees.

Remember – take good legal advice before acting to make sure that you follow the law carefully.

Delegate

You manage, and others do. That is the whole point of having staff and you being a manager. But think about it, no one likes to have their boss looking, watching everything that they are doing. Assuming you have employed people correctly, you ought to be able to delegate tasks and assume that they have been done correctly to your and the client’s satisfaction. It is all about trust – so dole out duties and let them get done; only intervene if there is a problem. You may even find that the employee does the job differently but more efficiently.

Recognise good work

We work for a number of reasons: economic (we need money to exist), social (we crave interaction with others) and reward (we like a sense of belonging and public acknowledgement of good work). Any good manager worth their salt will note that good work and ensure that every- one – onsite or, if the practice is big enough, up the chain – knows of the effort that an individual has expended on behalf of the practice. Do this properly and you will put the employee on cloud nine and their sense of well-being will pass on to others who will want some of the same.
Keep it simple
Rules are necessary for the proper operation of any organisation as well as society. However, rules are meant to be interpreted, and broken if necessary, if a higher purpose can be served.

Give employees broad rules of operation but allow them flexibility to find ways of doing things to the benefit of the client and the practice. In other words, don’t bog down staff with minor rules, regulations and detail. It is odds on they will end up (accidentally) breaking them and if nothing else, it is demoralising.

Respect
Regardless of whether you are religious, there are tracts within the Bible from which we could all learn. Take Matthew 7:12: “...whatever you desire for men to do to you, you shall also do to them...”. This means treating others the way you want to be treated.

Quite simply, staff do not react well if they are shouted at, insulted, demeaned, accused or given sarcastic comments. Treat your staff this way and two things are certain – your staff will treat you as hostile, looking to leave at the earliest opportunity, and you could end up in an Employment Tribunal fighting an expensive claim.

So – treat staff with respect and as you would want to be treated. You will see an instant change in attitude.

Be personal
You will recall the opening comment, that “people buy people”, and that it is one of the reasons clients come to your practice. Well, you need to apply the same principle to your staff. As we have seen, they come to work to earn a living, but they also want to be appreciated. One way of doing this is to get to know them personally.

Successful managers are those that take the time to understand their employees and what makes them tick. Learning about their desires, aims and families means that not only will you (hopefully) start to care about them, but it may also give you a clue as to what you can do to retain them. After all, finding replacement staff is costly and time consuming – doubly so if you have to retrain someone to replace the lost knowledge.

You have a staff member who has been working late or hard. It has impacted on their family life. How do you think a handwritten letter to them, acknowledging their efforts, sent to their home along with a voucher for a night out for them and their partner, would go down? Very well don’t you think? The result is likely to be even better if it is something they value.

Don’t be stingy
Pay is fundamental – we all have aspirations and bills to pay. But while pay is not critical for all, it is most certainly a de-motivator if staff feel that they are underpaid and over-tasked. Competition and hawk-eyed insurance companies can mean thin margins, but you still need to show that you pay fairly and in line with the market. If there is scope, and the work warrants it, you should do what you can to reward employees with increases or bonuses. If you don’t, they will be off when an opportunity arises.

Team build
Get your staff working as a team rather than as individuals vying for attention. Birthdays, weddings, personal events – celebrate them during the day with cakes, a drink or whatever you think is appropriate.

Of course, practices rarely ever stop, but even so, it is about making a point – ideally during the working day rather than in private time – showing that you care while giving staff an opportunity to bond.

Lead from the front
Lastly, a very simple point. Show your staff that whatever they are doing, no matter how well the practice is doing, that you are in the thick of it with them. Lead from the front and take your turn with the worst of the jobs.

Motivating staff isn’t hard. It just needs a caring attitude and some thought. Those who get it right reap the rewards of what they sow while the others fall by the wayside. 
A veterinary practice seeking to raise finance can be faced with more choices than ever before. There are various forms of funding available and choosing the best option is likely to be driven by many different factors.

**Hire purchase agreement**
Keeping up with the latest technology can be expensive, so a hire purchase agreement may seem like the obvious form of funding. In essence, this is a type of borrowing – you do not own the property until the loan has been repaid in full.

The leasing terms may be more generous than what can normally be achieved, for example, a short-term unsecured bank loan. However, these agreements are arguably a short-term fix for a practice because no cash is actually raised and the monthly charges can be expensive. Be sure that you can keep up with the payments – if not, the provider can remove the equipment.

**Bank loan**
A traditional form of financing is by way of a bank loan. These loans are good in that no equity is required to obtain the finance and the interest is often tax deductible. The main disadvantage of bank loans is that they often hold higher interest rates, especially if unsecured. A practice owner may also have to personally guarantee the sums owed and grant other security.

**Second mortgage**
If you own the practice’s property, you may want to consider charging a second mortgage to that property. This form of financing may provide cheaper interest rates because security is provided to the lender; however, should the business default on loan payments, the property may be repossessed.

**New business partner**
As well as an influx of cash, would your practice benefit from investment in the skill base? In these circumstances, you could consider taking on a business partner who will add to the capital of the practice and provide management support. Having a new business partner will spread the risk and increase the skill base and network. There will however be a reduction in your control of the management of the practice, along with a reduction of your future profits. It is difficult to anticipate the risk of dispute between partners and decision making may become more complicated.

**Angel investing**
Angel investing is where high net-worth individual investors either act alone or, more often, in a network to invest their personal funds into a potentially high risk/high reward practice. The investors normally have a high level of experience and expertise as well as a network of business contacts, which you may be able to utilise.

Angels typically acquire a significant degree of control over the practice. The financing can be time consuming and complicated to put in place. Angels will nearly always have an exit strategy and a set period of time in which they expect to receive their money back (often with the aim of receiving multiples of the funds invested).

**Crowdfunding**
Crowdfunding is a popular avenue for businesses to raise finance either through equity or debt. This option involves a collective effort of individuals who network and pool their money, usually via a web-based platform. It can be a quick way to raise money and often the funding platform will take care of the legal documentation and administration.

Given the British public’s affection for pets, crowdfunding could be an option underutilised by veterinary practices. Adversely, the crowdfunding platform will often take a percentage of funds raised, and there could be the added administrative burden of having to deal with a large number of shareholders.

**Venture capital funding**
Venture capital funding is generally investment by funds that manage other people’s money. The money is raised by offering investors a chance to take part in the fund, which is then used to buy shares in a private company. The main advantage is potential investment of large amounts of capital and the business contacts gained from the investors; however, venture capital funding normally requires substantial equity and control of the practice. It can be time consuming, costly and complicated to put in place. This option may not be appropriate for those wishing to obtain a moderate amount of financing.

**So what form of financing is best for you?**
The key is to carefully consider the pros and cons of the different types of finance available to you and consider what is suitable to your needs and those of the practice. The drivers in making your decision are likely to include how urgently the funds are required, how much funding is required, what security is available and how much control over your business you are willing to relinquish.
What to include in holiday pay

An explanation of the legal requirements for calculating holiday pay in line with overtime

One of the most talked about issues in employment law during recent years has been holiday pay; more specifically, how to calculate holiday pay.

With the summer holiday period approaching, veterinary practices are advised to ensure they follow legal requirements or face the risk of costly claims for unpaid holiday pay.

Since the Employment Appeals Tribunal decision in BEAR Scotland back in 2014, what should count in the calculation of holiday pay has been uncertain.

Initially, the legal cases addressed the need to include overtime that was either “guaranteed” or “non-guaranteed”. For many employers, that left unanswered a key question, based on how they operated overtime when available: how should purely voluntary overtime be treated (ie where there is no obligation on either the employer to offer or the employee to accept overtime)?

The answer was confirmed in the case of Dudley Metropolitan Borough Council v Willetts and others. It was decided that payments for voluntary overtime should be included in holiday pay calculations if they are considered to constitute “normal pay”.

So, what is considered “normal pay”? It was decided that where the pattern of work extends for a sufficient period of time on a recurring basis it can be deemed as “normal”. In that circumstance, voluntary overtime should be included in the calculation of holiday pay.

In our experience, many veterinary practices routinely pay holiday pay based purely on basic contractual pay and hours, ie they do not take into account any regular overtime or additional hours worked, however it is labelled.

This creates an exposure to claims from employees of underpayments for their holiday periods. The amounts involved are often extensive if the employees can establish an unbroken chain of holiday pay “deductions”, where the three-month limitation periods for claims have not expired due to the regularity of taking holiday.

For practices considering a sale, it is likely that an incoming buyer will ask for the exposure to these claims to remain with the sellers, to avoid any pre-sale claims which arise in the future being passed over to them after acquiring a practice.

If you have any specific questions on this topic, please contact Stephenie Malone by email at: smalone@hcrlaw.com

Practical guidance for veterinary practices

Give consideration to the following key points:

- Payments made to staff for voluntary overtime may need to be included in the calculation of their holiday pay
- Assess whether the payment for overtime forms part of the worker’s “normal pay”
- For a payment to count as “normal”, it must have been paid over a sufficient period of time on a regular and/or recurring basis. A one-off extraordinary session of overtime is unlikely to qualify

The Veterinary Practice Association can provide advice for veterinary practices when considering the sale of a business.
As vets, we are always trying to find the best treatments for our patients. This often leads to us trying something relatively new. When considering new treatments, we need to think about what evidence there is. For drugs, that is usually relatively straightforward, since for a drug to get a veterinary licence it will already have undergone millions of pounds worth of trials and safety testing.

For a few drugs, we are lucky to have further clinical trials done by practitioners and specialists. One recent example is the "evaluation of pimobendan in dogs with cardiomegaly" (EPIC) study, which involved 360 dogs, half of which were given pimobendan and the other half a placebo. It was, according to the EPIC website, the largest veterinary cardiology study in history. The study sought to answer a key question: "Can pimobendan... delay the onset of CHF caused by MMVD?" and to determine "whether long-term administration of pimobendan could delay onset of CHF, cardiac-related death, or euthanasia".

The study began in 2010 and ran through 2015; the EPIC website states that it "included investigators at 36 study centres in 11 nations across 4 continents. Investigators were held to rigorous scientific standards, and an independent team compiled and reported the findings".

It is not the top of the evidence hierarchy as no one is likely to repeat it enough times to allow a systematic review of all those trials, but it is probably as good as it gets.

This size of trial is rare in veterinary medicine but would still be considered quite small in human medicine, in terms of patient numbers. However, I think we can all now take on board its findings and prescribe accordingly.

The RCVS Knowledge site has lots of useful resources for helping vets to evaluate evidence. One important concept is the hierarchy of evidence, which lists opinion as the weakest evidence and systematic review of studies as the strongest.

The full list runs: systematic review > meta-analysis > randomised controlled trial > cohort study > case control study > case series > case report > opinion.

For the EPIC study, we have a veterinary licensed drug with a large prospective randomised, controlled trial undertaken for a new clinical indication of that drug. It is not the top of the evidence hierarchy as no one is likely to repeat it enough times to allow a systematic review of all those trials, but it is probably as good as it gets.

How to evaluate the evidence, and what evidence there is for surgical techniques and other interventions, is not so clear for us in practice. For example, for those of us not doing the latest cruciate technique but referring them on, what is the level of evidence for these different techniques? Maybe a case series at best. With some of them being pretty much copyrighted, it is difficult to imagine a case control study being done.

This was brought into focus for me when doing stem cell treatment for arthritis. We had done a small number of cases in our practice and had good results. We had received a good presentation (delivered by someone with a relevant PhD) from the lab that grows the stem cells, with what seemed to be a good level of evidence up to a small case series. However, when seeking pre-authorisation from an otherwise reliable pet insurance company, we were told that they would not cover it as "there was not enough evidence" for the procedure.

Now there is nothing more guaranteed to put the hackles up on a vet in practice than to be told by a distant "number cruncher" that we are not doing our clinical work in the way they would like it; another example of this is insurers telling us where to refer cases. It seemed a slightly illogical response when they would no doubt pay out for surgical interventions with much less evidence.

So once again it appeared that as a vet in practice, I was having my clinical decision making further complicated by external factors.

Should insurers insist on a minimum of a case controlled study before paying out? Should vets not try new techniques until the specialists have validated them? Or should we follow famous veterinary ophthalmologist Sheila Crispin’s comment on using phenol in Boxer ulcers: "I’ll stop using it when it stops working"?
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