Rehabilitating badgers
What is the protocol in the UK?

Plus

IN FOCUS What to do if you suspect canine liver disease / ANIMAL WELFARE Keep tabs on behaviour to boost welfare / DENTISTRY Dental caries lesions in dogs / LARGE ANIMAL Engaging with sheep clients / LEGAL Workplace mediation
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Shaping the future of animal health
Welcome to the June issue of *Veterinary Practice* magazine. It is nearly time for our annual VetsNorth conference. The regional conference, taking place on 12 and 13 June at the MMU Business School in Manchester, is set to be a fascinating event with an excellent programme of expert speakers. If you aren’t yet booked in, tickets are still available from the VetsNorth website (don’t forget to use the discount code in the VetsNorth preview of this issue to get 15 percent off). I look forward to seeing you there!

I am sorry to say that this month’s dermatology column will be the last of a long series written by David Grant. Although his name will still appear in the magazine from time to time, David has, after more than 50 instalments, exhausted his files of dermatology photographs and cases. The popular series is available to view on our website and will undoubtedly remain a useful resource for the small animal practitioner.

There are two dentistry pieces this month; the first discusses how to get owners more involved in preventative care at home and the second is all about identifying and treating dental caries lesions in dogs. For June’s focus piece, Will Bayton provides a guide to diagnosing and treating canine liver disease.

It is also time for the next instalment of the Official Vet column. As well as news and updates from the APHA, turn to this section to read about the opinions of backyard poultry keepers, the protocol for rehabilitating badgers and the latest advice on African swine fever.

In large animal, Richard Gard describes the results of a study that analysed cattle movements in the UK and Hannah Kenway explains the best ways to increase communications with sheep farmer clients.

Jon Pycock writes about the results of a new survey on recruitment and retention in equine, where there is also an interesting article on the evolution of cryopreservation of equine sperm. Alongside an article on resolving financial complaints and a legal piece on workplace mediation, we have a new marketing column by Will Stirling. Beginning this month with building a brand, the new monthly column will cover all the important aspects of marketing a veterinary practice, from doing a brand audit to improving your website and making sure it gets found.

"The new monthly column will cover all the important aspects of marketing a veterinary practice"
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“The problem can be boiled down to the question: what do we do with the inpatients?”
The RCVS is planning to roll out a new outcomes-based model of CPD over the next few years, following a successful piloting process. The recommendations were made by the CPD Policy Working Party, the RCVS Education Committee and Veterinary Nurses Council and were given final consideration by RCVS Council during a confidential session of its meeting on 7 March 2019. The paper was heard in a confidential session because parts of it pertained to commercially sensitive materials.

A shift towards a more outcomes-based model of CPD for veterinary surgeons and veterinary nurses has been under discussion for a number of years and one of its main proponents has been the current RCVS Senior Vice-President Professor Stephen May, who chaired the CPD Policy Working Party.

Regarding the concept, Stephen explained: “There has been increasing recognition over a range of different professions that CPD records based on ‘inputs’ alone do not necessarily prove that any significant learning has taken place or that this learning will be used to improve professional practice.

“By contrast, research has demonstrated that CPD activities focused on outcomes encourage professionals to reflect on what they have learned, how they will apply their learning and how it will improve their practice, which has a positive impact on professionalism and patient health outcomes.

“However, as with any significant shift in policy, there has been a recognition that we needed to take the profession with us and not force through change. This is why, in March 2017, we launched a pilot scheme for the outcomes-based model with veterinary and veterinary nurse volunteers.

“The overall feedback from volunteers was very positive and supportive towards the changes and I look forward to talking to the professions at large about the benefits of the approach and how to best engage with the model.”

In all, around 120 volunteers took part in the pilot, of whom 70 percent were veterinary surgeons and 30 percent veterinary nurses. When the pilot finished in October 2018, volunteers provided feedback as part of the evaluation process. Of the 57 percent of volunteers (n=70) who responded to the survey:

- 77 percent said they would be willing to use an outcomes-based CPD model in the future
- 41 percent found it “easy” or “very easy” to implement outcomes-based CPD while only 11 percent thought it was either “difficult” or “very difficult”
- 61 percent thought that the outcomes-based model made CPD more meaningful for them and 25 percent said it encouraged them to undertake a wider range of CPD activities than previously
- Other feedback included the need for a better CPD recording system and more information and guidance ahead of any future changes

Following the feedback, particularly around the need for a new approach to CPD recording, it was also recommended to Council that a new online CPD recording system should be introduced. This system will integrate the current disparate systems, such as the Student Experience Log (for vet students), Nursing Progress Log (for student VNs) and the Professional Development Phase (for recent vet graduates), making it a “one-stop-shop” professional development recording platform.

Richard Burley, RCVS Chief Technology Officer, explained: “We will be building a new platform, consolidating all professional development-related capability for all members, into a single, integrated solution, seamlessly accessible via our ‘My Account’ online portal, and forthcoming mobile app.”

Linda Prescott-Clements, RCVS Director of Education, added: “Implementation of the new CPD requirement for all members is expected to start in January 2022 but, prior to that, we will be working hard to talk to the profession about why an outcomes-based model is a more effective and meaningful way of undertaking CPD.”
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**Thank you.**

Dr Nick Taylor BVSc(Hons) GPCert(SAP) Dip. Mgt. ESVPS MRCVS (N7011)

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Incidences of non-accidental injury to small animals are on the rise, but diagnosing them can be fraught with difficulties. To help veterinary professionals deal with suspected cases, the BSAVA has teamed up with the Links Group to provide free CPD sessions to BSAVA members.

In their public-facing role, members of the veterinary profession may receive information about a violent incident that constitutes abuse against an animal or a vulnerable individual. Increasingly, research is showing that the animal is often the index case that triggers further investigation into violent households.

“Suspecting animal abuse can be an alarming and sensitive issue to confront, but our training courses should give veterinary teams the skills and support they need to help deal with such cases,” said Jennie Bartholomew, Education Coordinator at the BSAVA.

The sessions will provide guidance on setting up a practice protocol and identifying a safeguarding liaison officer (SLO) who will aid practice staff in suspected cases of abuse. Through the SLO, relationships with RSPCA officers, police domestic abuse officers and aid agencies can be set up to give staff expert support to call upon if they suspect animal or human abuse.

BSAVA Past President and lecturer on the Links Veterinary Training Initiative courses Freda Scott-Park said: “There are few veterinary practices that do not encounter animal abuse, not daily, but the incidence is increasing. Cases can be quite complicated to diagnose but often vets find they develop a sixth sense that something isn’t right. By defining the complexities and difficulties in diagnosis, the course aids vets, veterinary nurses and receptionists to understand how to proceed – to ask the right questions and how to seek help from the correct people.”

“Information from the veterinary practices may allow human healthcare professionals to investigate troubled households, offering support to the family and potentially improving or saving a human victim’s life.”

Three sessions have been organised around the country during 2019. They are free for BSAVA members, with a non-member price of £40.00.

- Sunday 23 June: Wetherby Racecourse, Yorkshire
- Monday 16 September: Woodrow House, Gloucester
- Sunday 27 October: Jesus College, Cambridge

To find out more and to book your place, visit bsava.com/cpd/Links-Group-CPD
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New opportunities for nurses

The RCVS Veterinary Nurses Council gave final approval to two new advanced veterinary nursing qualifications that would allow members of the profession at all stages of their career to develop their professional skills and knowledge in designated areas of practice.

The proposals for a new post-registration qualification framework for the profession grew out of a key recommendation of the VN Futures Report and Action Plan published in July 2016, which said that the joint RCVS and British Veterinary Nursing Association (BVNA) project should "canvass opinion on the scope, level and delivery of post-qualification awards for veterinary nurses". This would aim to open up more and different career paths for veterinary nurses.

The proposals were developed by a Post-registration Qualification Working Group and consulted on last summer. There are now two qualifications – a level 6 graduate certificate in advanced veterinary nursing and a level 7 postgraduate certificate in advanced veterinary nursing.

The two new qualifications differ from the previous diploma in advanced veterinary nursing in that the qualification is smaller, more focused (being a 60-credit qualification rather than a 120-credit one) and specific to the veterinary nurse’s subject of choice, which makes it both more appealing and more manageable to fit around both professional and private life.

Could one of your colleagues be the Young Vet of the Year?

The BVA has teamed up with Zoetis to launch a new UK-wide award celebrating inspirational young vets who are making a difference through their day-to-day work.

This new award is the first of its kind in terms of cross-community reach and is open to all vets registered with the RCVS and in the first eight years of their careers. Applications can be from those working within any veterinary sphere, including clinical practice, research, education or veterinary politics. The organisers are looking for an “exceptional young vet” whose work is recognised within the workplace or has benefited the veterinary community.

BVA and Zoetis will jointly announce the winner during the Gala Dinner at the London Vet Show on 14 November 2019, where a prize of £1,000 cash as well as a career-enhancing experience with Zoetis will be awarded.

The Young Vet of the Year award is open to self-entry and nominations. The deadline for entries is Thursday 1 August.

More information on the award and criteria can be found at: bva.co.uk/membership-and-benefits/young-vets/young-vet-of-the-year-award/
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Recommendations on responsible antimicrobial stewardship updated

Farmers and stock keepers play a major role in ensuring the responsible use of antimicrobials on farms and must be empowered to work with their vets to achieve this, according to the BVA.

The BVA’s updated position on responsible antimicrobial use in food-producing animals, launched on 10 May 2019, consolidates and expands upon the BVA’s existing antimicrobial resistance policies.

It proposes 15 overarching recommendations on responsible antimicrobial stewardship for vets, farmers and government. The position also emphasises that an ambitious, cross-sector One Health approach “without a culture of blame” is instrumental to containing and controlling the threat of antimicrobial resistance in animals, humans and the environment.

Ninety-four percent of vets in large animal and mixed practice said in a recent BVA survey that they were concerned about antimicrobial resistance. More than 9 in 10 vets mentioned that they were concerned about the potential inability to treat infection.

The BVA’s recommendations come amid an increasing global push for One Health working to protect antimicrobials for the sake of animal and human health, reflected both in the UK government’s 20-year vision and new five-year national action plan and the recent UN Interagency Coordinating Group report.

The BVA says that vets should continue to be guided by the seven principles of responsible antimicrobial use. These include avoiding inappropriate use, monitoring antimicrobial sensitivity, working with clients to avoid the need for antimicrobials (through preventative approaches such as herd or flock health plans, for example) and recording and justifying any deviations from protocols. As part of this, the BVA has released a new-look seven-point plan poster for vets to display on practice walls.

BVA President Simon Doherty said: “Ongoing work by vets, farmers and industry through the RUMA Targets Task Force has led to a 40 percent reduction in sales of antibiotics meant for use in food-producing animals over the last five years, with sales of the highest priority critically important antibiotics dropping by 52 percent in this period. We must maintain this momentum in the face of the ongoing global threat posed by antimicrobial resistance.

“Farmers and stock keepers play a huge role in developing and applying disease control measures on farms in collaboration with their vet. The Agriculture Bill provides an opportunity to further incentivise and empower farmers to work with their vets to ensure responsible antimicrobial use.

“A collaborative approach to AMR, underpinned by a commitment from each of us to maintain the highest standards of stewardship in using antimicrobials, especially critically important antibiotics, is the only way we can preserve these essential medicines for both humans and animals in the future.”

The BVA’s position reiterates that critically important antibiotics should remain available for veterinary use in the interests of animal welfare. However, it calls on vets to restrict the use of highest priority critically important antibiotics as a last resort, where no other product will be effective for the condition being treated. Other recommendations include:

- Vets should familiarise themselves with the antimicrobial reduction targets for their sector and continue to work with farmers and stock keepers to achieve these
- Farm assurance schemes should incorporate responsible use of antimicrobials as a scheme requirement
- Government should promote incentives to improve husbandry and biosecurity measures on-farm
- The development of effective diagnostic tools – for culture, sensitivity and monitoring for resistance genes – must be prioritised and there should be a greater focus on improving surveillance and information sharing
- Government should continue to work with vets and industry to review and set further rational targets through the RUMA Targets Task Force

Equine viral arteritis confirmed in Devon

The UK’s Chief Veterinary Officer on 10 May 2019 confirmed a case of equine viral arteritis in a non-thoroughbred stallion on a premises in Devon. This horse has close epidemiological links with the premises in Dorset where disease was confirmed in three stallions in April. There is no risk to public health. Restrictions on breeding have been put in place on the animal to limit the risk of the disease spreading and further investigations are ongoing.

Chief Veterinary Officer, Christine Middlemiss, said: “We are taking action to limit the risk of the disease spreading by placing breeding restrictions on the animals.

“A full investigation is continuing to determine the source and possible spread of the infection. Owners of mares and stallions are urged to have their animals tested before they are used for breeding.”
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### Day 1

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<tr>
<th>Small Animal Medicine</th>
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<th>Nursing</th>
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<tr>
<td>09:30 The unstable diabetic dog</td>
<td>09:30 Patellar luxation in the dog</td>
<td>09:30 Managing blood transfusions in practice</td>
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<td>10:30 Cushing’s Syndrome in the cat</td>
<td>10:30 Mandibular symphysis separation repair in the dog and the cat</td>
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<td>12:00 Pancreatitis in the dog</td>
<td>12:00 Treatment of cranial cruciate ligament disease in practice</td>
<td>12:00 Nursing the emergency ophthalmic patient</td>
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<td>12:45 Feline hypoadrenocorticism</td>
<td>13:45 Adrenalectomy in the dog</td>
<td>12:45 Anaesthetising the emergency patient</td>
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<td>14:30 Acute vomiting and diarrhoea in the dog</td>
<td>14:30 Surgical treatment of feline hyperthyroidism</td>
<td>14:30 Wound care products for my practice - what should I choose?</td>
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<td>16:00 Treatment of dry eye (KCS) in the dog</td>
<td>16:00 Parathyroidectomy in the dog</td>
<td>16:00 Top tips for effective bandaging</td>
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17:00 Hot topics facing the veterinary industry today - Interactive Q&A

### Day 2

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<th>Small Animal Surgery</th>
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<tr>
<td>09:30 Viral Haemorrhagic Disease in rabbits</td>
<td>09:30 Emergency respiratory tract surgery in the dog</td>
<td>09:30 Running effective weight loss programmes in your practice</td>
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<td>10:30 Researching that difficult case - where to find information for free!</td>
<td>10:30 Gastric-dilatation volvulus in the dog</td>
<td>10:30 Brachycephalic breeds - the welfare issues!</td>
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<td>12:00 Cardiovascular emergencies and CPR in dogs and cats</td>
<td>12:00 Ophthalmological surgical emergencies in dogs and cats</td>
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<td>12:45 The dangers within your dental unit</td>
<td>13:45 Perineal surgery in the dog</td>
<td>12:45 Resolving conflict in practice</td>
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<td>14:30 Medical therapeutic lasers</td>
<td>14:30 Common surgical conditions in the pet rabbit</td>
<td>14:30 Practical approach to multi-modal analgesia</td>
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<tr>
<td>16:00 How to use fluid therapy in exotic animal practice</td>
<td>16:00 Ear surgery in the dog explained</td>
<td>16:00 Triage and assessment of the emergency patient</td>
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Programme subject to change.

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What to see at VetsNorth 2019

Work out your conference schedule ahead of time with a breakdown of the top picks for VetsNorth

Designed to provide vets and vet nurses with expert guidance and advice on essential areas which could help to improve practice life, the VetsNorth 2019 conference focuses on three key topics: the endocrine system; emergency medicine and surgery; and emergency and critical care nursing.

Each speaker has been carefully selected to ensure delegates are in the best hands to receive the most up-to-date knowledge. With the ability to switch between lecture streams and opportunity to participate in the interactive Q&A panel session on major challenges facing the profession, delegates can choose from 27 hours of bespoke CPD.

The friendly environment and regional size of VetsNorth ensures that you will have plenty of time for personal discussion with speakers and engagement with other professionals from across the veterinary industry. It promises to be the perfect opportunity to seek real, individual advice on challenging cases you are currently facing in practice.

Small animal medicine

Mike Herrtage will be commencing the small animal medicine stream on Wednesday 12 June with a lecture exploring Cushing’s syndrome in the cat. He will discuss the increasing efforts put in place to appropriately diagnose this issue and therefore provide successful treatment.

Sure to be a highlight of the second day at the conference, Heather Moberly of Texas A&M University will provide guidance on where to find information for free when researching difficult cases – a challenge faced by all.
members of the clinical team. Also on Thursday 13 June, Gayle Hallowell will present the very latest advancements in cardiovascular emergencies and CPR in dogs and cats, which are commonplace in small animal practice. Cardiovascular conditions such as pericarditis and dysrhythmias commonly occur as primary events or secondary to other conditions, and using real-life case examples, this talk will look at what makes them emergencies and how they can be managed.

Other sessions being presented include: the unstable diabetic dog; feline hypoadrenocorticism; acute vomiting and diarrhoea in the dog; viral haemorrhagic disease in rabbits; and the treatment of dry eye.

**Small animal surgery**

With hyperthyroidism affecting up to 10 percent of geriatric cats, the likelihood of regularly facing cases in practice is very high. What better chance to learn about ways surgery can sometimes offer advantages over non-definitive treatments than attending “Surgical treatment of feline hyperthyroidism” in the small animal surgery stream on Wednesday 12 June?

On Thursday 13 June, David Williams will present a useful session exploring ophthalmological surgical emergencies in dogs and cats, covering trauma to the eye from lid lacerations through penetrating corneal foreign bodies to globe prolapse. In each of these cases, ocular pain and potential sight loss are key issues to be dealt with and knowing how to respond quickly and decisively is a critical skill.

Other surgical sessions on the programme include: emergency respiratory tract surgery in the dog; mandibular symphysis fracture repair in the dog and cat; perineal surgery in the dog; common surgical conditions in the pet rabbit; and patellar luxation in the dog.

**Veterinary nursing**

“If you’ve ever taken a bandage off (and breathed a sigh of relief that all is well beneath) then you’ll know it’s a risky business...” On Wednesday 12 June, Georgie Hollis will be presenting two unmissable sessions focused on wound care, highlighting the functional role of five categories of wound dressing and exploring the science behind effective bandaging.

Another highlight of the veterinary nursing lecture stream is certain to be Emma Milne’s session looking at the well-known and emerging welfare issues surrounding brachycephalic breeds. In this session, Emma will explore how body shape impacts every basic welfare need of the animal, consider the moral question around selective breeding and highlight the role of the veterinary team in the future of animal welfare and client education.

Other themes being presented include: nursing the emergency ophthalmic patient; managing blood transfusions in practice; anaesthetising the emergency patient; resolving conflict in practice; and running effective weight loss programmes.

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Taking a moment

It can be beneficial to pause and take pleasure from the fact that a day-to-day task is running to plan.

Our brains are designed to stop us paying too much attention. This is well demonstrated by the optical illusion called Troxler fading (named after the 19th-century Swiss physician who discovered the effect). If presented with a steady image in the area of our peripheral vision, we actually stop seeing it after a while. This phenomenon – the general neuroscientific term is habituation – probably points to an efficient way in which the brain operates. Neurons stop firing once they have sufficient information about an unchanging stimulus. But this does not mean that habituating is always our friend.

We can consider the effort not just to think differently, but also to see differently, as a way of countering our built-in tendency to habituate – to sink into the familiar way of seeing and experiencing. By running on autopilot, we are in danger of missing out on the sheer unadulterated pleasure we can get from the fact that a seemingly mundane, boring thing is actually running to plan.

It’s all too easy to divert our attention to the events with problems or malfunctions and miss out on the times when everything is actually, and beautifully, OK. The great French mathematician Blaise Pascal said: “Small minds are concerned with the extraordinary, great minds with the ordinary.”

The story of Velcro is well known. A Swiss engineer, George de Mestral, decided to look more closely at the burrs (seeds from plants) he found clinging to his clothes during a mindful walk in the woods. He took out his microscope and saw that nature had designed hooks on the burrs, which had then attached themselves to looped fibres in his clothing. The famous hook-and-loop alternative to the zipper, under the name Velcro, was born. How many of us would have been checking Facebook during our dog walk? Or more likely, how many of us would have simply not been engaged with the fine detail of our surroundings in all their wonder and beauty?

Very often, we go for a walk or run to clear our minds, or work, driving – just observing the tiny details around us like a child can be liberating and another breath of fresh air.

Being acutely aware of a few simple things, such as mindful tasting, mindful toothbrushing and even mindful beer drinking, can become part of everyday life: a minute’s “breather” where we step off the hamster wheel of our daily life for a moment of peace.

The story of Velcro was well known. A Swiss engineer, George de Mestral, decided to look more closely at the burrs (seeds from plants) he found clinging to his clothes during a mindful walk in the woods. He took out his microscope and saw that nature had designed hooks on the burrs, which had then attached themselves to looped fibres in his clothing. The famous hook-and-loop alternative to the zipper, under the name Velcro, was born. How many of us would have been checking Facebook during our dog walk? Or more likely, how many of us would have simply not been engaged with the fine detail of our surroundings in all their wonder and beauty?

Very often, we go for a walk or run to clear our minds, or work, driving – just observing the tiny details around us like a child can be liberating and another breath of fresh air.

John Kabat Zinn defines mindfulness as “paying attention to the present moment on purpose, non-judgmentally, as if your life depended on it”. In the book *Skills Training Manual for Treating Borderline Personality Disorder*, Marsha Linehan describes one such way of bringing yourself to the present moment by using the mindfulness skill called “observe”. Observe is about merely noticing what is happening right now. It is just noticing; nothing more. Often it can be more powerful to just notice the present rather than think about the present. Seeing with fresh eyes in a non-judgemental way like a child can be liberating and another breath of fresh air.

We can do it anywhere, anytime. On the tube, walking to work, driving – just observing the tiny details around us brings us to the present moment without much effort. That alone can be enough of a “breather” for our mind to stay upbeat and focused for the next part of our manic day.
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Turning ideas into innovation

What did we learn from the ViVet Innovation Workshop Series?

ViVet is an ambitious and wide-ranging programme designed to ensure veterinary professionals are at the centre of innovation in the animal health sector. It aims to support veterinary professionals to engage with innovation and to encourage innovators to engage with the veterinary professions when launching new products or services. The programme is managed by the RCVS and was inspired by the Vet Futures research initiative, which highlighted concerns that “vets could miss out on developments in technology, if they fail to be proactive about grasping the opportunities”. It also identified how there was a pressing need for the veterinary professions to be proactive and demonstrate they “not only welcome, but are driving, innovation in animal health”.

The programme assists the RCVS to gain insights into the market and how it is evolving, allowing it to develop a regulatory framework that is adaptable to 21st century technology, fostering and supporting innovation, whilst at the same time protecting animal health and welfare.

A new series of innovation workshops not just for entrepreneurs or innovators was launched to help provide veterinary surgeons and veterinary nurses with the tools to create new or nurture existing ideas. They can be ideas for starting a new business, a new product or new content, or even just inventive ways of talking about or marketing an existing product or service.

The workshops aimed to cover a broad spectrum of innovation methodologies and provide the tools veterinary professionals need to turn ideas into innovations. The first workshop took place at the Møller Centre in Cambridge on 16 January and was led by professional innovation consultants Guen Bradbury, MRCVS, and Greg Dickens, MRCVS, from Innovia Technology.

The day started with an explanation of the innovation process and an introduction to the tools needed to enable participants to explore their challenges, find their needs and have good ideas.

Greg explained that “ideation is the fun bit of the process. It is the famous part that people think of when you say you’ve been innovating. Selecting and developing those ideas is harder work, and a lot more valuable.”

It is important to differentiate between a problem (e.g. “I am cold”) and a need (e.g. “I need to be warmer”).

Understanding the root of a problem can reveal the exact needs that you can base an innovative idea on. There are various ways to identify a need. Guen and Greg outlined three methods that can be used: value mapping, storyboarding and consumer research.

Value mapping involves documenting a process and looking for any wasteful steps. You can map an entire business or focus on a smaller aspect. Start by defining each process step; track the value created or lost; and discuss what could be done better. Storyboarding involves following the needs of a stakeholder. You start by giving the stakeholder a personality, analysing the experiences and decisions they would make during their interaction with your business, then think about their wants and needs.

An idea isn’t enough – you need to thoroughly think through the need for the idea and develop it

Depending on how engaged your stakeholders are, getting enough data through consumer research to meet statistical significance can consume a considerable amount of time and resources. To get the most out of this research, ensure that it is anonymous, provides options to select or rank answers and include a calibration question. “The simplest way to find out what your stakeholders need is to ask them.” If you don’t have enough data to be sure, go and get more.

To bring first-hand experience into the room, participants were also joined by guest speakers Andrew Francis, entrepreneur and founder of South Coast Cardiology, a visiting specialist referral service, and Adrian Nelson-Pratt, founder...
of the Emerge Veterinary Project, focused on improving veterinary well-being and performance. Both shared their own innovation triumphs as well as failures, in addition to supporting and facilitating practical group exercises. An AVS representative at the event stated that the one key point they are going to take away is "that an idea isn’t enough – you need to thoroughly think through the need for the idea and develop it”.

The second workshop took place on 20 February. Part one of this day focused on how to test your ideas and refine solutions. Guen and Greg again brought their expertise to help participants verify the assumptions around their idea are valid as a method to reduce the inherent risk and uncertainty associated with innovation. Guen and Greg gave insights into development methods including stage gate, lean start-up and design thinking, to provide delegates with practical ways to develop and test their ideas.

A key message was that innovation is an iterative process and "failure" is not something to fear; rather, it is a necessary element of innovation and entrepreneurship. It is a crucial means of improving and refining your idea.

In part two, participants were guided through the difference between business plans and business models. Using the case study of the Fintech bank Monzo, they went through the process of developing and refining a business model, looking at how to create, capture and deliver value to the customer. The critical importance of ensuring the components of the venture fit together to form a coherent whole so as to maximise the chances of innovation’s success was also discussed.

The day concluded with the experienced speaker Tim Bowdin, who engaged the audience by explaining the importance of storytelling in winning support and funding for your idea. He also outlined the building blocks of a successful pitch, whether this be to your manager, investor or peers.

The resources used at the innovation workshops are available to download at: vivet.org.uk/resources

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Reflecting on rabbit welfare

Evidence indicates that the presence of a mirror affects a solitary rabbit’s behaviour, but it is unclear whether it has a positive or negative effect on the animal’s welfare, says a new Knowledge Summary in Veterinary Evidence.

Rabbits are a social species and tend to benefit from companionship when in captivity. Theoretically, a mirror can provide this, as it is assumed that rabbits are not capable of self-recognition. Hence, understanding rabbit behaviour when a mirror is present could provide an option for improving their well-being in a veterinary setting.

The author of the Knowledge Summary entitled “In solitary rabbits, does the presence or absence of a mirror affect stress, fear and anxiety?” critically appraised four studies that observed isolated rabbits’ behaviour in response to the introduction of a mirror.

All studies were conducted in a laboratory setting, so the findings may not be identical in a veterinary practice, especially since the timelines of the studies were longer than a rabbit, on average, would spend hospitalised. Additionally, a hospitalised rabbit is likely to be injured or unwell and may benefit from being alone. However, the studies collectively provide important insights into the general behaviour of rabbits when faced by a mirror.

**Behaviour changes**

Immediately upon the introduction of a mirror, there was an increase in investigatory behaviour — sniffing, scratching and scrabbling at the mirror, as well as at the rabbit’s overall environment. This suggests a potential source of enrichment for an isolated rabbit, although only for relatively short periods of time as this behaviour decreased the longer the studies continued, indicating habituation to the mirror. This may be as a result of not receiving confirmatory cues that the reflection was indeed another rabbit.

One of the studies observed that 11-week-old rabbits were generally less attracted to the mirror than at five weeks of age, suggesting that younger rabbits are more likely to benefit from the inclusion of a mirror. However, this finding was complicated by the fact that the rabbits, naturally, got older during the course of the study duration. Hence, it is not clear whether the decreasing interest in the mirror was a result of age or of habituation over time.

There was a marked difference between males and females, with potentially strong sex-specific implications for welfare. Females spent less time on body maintenance when they were partnered with a mirror. Forms of body maintenance such as hair chewing can be suggestive of stress due to social deprivation, so a reduction in these behaviours is potentially positive.

In one study, body maintenance before commencement of the study was considered at an elevated level and potentially indicative of stress. This decreased significantly when a mirror was introduced, suggesting it may be beneficial to reducing stress-induced body maintenance in female rabbits. However, it was unclear what was regarded as a high level of body maintenance, while no distinction was made between a decrease in normal body maintenance (ie grooming) and maintenance that was stress-related. More research is needed before a mirror can be recommended as a means to reduce stress in female rabbits.

Males were dramatically more alert and vigilant than females when a mirror was introduced. The explanation for this behaviour needs further assessment, but it is possible that it is caused by competition with the mirrored image for resources and territory, which would likely be heightened in the confined space of veterinary hospitalisation. As a result, a mirror should not be recommended for male rabbits until there is evidence to the contrary.

One potential benefit afforded by the inclusion of a mirror is for treating inappetence. Two of the studies measured an increase in bodyweight, food consumption and feeding efficiency in response to a mirror. This could be as a result of resource rivalry and thus indicative of stress or anxiety, especially in males, but it may be beneficial in particular circumstances in which a rabbit is underweight and/or needs to increase its food consumption.

As more research is needed before mirrors can be recommended, veterinary surgeons and nurses should combine their clinical expertise with this evidence when deciding if the temporary inclusion of a mirror may be beneficial to an individual rabbit’s overall health and welfare.
Easing the pain of goodbye

Dealing with bereavement is a difficult part of the job, but directing owners to support services can help them through the process.

Witnessing the raw pain of a 12-year-old family friend losing both of her rabbits to a strain of RHVD this weekend brought home the impact that the death of a much-loved pet has on the owner.

Quite rightly, the inevitable loss of pets that have become such beloved friends and family members is the very hardest part of sharing your life with animals. And working in practice – often being there at the end of that partnership – puts veterinary professionals in the unique position to make a difference.

One of our policyholders shared with us her first experience of euthanasia with her cat, Desmond. While the family were devastated at the loss of their 17-year-old pet, the way that the euthanasia was handled made a profound difference to the experience of those final moments together:

“Despite the horrendousness of the occasion, the ethos of the practice made the world of difference to me, my husband and our lovely old cat. We were shown to a snug little room with sofas and a rug, where we were all able to relax, have a final cuddle and say goodbye, in total peace and in our own time.

“When I think back to saying goodbye to Desmond, my memories feel very warm and content, and I know that we couldn’t have been in a more relaxing and kinder environment for him.”

The service is run by fully trained volunteers, who all have first-hand experience of losing a pet

Of course, nothing can take the pain of losing a pet away, but, as we see here, to handle the moment in a gentle, kind and understanding manner can make a difference. It can leave the owner with warmer memories of those final moments, helping them to reflect more easily on the happy times they spent with their pet.

Like many bereavements, it can often be the times after the death that are the hardest. As the owner returns to an empty house, with no wagging tail or purring cat to greet them, moving forward with life can take specialist help.

At Agria, we have teamed up with Blue Cross to help owners easily access their Pet Bereavement Support Service (PBSS). The service is run by fully trained volunteers, who all have first-hand experience of losing a pet. Through telephone and email, they provide vital emotional support and practical information to those struggling to cope with the loss of any type of pet.

PBSS has helped thousands of pet owners since launching in 1994. Tessa struggled to cope with the loss of her pet: “I am not a lonely person but felt isolated from life in general.” Tessa’s vet gave her the PBSS number. “There was no one else with whom I could share the terrible emotional pain I was in,” she says. “No one but the kind voice on the line to whom I could talk freely without fear of dismissal.” Deciding she could use her experience to help others, Tessa is now a pet bereavement support volunteer herself.

As well as our links to PBSS, Agria’s claims team consists of qualified veterinary nurses who all understand just how crucial it is to take the time that’s needed for a bereaved owner. We treat communications with grieving owners with the greatest of empathy and do everything we can to help.

One of our recent Trustpilot reviews demonstrates how the smallest of gestures can make a difference:

“I would highly recommend this company to anyone. Lovely people to deal with, prompt payment – cannot fault them. Sadly, I have just lost my pet, but I would not hesitate to use them in the future. I have received the most lovely condolence card with a hand-written message, which means such a lot at such a sad time.”

It’s sadly so common for grieving owners to feel that they have to carry on as normal, as “it was only a pet”. Never underestimate the little things that can make a difference at this time. From giving owners time and space to say goodbye, to not making them walk through a busy reception area afterwards, to telling them about the support that’s there, can really help a bereaved owner in their darkest moments – and make it easier for them to take their first steps to moving forward.

For your clients who have experienced a bereavement, the Blue Cross Pet Bereavement Support Service can help. The service is available on 0800 096 6606 and open from 8.30am to 8.30pm every day. Calls are free from landlines and mobiles.

Find out more about Agria Life – our free practice support programme that offers both regulated and non-regulated insurance solutions – at: agriapet.co.uk/vets
Keep tabs on behaviour to boost welfare

An insight into what animals are feeling, expressing and experiencing can guide improvements in health and welfare

It’s easy to judge the quality of life being experienced by humans – we are very good at self-reporting how we are doing in our current surroundings. But when it comes to the non-human animal, we have to rely on inferences based on the behaviours they perform and on their demeanour. As such, an understanding of the normal behaviour pattern of many domestic and exotic species seen by vets, vet nurses and other animal health professionals is vital to determining the animal’s overall welfare state and its quality of life.

Behaviour is defined by the observable actions that an individual performs in response to a stimulus from the external or internal environment. For example, this could be the detection of a climatic change causing movement or migration to new areas, or it could be a physiological signal such as the release of sex hormones that bring an individual into breeding condition. Based on these observable responses, we can create a picture of what animals do and when they should do them – are there behaviours that they perform that are integral to their life history and evolution?

Behaviours can convey fitness benefits to the individual, promote traits that prolong survival and increase reproductive potential within an animal’s environment. The performance of some behaviours can also come with a high motivational value – there is an internal drive or need to express energy in the form of a specific action or set of actions, for example, the need for domestic hens to dust-bathe or build their own nests.

This provides us with a strong foundation for how we determine the welfare state of an individual animal. Welfare is not something that you have; it is something that you experience, which can go from positive to negative, and vice versa. Welfare can be defined as “the state of an individual as it attempts to cope with its environment” (Broom, 1986) and we can use a range of resource-based (eg the provision of food, water and the correct type of environment) and animal-based (eg health, expressions and positive behavioural indicators) to explain the current welfare state the animal is in.

The state of the individual will be influenced by a range of factors that the animal cannot or cannot attempt to cope with. For example, is the animal experiencing an acute or long-lasting stressor that external or internal behavioural change can rectify? Or is the individual unable to cope with a chronic or long-lasting stressor that changes to behaviour and physiology are failing to alleviate?

Stress is a natural and biologically relevant change to homeostasis that promotes survival. We know now that positive stressors, which promote “eustress” (beneficial stress and physiological challenge) improve the behaviour patterns of captive animals and can convey health benefits. It is when stress become a state of distress, a failure to cope with the stressor, that the animal’s welfare state is compromised.

Behaviour and ruminination

Let’s consider a behaviour integral to physiological and psychological health in many species of common domestic livestock – rumination. The act of ruminating not only enables the sheep, cow or goat to digest grass and forage more efficiently, it also provides an opportunity for positive psychological states.

In sheep, it has been demonstrated that decreased opportunities to ruminate disrupt patterns of non-REM sleep. Changes to the amount of time spent foraging can be indicative of poor health and rumination is markedly influenced by forage quality and particle length.

Measuring these behaviours as time enables the importance of the behaviour to the animal to be determined. More time = more energy and a stronger motivation for its performance. More time on these welfare-positive behaviours is suggestive of a good quality of life.
sleep. Such a reduction in sleep quality, caused by reduced overnight rumen fill to provide cud to chew on, will impact on the quality of life of the individual. Ruminating is promoted by a forage intake that is high in structural fibre. Ruminating therefore occupies the animal for long periods of time, hence opportunities to consume foods that promote rumination reduce an individual’s likelihood of performing abnormal repetitive behaviours (often referred to as “stereotypies”). These stereotypies, such as tongue-playing, licking or chewing, are commonly seen in ruminants that are fed on concentrate feed-heavy diets with limited ad lib access to forage or grazing. Hence the enhanced performance of these “unnatural” behaviours provides an insight into the animal’s welfare state within that setting and an inference of its quality of life.

**Assessing time-activity budgets**

When assessing time-activity budgets (the amount of time that an animal spends on key state behaviours), time equates to energy. The more time spent, the more energy expended on the behaviour (Figure 1); therefore, the higher the motivation within the animal to perform this action.

When time budgets are made up of stereotypic behaviours, the underlying cause or reason behind why the animal is expending energy on a potentially negative action can be investigated. Is this because of diet (as per the rumination example)? Is it due to restriction on space or stimulation? Is it because of an inappropriate or unstable social group? It is important that an animal is never physically prevented from performing a stereotypic behaviour. You enable the animal to outcompete this stereotypic part of its behavioural routine by provision of resources or environmental change which promote normal or natural behaviour patterns.

In the example shown in Figure 1, foraging and ruminating make up the largest proportion of the baseline activity budget, with reduced time available for foraging and ruminating on the low forage diet, and a more naturalistic behavioural profile seen for animals provided with a higher forage to concentrate ratio. The behavioural indicator of welfare (oral stereotypy) is absent in wild animals and significantly reduced in the higher forage group, therefore providing evidence of an improvement in welfare state with a change in husbandry style, complete with evidence from wild animals to show what time budget to try to aim for in a managed population.

It is important to consider other reasons why welfare-positive behaviours are reduced in performance, and therefore knowledge of the individual is key. Such a reduction could be due to normal physiological change (e.g. oestrous reduces rumination time in dairy cows) or it could be caused by ill health (lame dairy cattle take fewer bites when grazing compared to non-lame cows). We can gain understanding of how animals are coping emotionally (what they are feeling) by using descriptors of the outward signs of their emotions.

Animal keepers are very good at knowing their stock individually and have an instinctive feel for when the personality or normal demeanour of one of their animals changes (i.e. it becomes withdrawn, or apathetic, or is suddenly more excited). This qualitative approach helps identify the welfare state of all individuals within a population and picks up the variation that each individual will inherently possess when it attempts to cope with the environment around it.

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**Figure 1** An example with fictitious behavioural data showing the mean activity budget of cows fed on a low forage-high concentrate diet (blue bars), cows fed on a high forage-low concentrate diet (green bars) and baseline for wild buffalo (yellow bars).
Managing uroliths in dogs

Whatever the cause of uroliths, specific nutritional changes should be made

It’s possible to find multiple crystal types in one bladder so identifying the composition of one specific type of crystal is an unreliable indicator of the composition of a urolith, since crystals present could be completely different from the composition of a stone taken from the same bladder, no crystals may be seen, or multiple crystal types might be found in the same urine sample.

Urinalysis

It’s preferred to use a first-morning sample for analysis because it is most concentrated. For a detailed quantitative analysis, a 24-hour sample should be taken. If it’s not possible to carry out urinalysis within 20 to 30 minutes of the sample being taken, the urine can be refrigerated and stored for up to six hours before the validity of results is compromised (Padilla et al., 1981; Hesse and Neiger, 2004). The refrigerated urine should be brought to room temperature and thoroughly mixed before analysis. If crystals are observed in stored samples, this should be validated by re-evaluation of a fresh urine sample (Albasan et al., 2003).

The optimum sampling method is cystocentesis, but if examining a free catch sample brought in by the owner, it is important to establish when the sample was taken. Low quantities of crystals are normally present in urine; the risk of crystals forming spontaneously increases with storage time and changes (including cellular disintegration, bacterial growth and pH changes) are more pronounced the longer the storage time and the greater the temperature fluctuations (Archer, 2005). It is important to note that post-prandial urine is usually alkaline: the “alkaline tide” occurs while acid is being secreted into the gastric juice. Stress also alters urine pH; respiratory alkalosis due to hyperventilation can raise urine pH (Chew, 2004).

Relative supersaturation

Relative supersaturation (RSS; Figure 2) is a method pioneered by Royal Canin to measure the risk of struvite or oxalate crystal formation within a bladder, in animals fed any given diet. Each crystal has a specific saturation level below which the environment within the bladder makes it unlikely that crystals will form. RSS takes into account 12 parameters including the pH of the urine, the mineral content (specifically measuring five positive and five negative ions) and the volume of urine produced by feeding the specific diet.

When feeding a dog (or cat) that has crystals in the bladder, the RSS level needs to be undersaturated to dissolve struvite crystals and prevent them reforming, and to prevent calcium oxalate reforming crystals once they have been removed. In healthy animals, or once the bladder

The urinary tract of the dog is complex and the potential for problems is large with varied clinical symptoms including dysuria, stranguria, haematuria, pollakiuria and increased time to urinate (Shaer, 2010). Symptoms can be caused by many issues, including congenital defects, neoplasia, trauma, infection and/or uroliths.

As with cats, the most common urinary tract condition in dogs is cystitis. Figures from Lulich et al. (2000) attributed 40 percent of urinary tract conditions to cystitis, 24 percent to incontinence and 18 percent to “other causes”. Uroliths were attributed to 18 percent of cases. A 2017 analysis of over 75,000 uroliths submitted to the Canadian Urolith Centre over a 16-year period found that calcium oxalate and struvite were the two most common stones seen, accounting for 81 percent of all stones analysed (see Figure 1).

The same study also noted that medium and large breeds were most at risk of struvite stones, which are most often the result of a urinary tract infection, and small breeds were more at risk of developing calcium oxalate stones.

According to Moore (2007), although the physical appearance of many uroliths can give a good indication of the composition of the stone, different stone types do form in a wide variety of shapes, sizes and colours. Additionally, each calculus may have up to four different layers; from inside to out, these are: the nidus, the stone, the shell and surface crystals. Each layer could be composed of different mineral types and therefore, the external appearance of a calculus rarely gives an indication of the full composition of the entire urolith, the very centre of which (the nidus) is the key to accurate diagnosis and treatment.

The nidus could be quite different from the bulk of the stone. For this reason, when sending a stone for analysis, it is recommended to use a laboratory which will use a combination of structural and morphological tests to determine the exact composition of the urolith (Basiri et al., 2012).

Using X-ray to determine the physical appearance of uroliths is also not 100 percent reliable as it can’t always detect them and if it does, the shape might be misleading.
is completely free of crystals, a diet with metastable-supersaturation levels can be fed.

Feeding a diet which causes oversaturation (also known as labile supersaturation) will result in spontaneous crystallisation if the animal is predisposed. Houston et al. (2017) found various predisposing factors, such as breed, gender, neutered status and potentially weight, although body condition scores were not available for most of the 75,000+ submissions.

**Struvite**

Struvite calculi, composed of magnesium ammonium phosphate, are sometimes referred to as urease, infection-induced, phosphatic and triple phosphate stones. Struvite grow in an alkaline environment and it is possible to dissolve them by feeding a specially designed diet (Krawiec et al., 1984; Smith et al., 2001).

Struvite is usually associated with an infection so it’s imperative to correctly diagnose and treat with appropriate antibiotics alongside appropriate dietary management (Rinkardt and Houston, 2004). Since it can take up to six weeks to dissolve a struvite stone, antibiotics should be prescribed for one month after the stone is dissolved to prevent recurrent infections, as bacteria are continually released into the bladder during the dissolution process. If stones are surgically removed, then antibiotics are recommended for at least three weeks post-operatively.

According to Lulich et al. (2016), parameters for measurement are:

- Urine pH of <6.5
- Urine specific gravity (SG) <1.025 (or <1.020 for recurrent cases)

Also important in the management of struvite stones is to increase urine turnover, thereby increasing urine dilution. This can be achieved by feeding a diet with elevated sodium levels (Buckley et al., 2011). Struvite stones can be prevented from returning after removal or dissolution by feeding a diet which creates a high water turnover of slightly acidic urine and one in which mineral levels have been manipulated to reduce the risk of recurrence.

Uroliths can comprise several different types and it is not uncommon to find struvite mixed with calcium oxalate. Fortunately, it is possible to manage struvite and oxalate with one diet because, although pH does affect calcium excretion, it has no impact on the relative saturation levels for calcium oxalate in urine (Queau et al., 2013).

**Calcium oxalate**

In contrast to struvite, pure calcium oxalate uroliths (Figure 3) are rarely associated with infection, so tend not to require antibiotics. Also, unlike struvite, calcium oxalate uroliths are more commonly found in male dogs and the most commonly affected breeds are the Miniature Schnauzer and other small breeds such as the Lhasa Apso, Bichon Frise and Yorkshire Terrier (Case et al., 2011).

Although uncommon, hypercalcaemia is seen in animals with primary hyperparathyroidism, pseudohyperparathyroidism, malignant lymphoma and secondary hyperparathyroidism (Lulich et al., 1992); hypercalcaemia is also associated with increased urine calcium excretion.

There is a 10-fold increased risk of dogs developing calcium oxalate if they have hyperadrenocorticism compared with dogs without the condition (Hess et al., 1998) and it is surmised that prompt diagnosis and treatment of hyperadrenocorticism may decrease prevalence of calcium-containing uroliths in dogs.

Once calcium oxalate crystals or stones have formed, a diet should be fed that has adapted calcium levels and maintains the appropriate Ca:P ratio and controlled levels of vitamin D. It would also be desirable to control the levels of magnesium and phosphorus, which are oxalate precursors. As with struvite, providing a diet which increases water turnover through the bladder is important and this can be done by feeding either a wet diet or a dry diet with adapted sodium levels to encourage increased water intake.

Measurement parameters are (according to ACVIM 2016 recommendations): urine pH >6.5 and urine SG <1.025 (<1.020 in recurrent cases). Serum calcium levels should also be monitored.
It may also be worth noting that human foods such as chocolate, nuts, beans, sweet potato, wheat germ, spinach and rhubarb are high in oxalic acid, although absorption does vary depending on the food and which other foods they are fed in combination with (Liebman and Al-Wahsh, 2011), so for dogs fed with home-prepared diets, a conversation around this is warranted.

Ammonium urate

Dalmatians are homozygous for the recessive gene leading to defective uric acid metabolism, so only 30 to 40 percent of uric acid is metabolised to soluble allantoin, which is the end product of purine catabolism; this results in a build-up of uric acid and leads to the formation of ammonium urate (Figure 4) than any other stone. Management of the condition was first the removal of the stones, then the dog was placed on a low-purine diet for life.

As noted by Lulich et al. (2016), it is possible to dissolve urate stones within four weeks if fed the appropriate diet alongside administration of a xanthine oxidase inhibitor (ie allopurinol). They also state that where the urate is related to a liver condition, such as an uncorrected portosystemic shunt, dissolution is not possible because allopurinol is contraindicated in these cases.

Other canine uroliths

Other canine uroliths include cysteine, which most commonly affect Deerhounds (Houston et al., 2017), and xanthine, silica and calcium phosphate carbonate, which are all fairly rare. Dogs can also suffer with bacterial urinary tract infections, very often concurrent with diabetes mellitus or hyperadrenocorticism (Forrester et al., 1999), and as already mentioned, this can lead to urolith formation, particularly struvite.

Summary

The causes of urolith formation are varied and complex or idiopathic and, in all cases, specific nutritional management is valuable and recommended. In the case of ammonium urate, dietary changes should be lifelong. Many patients will have a recurrence and the most effective way to avoid this is by feeding a diet with a low RSS level for both struvite and oxalate for the rest of their lives. Dogs of different genders, lifestyles and breeds may be more or less predisposed; understanding this gives one a better chance of choosing an appropriate treatment and feeding protocol for ongoing patient management.

A full reference list is available on request
Managing callus in dogs

Communication with the owner is important when treating callus and preventing progression to callus pyoderma

Typically seen in giant breeds of dog, callus can be a simple condition to diagnose and manage. However, in cases with poor compliance, secondary infection (callus pyoderma) is common.

Callus
Callus is described as a localised hyperplastic skin reaction caused by pressure or friction (Hnilica and Patterson, 2017). It is a round to oval hyperkeratotic plaque that develops in sites overlying bony pressure points. The elbow is the commonest site followed by the hocks and, in those dogs with deep chests, the sternum (Miller et al., 2013).

The problem is most often seen in giant breeds of dogs, including: Great Dane, St Bernard, Newfoundland and Irish Wolfhound. In these breeds, callus is most likely to occur on the elbow or hocks.

Callus may occur on the sternum in smaller breeds, such as:
- Dachshund
- Shetland Sheepdog
- Pointer
- Boxer
- Dobermann Pinscher

Diagnosis
In an uncomplicated case, the diagnosis is made on the history and physical examination, with a consideration of underlying causes. Possible underlying causes include:
- Dog continually favours a hard surface to lie on
- Inadequate soft bedding
- Obesity
- Hypothyroidism
- Extremely underweight/emaciation
- Orthopaedic problems causing pain enforcing constant rest

Treatment
In mild cases, observation alone should be sufficient. Soft bedding should be provided and protective dressings can be considered. It is important to identify and deal with underlying factors.

Prognosis
Provided that the underlying factors are dealt with and the dog will lie on soft bedding and/or tolerate supportive dressings, the outlook for a simple case of callus is fair to good. Compliance can, however, be difficult to attain, either with the dog or owner or with both.

Callus pyoderma
In cases that are not managed effectively, and particularly when compliance is poor, secondary infection is common. In these cases, ulceration, fistulation and exudative discharges may occur, including the development of a deep pyoderma (Figures 1 and 2). In addition, and complicating matters, individual hair follicles may become impacted in the dermis.
setting up a foreign body reaction. This increases the likelihood and severity of deep pyoderma.

The differential diagnosis in callus pyoderma includes:

- Dermatophytosis
- Demodicosis
- Other causes of deep pyoderma
- Neoplasia
- Decubital ulceration (Figure 3)

The same underlying causes for callus will need investigation.

**Diagnosis**

A full history and physical examination should be undertaken. Cytological examination should be performed. Assess for keratin debris (free hair shafts) and the presence of a purulent or pyogranulomatous inflammation with the presence of bacteria. Suitable techniques include impression smears and tape strips. Histopathological examination is rarely required and is best performed after control of bacterial infection. Typically there is epidermal hyperplasia, orthokeratotic/parakeratotic hyperkeratosis with follicular keratosis and dilated follicular cysts.

**Treatment**

- Attention to underlying factors
- Deep pyoderma will require long-term systemic antibacterial agents based on culture and sensitivity with cytological follow-up as owners’ assessments may be unreliable
- Topical therapy with chlorhexidine/miconazole in addition to systemic therapy. This may continue as a regular preventive treatment once the deep pyoderma is under control
- Whirlpool baths may be helpful
- Bedding and protective dressing as for callus
- Surgical intervention is not recommended as the common sequel of wound breakdown will intensify the problem

**Prognosis**

The prognosis is guarded to fair. The main difficulty is ensuring that the dog does not seek out hard surfaces to lie on and/or when the dog does not tolerate dressings. Very good communication with the owner is necessary and these cases could benefit from a home visit to check that environmental factors are as controlled as possible.

**References**


Dental caries lesions in dogs

How to tell if your patient has dental discoloration or something more serious

**SIMONE KIRBY**
Simone Kirby, Dipl. EVDC, FHEA, MRCVS, did her residency in veterinary dentistry at the University of Pennsylvania, USA. She is a Diplomate of the European Veterinary Dental College and Head of Dentistry at The Ralph Veterinary Referral Centre in Marlow.

To many, dental caries, also known as “dental decay” or “cavities”, is better recognised from personal experience at the dentist’s office than from veterinary practice; dental caries is very common in people and has a comparatively low prevalence in dogs. One study recorded an incidence of 5.3 percent amongst a population of dogs presenting to a dental referral service (Hale, 1998). This article aims to raise awareness about this condition, its diagnosis and the main differential diagnosis. Treatment options depend on how advanced the caries lesion is and range from restorations (“fillings”) to the extraction of the affected tooth.

**Anatomy of the tooth crown**
The crown of a tooth consists of three principal tissues. Dentine forms the bulk of the crown; it is a hard, non-vascularised tissue. Dentine is covered by a layer of enamel, and in the centre of the crown is the pulp: a soft tissue structure consisting of blood vessels, nerves, lymphatic vessels, connective tissue and odontoblasts.

Enamel is the hardest structure in the body, containing 96 percent inorganic material; dentine has a relatively lower inorganic component of 70 percent, and the added organic matter increases resilience to impact forces.

**Dental caries**
Caries is a multifactorial condition (Mount and Hume, 1998) and, if conditions are met, acids released by bacteria demineralise first the enamel and then dentine, permitting bacteria to invade deeper, until significant loss of structure of the crown is encountered. The pulp may be infected once the carious lesion has progressed sufficiently deep, and dental caries is one of the commonest indications in humans for root canal therapy. Factors promoting the development of caries lesions are regular dietary intake of sugar and erosive dietary acids, a low salivary pH, plaque presence and a reduction in salivary flow.

**Dogs predisposed to dental caries**
While the mean salivary pH in dogs is high (at 7.5) compared to humans (average pH of 6.5), and regular dietary intake of sugar tends to be lower in dogs, the combination of a number of factors may predispose a dog to the development of caries lesions.

In dogs with normal saliva production, a main factor appears to be regular sugar intake at sufficiently high concentrations. This may be refined sugar in human food, such as sweetened peanut butter, slipping the dog a daily cookie or sharing a piece of jam on toast every morning as a treat. It may also be a food item rich in natural unrefined sugar, such as honey. Dogs clearing the garden from fruit that has fallen off the tree are also at risk, despite the relatively lower sugar content, as fruit contains acids that contribute to the erosive demineralisation of the tooth surface. The most common sites of caries lesions are the occlusal pits of the molar teeth, and the developmental grooves of the maxillary fourth premolar teeth and the mandibular first molar teeth (Figure 1).

Dogs suffering from xerostomia are at an increased risk of the development of dental caries, and in these cases, caries lesions can also be found on the crown wall, close to the gingival margin.
Diagnosis of dental caries

Close inspection of the occlusal pits and developmental grooves of the molar and premolar teeth should be part of any routine dental examination under anaesthesia. The presence of dark discoloration in these areas should prompt an exploration with the sharp tip of a dental explorer. If the explorer tip sticks in the lesion, it is most likely a caries lesion, as healthy enamel should be an uninterrupted hard surface that does not let the explorer tip sink into it.

Scratching over the hard enamel surface can be both heard and felt, as the dental explorer transmits a tactile sensation to the fingertips of the operator. The index of suspicion of a dental caries lesion is further increased if a plug of plaque is noted in the centre of the discoloured groove or occlusal pit.

Dental radiography is required preoperatively to determine whether there are signs of pulp involvement such as periapical lucencies and an abnormal pulp canal width and shape. A post-operative radiograph is taken if the tooth received a restoration.

Multiple lesions

A study (Hale, 1998) found that around half of the dogs with caries lesions had bilateral and fairly symmetrically distributed lesions. It is therefore advisable to examine the entire mouth, and particularly the other molar teeth and the maxillary fourth premolar tooth, closely following the diagnosis of a caries cavity (Figure 2).

Differential diagnosis

The most common cause of a brown spot in the occlusal pit of a maxillary molar tooth in the dog is food staining. The dental explorer tip will not stick in food staining, and the operator can feel that the tooth surface is still hard. Occasionally, a dark foreign body, such as small pieces of wood, may be stuck in the developmental grooves of the carnassial teeth; this should become clear on closer inspection, and the dental explorer or a dental hand scaler should be successful in the removal of the particle.

An advanced caries lesion may at first look similar to a traumatic crown fracture. A closer inspection and exploration with a dental explorer will reveal the carved-out appearance of the cavity, the softened dentine on the inside of the caries cavity and the characteristic sign of knife-sharp enamel edges created by advanced caries.

Treatment options

If the caries lesion has been diagnosed early enough, it can be treated with a restoration. This includes judicious removal of carious dentine with dental burs and special dental hand instruments: sharp spoon excavators. The floor of the clean cavity is inspected for any signs of pulp involvement, such as bleeding; if endodontic involvement was identified, the tooth should either be extracted or receive root canal therapy prior to proceeding with a restoration (Figure 3).

Prevention

Unlike in caries prevention in humans, the regular use of fluoride-containing toothpaste in dogs is not recommended, as dogs swallow their toothpaste. The best prevention is toothbrushing with a toothpaste suitable for pets, combined with avoidance of any treats containing sugar. Many pet carers are, on initial discussion of their dogs’ caries, quite certain that their pet does not receive sugary treats. But a source is typically found after careful questioning, as the “culprit”, for example, may be a family member who gives a daily cookie without anyone else’s knowledge!

Conclusion

The author recommends regular use of a dental explorer during dental diagnostics, and particularly the exploration of suspected food staining in occlusal pits or developmental grooves, as a number of these will be dental caries. When diagnosed early, important large teeth, such as a carnassial tooth or maxillary first molar tooth, make good candidates for restorative treatment. Even if the tooth is extracted, early diagnosis saves the patient pain from invasion of the pulp tissue by caries bacteria. It is the author’s hypothesis that dental caries is underdiagnosed in dogs, and additional studies are required to further investigate the prevalence.

A full reference list is available on request.
Addressing dental care at home

A combined approach involving tailored preventative care at home may be the best method for keeping pets’ mouths healthy

Dental disease poses one of the most challenging and frustrating conditions to deal with in veterinary practice. Whether being an initial source of complaint or picked up at a routine vaccination visit, deciding on an appropriate treatment plan and getting the owner on board with realistic expectations and financial considerations can be difficult. Persuading an owner to go down the general anaesthetic route for a scale and polish with any appropriate extractions can be tough enough, but it is important that the owner realises that even with this intervention, ongoing home care is essential for maintaining dental health, or the patient will be back at square one in a short space of time.

Home care for dental maintenance is a massively under-utilised preventative measure. It not only acts as a deterrent for the onset of dental disease, but it is beneficial in acclimatising the animal to regular oral examination and ongoing dental care; the earlier this is started in the pet’s life, the easier it will be.

Give realistic advice

Communicating the importance of home dental care requires the veterinary team to take the time to discuss oral healthcare options with owners and assess what will be most appropriate for each individual patient and owner based on a number of factors. For example, it is important to know how compliant an individual owner will be and to make sure their expectations are realistic.

Things to consider include:

- How committed is an owner to a regime?
- Are they able to perform physically demanding tasks?
- How accepting is their pet?

The gold standard in terms of dental home care is toothbrushing. However, this can also be the hardest and most time-consuming task to perform. Ideally, daily brushing is advised as anything else significantly reduces efficacy. The benefits of brushing teeth are twofold: the abrasion to remove plaque and inhibition of bacteria through using a suitable product like CET (complex enzymatic thiocyanate) toothpaste, which inhibits the growth of plaque-forming bacteria.

Nurse clinics can be invaluable in teaching owners the best method of introducing toothbrushing to their pet from an early age, but as mentioned above, it is also important to identify cases where this may not be achievable and be ready to offer an alternative to owners. Whilst these options may not provide the same results as toothbrushing, their increased ease of use can prevent owners becoming disheartened and simply avoiding all forms of home dental care.

Chlorhexidine rinses are beneficial and are very easy for pet owners to use. Chlorhexidine is a very effective broad-spectrum antiseptic, which, although ideally should be combined with mechanical cleaning, also has a beneficial effect with just topical application. Oral rinses provide a less intrusive option for owners whose pets don’t tolerate brushing.

Alongside brushing and oral rinses, there is a third choice for owners. Choosing a well-designed, healthy dental chew can help to make a difference in the dental health of a pet. The action of chewing helps to strengthen and exercise the periodontal ligament and alveolar bone. Chews are available that are specifically designed to conform to the shape of the tooth and help to remove plaque from the teeth.

In summary, it is important to show pet owners that dental care can be approached in a multitude of ways and alongside regular dental health checks in clinic, owners can utilise easy-to-use home care products which help to keep plaque and tartar at bay.
What to do if you suspect liver disease

How to spot the ambiguous clinical signs of hepatopathies in dogs and treat them accordingly

**IN FOCUS**

**WILL BAYTON**

Will Bayton, BVMedSci (Hons), BVMBVS (Hons), MRCVS, graduated from Nottingham University and pursued an internship at the Queen’s Veterinary School Hospital (Cambridge). He is currently undertaking a medicine residency at Cambridge and his main interests include hepatology, urology and haematology.

**C**anine hepatopathies are a common problem encountered in primary care practice; however, the diagnosis of liver disease can be challenging because dogs often show non-specific clinical signs. Additionally, non-specific laboratory abnormalities can further complicate the diagnosis, which can result in delayed treatment or incorrect diagnoses.

**History and clinical signs**

The liver has a huge functional reserve and an impressive ability to regenerate following hepatic injury. As such, overt hepatic dysfunction does not develop until at least 70 to 80 percent of its functional capacity is lost.

The majority of clinical signs are non-specific and include lethargy, anorexia, vomiting, diarrhoea and polyuria/polydipsia which could wax and wane.

More specific signs that could increase your index of suspicion for hepatic dysfunction include jaundice (Figure 1), ascites or neurological abnormalities consistent with hepatic encephalopathy. It is not uncommon for dogs with hepatic dysfunction to document hepatic encephalopathy shortly after a meal due to the sudden increase in serum ammonia, which highlights the importance of taking a thorough history from the owner.

Clinical signs of liver disease in dogs include:

- Depression/lethargy
- Anorexia
- Weight loss
- Vomiting/diarrhoea
- Polyuria/polydipsia
- Jaundice

- Ascites
- Hepatic encephalopathy (eg seizures, ataxia, altered mentation)

**Laboratory evaluation**

**Haematology**

Whilst routine haematology is an important tool to assess for underlying disease processes such as infectious/inflammatory diseases or anaemia, the results are usually non-specific in dogs with liver disease. A mild non-regenerative anaemia of chronic disease is not uncommon, and mild neutrophilia and monocytosis can be seen with inflammatory liver diseases.

**Liver enzymes**

Liver enzymes, including ALT, ALKP, GGT and AST, should be measured in all cases of suspected liver disease. The

**TABLE 1** Differential diagnosis for altered hepatic size in dogs

<table>
<thead>
<tr>
<th>HEPATOMEGALY</th>
<th>MICROHEPATICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Metabolic disorders (HAC, DM)</td>
<td>- Chronic hepatitis</td>
</tr>
<tr>
<td>- Drug therapy (eg steroids or phenobarbitone)</td>
<td>- Cirrhosis</td>
</tr>
<tr>
<td>- Congestion secondary to CHF</td>
<td>- Congenital portosystemic shunt</td>
</tr>
<tr>
<td>- Reticuloendothelial hyperplasia (eg nodular hyperplasia)</td>
<td>- Microvascular dysplasia</td>
</tr>
<tr>
<td>- Neoplasia – diffuse or nodular</td>
<td>- Congenital portal vein hypoplasia and idiopathic non-cirrhotic portal hypertension</td>
</tr>
<tr>
<td>- Inflammatory disease (eg hepatitis, acute necrosis, abscess)</td>
<td>- Normal variation in deep chested dogs</td>
</tr>
</tbody>
</table>
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hepatocellular enzymes ALT and AST are released from damaged hepatocytes and are therefore markers of hepatocellular damage. The biliary enzymes ALKP and GGT are markers of cholestasis and will increase with any disease that impairs bile flow. Importantly, the degree of elevation does not necessarily correlate with the severity of disease.

**Non-specific tests for liver disease**

**Albumin:** Albumin is synthesised exclusively by the liver. However, hypoalbuminaemia due to reduced hepatic function is only seen when the liver loses more than 75 percent of its function.

**Glucose:** Hypoglycaemia is another uncommon and very non-specific sign of marked hepatic dysfunction. Hypoglycaemia occurs most commonly in acute hepatic failure, in small-breed dogs with portosystemic shunts and in end-stage chronic liver failure.

**Urea:** A low urea can occur in canine liver disease, reflecting a reduced ability to synthesise urea from ammonia in the hepatic urea cycle. However, it is influenced by many extrahepatic variables such as protein level of the diet and fluid therapy.

**Cholesterol:** Cholesterol may be increased, decreased or normal in canine liver disease. Hypercholesterolaemia is associated with decreased biliary excretion and also with endocrine diseases which secondarily affect the liver (such as diabetes mellitus and hyperadrenocorticism). Hypcholesterolaemia occurs most commonly in dogs with portosystemic shunts.

**Urinalysis:** Certain urine abnormalities may be present in animals with liver disease, including poorly concentrated urine (USG <1.025), bilirubinuria, ammonium biurate crystals and bacteriuria.

**More specific tests of liver function**

**Bilirubin:** Hyperbilirubinaemia occurs when there is an abnormality of bilirubin processing, although it is not specific for hepatobiliary disease. Differentials for hyperbilirubinaemia can be categorised as pre-hepatic, hepatic and post-hepatic.

**Bile acid stimulation test:** Measurement of bile acids should be considered the primary test to assess liver function in a non-jaundiced dog. Significantly elevated pre- or post-prandial serum bile acids can result from reduced hepatic reuptake following active absorption of bile acids from the intestinal lumen (enterohepatic circulation). If hepatic jaundice is present, then measurement of bile acids is not helpful because they are elevated in biliary stasis.

**Ammonia:** Failure of the liver to detoxify ammonia, or shunting of portal blood away from the liver, results in hyperammonaemia. This is an important cause of hepatic encephalopathy (HE), although not all animals with HE will have markedly abnormal blood ammonia levels, as other toxic substances are involved. Ammonia is very labile in blood samples and therefore its interpretation can be challenging. Bile acid measurement has a very similar sensitivity to ammonia for portosystemic shunting and suffers from far fewer sampling errors.

**Coagulation factors:** The liver synthesises all coagulation factors except for factor VIII. Several factors also require hepatic activation by a vitamin K-dependent carboxylation reaction. Vitamin K deficiency may develop during hepatobiliary disease, resulting in prolonged prothrombin time and activated partial thromboplastin time.

**Imaging**

**Radiography**
Abdominal radiography can be used to assess liver size, position and shape, and evaluate for the presence of other abdominal pathology. As a general rule, dogs with acute liver disease have normal to enlarged livers, and those with chronic disease have small livers. Reduced hepatic size is also a common finding in dogs with portosystemic shunts. Radiography in the presence of ascites is generally unhelpful because the fluid obscures serosal detail. Table 1 documents the most common differential diagnoses for hepatomegaly and microhepatica.

**Ultrasonography**
The liver may appear normal on routine radiographic evaluation despite severe disease, but rarely appears normal on ultrasound in these circumstances. In most cases ultrasonography is an extremely useful tool in the investigation
of hepatobiliary disease and also allows the differentiation of focal from diffuse hepatic disease.

Ultrasonography is also an excellent tool for the examination of the biliary system. The presence of gravity-dependent echogenic material in the gallbladder, so-called "biliary sludge", is a common finding and unlikely to be clinically significant. Abdominal ultrasonography is also very useful for the identification of both congenital and acquired portosystemic shunts. It must be stressed that ultrasound is not a histological diagnosis and no dog should be euthanised on the basis of ultrasonographic findings alone.

### Other imaging modalities

Advanced imaging modalities such as CT are becoming more frequently performed in veterinary medicine for the investigation of liver disease, even in primary care practice. Contrast CT in particular can be hugely useful during investigations of congenital portosystemic shunts.

### Histopathology

The gold standard for obtaining a definitive diagnosis of liver disease is to perform histopathology. The only exception is with portosystemic shunts that have been identified with imaging. Table 2 discusses the methods available for collection of liver tissue, and the technique used will depend on clinician preference, equipment availability, technical skill and patient stability.

Coagulation status should be checked prior to all biopsy techniques other than fine needle aspiration. If coagulation times are prolonged, vitamin K supplementation should be given parenterally for 24 to 48 hours before re-evaluating. All animals should be monitored carefully for signs of haemorrhage for at least 12 hours post-biopsy. Particular attention should be paid to mucous membrane colour, heart rate and blood pressure.

### Treatment

Treatment of acute liver disease is often supportive, while treatment of chronic liver disease should be tailored to liver biopsy findings whenever possible.

Several non-specific treatments are available that are beneficial in the majority of acute and chronic liver disease cases; however, more specific medications are particularly useful for individual diseases.

#### Non-specific treatments

**High quality, easily digestible protein and carbohydrate diet**: Many animals with liver disease are fed diets with inappropriate protein restriction, which may restrict hepatic regeneration and result in malnutrition. Whilst prescription hepatic diets can be useful and contain additional benefits such as zinc and B-vitamin supplementation, the author generally prefers to use a soya-based hypoallergenic diet fed little and often.

<table>
<thead>
<tr>
<th>TECHNIQUE</th>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
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| Ultrasound-guided fine needle aspiration | Minimally invasive  
Sedation only required  
Ideal for obtaining samples of bile from gallbladder | Rarely helpful in the diagnosis of liver disease due to small sample size  
Only useful for generalised disease – primarily lipidosis and lymphoma  
Risk of gallbladder rupture if cholecystocentesis performed |
| Ultrasound-guided Tru-Cut biopsy (Figure 2) | Larger sample size allowing examination of hepatic architecture  
Can be used for focal disease  
Can be performed under deep sedation | Difficult in very small liver or if significant ascites present  
Requires specialist equipment and skill  
Biopsies are not as accurate as wedge biopsies  
Biopsies are too small to allow quantitative copper estimation |
| Laparotomy                       | Allows excellent visualisation of liver and biopsy sites  
Haemorrhage easily monitored and controlled | Requires general anaesthesia  
Invasive  
Visualisation of lesions within the liver parenchyma is poor unless combined with ultrasound |
| Laparoscopy                      | Minimally invasive procedure  
Other advantages as laparotomy | Same as laparotomy |

**TABLE 2** Methods available for obtaining liver tissue
**Antioxidants:** These include vitamin E, zinc, silymarin, S-adenosylmethionine and silybin. There is no clear evidence to date of improved survival in dogs with liver disease given antioxidants; however, human research has documented significant benefits when given to people with toxic hepatopathies.

**Cholerectics and bile acid modifiers:** Ursodeoxycholic acid (for example Destolit) is a bile acid modifier. It has been used safely in dogs but is not licensed for use in animals. Evidence does exist to support its use in liver disease cases, to promote bile flow and displacement of toxic hydrophobic bile acids. It should not be given to dogs with complete biliary obstruction.

**Antibiotics:** Patients with acute hepatitis of an infectious origin should be treated with broad-spectrum antibiotics, for example intravenous amoxicillin-clavulanate. Ideally, the antibiotic choice should be based on culture and sensitivity; however, initiating treatment with an appropriate antibiotic is indicated while awaiting culture results. In severe cases, metronidazole can also be added to the antibiotic regime at a reduced dose (7.5mg/kg/BID) due to its hepatic metabolism.

**Anti-nausea medication:** Ensuring these patients maintain their calorie intake is important, and therefore nauseous patients should be treated appropriately with maropitant, metoclopramide or ondansetron.

**Proton-pump inhibitors:** If concerned about gastrointestinal ulceration, omeprazole 1mg/kg/BID intravenously is warranted, although it is not currently licensed. Cimetidine is contraindicated in liver disease due to cytochrome P450 inhibition.

**Lactulose:** In cases of hepatic encephalopathy, addition of oral or per rectum lactulose can be an important method to improve clinical signs. Once signs have been controlled, the dose can be slowly tapered.

**Specific treatments**

**Copper chelation:** This is indicated in cases of primary copper hepatopathy, or those with severe secondary copper accumulation. Copper chelators include zinc and penicillamine; however, neither are licensed for small animals in the UK. Penicillamine is the most readily available, but it must be noted that chelation can take weeks to months before an effect is seen.

**Anti-inflammatories:** Anti-inflammatory doses of prednisolone have been reported to have a benefit in cases of chronic hepatitis; however, the risk of gastrointestinal ulceration is significant, particularly if portal hypertension is documented. It is recommended that the case be discussed with a specialist if you are unsure if corticosteroids should be started.

**Immunosuppression:** Increasing evidence is supporting the theory of an immune-mediated aetiology in specific breeds with hepatitis – in particular, the Dobermann and English Springer Spaniel. The author has had success treating English Springer Spaniels with severe, chronic hepatitis with prednisolone 1 to 2mg/kg/SID, with complete resolution of their clinical signs. Cases responding to cyclosporine have also been reported. Speaking to a specialist prior to initiating immunosuppressives would be recommended in these cases.

**Spironolactone +/- furosemide:** If a patient with portal hypertension develops marked ascites then spironolactone, and possibly also short-term furosemide, can help relieve the abdominal fluid efficiently to improve patient comfort.

**Conclusion**

Canine hepatopathies include a range of both reversible and irreversible disease processes, with many treatments remaining non-specific. However, as our understanding of specific breed-related hepatopathies improves, we are seeing our treatments concentrate on the underlying inciting cause and we hope that with further research we can continue to focus our treatment regimens for these patients.

Until that time, providing good supportive care with the medications discussed in this article is the optimal way of ensuring that your patient is receiving the highest quality of care.
A look through the latest literature

Tissue oxygen saturation in canine patients with naturally occurring shock
Alexia Berg and others, University of Minnesota, St. Paul

Shock is a serious, life-threatening condition that is a common finding in animals treated at veterinary emergency centres. The clinical signs can be variable and the underlying aetiology is often unknown on admission. Measurements of tissue oxygen saturation (StO$_2$) using near infra-red spectroscopy may be useful in assessing patients upon arrival. The authors compared StO$_2$ values with an established system for evaluating disease severity in veterinary patients, the Acute Patient Physiologic and Laboratory Evaluation (APPLE) score. They found that in 25 dogs with signs of hypotension and hyperlactataemia resulting from naturally occurring shock, StO$_2$ values were lower than those previously reported in dogs with the experimentally induced condition. A lower initial StO$_2$ was associated with worse disease severity but was not a significant predictor of survival in this population.

Journal of Veterinary Emergency and Critical Care, 29, 149-153.

Comparison of the safety of laparoscopic and open ovariectomy
Lionel Sebbag and others, Iowa State University, Ames

Laparoscopic surgery has become increasingly popular for ovariohysterectomy procedures due to the lower incidence of post-operative pain and faster recoveries, when compared with open surgery. The authors investigated whether this minimally invasive approach also led to lower rates of post-operative complications. They examined records from 106 open and 154 laparoscopic procedures performed by the same surgical team using similar preoperative and post-operative protocols. They found that the rate of minor complications, such as superficial site infections, was lower in the laparoscopic group (20 percent) than in the open surgery group (44 percent). Veterinary Ophthalmology, 21, 249-254.

Hair and saliva analysis ineffective in identifying atopic dogs
Joseph Bernstein and others, Long Green Animal Dermatology Centre, Baldwin, Maryland

Several companies now offer tests direct to the consumer for diagnosing conditions like diet-related atopy in dogs. However, none of the tests currently available in the US have been properly validated and there is limited regulatory oversight of such products. The authors examined the accuracy and reproducibility of results obtained with a commercial hair and saliva allergy test for home use in five dogs and one cat with atopic dermatitis. Their findings show that these direct-to-consumer tests performed no better than chance and the results were not reproducible.

Veterinary Dermatology, 30, 105-e28.

Bone marrow fat analysis in the detection of ante-mortem starvation
Troy Raglus and others, La Trobe University, Victoria, Australia

Starvation is the most common form of cruelty inflicted on domestic animals and veterinarians may be asked to examine emaciated animals in suspected neglect cases. There is a need for objective measurements of starvation to provide high standards of evidence in court cases. The authors review the scientific literature on the analysis of bone marrow fat as a diagnostic tool in such cases, as this is the next energy reserve available after mobilising glycogen and body fat. They conclude that BMF analysis can be an effective tool in the diagnosis of deliberate starvation.

The Veterinary Journal, 243, 1-7.

Owner satisfaction with outcomes following nasal reconstruction in dogs
Vanna Dickerson, University of Georgia, Athens

Invasive tumours of the nasal planum have traditionally had a poor prognosis due to the difficulties in achieving local control with conservative surgical treatment and radiotherapy. Bilateral labial mucocutaneous rotation advancement flaps are a technique developed to reconstruct a nasal planum facsimile following radical surgery. The authors describe the clinical outcomes and owner satisfaction in 26 cases treated using this method. Although dehiscence often occurred following this procedure, they found that local tumour control and survival times were excellent.

Veterinary Surgery, 48, 64-69.
APHA improves its free-to-farmer carcass collection service

The APHA has increased the number of haulage companies that will collect livestock carcasses from farms free of charge for disease investigation from 7 hauliers to 29. New haulier contracts came into place on 1 April 2019, and the increase in providers means carcasses can be collected more quickly from farms for delivery to APHA post-mortem examination (PME) laboratories.

The APHA undertakes PMEs and sample testing at its six Veterinary Investigation Centres (VICs) or through its partner PME providers with the aim of detecting new or re-emerging animal disease threats and identifying changes in endemic disease trends.

The APHA-funded free-to-farmer carcass collection service is available in England and Wales to farms more than one hour’s drive from either an APHA Veterinary Investigation Centre or one of its PME providers. The service is provided when disease is suspected and PME of the carcass may be of surveillance value.

To access the service farmers should contact their vet who in turn should contact the duty vet at their local PME centre. If it is agreed that a PME would be beneficial, APHA or one of its PME providers will undertake this at a subsidised rate, including any further tests that need to be undertaken.

OV briefings

20 MAY 2019
Clarity on entering microchip reading dates when preparing pet passports

When issuing pet passports, OVs should check that the animal’s ID is correct at the time the passport is issued, but should ensure that the “date of application or reading of the transponder certified in Section III of the passport precedes any current rabies vaccination”. Where required, OVs may certify this information on the basis of evidence provided by another veterinary surgeon. Where suitable evidence is not available, the OV should make the owner aware that the current rabies vaccination would not be valid for pet travel and a new rabies vaccination would need to be administered for the pet to be compliant with EU pet travel rules.

7 MAY 2019
New option for OVs who fail to revalidate by the deadline

There has been an update to the requirements for the reinstatement of OV authorisation following expiry of an OCQ(V) due to failure to revalidate by the deadline. Previously, any vet whose OV status was expired due to failure to revalidate before the deadline was required to complete the full OCQ(V) course if they required reinstatement of their OV authorisation. APHA has now introduced a six-month period after each revalidation deadline during which authorisation for an expired OV qualification can be reinstated by completion of the revalidation course, rather than the full course. Vets who have missed the revalidation deadline must contact the APHA OV Team if they wish to regain their OV authorisation in this way.

3 MAY 2019
Revision to the requirements for Brucella abortion and anthrax sudden death enquiries

The requirements for OVs collecting samples for abortion and sudden death enquiries on behalf of APHA for Brucella and anthrax surveillance purposes have been updated. In England and Wales this is only applicable to OVs carrying out work under the Veterinary Delivery Partner contracts. Previously, OVs carrying out Brucella and anthrax enquiries have been required to hold the OCQ(V)-SS qualification. From 2 May 2019, an OV holding the OCQ(V)-ES qualification is permitted to undertake these veterinary enquiries and take samples, under the instruction of a named OCQ(V)-SS holder. The OCQ(V)-ES holder must complete specified training provided by an OCQ(V)-SS holder to be eligible to carry out these enquiries.

2 MAY 2019
Update on TB181/TB181 (Welsh)

The TB181 – Information Note regarding Automatic Animal and Public Health Restrictions following Disclosure of a Reactor or Inclusive Reactor at an Official Diagnostic Test for Tuberculosis (TB) in Cattle, Buffalo or Bison – has been updated. The updates are as follows: clarification of existing content; addition of an owner’s checklist summarising the actions that cattle keepers need to take when reactor animals are found to help them prepare for reactor valuation and removal; additional advice on Resolved IRs restricted for life policy (England only); and TB compensation caps (Scotland and Wales only).

21 MARCH 2019
Opportunities for certifying fish exports in a no-deal Brexit

In the event of a no-deal Brexit, each export consignment of animals or animal products going to the EU would require an Export Health Certificate (EHC) to be issued prior to the consignment being dispatched. EHCs are currently required for exports of these products to the “rest of the world” but not to the EU. To ensure demand is met, APHA is providing free Product Exports (PX) training for OVs wishing to become eligible to certify fish consignments and sign EHCs and has launched the Official Controls Qualification for Certification Support Officers (CSOs) who can support the delivery of EHCs for animal products excluding germplasm/germinal products.

Read the full briefing notes at: apha.defra.gov.uk/official-vets/briefing%20notes.htm
Do we need better relationships with backyard poultry keepers?

A research project in Scotland revealed attitudes of backyard keepers to biosecurity and veterinary care for their animals

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vian influenza circulating in Europe and Asia poses a constant seasonal risk to the UK poultry industry. While biosecurity and health and welfare in the commercial sector is well monitored, not much is known about the practices of small-scale, “backyard” keepers in Scotland. In order to gain further insight, qualitative research funded by the Scottish Government’s Centre of Expertise on Animal Disease Outbreaks (EPIC) was carried out in Aberdeenshire and Fife prior to the H5N8 outbreak in December 2016.

Interviews with 5 veterinarians and 37 owners of between 3 and 500 “kept” birds (non-commercial chickens, ducks, turkeys, geese, guinea fowl and rheas) in rural and urban areas highlighted that the perception of disease risk and biosecurity precautions in backyard flocks is low. The majority of keepers are unaware that a single case of avian influenza in a “kept” bird will have potentially catastrophic repercussions for the commercial poultry sector and a significant financial impact on the Treasury.

Keepers with 50 or more birds are legally required to register with the APHA, but few backyard keepers are registered with the APHA or have poultry registered with a vet. While keepers profess an emotional attachment to their birds, many feel their monetary value doesn’t justify the cost of veterinary attention and will dispatch a sick bird rather than seek veterinary advice. Moreover, keepers believe that vets know very little about “kept” birds.

One keeper from Fife said: “But we’ve got a real problem, which is that vets know nothing about chickens. They know about sheds full of chickens: they can tell you that the air is supposed to move at about one metre per second ... And they can tell you about daylight and they can tell you about 72 days from birth to death of broilers ... But if you give them a chicken, they freak out.”

The vets that were interviewed agreed that they rarely treat poultry in the surgery, although they were regularly observed on clients’ premises.

One vet from Aberdeenshire commented: “In terms of smallholders, I would struggle to put an exact number on it, but we definitely get presented with the odd chicken ... mostly it’s people coming and asking for advice about their chickens ... we don’t often see them per se. There would be a dozen that we would have contact with, but there would be many more than that, I’m sure, that have chickens that we don’t have contact with.”

Poultry are procured from various sources, including sales and shows where hundreds of birds can congregate. Researchers were interested in biosecurity practices around acquisition and following death.

Despite the risk of disease incursion, most keepers seem willing to “take the risk” when introducing new birds to their flock, with few carrying out quarantine procedures when acquiring stock or visiting poultry events. This laissez-faire attitude wasn’t as apparent among the “fanciers” (showing fraternity), who are inclined to follow more stringent biosecurity practices.

Attitudes to the disposal of dead birds in rural areas is somewhat cavalier. A keeper in Fife commented that there is a young fox in a wood near the farm where the poultry are kept, so they usually just feed any poultry that have died to the fox, “to keep it away”.

Keepers in towns are more likely to dispose of dead birds in the dustbin or bury them in the garden; one from Aberdeenshire commented: “I bury them under my apple trees.” One interviewee reported letting the carcasses rot in order to produce maggots for the other poultry to eat.

During the project, it quickly became clear that there is a lack of understanding and knowledge with regards to biosecurity, disease risk and the national consequences of avian influenza among backyard keepers in these areas of Scotland. This has been partly addressed through Scotland’s Healthy Animals website, but unregistered keepers still rely heavily on the numerous Facebook poultry groups for information and biosecurity alerts.

Vets interested in raising their profile with small-scale keepers may find these Facebook groups an effective way to engage with their local poultry community.

For more information, visit: epicscotland.org

CAROL KYLE

Carol Kyle, HNC, is a research assistant at the James Hutton Institute in Scotland. She originally trained in farm animal physiology and now works as a social researcher with a particular interest in farming, livestock disease and food security.
What is the protocol for rehabilitating badgers?

Consideration should be given to bovine tuberculosis when it comes to treating badgers for release back into the wild.

Around 400 badgers (Meles meles; Figure 1) are rehabilitated and released in England each year. This includes adult badgers, frequently admitted for reasons of anthropogenic trauma, and orphaned or abandoned badger cubs.

Approximately 36 percent of adult badgers are suitable for treatment, rehabilitation and release. Common reasons for presentation include: road traffic collisions (37 percent) (Figure 2), “territorial” conspecific wounds (55 percent) (Figure 3), old and/or diseased, and illegal digging, baiting, trapping and snaring injuries. Approximately 60 apparently abandoned and orphaned badger cubs are raised annually (Figure 4). These are usually clinically well but require a prolonged rearing and rehabilitation process before they can be released.

In common with other British wildlife species, there is no formal regulation of badger rehabilitation. Badgers are well protected in the wild (under the Protection of Badgers Act 1992); however, it is legal to bring these animals into captivity if they are injured, or dependent neonates, and treat them with the intention of eventually releasing healthy animals back to the wild. Once captive, badgers are protected under the Animal Welfare Act 2006.

Bovine tuberculosis precautions

Bovine tuberculosis (bTB) is a disease in cattle caused by Mycobacterium bovis infection. M. bovis can affect a wide range of species, including humans, cattle and badgers. Both cattle and badgers, in common with other wild mammalian species, suffer from the disease. Infected badgers are able to maintain and spread infection. Excretion of bacteria may occur in saliva, urine, faeces and lymph node abscesses. Badgers may also transmit infection, via contaminated saliva, during social disputes that result in wounding (Figure 3).

Clinical signs of tuberculosis in badgers, as in other species, are typically weight loss leading to emaciation,
What is the protocol for rehabilitating badgers?

Although a variety of other clinical signs may be seen related to localisation of infection in the lung, pleural cavity, liver, spleen, kidney, lymph nodes and growth plates of long bones.

Those dealing with badgers in a rehabilitation situation must be aware of the possible risk of *M. bovis* infection, both to themselves and their staff and to other animals, and take appropriate precautions. Good practice would include the use of recommended PPE (gloves, aprons, masks) – especially when dealing with badger urine, faeces, saliva and wounds; cleaning with a Defra-approved disinfectant for *M. bovis*; and avoiding high-risk procedures such as post-mortems outside of approved laboratories.

The Defra Strategy for achieving Officially Tuberculosis Free Status for England 2014 does not specifically mention badger rehabilitation; however, this activity has raised concerns with farmers.

In 2017, Defra and wildlife groups cooperated to update the Badger Rehabilitation Protocol, first published in 2003, and produced a new edition in 2018. The protocol provides guidance on how badgers should be handled, cared for, rehabilitated and released. Adapted from the Badger Rehabilitation Protocol (Mullineaux (ed.), 2018)
FIGURE (6) The protocol for testing badger cubs. Adapted from the Badger Rehabilitation Protocol (Mullineaux ed.), 2018.
What is the protocol for rehabilitating badgers?

Guidance about how badgers should be handled, cared for, rehabilitated and released (Figure 5). Disease prevention is at the core of the protocol and appropriate controls for *M. bovis* infection, including testing of badgers, are detailed. This guidance reduces zoonotic risks for individuals handling badgers, and the risk of disease transmission to other animals, including livestock. Maintaining the confidence of landowners providing release sites for badger cubs is key to rehabilitation.

**TB testing**

In common with other species, the availability of commercial tests with high sensitivity and specificity for *M. bovis* infection in badgers is very limited. The Dual Path Platform (DPP) VetTB assay (Chembio Diagnostic Systems) is a serological test, available from the APHA laboratory at Starcross, that measures the specific antibody response to antigenic targets MPB83 and ESA76/CFP10. The test in badgers has a relatively low sensitivity (55.3 percent) but is highly specific (97.5 percent). Testing an individual animal with a blood test on more than one occasion increases the sensitivity of the test but reduces test specificity. If badgers are tested on three occasions with DPP, point estimates are a sensitivity and specificity of 91.1 percent and 92.7 percent respectively, though these will vary with stage of disease and degree of pathology.

No routine testing of adult badger casualties is carried out under the Badger Rehabilitation Protocol, as adult animals are maintained in isolation during captivity and released exactly where they were found for both territorial and disease prevention reasons. A single test is considered sufficiently sensitive and these animals are not in captivity long enough to allow for multiple testing. Adult badgers with clinical tuberculosis should be easily recognised by veterinary surgeons and these animals should be immediately euthanised.

**Preparing badgers for release**

Badger cubs wean late and are bottle fed until they are 10 to 12 weeks old before being rehabilitated in groups (Figure 7) for behavioural and social reasons. These groups must eventually be released at a new location, so any disease risk associated with translocation must be mitigated against.

Badger cubs are tested using DPP on three occasions prior to release to maximise test sensitivity. Badger cubs testing positive to any one of the three tests are euthanised and sent for post-mortem examination and *M. bovis* culture. The outcome for remaining cubs in the group is determined by these findings; those in contact with a confirmed positive animal are euthanised (Figure 6). Cubs are released, with full landowner consent, into specially constructed artificial setts in Defra classified areas of similar bTB status in cattle (“low”, “edge”, “high”) to where the cubs originated.

Badger cubs are BCG vaccinated prior to release (Figure 8), usually at the time of the third blood test. BCG vaccine has been shown to reduce the severity and progression of *M. bovis* infection in badgers. The benefits of BCG are, however, best seen on a population basis where groups of badgers, such as cub groups, are vaccinated. In adults, there is an argument that vaccination of an individual is of limited benefit, unless the other badgers in the area or group are also vaccinated. Where vaccination of adults prior to release is possible, no disadvantages are evident.

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**FURTHER READING**


African swine fever (ASF) is a non-zoonotic, highly contagious viral haemorrhagic disease of domestic and wild pigs. It is caused by a member of the Asfarviridae family of viruses, and has 22 known genotypes of varying pathogenicity, leading to acute, sub-acute and chronic forms of the disease. The acute form is the most prevalent, invariably causing death.

Studies within ASF-infected areas have shown that ASF is largely spread by the movements of infected wild boar and small-scale keepers feeding their pigs ASF-contaminated meat. Epidemiological tracing has demonstrated large geographical leaps, to previously uninfected areas, by the movement of people either via mechanical transfer or by allowing pigs or wild boar access to contaminated meat products. This method of spread is thought to be the highest risk to the UK herd and significant preventative measures have been put in place by Defra and industry, placing risk of entry into the UK as “medium” (“high” risk would require ASF to be confirmed in the UK).

As of April 2019, in Europe, ASF has been confirmed in Belgium, 1km from the French border (11 cases in wild boar); Romania (8 farms in domestic pigs and 36 cases in wild boar); Hungary (128 cases in wild boar); Ukraine (4 farms in domestic pigs and 1 case in wild boar); Bulgaria (1 wild boar); Latvia (9 wild boar); Lithuania (24 wild boar); and Poland (229 wild boar). Within Asia, China, Vietnam and Cambodia have reported new outbreaks of ASF in domestic pigs. ASF is currently a notifiable exotic disease in the UK.

Clinical signs
The clinical signs and post-mortem lesions that occur with ASF are almost indistinguishable from classical swine fever (CSF), requiring laboratory tests to differentiate them. All ages of pigs are susceptible. The clinical signs include:

- High fever (>41°C, Figures 1 and 2)
- Inappetence
- Depression
- Lethargy – sometimes refusal to stand or move, potentially ataxia
- Vomiting and/or bloody dysentery (Figure 3)
- Extremities and ventral body may become cyanotic, noticeable on white-skinned pigs (Figure 4)
- Discrete skin haemorrhages appear, particularly on the ears and flanks
- Groups will huddle together and are typically shivering
- Dyspnoea and possibly coughing
- Heavy oculonasal discharge with sporadic epistaxis
- Occasional conjunctivitis with reddening of the conjunctival mucosa and ocular discharges
- Pregnant sows commonly undergo miscarriage or deliver stillborn piglets that are malformed – the piglets can be tested for the virus
- Comatose state and death within a few days

Pigs infected with less pathogenic strains may not show typical clinical signs; however, severe strains of the disease are generally fatal.

Post-mortem lesions
Lesions are variable and not all are present in each pig or in all groups of pigs. They include:

- Haemorrhages – skin, lymph nodes (Figure 5), kidney, bladder, larynx, heart, lung, liver and serosal and mucosal surfaces (Figure 6)
- Enlarged, reddened, almost black, lymph nodes
- Spleen enlarged, dark and more friable (Figures 7 and 8)
- Blood-stained effusions in pericardium, abdomen and thorax

Porcine dermatitis and nephropathy syndrome, which occurs occasionally, can resemble ASF and CSF clinically and at post-mortem examination. Laboratory examination may be necessary to eliminate from the diagnosis.

Transmission and spread
Transmission can occur through three main routes:

- Direct contact with infected pigs, or their faeces or body fluids. Spread from pig to pig is often slow, taking up to
Stay up to date with African swine fever prevention

two weeks before mortality increases as the virus is not shed before clinical signs appear

- Indirect contact via fomites or people who work with pigs moving between pig farms with ineffective biosecurity, or people travelling from an endemic area bringing the virus back with them on their equipment or in pork products
- Pigs eating infectious meat or meat products. ASF can survive over two and a half years in frozen meat and there are very high amounts of virus in blood and tissues

**Virus survival times**
The ASF virus can survive long periods of time outside of the living pig:

- 1 day in faeces held at room temperature
- 70 days in blood on wooden boards
- 15 weeks in putrefied blood
- 150 days in boned meat held at 4°C
- 140 days in salted dried hams
- 18 months in pig blood held at 4°C
- 1,000 days in frozen meat

**Treatment**
There is no cure or vaccine for ASF-infected pigs, although vaccines are being trialled. Control is through isolation, movement restriction, slaughter and incineration. As a notifiable disease, all pigs in the herd containing a confirmed case will be compulsorily slaughtered.

**Preventing spread**
Recommended biosecurity measures include:

- Wearing protective clothing and boots and providing these for anyone coming onto the pig holding
- Cleaning and disinfecting vehicles and equipment that have been used in areas where pigs or other farmers are, such as agricultural stores
- Disposing of waste food in secure bins that pigs or wildlife cannot gain access to

**OFFICIAL GUIDANCE**
The disease control strategy for African swine fever in Great Britain sets out the measures we would consider if it was suspected or confirmed in pigs in Great Britain: [gov.uk/government/publications/african-and-classical-swine-fever-gb-disease-control-strategy](http://gov.uk/government/publications/african-and-classical-swine-fever-gb-disease-control-strategy)
Details are published on the [gov.uk](http://gov.uk) website on what to do if you suspect ASF in a pig herd; this is a useful document to provide to the farmer: [gov.uk/guidance/african-swine-fever](http://gov.uk/guidance/african-swine-fever)
What can we learn from cattle contact chains?

Analysing the network of cattle movements in the UK could improve the control of diseases, including bovine TB

A n analysis of data from the Cattle Tracing System has been carried out by the Environment and Sustainability Institute at the University of Exeter. The APHA was involved in the project and it is assumed that the findings will be perused by the government, with particular relevance to future controls for bovine tuberculosis. A paper entitled “Contact chains of cattle farms in Great Britain” (by Helen Fielding and colleagues) has been published by Royal Society Open Science.

At the time of writing, further clarification of the issues that are likely to be considered is not available, but it can be anticipated that cattle farmers and their veterinary surgeons will wish to influence future control options.

The second sentence that introduces the paper will make easy reading for vets in cattle practice: “Animal movements between farms can be considered to form a directional link from the source to the destination farm, which may therefore indicate potential pathways for direct and indirect transmission of pathogens.”

An introduction to the study

The authors highlight that identifying the importance of a given farm within a trading network could lead to preferential protection, treatment or isolation of a herd, or specific farms might enhance disease control measures that would influence other herds. Infection risks are said to correlate with the number of farms with which a farmer trades, and the number of animals traded.

It is emphasised that the incidence of disease has not been investigated – only the frequency and volume of cattle trading. This is the explanation for using the term “contact chain” rather than “infection chain”, but a chronic disease can be expected to be transferred over a longer period and trading is expected to enhance the spread of disease.

Within the study years (from 2001 to 2015), 158 million individual animal movements between premises were recorded. The analysis excluded births (41 million) and deaths (42 million), movements via markets or showgrounds (26 million) and animals going directly for slaughter (34 million).

The originating farm and the destination farm remained in the dataset but the transitory nature (one day) of markets and shows was considered less relevant for transmission and persistence of slow-spreading infections. The authors recognised the potential role of markets in disease spread, but for BTB the decision was taken to record farm-to-farm.

Twelve-month periods (1 January to 31 December from 2001 to 2015) were considered for each farm, and herd size was recorded as the mean daily number of animals on the farm over the same period. Herd type was defined in each year as beef, dairy or dual purpose. Suckler herds were defined as having calves reared by their dams before weaning and had a majority of females. Fattening units were defined as those with a male majority that did not breed cattle but reared for beef production. Dairy farms were producing milk commercially and any farms where one sex did not comprise more than 50 percent were defined as mixed herds.

Findings and implications

The paper refers to ingoing contact chains (ICCs) and outgoing contact chains (OCCs). Farms with high ICCs are considered at high risk for acquiring infections and farms with high OCCs a high risk of spreading infection.

Analysis indicates that as a result of their cattle purchases within 12-month periods, 47 percent of British farms were connected by ICCs to more than 1,000 other farms and 16 percent were connected to more than 10,000 other farms. As a result of their cattle sales within 12-month periods, 66 percent of farms had OCCs that reached more than 1,000 other farms and 15 percent reached more than 10,000 other farms.

Over 19,000 farms had both ICCs and OCCs reaching more than 10,000 farms for two or more years. Herds with high outgoing and ingoing contact chains are referred to as potential “superspreaders”.

Discounting 2001 (because of the foot and mouth effect), the median number of cattle traded from a single farm to another over the 12-month period was two. Suckler herds made up 56.8 percent of all farms and the predominant between-herd flows of cattle were between suckler herds.
(12 percent), from suckler to fattening herds (9 percent) and from dairy to fattening herds (7 percent).

Fattening farms received the most movements from other farms (21 percent) and dairy farms received the fewest (4 percent). Thirty-five percent of movements were traded through markets, often from breeding herds back to suckler herds or to fattening herds. On average, 34.4 percent of dairy holdings purchased no cattle in any one year, suckler farms 27 percent, mixed holdings 22.5 percent and fattening units 9.64 percent. Individual farm movements tended to stay consistent over time, indicating a likelihood to trade or not trade.

There are in excess of 600,000 individual animals moved between two farms each year. The data suggest that trading partners tend to reciprocate buying and selling cattle to one another, with multiple small groups of well-connected farms. Dairy farms sell animals to many different farms and it is speculated by the authors that infected dairy herds could be disproportionately influential in spreading disease throughout the cattle network and are a likely target for control measures.

A small number of farms act as “hubs”; these farms have many more trading partners than the majority. The trading of cattle and the risk of disease spread had been thought to be predominately due to markets, but the analysis indicates that hub farms might facilitate epidemic spread by creating transmission shortcuts throughout the cattle network.

Hub farms are considered important for control measures as well as markets. However, the authors point out that individual farmers will have control over their direct purchases but may be unaware of the extended cattle chains, and knowledge of the history of herds within contact chains would better equip farmers and veterinary surgeons to make better buying decisions. Farmers who believe that they trade carefully, with a few partners, may have a false sense of security.

Summary
The paper introduces unfamiliar means of analyses with networks, nodes, edges and in and out degrees. On average, the cattle movement pathways have fewer than seven steps. Digesting the results of the study will require considerable awareness of disease and cattle if practical developments are to follow.

It would be helpful if veterinary practices were able to chart contact chains from records held on clients’ herds. Examples of large chains, where 10,000 links are recognised, are difficult to comprehend and case histories would be highly beneficial. It does seem that the influence of one herd on neighbours and trading partners may be an area that should be looked at more carefully. If a few high-risk farms can be identified and disease control measures introduced, the uptake of preventive strategies may benefit farmers, cattle and veterinary practice.

What can we learn from cattle contact chains?

The Food Standards Agency (FSA), is the Central Competent Authority for the delivery of official controls on food in England and Wales.

The current contract for the provision of Official Veterinarians and Official Auxiliaries to undertake Official Controls for Meat in FSA Approved Establishments in England and Wales will expire on 29th March 2020. This contract will be retendered from end June 2019. The new contract will be awarded by the end of 2019 and will go live from 30th March 2020.

The retender will be geographically spread across six lots, spread over three Regions;

1. North of England
2. Wales and the West of England
3. East of England

This is an exciting opportunity to deliver important services that are critical to the FSA and the UK food industry. The contract will focus on core delivery of the services but the FSA also wish to investigate opportunities to deliver this contract flexibly and innovatively.
Engaging with sheep clients

How can vets improve their communication to farmers and become more involved with sheep health?

Despite there being approximately 33 million sheep in the UK, the sheep sector has historically been regarded as an area of low engagement within the veterinary profession. Commercial sheep owners can be less receptive to veterinary input than other areas of production animal practice.

Reasons for this may include:

- A relatively low generation of practice income per capita
- A great diversity of producers – many of which are extensively farmed
- A typical dearth of production data making it difficult to demonstrate the value of proactive veterinary management
- Management practices on farms that have been handed down through generations by farmers who see little need for veterinary involvement
- Heavy reliance on subsidies not related to productivity

From the farmers’ point of view, there is a general feeling that vets are not interested in sheep and/or have little expertise. Kaler and Green (2013) concluded that while some farmers did engage in regular proactive health planning, the majority saw their veterinary surgeon more in terms of disaster management, quoting barriers to engagement such as inconsistent service, high vet turnover, lack of expertise and concerns regarding the independence of advice offered.

The challenges touched on above can make engaging with these clients a daunting prospect – particularly for practitioners who graduated with little experience in small ruminant flock management and find themselves in a practice where the senior vets are more focused on work with other species. That being said, flock health work is surprisingly engaging – particularly when dealing with clients who have had limited veterinary input in the past. On these farms, it is possible to make considerable improvements over a relatively short period of time.

Why should we push for better communication?

Until recently there has been little incentive to change on both sides – but with recent developments, the veterinary surgeon has the opportunity to play a more proactive role, which can be both beneficial for the client and challenging and rewarding for the vet. Drivers for this change include: changes in Farm Assurance by Red Tractor; the likelihood that single farm payments will be reduced or abolished in the near future; increasing concerns regarding antimicrobial resistance; climate change; and a drive towards more sustainably produced sources of protein that are efficiently produced on farms that are environmentally sustainable and welfare friendly.

How can vets get more involved?

The first point of entry onto the farm (barring emergency work) for many practitioners will now be the Annual Health and Performance Review (vet) required since June 2018 by Red Tractor Farm Assurance. This provides an ideal opportunity for the vet to acquire an overview of the system, spend time on the farm not led by clinical urgency and put into place evidence-based management changes that very often result in a decrease in the number of treatments required. This may be coupled with a well-received cost saving; many farmers continue to use anthelmintics on stock that do not require treatment – or at inappropriate times in the production cycle. Demonstrating the efficacy of advice and the possibility of saving money and safeguarding stock welfare is of key importance and, therefore, encouraging simple, practical record keeping is important.

Flock health planning, seen by many farmers as a box-ticking exercise, can be an opportunity for engagement. And this can expand to open up potential for other work – for example, offering free or discounted faecal egg counts at key points in the year to help clients to understand SCOPS principles (Figure 1) and encourage sustainable anthelmintic use. Blood testing of barren ewes to assess exposure to Toxoplasma gondii and Chlamydia abortus may be available free of charge subsidised by vaccine companies and is a valuable way to demonstrate the presence of infection within a flock – and encourage vaccination if required. Critically, encouraging client-to-client interaction through meetings and discussion groups has a powerful impact on adoption of good practice on farm – and reducing abortion rates as a result of vaccination by key clients is likely to encourage other clients on board.

Proactive health planning will also promote improved welfare. Sheep are often present in large numbers on areas of extensive grazing that are accessed by the general public. Veterinary input may be vital in building a public perception of the sheep industry as a high welfare production system, for example in implementing the five-point plan.
to reduce the incidence of lameness (Figure 2) and providing effective parasite control planning to minimise the risk of PGE, flystrike, etc.

What are the benefits for sheep health and agricultural sustainability?

Once sheep farmers are engaged, it may be surprising to find just how receptive they are to an interested and enthusiastic vet. Offering client meetings, benchmarking groups, liaison between SQPs and vets, flock health clubs, subsidised post-mortem examinations and nutritional advice will all help to share knowledge. And these methods are cost effective, targeting multiple clients within a single time period and over time, allowing the sharing of experiences between clients to spread ideas and practical input regarding best practice and biosecurity.

Environmental management and sustainability are areas where veterinary input is increasing and are likely to be key drivers in the sheep sector of the future. This highlights the shift from “fire brigade work” towards a role as health professionals well placed to advise at whole system levels, prioritising animal health and welfare, while at the same time facilitating production efficiency, promoting the responsible use of antimicrobials and protecting the environment and livelihoods of producers.

In the current climate with the BVA promoting a “less and better” approach to meat consumption, with the support of the veterinary profession, the UK sheep industry has an opportunity to seize the chance to promote high welfare, extensive production systems, with increased efficiency as a result of proactive disease management and flock planning. As a key stakeholder in the One Health model, the sheep vet can also help to decrease the environmental footprint of animal agriculture within the industry and promote sustainable consumption.

As the BVA sustainability in agriculture policy published in April 2019 states, “Vets are an integral part of the agriculture and food sector, providing preventive healthcare and treatment for livestock, carrying out disease surveillance, promoting good biodiversity and high animal welfare standards. They are well placed to advise on sustainable systems and husbandry practice and collaborate with their colleagues in the agricultural industry to work towards a more sustainable future for farming.”

One of the key findings highlighted as a reason for a lack of contact between many sheep farmers and their veterinary surgeons is a perceived lack of sheep expertise and enthusiasm from vets. There is a great deal of support for the aspiring sheep clinician in the UK. The Sheep Veterinary Society prides itself on being “The friendly society”. With biannual three-day meetings covering a wide range of topics including latest research and development, as well as a clinical discussion forum available to members, the yearly subscription is good value for money. The British Cattle Veterinary Association (BCVA) and the London Vet Show have sheep streams, and SRUC and many of the veterinary colleges and veterinary investigation centres run small ruminant meetings.

There is an urgent need on a global level to improve production efficiency in ways that are sustainable and respect the environment, making efficient use of natural resources as well as safeguarding the welfare of animals and their keepers. The veterinary surgeon, working in partnership with the skilled shepherd, is ideally placed to play a key role in supporting this process. ■

A full reference list is available on request
recruitment and retention are two of the most important challenges facing the profession. One only has to read posts on the social media sites for UK veterinary surgeons to realise this is a hotly debated topic. Whilst social media sites play a wonderful role in allowing colleagues to share experiences and get help and support on a wide variety of clinical and non-clinical issues, there seems to me a preponderance of negative comments. I have always felt we are reluctant to portray the amazing aspects of our profession for whatever reason.

I was delighted when the current BEVA President, Renate Weller, along with colleagues from the RVC and BSAVA, decided to collaborate to conduct a new study to update our understanding of veterinary recruitment and retention. The study consisted of a questionnaire designed to obtain the opinions of employed and unemployed veterinary surgeons and registered veterinary nurses from across the UK, and from across all veterinary disciplines. The questionnaire was approved by the RVC's Ethics and Welfare Committee.

The hope was that this study would provide evidence-based facts rather than anecdotal impressions gained from social media sites. There are six sections: demographics; finding a job; job satisfaction; postgraduate training and network; salary and working hours; and the employer’s view.

The study was extensively promoted through the media channels of BEVA and BSAVA as well as social media. An enormous amount of data was generated and analysed descriptively, and this can be accessed at: beva.org.uk/retention-survey. The results are displayed in a superbly illustrated format with intuitive graphics leading readers through the details. There are six sections: demographics; finding a job; job satisfaction; postgraduate training and network; salary and working hours; and the employer’s view.

The study has thrown up some fascinating findings – some of considerable surprise. I won’t reveal the full details, but to whet the appetite, “almost half of all vets say they are either ‘likely’ or ‘very likely’ to search for a new job within the next two years – but of these, fewer than 10 percent say they want to quit the profession entirely.”

As with everything to do with Brexit, respondents to the question “How has the UK’s decision to leave the EU impacted on recruitment” were split more or less down the middle. Around half of the relevant respondents said it had made recruitment harder and the other half said it had made no difference. Mind you, less than 1 percent said that Brexit had made recruitment easier. Interestingly, on the question of retaining existing staff, a clear majority of 68 percent thought the Brexit vote had made no real difference.

In an attempt to provide an insight into the questions that have been raised, BEVA organised “virtual” round table discussions with several relevant colleagues to discuss the findings. These have been uploaded as a series of compelling video clips and include the topics “Are there too many vets leaving the profession?”; “Is recruitment tougher than it ever was?”; “Do you think we are behind the times with CPD?”; and “What can we do to keep vets in the practice?”

Hopefully this has given you some food for thought and you are all strongly encouraged to take some time to check out the BEVA website and go through this landmark study and all associated material. For sure it is time well spent for all of us involved in the veterinary profession, in whatever capacity.

Jonathan Pycock
Immediate Past President, BEVA

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

Learn about the history of freezing equine semen and the applications for artificial insemination today

**BETHANY MORSE-WOLFE**

Bethany Morse-Wolfe, BSc (Hons), is a laboratory technician at Stallion AI Services. Stallion AI Services is one of the UK’s leading equine semen collection centres. Based in Shropshire, the company specialises in processing of semen from sub fertile stallions and pioneering methods of semen collection and preservation.

Originally driven by the pressure to increase the speed of genetic improvement in farm animals, the availability of artificial insemination has expanded across many species, including the equid. The first recorded successful artificial insemination was in a canine in 1784 by the scientist Lazzaro Spallanzani (Italy). In 1776, it is also thought that Spallanzani was the first to record the effects of cooling sperm, rendering them motionless.

Around 100 years later, Ilya Ivanovich Ivanoff (1870 to 1932) was the next significant influence within the progression of equine artificial insemination. Ivanoff developed practical methods for insemination and advanced the production of superior progeny by crossing superior stallions. Techniques have been developed and refined since the first artificial insemination, but the principles remain the same. Today, frozen semen is increasingly used as a viable alternative to fresh or chilled semen, due to the difficulties in physically moving horses internationally and the disease risks associated with such transportation.

Another advantage of frozen semen is the ability to order and ship semen in advance of the breeding season, enabling a smooth insemination at the optimal ovulation time for the mare.

**Why should we cryopreserve equine spermatozoa?**

Freezing equine semen allows the production of elite performance horses and aids species preservation.

Using frozen semen as opposed to fresh or chilled allows the breeding of equids on an international scale (see Figure 1). This is because frozen semen straws can be transported further than chilled semen due to the infinite longevity of the sperm cells (if stored, handled and thawed correctly). Due to the longevity, frozen semen also allows for preparation for the unexpected: injury, old age or death which could halt fresh or chilled semen production. Furthermore, frozen semen is helping to secure a future for endangered breeds. Cryopreserving semen provides a reserve of genetics for present and future use to conserve endangered breeds such as the Suffolk Punch horse.

**FIGURE 1** The number of frozen semen straws exported in 2018 (from Stallion AI Services, England)
An overview of cryopreservation

The process begins by collecting the sperm-rich fraction of the ejaculate from a stallion and extending it in a milk-based medium, which helps to increase the longevity of the spermatozoa. Centrifugation then separates the spermatozoa from the seminal plasma, which can have detrimental effects during the cooling process.

After centrifugation, the supernatant is then discarded; the cell band is removed (see Figure 2) and re-extended in a freezing extender containing a cryoprotective agent, to a concentration of between 100 to 400 x 10^6/ml. This value varies depending on the number of straws per dose and stallion fertility; in general, the lower the concentration, the higher the straws per dose. Some studies have found that the quality of semen frozen at lower concentrations is improved compared to those frozen at a higher concentration. However, there is ongoing research in this area.

Straws of a half-millilitre volume are generally used for the insemination of mares. The straws are printed with the stallion’s name, date of collection and the centre where they were frozen (see Figure 3). They are then filled, sealed and cooled to 4°C. After initial cooling, the straws are frozen and plunged into liquid nitrogen (-196°C). At this point, the semen is frozen and can be indefinitely stored. Freezing generally takes place rapidly to ensure the spermatozoa can withstand the dehydration and osmotic pressures and to reduce the formation of intracellular ice crystals during the process. Research into the optimal freezing method is still ongoing.

Summary

From the first recording of cooling spermatozoa in 1776, artificial breeding technologies have vastly improved within the equine reproductive industry. The rapid freezing process enables the maintenance of high-quality spermatozoa. Frozen semen is also closing the gap between frozen and chilled semen, achieving pregnancy rates of 30 to 70 percent per cycle with ongoing research to further improve frozen semen standard. Overall, cryopreservation of equine spermatozoa allows the production of superior progeny marketed internationally and the preservation of our favoured rare breeds.

Advances in breeding technology

Artificial breeding techniques now include intracytoplasmic sperm injection (ICSI), embryo transfer (ET) and oocyte transfer. ICSI allows one sperm cell to be injected into an oocyte, thus vastly increasing the number of potential offspring from one single ejaculate. ET and oocyte transfer enable a recipient mare to carry the foal to term, allowing the donor mare to be free from pregnancy. ET may be used so that the donor mare can continue competing, is not exposed to a potentially life-threatening foaling or in cases where the mare may not be physically able to carry a foal to full-term.

Due to the advances in technology and freezing techniques, the quality of frozen semen is closing the gap between frozen and chilled semen. Frozen semen is currently producing pregnancy rates of 30 to 70 percent per cycle. The major factor influencing this varied range is the individual sire. Therefore, ongoing investigation is needed to continue to improve pregnancy rates obtained from frozen semen.

Further reading


A few years ago, I went to a college reunion celebrating 25 years since the first admission of women. I sat next to a professor of clinical medicine in her later years, who had qualifications and accolades galore. At the time, my kids were one and three and I was working two days a week as a first opinion small animal vet. During our conversation she launched into an accusatory tirade about how I was a classic example of the leaky pipeline of lost female talent, the basic concept being the further up the professional ladder, the higher the proportion of men to women, especially in STM (science, technology and maths).

At the time, I confess, I was mildly incensed. I enjoyed being a mum and working part time in a role where I felt safe and comfortable. Fast forward only a few months and with a bit more sleep on board, I felt a growing need to climb another layer of Maslow’s triangle and push myself out of my comfort zone. I needed challenge and to increase my levels of motivation. Fast forward four years and I now feel firmly back on the career track.

I’ve learned so much through becoming a parent; I am all the richer as a result. I’m now heading back into the mainstream with more capacity to cope with the flow. This has been possible thanks to flexible working that can move with the ebb and flow of family life and my various projects: namely, computer-based working from home three days per week, and locum clinical work to fill the gaps. That’s not to say it’s easy. Putting the kids to bed and then having to log on for a few hours has its downsides. That’s not to say it’s easy. Putting the kids to bed and then having to log on for a few hours has its downsides. I’m never away from work as it’s just the flip of a laptop lid to get me back in the “office”. However, this has enabled me to make most of the school runs and take on additional roles within the profession. I would find all of this difficult to juggle if I was working the same hours within the rigid structure of practice life, especially during the school holidays.

The traditional male dominated practice model of 8am to 6pm, late evening consults, weekends and on-call was often facilitated by the wife answering the phone, providing support and being primary carer for the kids. In our modern era of increasing equality in what were formerly traditional male and female roles in both the home and professional life, working practice has changed little. Other than the outsourcing of out of hours work and corporatisation, the hours and rota demands are largely unchanged.

The problem with this? To quote Mary Beard (the author of Women & Power: A Manifesto) “You cannot easily fit women into a structure that is already coded as male; you have to change the structure.”

Obviously, not all veterinary roles are suited to flexibility and working from home. However, the sooner we work towards facilitating flex in the veterinary industry, the more we increase working possibilities and therefore retention of women (and men) with household and caring responsibilities. Whether it’s job shares, working from home, school hours or term-time-only roles, businesses which lead the way in enabling women to stay in work without the need to constantly juggle childcare will be the places to work. Similarly, in academia, a few alternative residencies exist allowing individuals to undertake a longer part-time course to specialisation. Many of the comments on the Vet Mums Facebook group indicate residencies are only considered doable prior to starting a family. Obviously, there are those who have successfully juggled both, but often with a great degree of compromise and understanding, even sacrifice, for the whole family. We need to make further education and specialisation accessible and normal alongside family life to ensure equal opportunity for parents.

We have fantastic female role models at the forefront of our profession, so we know it’s possible. In a feminising profession, we need to facilitate as many women as possible to develop into tomorrow’s leaders. Veterinary Woman is a useful website with a vision to share their stories, provide resources and create a community to inspire and support women to be at the forefront in every area of the veterinary industry.

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Personally, I like to think I didn’t leak out to drop into the bucket of mediocrity, I went through a different pipe. The more alternative pipe routes we can create into leadership positions, both clinical and non-clinical, which embrace flexible working and family-friendly lifestyles, the more women (and men) will be able to realise their full career potentials. #
How to resolve financial complaints for free

The Financial Ombudsman Service has extended its reach to cover businesses with fewer than 50 employees

Hacked off with the bank over charges? Angered by an insurer’s refusal to pay an insurance claim? What about a merchant acquirer levying new charges that are unfair?

These are all matters for a well-established, but not necessarily that well-known, government body, the Financial Ombudsman Service (FOS). With new powers granted from 1 April 2019, the FOS could well be your route to fighting big financial institutions – at no cost.

The Financial Ombudsman Service
The FOS is a free service, set up by Parliament through the Financial Services and Markets Act 2000 (as amended) to deal with complaints against any financial organisation. Costs are borne by the financial services sector out of levies collected by the Financial Conduct Authority and case fees.

It is these case fees that make the FOS interesting because, depending on the claim, an institution may settle a case that it might not win rather than dig its heels in unnecessarily. This is because as it presently stands, each institution is permitted 25 investigations a year without charge. Beyond that, they pay £550 per case, added to which will be its own internal costs and time in dealing with the case; a fee per case is chargeable by the FOS whether the institution wins or loses. There are severe regulatory consequences for any firm that threatens to penalise a complainant for exercising their legal right to take a case to the FOS.

Primarily aimed at helping the individual, the FOS has been able to help certain businesses and charities. However, from 1 April 2019, more businesses came under its protection. Now assistance can be given to those with £6.5 million turnover (previously £1 million), that have fewer than 50 staff members (previously fewer than 10) and have a balance sheet of less than £5 million (previously less than €2 million; yes, euros).

As the FOS points out, it can resolve complaints about most financial products and services including debt collection and repayment, mortgages, pensions and investments, PPI insurance, bank accounts, payments, cards, loans and credit.

The process
Before the FOS can step in, a complainant has to give the institution an opportunity to investigate and, where appropriate, fix the problem. This means making contact, outlining in simple terms what the issue is and what is required to make amends.

The institution then has eight weeks to respond with an offer to fix, or alternatively, a “deadlock” letter where it denies the claim. From that point on, the FOS can intervene.

However, and this is important, there are strict time limits placed on the FOS’s investigations. In essence, it cannot examine matters that happened more than six years prior to the claim or which happened more than three years from when the matter first arose (or the matter should have been noticed).

Further, the FOS cannot investigate matters where the complaint is made more than six months after the deadlock letter has been issued.

It is worth pointing out that the FOS can investigate matters relating to someone that has died, but it will need to see proof of authority to act – a copy of a will or a grant.

COMPLAINTS DATA
Every six months the FOS updates its complaints data page. For the period 1 July to 31 December 2018, 10 firms accounted for 96,854 complaints which were made up of 31,844 cases related to banking and credit, 2,694 to mortgages, 984 to insurance, 1,032 to investments and just 162 for pensions. But a whopping 60,174 related to PPI claims.

Stripping out the effect of the PPI claims, which will fall away at the end of August, it is clear that the FOS has a heavy workload which is costing the institutions a fortune – some £53.1 million – in case fees.

It is just as interesting that those institutions that lost the most cases were TSB Bank (89 percent in favour of the complainant), DSG Retail (81 percent), Equifax (81 percent), GE Money Consumer Lending (81 percent) and Virgin Media Mobile Finance (71 percent).

Taking time to make a complaint can be worthwhile.
Renewal date after another, after another...

When your renewal dates keep on coming, the excessive admin can be tiring and tedious.

At Lloyd & Whyte, we’re keeping insurance simple. With our new service, Lloyd & Whyte ONE, an adviser can gather your policies into one renewal date, one monthly or annual payment and one point of contact for all your future needs.

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of probate, for example. It can also investigate any business in the UK (but not one based in the Isle of Man or Channel Islands), even if the complainant lives overseas. It is just as noteworthy that some overseas firms – PayPal is an example – have asked to be covered by the FOS.

The online process guides a complainant when making contact, but it is expected that information supplied includes an overview of the problem, details of the institution at fault, supporting evidence and what is needed to deal with the matter.

The FOS reckons that 90 percent of complaints are dealt with by its first-level investigators. However, hearings can be held if the investigator cannot decide the case and more information is needed. Alternatively, either side can request a hearing, explaining the points that they would like to make when making the request. During the hearing, the ombudsman summarises the case, lets each side make its case, asks questions and allows each side to ask questions of the other. Legal representation is not encouraged.

Where the decision goes against the complainant, it is possible to appeal to the ombudsman itself. Beyond that, if the decision is held in favour of the institution, it is still possible to move the matter to the courts. But if the decision is accepted, there is no further recourse. Either way, the decision is binding on the institution.

The FOS is designed to be simple to use and informal. There is no need to hire representation. That said, if the matter is complex or large sums are involved, it may be worth seeking legal advice to see if a court, rather than the FOS, is the better option. Further, the FOS cannot take on the case if the matter has already been through the courts.

Decisions

When investigating, the FOS will make contact with the institution, seeking their side of the story. If the decision goes in the complainant’s favour the FOS can require the institution to either apologise, pay an award to cover loss, refund fees and charges or pay compensation.

But just as from 1 April the FOS gained new powers to help more businesses, so the limits on compensation rose. Complaints made before 1 April were limited to £150,000. But complaints relating to periods before 1 April but referred to the FOS after 1 April are limited to £160,000. However, complaints relating to periods after 1 April have an upper limit of £350,000. Beyond those limits, the FOS can only recommend that the institutions pay more. On top of those limits – which only relate to compensation – are costs and interest.

In summary

While fighting a large financial institution puts a complainant in a David and Goliath situation, the FOS can level the playing field. There are time limits and a process to follow. But any individual or business with a decent case should actively pursue their rights.
Welcome to a new series of articles breaking down the essentials of marketing your veterinary practice, guiding you through some of the key moves to creating a successful clinic marketing strategy in easy, actionable steps.

By following each article in this series and executing the main ideas, you will have a strong plan in place to attract new clients and grow your business. Now is a great time to make the commitment to take control of your marketing and take your business to the next level.

Where do I start?
When it comes to marketing, many veterinary clinics embark on marketing promotions without taking the time to do the vital first step – clearly defining their brand.

Starting with a clear brand strategy helps you to stay focused on your mission and vision as an organisation. When you then go on to develop your yearly marketing plan, the brand you’ve created will serve as a guideline to deciding key business objectives and will enable you to align the marketing plan with those objectives.

Your brand goes way beyond just a logo or poster. In effect, your brand is how your customers perceive you. When you look at this broad definition of branding, it can be a bit overwhelming to think about what is involved in creating and managing your brand. But it needn’t be difficult.

How do I bring my brand to life?
It is vital that everybody on your team agrees on what your brand is, and the type of customer you want to speak to. It is therefore worth scheduling in a meeting with your team to have this important discussion and ensure that you are all in 100 percent agreement with the results – you can’t afford to have differing ideas among team members further down the line.

To start with, an easy way for you to think of branding together is to imagine that your vet business is a living, breathing person. Imagine this person explaining who they are, what they care about, their personality and what they specifically have to offer. Write your ideas down and discuss them until you’re sure everybody agrees.

You need to know and define what you provide, and then focus everything through that. The purpose of branding is knowing your business’s true identity and consistently living it every single day.

Are you the reassuringly expensive practice that charges more but has the most technically adept vets? Or are you the good value local vets who give a really caring and personal service?

The brand promise
Whatever factors you decide upon, your brand is the source of a promise to your customer. If you’re billing yourself as “The friendly vets”, your brand is a promise to live up to that. Every time a customer makes contact with your clinic, you need to be “The friendly vets”.

Your entire customer experience – everything from your logo, your website, your social media personality, the way you answer the phone, to the way your customers feel when they visit your clinic – is all a part of your brand and needs to accurately reflect your stated values.

A good brand will:
- Clearly deliver your message
- Confirm your clinic’s credibility in the marketplace
- Emotionally connect customers with your service
- Motivate new customers to try you
- Create ongoing client loyalty
- Align staff to your mission

What’s your mission as a company?
If your business has a great brand, then leadership, marketing, operations and team culture will all naturally align within it. One great thing to consider is that branding not only creates loyal customers, but it also creates loyal employees. A successful brand gives people something to believe in and something to stand behind. It helps your team understand the purpose of the organisation they work for, so they can feel like they’re a part of something unique and meaningful and not just another cog in a wheel.

Establish trust and credibility
The best branding is built on a strong idea: an idea that you and your staff can envision and deliver upon.

Your brand needs to permeate your entire organisation. When your team is clear on the brand and can deliver on the brand promise you’ve made, you will see tremendous results while building brand loyalty among your customer base. Using your brand to drive your clinic marketing is a long-term endeavour. It’s better to be slow but consistent with incremental improvements – because when it comes to a winning brand strategy, consistency trumps intensity every time.
Workplace mediation

Mediation can be an effective means to prevent tensions developing into grievances

**What is workplace mediation?**

Workplace mediation is a process led by the employees as “participants” to set the agenda for their discussions regarding the issues of conflict in their working relationship. This shifts the focus from any decisions being imposed by the employer to empowering the employees to make their own commitments as to how their working relationship will operate in the future.

The appointed mediator will assist in facilitating the discussions and moving the participants from the issues at play to potential resolutions. It is a forward-looking process, with the participants encouraged to devise their own outcomes to work together more effectively moving forwards. The mediator is not there to set an agenda, offer solutions or stipulate an outcome. It is therefore completely participant-led.

Mediation is outside of any grievance or disciplinary process and is confidential. The appointed mediator facilitates conversation between the participants without passing any judgement or reporting back to line managers. The distinction between mediation and a formal process is important as it enables the participants to talk more freely and devise outcomes that they are willing to adhere to, rather than a decision being imposed upon them.

Crucially, the mediator is impartial and is not there to act as an advocate for either participant or to further the employer’s desired path to resolution.

Practices considering mediation may choose to appoint an internal mediator or an external consultant, trained and with experience in workplace mediation. The benefit of using an external mediator is that they can easily demonstrate they are independent and impartial. While paid for their services by the practice, they have no previous relationship to either participant and are therefore more likely to be trusted as a neutral third party.

**What are the outcomes?**

It is commonplace for participants to develop some form of agreed outcomes for the future management of their working relationships. On occasion, however, mediation may act as a catalyst for change. A participant may not feel able to complete the mediation process if they feel that the gulf between themselves and their co-worker is too wide, thus in their opinion rendering the relationship unsalvageable.

A participant may choose to resign if they cannot foresee a settled future working relationship or decide to proceed with a grievance where mediation has been offered as an early intervention, or if they feel the other participant is not abiding by the agreed outcomes. In either eventuality, practices should not see mediation as unsuccessful, but rather as having brought issues to a peak meaning that determinative action can be taken to address the matters in question.

Importantly, mediation as a participant-led process is not an ongoing vehicle for dispute resolution. Post-mediation, the mediator will not monitor participants’ adherence to their agreed outcomes by way of “policing” any formal agreements reached. As with the process as a whole, the participants are empowered to decide the next course of action.

For more information on mediation, please contact Stephenie Malone by email at smalone@hcrlaw.com
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The world and vets’ working lives have changed hugely over the last few decades. But one thing that hasn’t changed is the fact that our patients are very inconsiderate in choosing which day and at what time they get ill, and how ill they get. They are also very inconsiderate in choosing if they are ill enough to be admitted and recovering to a point that they can be sent home. This presents us with a plethora of issues. The problem can be boiled down to the question: What do we do with the inpatients?

I have worked in different practices that have at various times employed most of the common systems. The management of inpatients can be a source of stress to vets in practices. We just want to do the best for our patients and have to work within the system in which we find ourselves. Or failing that, effect a change.

The best system for the patients is to keep them in the same premises and have round-the-clock nursing and access to vets. Many practices leave patients in unattended premises with the duty vet making intermittent checks (which can now be improved by using Wi-Fi-enabled cameras). In this system, we don’t have to move ill animals (usually twice in a 24-hour period) or shoo them out of the door at closing time. However, there are inherent disadvantages with intermittent monitoring. Intermittent checks are also used in practices that outsource out of hours provision and move some patients but leave some in-house. The cost difference to owners is significant. The going rate for overnight hospitalisation at an out of hours clinic for pets is currently about £200 per night. For uninsured pets, that is a huge cost.

Most vets will strive for “gold standard” care. This is a phrase I use intentionally as it is so widely used by vets and is what we all feel we should aim for. However, the “gold standard” cannot always be achieved. If you don’t work in a 24-hour staffed practice with out of hours vet and nursing provision in-house, then you need to find a workable solution.

Patient selection is important: who really needs to be kept in? Pets would certainly rather be at home with their owners than in a cage listening to various beeping noises all night. If you have ever watched a cat on a drip spending the day hiding under its bedding in a cage, it would be hard to argue that sending it home for the night wouldn’t have its advantages.

Another version of the “gold standard” concept is to compare vet practices to our human counterparts in the NHS. I live in a rural area, with two large market towns and a lot of sea, coast and moorland. If you take our nearest 24-hour A & E human hospital and the 24-hour vet hospital two miles from it, the comparisons are interesting. Let’s cast an approximately two-hour journey time circle round them. You would find about six 24-hour vet clinics with 24-hour vet service guaranteeing a 30-minute journey from phone call to seeing a vet. In the same two-hour circle, you would find just one 24-hour hospital, backed up by ambulances but still up to two hours to drive to. Five of the vets have vet nurse and vet cover on site and one new practice would send you an hour to their out of hours clinic.

In human care, once you get to the hospital, you would be triaged and can expect the usual four-hour wait. Last time I was there, my son (then a toddler) had had a pyrexic fit. He was very pyrexic and we were kept in a cubicle for two hours; no one offered him even a glass of water. Human inpatient care is stretched – you may even end up on a trolley. We need to be realistic about what we can provide. We need to be sensible about what can be done, and about what is genuinely best for the client and pet, not just what we think some notion of “gold standard” may be.

We need to be realistic about what we can provide. We need to be sensible about what can be done, and about what is genuinely best for the client and pet, not just what we think some notion of “gold standard” may be. Doing your own out of hours as a practice will actually make things easier. This was brought home to us when dealing with a holidaymaker and their sick dog. The consult was at the end of the day and the dog clearly needed to be admitted. The owner asked, “Where do we have to take him?” Our vet asked what on earth she meant. She was expecting to load up her own dog (on a drip) into her car, drive it somewhere new then reverse that process in the morning. “He will stay here,” our vet said, “and be looked after by us.” The client nearly wept with relief and gratitude.
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TAKE A COMPLETE NUTRITIONAL APPROACH TO DERMATOSIS

Dermatosis is complex and often leads to frustration for pet owners.

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This is why we have developed our extensive range of nutritional solutions tailored to every stage of your approach. The ROYAL CANIN® DERMATOLOGY range offers the choice of hydrolysed and non-hydrolysed diets to help manage cats and dogs with dermatosis.

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