

# Veterinary Practice

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MAY 2018



## Managing pain

The challenges of recognising and assessing chronic pain

### Plus

**RCVS KNOWLEDGE** Evidence for the use of pressure vests in dogs / **MENTAL HEALTH** The value of self-compassion / **NUTRITION** Life-changing conversations with cat owners / **LARGE ANIMAL** Encouraging pain relief in cattle **PRACTICE MANAGEMENT** Legal issues to consider when selling your practice

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2. Boda, C., Liege, P. & Reme, C. (2011). Evaluation of owner compliance with topical treatment of acute otitis externa in dogs: a comparative study of two auricular formulations, International Journal of Applied Research in Veterinary Medicine, 19(2), 157-165.

# "our Official Vet column launches this month, providing OVs with the latest news and updates"



Welcome to the May issue of *Veterinary Practice* magazine. This month our news pages are dominated by announcements from the BSAVA Congress. The BSAVA launched a mentorship pilot scheme and extensive online library, and the incoming president, Philip Lhermette, described his goals for the coming year.

A leadership initiative was launched by the RCVS, and a new cat care programme has been set up by International Cat Care. WSAVA also took the opportunity to broadcast a campaign for equal access to veterinary therapeutics worldwide, and a plan to launch guidelines for companion animal welfare.

As well as the annual BSAVA Award announcements, the Ceva Animal Welfare Award winners were announced on 4 April by TV presenter Matt Baker and retired veterinary surgeon Chris Lawrence. The following evening, winners of the PetPlan Awards were presented at a sparkling ceremony in the Birmingham Town Hall. Details of the winners from each of these events can be found on our website.

A report from the BSAVA Congress in this issue focuses on evidence-based approaches to tackling well-being issues, using individual- and practice-based approaches. Laura Woodward's regular mental health column covers self-compassion, and is supplemented this month by a piece on creating a successful practice wellness portfolio.

The clinical focus is pain management. In this section, we have contributions from Gwen Covey-Crump and Jacky Reid, which discuss the difficulties of assessing chronic pain and the advantages of measuring pain through health-related quality of life. These are followed by an article by Freddie Corletto on opioid use in pain management.

Our Official Vet column launches this issue, providing OVs with the latest news and updates from the APHA. The potential for improving welfare standards through trade is discussed this month, while articles in the large animal section focus on lameness and appropriate use of pain relief in cattle.

In equine, Jon Pycock discusses the importance of a good work-life balance,



and Jamie Prutton provides an update on Lyme disease.

Adam Bernstein considers the importance of planning for the future of a business in the practice management section, and we have a fascinating interview with the managing director of Braemar Finance.

*Jennifer*

JENNIFER PARKER EDITOR

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# Veterinary Practice

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# BSAVA welcomes new president

Incoming BSAVA President Philip Lhermette will champion 21st century education, drive the veterinary agenda forward and build on the holistic vision of support for the profession established by his predecessor John Chitty. Three strategic themes will underpin his year in office:

## 1. Veterinary education in the 21st century

In his new role, Philip will oversee the opening of 21st century veterinary education facilities at the refurbished BSAVA headquarters, Woodrow House, which will deliver first class science and CPD for members.

## 2. Driving the veterinary agenda forward

BSAVA has a rolling five-year strategic plan to deliver services to members in the most effective way. BSAVA is frequently called on to provide input into a variety of matters affecting the profession, including legislative

changes, which have increased as a result of Brexit. Philip will work with BSAVA's Policy Groups to address many of the challenges and provide valuable support services to members.

## 3. Holistic support for the veterinary profession

Philip will champion further initiatives to support a "no blame" culture across the profession, focus on greater engagement with students and increase support for graduates in their first three years in practice, with a view to retaining more graduates in clinical practice.

Philip said he was looking forward to the role: "Being able to give something back to the profession I love is a great honour and I am very proud of BSAVA's role in supporting members and creating a brighter future. Once you leave the small world you inhabit in general practice and start to understand where we fit into the global picture as a profession, you realise the importance of



Philip Lhermette is the new BSAVA President

communication and cooperation.

"One of the major challenges ahead will be Brexit and the impact it will have on jobs, pharmaceuticals, research and many other aspects of veterinary life and life in general, so we are working in close association with BVA and others to try and mitigate the impact these changes will have on the profession."

## RCVS launches leadership initiative

The RCVS Leadership initiative was officially launched on 5 April, at the BSAVA Congress. The initiative was introduced by RCVS Vice-Presidents Amanda Boag and Chris Tufnell, and RCVS Director of Leadership and Innovation, Anthony Roberts. The initiative is part of the RCVS Strategic Plan 2017 to 2019 which had as one of its ambitions "to become a Royal College with leadership and innovation at its heart, and support this creatively and with determination," and will be run in parallel with the College's innovation project, Vivet, which was launched in September 2017.

The initiative's goals include integrating leadership into veterinary professionals' continuing education, in part by creating a Massive Open Online Course (MOOC).

The College is leading by example by developing Council and staff members' leadership skills. Registrations are being taken for a pilot version of the MOOC starting in late June, for which preview materials are available on the College website. The MOOC was developed in conjunction with the NHS Leadership Academy and includes an audio drama featuring veterinary professionals living in the fictional county of Glenvern.

To be part of the first pilot group for the MOOC, listen to the first two episodes of the audio drama and preview content, visit: [rcvs.org.uk/leadership](http://rcvs.org.uk/leadership), or contact Anthony Roberts for more information at: [a.roberts@rcvs.org.uk](mailto:a.roberts@rcvs.org.uk)

## New cat care programme launched

International Cat Care and its veterinary division, the ISFM (International Society of Feline Medicine), launched a new programme at BSAVA Congress. Entitled CatCareforLife, it is a blueprint for how a clinic and owner can work together to keep cats healthy and encourage veterinary visits. The programme is provided in partnership with IDEXX and Royal Canin.

Regular life-long preventive healthcare should be the goal for every veterinary patient. A combination of primary prevention (eg vaccination), secondary prevention (early detection of disease) and tertiary prevention (reducing impact of disease) measures are important in a comprehensive healthcare programme, although secondary and tertiary measures become more critical as the cat ages and as diseases become more prevalent.

The programme is aimed at both veterinary clinics and cat owners. It will encourage owners to understand the life stages of their cat and offer best practice guides for recommended health checks. The information is based on independent published studies and data and developed by expert feline veterinarians and others working with International Cat Care/ISFM.

A freely available practical guide including posters, charts, clinical sheets, owner resources and checklists can be found at: [catcare4life.org](http://catcare4life.org)

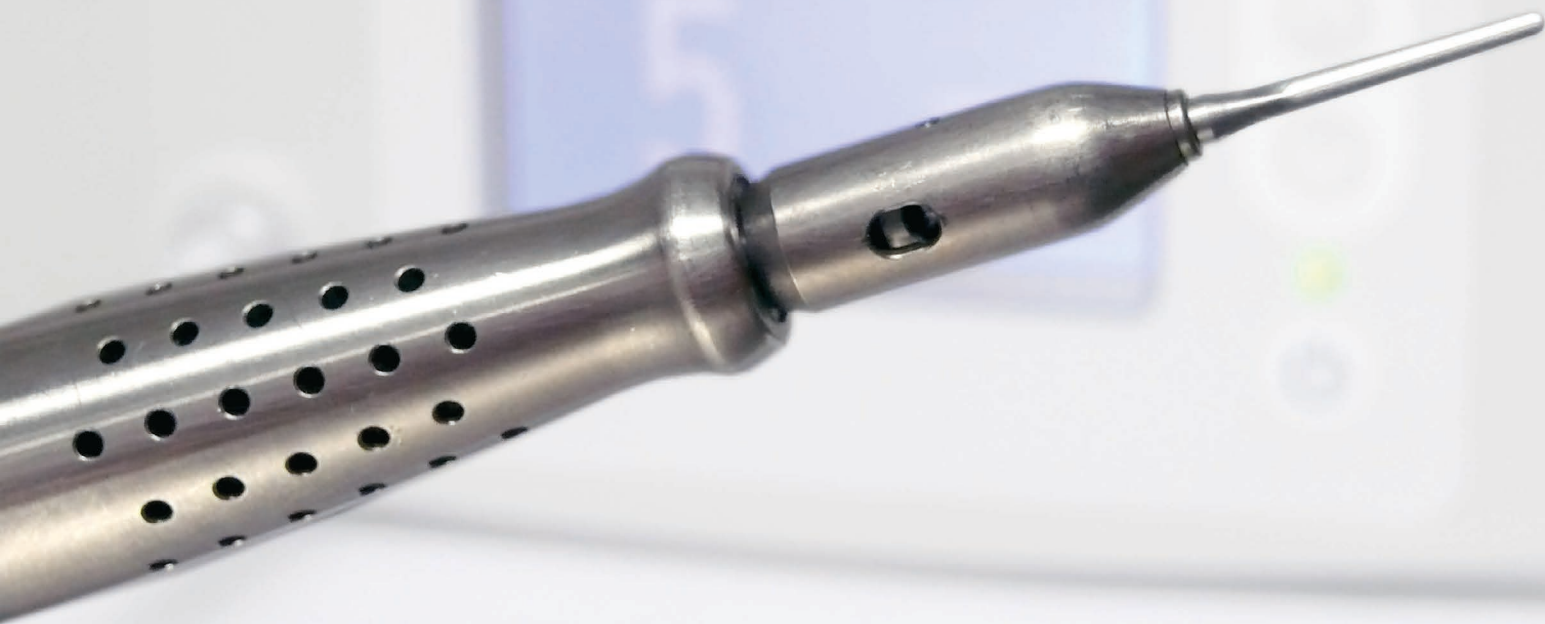
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# BSAVA Congress brings profession together

The BSAVA launched an inspiring vision of holistic support for the profession at its annual Congress in Birmingham. Thousands of delegates were encouraged to empower themselves and their teams by thinking more deeply about their careers and personal development, as well as physical and mental health, with activities running throughout the four-day event culminating in the non-clinical lecture stream "Beyond the clinics" and careers fair on Sunday.

Congress keynote speaker, international rugby referee Nigel Owens MBE, received a standing ovation after an emotional and inspiring address about his struggles and successes both on and off the field, drawing parallels with veterinary professionals by discussing high-pressure decision-making, trusting your judgement and admitting to mistakes.

"Sometimes in life you get opportunities when you least expect them, and the best thing you can do is grasp them with both hands," he said.

"Giving yourself time to process things, instead of reacting, gives you a better chance of getting it right... when it comes to tackling difficulties, it's only when you accept there are issues that you need to do something about that they can be put right and you can make a change."

## Congress programme

The illegal puppy trade, workforce issues relating to Brexit and modernising animal licensing and inspection activities formed this year's "Big Issues" stream, which focused on a range of topical issues, rounded off with a panel discussion and audience engagement. The theme was: "There is nothing permanent except change: change is constant and inevitable".

The stream focused on areas currently undergoing change and the



implications for the profession, while highlighting the impact on the wider societal landscape.

Congress delivered almost 50,000 hours of CPD through a diverse programme of more than 550 lectures from the world's leading veterinary speakers, plus a range of practical, wet lab, small group and "Breakfast with a specialist" sessions. The programme has expanded to enhance the CPD experience and meet rising demand.

## President's view

BSAVA President John Chitty reflected on an "absolutely brilliant" Congress, in particular the organisation's holistic vision of support being successfully realised.

"Congress continues to be run by the profession, for the profession and I would like to thank everyone who has been involved in making this happen, it is truly inspiring," he said.

"Our goal is that everyone walks out of Congress feeling better about themselves having had a good time – not just finding out new things, gathering information and learning, but having those personal interactions as a profession – meeting people, celebrating veterinary achievements, putting a smile on our faces and going back to work with new knowledge as well, that's going to make you feel good.

"BSAVA is determined to support vets and vet nurses as people as well as professionals, encouraging them to spend time on non-clinical skills or realising how to love your vocation – I think there's been a realisation that it's

## New mentorship pilot

BSAVA launched a Professional Mentorship pilot scheme to help tackle the rise of recently qualified graduates leaving the profession. Up to 24 second and third year qualified vets will partner with impartial, experienced and supportive mentors to work through seemingly "unsolvable" professional challenges and unlock their potential.

BSAVA is looking for mentees and mentors to participate in the pilot – which counts towards compulsory CPD and aims to cement a successful transition into practice. Ongoing feedback, evaluation and development will help shape the launch of the full programme in 2019.

For more information, visit:  
[bsava.com/mentorship](https://bsava.com/mentorship)

## Launch of BSAVA Library

Congress saw the launch of the BSAVA Library, which makes published content available to the whole veterinary profession (it is not just a member benefit). This includes BSAVA manual chapters, BSAVA Small Animal Formulary, BSAVA Guide to Procedures in Small Animal Practice, Companion articles, Congress lectures and much more.

The library can be accessed at:  
[bsavalibrary.com](https://bsavalibrary.com)

not just about the mechanics of the job, it's about the person too and if you're not working as a person you cannot function as a professional."

It was a time to recognise excellence, with the BSAVA Awards honouring the profession's outstanding individuals who help to advance scientific knowledge, develop new techniques and constantly raise the standards of veterinary science to improve animal welfare. The new Bourgelat Stream with this year's winner Clarence Rawlings was hugely popular.





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## Equal access to therapeutics and animal welfare top WSAVA priorities

A campaign to create equal access to veterinary therapeutics globally and the launch of its Global Guidelines for Companion Animal Welfare are the WSAVA's priorities for 2018. President-Elect Shane Ryan outlined the plans during a briefing at BSAVA Congress and announced that the WSAVA is also preparing to launch a Professional Wellness Committee and is developing plans for its next set of Global Guidelines.

Restricted access to veterinary medicines in some parts of the world, often because of financial or regulatory issues, limits the efforts of many companion animal vets to provide optimal care. The WSAVA is forming a Therapeutics Guidelines Group to spearhead efforts to improve access. It has also created a Position Statement. Members of the WSAVA's Animal Wellness and Welfare Committee

are also finalising the new WSAVA Global Guidelines for Companion Animal Welfare. They will be launched at WSAVA World Congress in Singapore. The guidelines will set out recommendations for the veterinary team to ensure that, in addition to providing accurate health advice and therapy, they offer evidence-based information and guidance for the health, welfare and safety of the animal, the owner and themselves.

The WSAVA is also preparing to launch a Professional Wellness Committee, chaired by Nienke Endenburg, a human psychologist at the Faculty of Veterinary Medicine at the University of Utrecht. The committee aims to drive the development of new global tools to support veterinary wellness, working in collaboration with human psychiatrists and psychologists.

## Veterinary practices urged to take feline blood pressure

Practices are being urged to take feline blood pressure at least once a year in cats over seven years of age, as recommended by ISFM (International Society of Feline Medicine).

The move follows recent research by Ceva Animal Health which revealed that over 90 percent of veterinary surgeons agreed that treating hypertension in its own right was beneficial to feline patients. Vets have a high awareness that senior cats would benefit clinically if they monitored blood pressure routinely in their senior years, and nearly 85 percent stated that antihypertensive medication would increase the quality of life for their patients. Time constraints were cited as the main barrier to routinely measuring blood pressure, but all of those questioned would be happy for a trained veterinary nurse to measure blood pressure in cats.

Ceva Animal Health has launched the inaugural Feline Hypertension Month this May, to raise awareness of hypertension and improve the detection and management of high blood pressure in cats.

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## RVC collaborates to reveal health issues in dog breeds

An RVC veterinary researcher has been involved in an exciting collaboration to create a single resource, in an easy-to-read book format, that identifies the health issues that each dog and cat breed is predisposed to.

Until now, owners and breeders have struggled to find information about the diseases their breeds are prone to because this information was often scattered across thousands of scholarly articles in academic journals.

Following exhaustive research that examined thousands of peer-reviewed publications, three veterinary surgeon researchers have finally collated this information into a single book source for owners, vets, breeders and students.

The research is published in a new book, entitled "Breed predispositions to disease in dogs and cats, 3rd edition". Overall, 2,400 breed-disease predispositions were

identified across 739 diseases and 200 breeds of dogs. The book also identifies predisposed diseases in 45 cat breeds.

Analysis of the overall information in the book revealed some fascinating insights. German Shepherd Dogs (77 conditions), Boxers (76 conditions), Labrador Retrievers (70 conditions) and Golden Retrievers (66 conditions) had the highest reported count of predispositions to health issues of all the dog breeds.

The most commonly reported predispositions in dogs were cataract (30.6 percent of breeds affected, 2.6 percent of all reported diseases), hip dysplasia (22.3 percent of breeds affected, 1.9 percent of all reported diseases), patellar luxation (20.9 percent of breeds affected, 1.7 percent of all reported diseases) and progressive retinal atrophy (16.5 percent of breeds affected, 1.4 percent of all reported diseases).

## Single vaccine developed for avian flu and duck enteritis

For the first time, researchers, led by Professor Munir Iqbal at The Pirbright Institute, have been able to insert protective avian influenza virus genes into the duck enteritis virus (DEV) vaccine using a method of CRISPR/Cas9 gene editing that allows higher rates of gene insertion. This makes the process more efficient and the resulting vaccine virus can protect ducks against both DEV and avian influenza.

Duck enteritis virus infects ducks, geese and swans, causing mortality rates of up to 100 percent. Vaccines are widely used to reduce the impact of DEV, and have recently been utilised for delivering vaccine components of other viruses such as avian influenza. Domestic duck populations in southeast Asia also play an important role in maintain-

ing the reservoir of severe bird flu strains and allow infection to "spill-over" into chickens, making ducks important targets for vaccination campaigns.

The gene editing technique enables the rapid generation of vaccines that can protect against DEV while keeping up with the changing circulating flu strains.

The vaccine is now ready for registration, and collaborations with pharmaceutical companies are being sought for the vaccine to be commercialised. The potential for avian flu to mutate in such a way that makes human-to-human transmission possible is of increasing concern, so vaccinating ducks is an essential strategy for protecting both birds and humans from infection.

## New protocol for control of contagious equine metritis

Collaboration between government veterinary authorities and the equine industry has put in place a new protocol in Great Britain for controlling any future outbreaks of the highly contagious venereal disease contagious equine metritis (CEM), which can cause sub-fertility in affected mares and can establish chronic infections in stallions.

Any suspect cases of CEM must continue to be reported to the APHA. However, under the new control arrangements, which came into effect from 1 February 2018, owners of affected horses in England, Scotland and Wales may use a private equine veterinary surgeon specifically approved to deal with the disease without official movement restrictions being imposed.

These arrangements require compliance with the control measures outlined in the Horserace Betting Levy Board's (HBLB) Code of Practice for CEM, while all associated costs will continue to be covered by the owners of affected horses. The arrangements to deal with CEM in Northern Ireland remain unchanged.

The new arrangements were developed by the Equine Disease Coalition in close collaboration with the Thoroughbred Breeders' Association and the BEVA, with the full support of the government animal health teams in London, Edinburgh and Cardiff.

The protocol underpins the need to comply with the HBLB Code of Practice for the disease, which contains guidance for monitoring, treating and managing outbreaks of CEM.

The Animal Health Trust will have a central role in the new protocol, coordinating activities undertaken by approved vets, receiving and collating reports, initiating tracings off the premises and taking responsibility for any epidemiological investigations.

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# How to manage stress in the workplace

## At the BSAVA Congress, Lizzie Lockett and Elinor O'Connor provided evidence-based advice on how to deal with stress at work

In January 2018, the RCVS published its guide to enhancing well-being and managing stress in the workplace, which was a collaborative project with Elinor O'Connor of Manchester University's Alliance Business School. Elinor presented a talk on reducing work stress at the BSAVA Congress alongside the RCVS' Chief Executive Officer, Lizzie Lockett.

"In its simplest form, work stress is really about our subjective perception of when the demands we're faced with are beyond our ability to cope with them," Elinor explained, noting that an individual's resilience will vary over time.

Lizzie added that 42 percent of people have considered resigning from their job because of stress, emphasising that there are issues much deeper than a lack of aromatherapy massages or being given a day off for your birthday.

### Approaches to managing stress

There are two key mechanisms for tackling work-related stress, Elinor said: "Either we try to target demands in the workplace, or we boost the individual's resilience."

Mindfulness comes out top in terms of individual-based approaches; the practice has a strong evidence base with research consistently highlighting its beneficial effects. Other approaches listed included simple relaxation techniques, healthy eating and exercise. Evidence has also shown that having social support (either inside or outside the workplace) helps people withstand stress at work, delegates were told.

Elinor further recommended taking advantage of free online resources, such as the questionnaire devised by psychology consultancy Robinson-Cooper. This tool helps users assess their own resilience levels and provides guidance on how to boost it.

The speakers took the delegates through five key categories of workplace stress, providing easy-to-implement examples for tackling each one from applications to the recent SPVS well-being awards.

### Work demands

When trying to target stressors, work practices should be changed where possible. However, the reality is that many of these stressors are inevitable features of the work and cannot be eradicated. "You are at times going to be exposed to animal suffering and it's not something that we can

remove," Elinor said; "in those instances, it is entirely appropriate to focus on building up people's resilience."

Some examples of approaches practices have taken to target work demands included:

- Transferring complex complaints to directors to ease pressure on the receptionists
- Providing receptionists with extra breaks to allow time away from the phones
- Having a bereavement-trained nurse supporting colleagues as well as clients, giving them chance to talk through their feelings about difficult cases

### Workload and work-life balance

The veterinary profession is highly paced and involves a large workload, long working days and working unsocial hours. "Never underestimate the power of a break," Elinor said, referring delegates to advice in the well-being guide on how to schedule a large workload.

Some examples from practices included:

- Structuring appointment periods with an hour and a half gap to allow time to run over and still have an hour's lunch break
- Ending consulting blocks half an hour before the vet's scheduled finish time
- Discouraging team members from messaging others about work-related matters outside working hours
- Having a "reserve" afternoon scheduled fortnightly for vets to catch up on paperwork



Mindfulness comes out top in terms of individual-based approaches



### Relationships at work

Work relationships can be a real source of positivity "or, if they go wrong, they can be the thing that you really take home and worry about," Lizzie said. It has been shown that people who have strong social networks outside work are better able to cope with difficulties at work.

Lizzie explained that the process of building relationships starts from the moment you hire people. What perception of the business do they get? How do you mentor and support them? She recommended bringing the team together in an environment that also helps with your local PR and

corporate-social responsibility. Each staff member could be allowed some volunteering days every year. "This pays dividends – staff will be more committed to the organisation if you show that you value them," she said.

It is useful to enable people to build relationships by showing gratitude to each other; perhaps using the notice board or awarding vouchers, Lizzie suggested.

There also needs to be clarity around policies like bullying and harassment, she said, highlighting the importance of knowing what to do when something goes wrong.

Some other examples from practice included:

- Making sure that when vets are in the office, they can discuss cases, build relationships and work as a team
- Breaking for lunch as a team
- Taking prompt action to address any problems in work relationships

### Personal and career development

In the 2014 Survey of the Profession, nearly 50 percent of recent graduates said that in their first year, they had not had an appraisal or any form of development meeting. "People very rarely leave an organisation because somebody didn't buy them a birthday cake, but they might leave if they don't know where they're going and they don't feel like they're valued," Lizzie explained. "Give lots of feedback," she advised, and "make sure that it is timely and specific."


Examples of approaches from award entrants included:

- Sending new farm vets on "good outcome" visits initially to boost their confidence and build their reputation with farmers
- Allowing new vets to operate on "non-owned" animals from a local animal rescue centre with an experienced vet to hand, to reduce the pressure
- Hiring a dedicated cleaning function to show that the veterinary nursing team's clinical input is valued

### Control at work

Do people have a say in how and when they do their work? Involving people in the discussion of how the rotas are put together can be really helpful, Lizzie said. "Ask your colleagues how they would like to do things – would they like one joint meeting or would the nurses like to communicate with the bosses in a different way from the rest of the veterinary team? Or would they prefer an anonymous system of suggestions?"

One award entrant created working groups to address issues that arose in the workplace and would approach every team member for input.

Combining just a few of these simple approaches to improving wellness in the workplace should help to create a happier and more efficient team. Why not try some out and see which work for you? 

To view the Mind Matters well-being guide, go to:  
[vetmindmatters.org/resources/](http://vetmindmatters.org/resources/)

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# Nursing the trauma patient

In the VetsSouth nursing stream, Claire Roberts discussed the role of the veterinary nurse in traumatic injury triage and monitoring

Claire Roberts delivered an energetic talk at VetsSouth in Exeter in February 2018, outlining the steps to efficiently dealing with trauma patients in practice. "Traumatic injury is tissue damage caused by external force or violence; generally, we're looking at blunt trauma or some sort of penetrative trauma," she explained, listing some common examples such as road traffic accidents and dog and cat attacks.

The first step is to clear the injured area. "Make sure that even if you see one little wound, you do a thorough look at patients to reveal any hidden trauma," Claire said. Just because a cat has landed on its feet does not mean everything is OK – these patients will often have extensive internal trauma. "Prepare for the worst and hopefully it will be better than you planned for," she advised.

## Emergency triage

Emergency triage is the sorting and allocation of treatment to patients according to a system of priorities designed to maximise the number of survivors. The prioritising principle here is: "Being the worst makes you first". Even if you only see an emergency once every couple of months, Claire said, it's important that you "have some sort of triage system in place to maximise efficiency and to assist teams in working together to get the most successful outcomes". She advised that practices arrange regular emergency drills involving the whole team.

A telephone call is usually the first point of contact in emergency cases. At this point, it can be noted whether the client's primary complaint is medical or traumatic. "Trying to calm the client down will help to get the most relevant information from them as quickly as possible," Claire said. She recommends having a standardised telephone triage form available and documenting all emergency telephone calls to help keep the conversations short and to the point.

## The initial assessment

First, it is key to make sure you are wearing gloves and cover any open wounds that aren't going to be dealt with straight away – Claire highlighted that most wound infections will occur once the patient enters the practice.

The initial assessment should be a quick, targeted clinical examination of around 60 seconds. It should be used to identify whether there are any life-threatening problems so they can be dealt with immediately, the speaker explained.

Using the ABC principle, if there's a problem with the airway, fix it before moving on to breathing and circulation.



Trauma patients have a high incidence of concurrent injury to other systems which are often silent on presentation



Breathing and circulating blood can then be considered before moving on to a whole-body examination to determine and address any additional problems.

## Identifying concurrent injuries

Trauma patients have a high incidence of concurrent injury to other systems which are often silent on presentation, Claire said. She reminded delegates to be mindful of pulmonary and cardiac contusions, particularly in patients with thoracic trauma.

The speaker was keen to get across the statistics associated with concurrent injury risk because knowing the likelihood of occurrence with different types of trauma should help the practice prepare for the patient. Many patients with a forelimb trauma and half of patients with thoracic trauma will also have pulmonary contusions, she noted, and 60 percent of animals presenting with a forelimb fracture will also have chest injuries.

Trauma patients commonly have pulmonary contusions and around 50 percent have pneumothorax. Patients may also have rib fractures, pleural effusion, haemothorax or subcutaneous emphysema, and up to 9 percent will experience a diaphragmatic hernia.



Claire noted that pulmonary contusions will be picked up on auscultation far earlier than radiography. "The VN that's constantly using a stethoscope to listen to the lungs and heart will pick up pulmonary contusions within about six to eight hours of a traumatic incident. You're looking at 24 to 36 hours before it will show up on radiography. You get good at this if you listen to every patient's thorax every day with a stethoscope – eventually you know what the norm is."

There are some things you can do for every patient. "The best thing you can do in an emergency is give the patient oxygen," Claire said, also advising the provision of fluid therapy and adequate analgesia.

"If I know a patient is coming in with trauma, I would prepare for them to have pneumothorax treated. Have all your equipment ready – maybe even have a little kit in practice in case of patients that present with pneumothorax or haemothorax."

She went on to give specific advice relating to common traumatic conditions and signs presented by patients.

### Flail chest

This happens if there are several fractured ribs next to each other and this section of the ribs gets flattened into the lungs, explained Claire, causing the patient to lose the ability to take in enough oxygen. "If we know a patient has floating ribs on the right-hand side, it would be far better to lie that patient in right lateral recumbency to support the ribs and help them ventilate on the side that's working properly."

### Open-mouth breathing

Claire emphasised that open-mouth breathing in cats is severe end stage: "If you're seeing cats open-mouth breathing, they need to be handled with extreme care. It can progress rapidly into respiratory arrest." She noted that cats and dogs tend to go into a hypoxic respiratory arrest before they go into cardiac arrest, so signs of hypoxic arrest will be seen first.

### Pelvic limb

The speaker highlighted that in 22 percent of patients with a pelvic fracture, there will be injury to the urinary system. Almost 60 percent of cats that have experienced blunt trauma will have urine in their abdominal cavity. And the majority (84.6 percent) of those are due to a ruptured bladder. This needs to be monitored – either flagged up on your hospital sheets or part of your care plans, Claire said.

"We'd expect a trauma patient to produce some urine within the first four hours of being in hospital. If not, we should be badgering vets to come and look." Check electrolytes for any abnormalities; if they do have a ruptured bladder or trauma to the urethra or ureter, they will require surgical intervention, she said.

### Bites or ballistic trauma

Half of these patients will have concurrent pulmonary injury and potential bowel perforation. This trauma can be



**When the patient is moved through to wards, there should be an IV catheter in place, blood work should have been taken and monitoring equipment should be used**



difficult because there is a little wound on the surface but much more under the surface.

### Traumatic head injuries

In these patients, it is important to look at ways to limit the amount of intracranial swelling. Traumatic injuries can lead to brain injury and neurological dysfunction, and can cause severe clinical signs. "There are simple nursing measures we can put in place that can have amazing benefits for these patients." Claire advised against taking blood samples from the jugular in these patients and avoiding procedures that might induce coughing or sneezing – including nasal catheters.


### Monitoring the patient

When the patient is moved through to wards, there should be an IV catheter in place, blood work should have been taken and monitoring equipment should be used. Prioritise which monitoring equipment is used on which patients based on the anticipated complications, the speaker said, adapting it as the patient's status changes.

"Pulse oximeters are key in critical patients," Claire noted, suggesting that veterinary nurses experiment with the probe positioning. "The Achilles tendons in cats are quite useful. The vulva [also] has a very good blood supply."

"You should be intubating cats and dogs every week and should be practising intubating in lateral recumbency," the delegates were told. Trying to lift the head of a very bradycardic patient, or one with head trauma, can send them into cardiac arrest.

Blood pressure should be taken. In all critical patients, trends should be monitored. Remember that pain will depress the respiratory/cardiovascular system; you must give pain relief and be the driving force behind it. Pain score them, she said. "We don't have to give methadone every four hours – if the patient is painful two hours later, give something, whether it's a top-up or another drug."

Nurses can have the biggest impact on outcome when it comes to trauma patients. "We are our patients' advocates," Claire emphasised, recommending that nurses document everything they see and act on it. In her concluding remarks, she said to: "Trust your hunches, they're usually based on facts filed away just below the conscious level." 

# Evidence for the use of pressure vests in dogs

## Should you recommend the use of pressure vests to owners of dogs with anxiety and fear?

Pressure vests are a controversial, under-studied but widely available form of complementary treatment said to ease the signs of anxiety and fear in dogs. Exactly why they are thought to have a calming effect on canines with issues ranging from separation anxiety to a fear of thunderstorms is unclear. Although a number of possible explanations have been mooted – acupuncture points, or a sensation akin to swaddling a baby – the evidence supplied by manufacturers is largely anecdotal.

### What does the veterinary evidence say?

Unfortunately, the bottom line to whether or not pressure vests actually work is as inconclusive as the attempts to explain why they might. In essence, according to current evidence, a pressure vest may calm down an anxiety-prone dog, or it may not.

However, despite that ambiguity, a number of insights useful to veterinary professionals and pet owners can be gleaned from the relevant research identified in the Knowledge Summary “Are pressure vests beneficial at reducing stress in anxious and fearful dogs?” published in *Veterinary Evidence*.



the bottom line to whether or not pressure vests actually work is as inconclusive as the attempts to explain why they might



### Associative learning

In a similar fashion to Ivan Pavlov’s discovery that dogs begin to salivate upon hearing a sound they associate with the upcoming delivery of food, a trend in one of the studies suggests classical conditioning may also be involved in a dog’s positive response to wearing a pressure vest.

Applying a pressure vest to thunderstorm-wary dogs in between storms was intended to disassociate wearing one from the anxiety trigger. The dogs’ “anxiety scores” continually decreased the more times they wore the vest during

a storm, indicating a process of associative learning may increase the likelihood of treatment with a pressure vest being successful.

The need for a dog to adapt to wearing a vest was exemplified by another study, which demonstrated an increase in heart

rate upon application of the vest. Conversely, however, this also shows that use of a pressure vest – in the initial stages at least – may induce anxiety in individual dogs. Vets and owners should bear this in mind if they are considering recommending or using a vest.

### Mixed messages

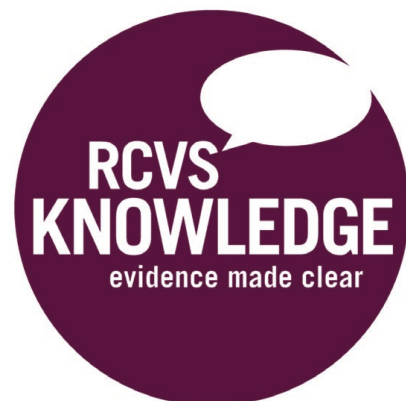
One of the major issues with most reports of a positive response is that they are subjective (often provided by owners). This makes the data difficult to rely upon – a problem enhanced by the lack of a standardised measure of anxiety in dogs.

Furthermore, possible collateral effects of wearing a pressure vest are not understood and may affect interpretation of the data. For example, dogs in the studies spent less time lying down or orientating towards a door when wearing a vest, but this doesn’t take into account that, for instance, it may be more uncomfortable for a dog to lie down when wearing a vest.

The objective measures of anxiety among the available evidence are equally confusing. On the one hand, dogs treated with a pressure vest showed a decrease in heart rate over time compared to their counterparts in either a loosely fitted vest (so as not to apply pressure) or not in one at all.

On the flipside, measures of urinary oxytocin and cortisol in saliva failed to demonstrate a significant effect of treatment with a pressure vest, despite the same research proving that cortisol levels increase in response to a noise stressor.

The take-home message, therefore, is that “pressure vests may have small but beneficial effects on canine anxiety... and using repeatedly may improve the likelihood of any benefit” but you should ensure the owner does not expect “their dog’s anxiety to be fully alleviated or prevented, and it may have no beneficial effect at all”. <sup>VP</sup>



### Full Knowledge Summary

[veterinaryevidence.org/index.php/ve/article/view/152](https://veterinaryevidence.org/index.php/ve/article/view/152)

Author: Louise Buckley

# Hand-rearing swifts

## The dangers of feeding the species a non-insect based diet

For the past 15 years, Judith Wakelam has been rearing swifts – between 35 and 50 each season – and she has a good success rate. Swifts are sent to Judith from May to September through several routes, including the general public, local veterinary practices, wildlife organisations and Swift Conservation.

“Unfortunately, over the past few years, I and other rehabbers have received swifts that have been fed inappropriate diets by well-intentioned finders, such as tinned or dried cat food and various meat- and grain-based foods,” she explained. “I have also received chicks from veterinary practices, not local to me, that have been fed on a recovery mixture intended for mammals.” Although these diets may at first appear to be producing a healthy swift, Judith says the negative effects of these inappropriate foods will be seen as the chick develops.

Birds are very sensitive to deficiencies of some nutrients, she says: “Insectivore chicks given non-insect diets show poor development when fed a diet that differs significantly from its natural food. Sheaths may be retained and need manual preening, revealing fault-bars and a weakened structure causing feathers to break. For a swift (a bird that will spend most of its life in flight), this is a death sentence.”

A small amount of these wrong foods can be enough to cause this irreversible damage, she warns.

Swifts are exclusively insectivorous birds, she emphasises, recommending a basic diet of live (never dried) crickets, mealworms and waxworms, all of which can be bought commercially, together with vitamin and mineral supplements and small flying insects from the garden.

Rearing swifts can be a time-consuming process, one not to be undertaken lightly: chicks can require up to a dozen feeds a day. “Being specialised feeders that catch their food on the wing, when hand reared, everything they eat must be put into their mouths as they are unable to pick food up for themselves,” Judith explains.

For reliable information on rearing swifts, Judith recommends the work of Enric Fusté, who has conducted in-depth studies into the feeding of non-insect based diets to insectivores. <sup>VP</sup>



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# The value of self-compassion

More than just retail therapy, self-compassion is about giving yourself credit and making time to be content and mindful



**LAURA WOODWARD**  
LAURA WOODWARD COUNSELLING

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

The dictionary definition of compassion is “sympathetic consciousness of others’ distress together with a desire to relieve it”.

Compassionate people are usually recognised as calm, generous, caring and empathic. They offer understanding and kindness to others when they make mistakes, rather than judging them harshly. Compassionate people realise that suffering, failure and imperfection are part of the shared human experience.

Self-compassion involves being kind and understanding towards yourself when confronted with personal failings. Similarly, you acknowledge it and allow yourself to feel good when you are achieving your goals.

Have you ever noticed how people tend to be nicer the further out they go from their inner circle? The nicest vet in the world may be brutal to his family, hideous to his wife and totally miserable to himself. We’re not as mean to a stranger as we are to a family member. But we’re ruthless towards ourselves! It is easier to feel natural compassion the further out we go from ourselves.

As a practice, if we want to increase our compassion for others, we should start with ourselves. If I am capable of deep compassion for myself, imagine that expanding, exponentially, as I go out from there.

If the oxygen masks are released on a plane, we know to put our own mask on first before we help others. If we are weak, how on earth can we help those around us? Compassion is not dissimilar.

## How do I increase my self-compassion?

There are three key elements to self-compassion:

### 1. Self-kindness vs self-judgement

How often do you call yourself an idiot (or worse)? Self-flagellation is easy. It avoids us having to face reality. It shows onlookers that we are repentant for our wrongdoings. But what does it achieve as regards increasing inner strength in order to avoid mistakes being repeated? How does it help others? It doesn’t.

If my colleague had a catastrophic fracture failure, I should be the first on the scene to help them take stock, think clearly, plan the revision surgery, focus. And yet when my fracture fails, I berate myself, tell myself what an inadequate surgeon I am and allow nausea to envelop me. What if we were to treat ourselves with the gentleness and truly supportive kindness with which we treat our friends?

### 2. Common humanity vs isolation

People who lack empathy often feel that when they experience difficulty in life, they are alone in their suffering. Maybe they are truly unaware of others having similar difficulties, in which case maybe they should aim to be less introspective and more empathic.

Or maybe they feel that they react more extremely to a given cause of suffering compared to their peers. This can feel profoundly lonely which adds to the misery and pain. But suffering is universal. Nobody has an easy ride through life, whatever it may look like on the outside.

Accepting that you are not alone in your ordeals can be life changing, though you must care about others around you to see this and it can be hard to develop empathy when you are in distress. Knowing that the universal rate of major complication in, for example, TTA procedures in dogs over 50kg is about 20 percent means that when you have a complication, you have it in writing in a peer-reviewed journal that you are not alone.

### 3. Mindfulness vs suppressing emotions

Self-compassion also requires taking a balanced approach to our negative emotions so that feelings are neither suppressed nor exaggerated. This equilibrated stance stems from the process of relating personal experiences to those of others who are also suffering, thus putting our own situation into a larger perspective. It also stems from the willingness to observe our negative thoughts and emotions with openness and clarity, so that they are held in mindful awareness.

Mindfulness is a non-judgemental, receptive mind state in which one observes thoughts and feelings as they are, without trying to suppress or deny them. We cannot ignore our pain and feel compassion for it at the same time. Mindfulness also requires that we not be “over-identified” with thoughts and feelings, so that we are caught up and swept away by negative reactivity.

In summary, self-compassion helps us to be better citizens of our workplace, better friends and more valuable members of our family. It’s not retail therapy or extra chocolate on your cappuccino (although, let’s face it, every little helps). It’s about allowing yourself the time to be content, even though it may seem inappropriate at the time, giving yourself credit for being a decent human being and making the time to be mindful simply because you deserve it. [VP](#)

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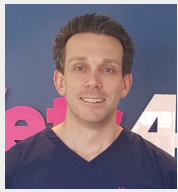
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# Producing a successful practice wellness portfolio

A Vets4Pets joint venture partner explains his practice's journey to developing a wellness portfolio with a great response and uptake



**JAMES COOK**  
VETS4PETS GRANTHAM

James Cook, VetMB, BSc (Hons), MRCVS, qualified as a veterinary surgeon from Cambridge in 2006. In 2013, he opened a small animal practice in Grantham with his wife, in a joint venture partnership with Vets4Pets. Well-being is a core ethos of the practice.

When we first opened our practice, we had strong views on wanting to “do it well”, not only for our clients, but for our colleagues too. We recognise the impact well-being can have on retaining colleagues, as well as overall client care. We wanted to ensure our colleagues felt appreciated, and learned along the way that a flexible approach is best, particularly when considering mental health. We know how important it is for colleagues to have positive mental health and wanted to understand what this meant to them.

Vets4Pets facilitated an engagement survey for the practice. The survey included key questions on well-being, which enabled us to gather valuable colleague feedback. Unsurprisingly, the results showed that we all want to improve animal welfare and feel equipped to do a good job; well-being was key to this. We used the feedback from the survey to put together our own practice wellness portfolio.

## Life coaching and profiling

We started our portfolio this year, with two days of life coaching and resilience training for all colleagues. We also took part in a profiling exercise which helped us all to understand each other better and learn how best to interact with our colleagues. Using our colleagues' feedback from these sessions, we then set about making positive changes for the team.

## Finances and work-life balance

We created improved remuneration packages with superior pay and holiday benefits, including salaries benchmarked above the SPVS survey averages for our region, birthday leave, leave to perform charity work and time off to settle in a new pet or for a child's first day at school. Our colleagues can also enjoy a workplace pension alongside company specific discounts.

## Developing a positive culture

Our colleagues indicated that development was very important; they are actively encouraged to attend more CPD and wanted autonomy in their roles. We developed a practice handbook and standard operating procedures to facilitate this. We have annual achievement awards in the practice and a gratitude board where colleagues can be recognised for something they have done to brighten someone's day.

## We listen


We invested in a practice manager who could be there for all our colleagues, to listen to their concerns and prevent these concerns from escalating. Conducting one-to-one meetings with colleagues enables us to discuss anything that is concerning them, so we can then deal with it internally where possible and signpost to external services through our partners at The Retail Trust where necessary.

## Physical health and relaxation

Our colleagues are given an annual budget for the development of their rest room which is now equipped with music, beanbags, a comfy sofa, relaxing colours and décor and printed canvases of their pets decorating the walls. We refresh this room weekly with a buffet of free healthy snacks to encourage good nutrition. Finally, we also provide one-to-one external nutrition counselling, additional breaks for fresh air and walks, alongside meditation workshops and access to medical light boxes during the months of shorter sunlight.

## Outcome

The response and uptake on our portfolio surprised us, with all colleagues taking advantage of the majority of our initiatives. Our colleague retention rate is one of the highest in our group, and there is a definite improvement in client experience which is reflected in a 10 percent increase in our net promoter score to over 90 percent. We recently enjoyed awards for client care and inpatient care through the Practice Standards Scheme and a highly commended award from the SPVS well-being committee.

The perception that good mental health is not achievable in our profession is, in my opinion, outdated. Too much focus is lent to articles and statistics on the problem rather than the solution. The remedy for us has been achieved by listening to what our colleagues need and tailoring our well-being offering flexibly to meet their needs. We have found that the outcome flows of its own accord, with a natural sense of willing, resulting in happy colleagues and patients. Why can't we all do it? 

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# Tackling accidental breeding

## Five key steps to help practice staff reduce the problem of accidental breeding

Unfortunately, unplanned litters make up a sizeable proportion of total annual births of small animals, kittens especially, putting pressure on pets, rehoming centres and the owners of the pregnant pet themselves. So, what can your practice do to help reduce the numbers of accidental births, and for those that do happen, support owners and their pets through an unplanned pregnancy and birth?

### 1. Early education

Many owners are simply unaware that their new puppy or kitten can get pregnant at just a few months old, so discussing early neutering with an owner when they bring their pet in for vaccinations is essential. It is also important to dispel the myth that it is beneficial for a cat or dog to have one litter, or that it is a good educational experience for the family.

### 2. Ongoing reinforcement

Of course, you don't meet all owners when their pets are very young. For this reason, it can be incredibly helpful to permanently display information in your waiting room about the importance of neutering and the consequences of not doing so. Make it the norm to discuss it with owners of unneutered pets in consultation too. This message can't be driven home enough, so use every opportunity you have.

### 3. Special offers

Do you run any special offers or schemes to help with the cost of neutering? Whether it's part of a health plan or ad hoc reduced priced neutering, offering procedures at a lower price can have a big impact on uptake. Make sure this is clear in all practice communications – from waiting room posters to flyers and social media.

### 4. Advising owners

For owners that do come in with an accidental pregnancy, there are many ways in which you can support them to ensure a positive outcome for the pet and litter. Owners often feel worried and unprepared, so helping them know what to expect is very valuable. Also, make owners aware of signs that indicate an emergency that would require your help, and how soon they can have the mum neutered after her litter is born.

### 5. Insurance and free policies

Having the right insurance at the right time can make a


significant difference to the veterinary care a pet receives during its whole life. You can help the litter by alerting the owner of the pregnant mum to the availability of free insurance policies for the young.

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For more information about working with Agria, visit: [agriapet.co.uk/veterinary/](https://agriapet.co.uk/veterinary/) and for clients wishing to join the Agria Breeder Club, see: [agriapet.co.uk/breederclub/](https://agriapet.co.uk/breederclub/)



# Diagnosing and treating cheyletiellosis

Clinical signs of cheyletiellosis can vary but once diagnosed, there are numerous products that can be used for treating the condition



## DAVID GRANT

David Grant, MBE, BVetMed, CertSAD, FRCVS, graduated from the RVC in 1968 and received his FRCVS in 1978. David was hospital director at RSPCA Harmsworth for 25 years and now writes and lectures internationally, mainly in dermatology.

**C**heyletiellosis is a skin disease caused by infestation with *Cheyletiella* mites. There are five species, which are predominantly host specific, although cross infestation may occur:

**Rabbits:** *Cheyletiella parasitovorax* (Méglin, 1878) and *Cheyletiella firmani* (Smiley, 1970)

**Cats:** *Cheyletiella blakei* (Smiley, 1970)

**Dogs:** *Cheyletiella yasguri* (Smiley, 1965)

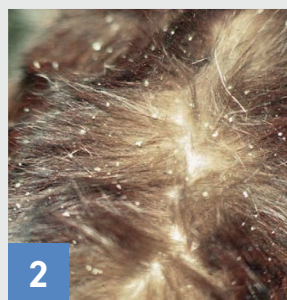
**Hares:** *Cheyletiella strandtmanni* (Smiley, 1970)

There are variations in the shape of the solenidion, a specialised chemosensory seta located on the fourth segment of the first leg. The shapes can vary, however, and therefore the precise identification may be difficult, although not of any practical significance as host specificity is thought to be high. *C. parasitovorax*, *C. blakei* and *C. yasguri* are considered the most commonly seen in veterinary practice. The mites spend most of the time in hairs and go to the skin surface to feed on epithelial debris.

The life cycle is of approximately three weeks. Female mites lay eggs that are attached to hairs. Hatching produces larvae followed by the first nymphal stage, a second nymphal stage and then adults. The entire life cycle is spent on the host.

## Clinical signs

Clinical signs vary according to the number of mites on the animal and whether hypersensitivity to the bites occurs. The most common sign in non-hypersensitive animals is excess scale. In severe infestations, movements of the mites or associated debris may be seen, hence the term "walking dandruff" (**Figure 1**). With fewer mites, the scale will be less noticeable. In rabbits the excess scale is dorsal, particularly between



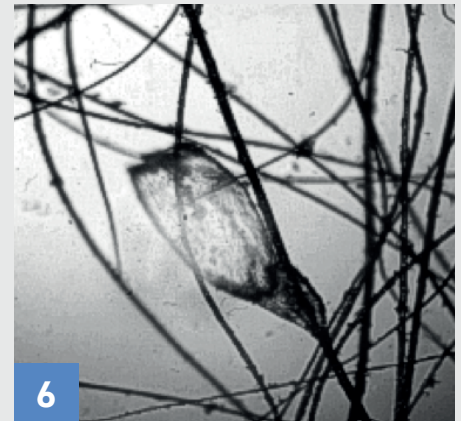
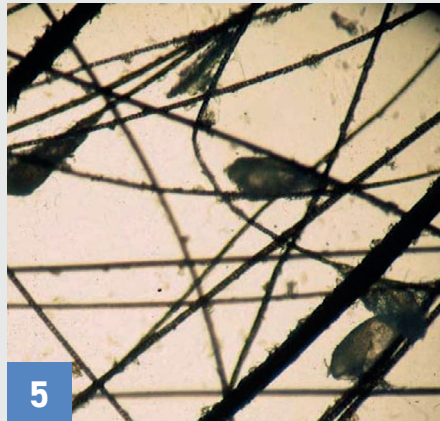
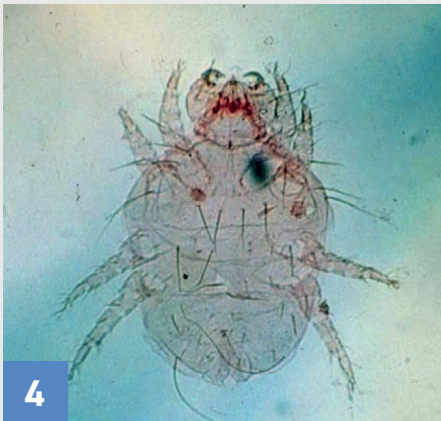
**FIGURE (1)** Excessive scale in a nine-month-old spaniel. Infestation was severe and walking dandruff was observed in coat brushings **(2)** Excess scale in a domestic shorthaired cat with no other signs **(3)** Symmetrical alopecia in a six-year-old domestic shorthaired cat. There was intense pruritus and the owner had widespread lesions initially diagnosed by the family doctor as fleabites

the scapulae. In dogs and cats scale may be more generalised, but still predominantly dorsal (**Figures 1 and 2**). Pruritus is usually minimal. In animals that develop hypersensitivity there may be severe pruritus and self-inflicted lesions, such as miliary dermatitis or symmetrical alopecia in cats (**Figure 3**), or mimicking fleabite hypersensitivity in dogs. Due to the current high prevalence of insecticide use in older animals, cheyletiellosis is most likely to be seen in puppies and kittens kept in poor husbandry conditions.

## Making a diagnosis

Consider the differential diagnosis of scaling and hypersensitivity. Seborrhoea, poor nutrition, inadequate grooming, demodicosis, pediculosis, otodectic mange and flea infestation may be causes of scaling. In cats, diabetes mellitus, liver disease and other causes of miliary dermatitis may also be considered.





**FIGURE (4)** The hooks on the accessory mouthparts of an adult *Cheyletiella* are diagnostic (Image courtesy of M Geary, FRCVS) **(5)** *Cheyletiella* eggs can be seen attached to the hairs lengthwise by fine fibrils. Empty cocoons are visible in a hair pluck from the cat in **Figure 3** **(6)** A cat louse egg (*Felicola subrostratus*) for comparison with *Cheyletiella*. It is attached to the hair by cement at its base, is operculate and larger than those seen in **Figure 5**

Hypersensitivity can be caused by atopic dermatitis, fleabite hypersensitivity, food hypersensitivity, scabies and ectopic *Otodectes cynotis* hypersensitivity.

A full history should be taken and a physical examination performed. There may have been no recent antiparasitic treatment or poor compliance. Imidacloprid is an effective antiparasitic agent but is not effective against *Cheyletiella*. Excess scale is usually obvious and if found, should prompt skin sampling.

Coat brushings should be done, and the debris placed on brown paper or a petri dish. The debris should then be examined using a microscope with a total of X40 magnification. Walking dandruff may be seen, but not necessarily in milder infestations. Acetate tape strips should be taken.

Hair should be trimmed and a superficial skin scraping taken and mounted in liquid paraffin.

The adult *Cheyletiella*, 0.5mm in size, is just visible to the naked eye but microscopic identification is necessary. All legs protrude from the body and end in combs. The mite also has a waist. The most important diagnostic feature is the characteristic hooks of the accessory mouth parts (**Figure 4**).

Hair plucks can be taken. *Cheyletiella* eggs will be attached to hairs. In hypersensitive animals it is easier to find eggs than adults. These eggs are attached along the length of the hairs in a fine cocoon. They are smaller than louse eggs and are non-operculate (**Figures 5 and 6**). Pruritus will cause excessive grooming, especially in cats. In these cases, eggs and adult mites may be detected by routine faecal flotation techniques.

A therapeutic trial, using an acaricidal product administered by a veterinary surgeon or nurse, may be necessary in cases where clinical signs are strongly suspected but the mite or eggs are not found.

The mite will bite in-contact humans causing hypersensitivity wheals, often diagnosed by the family physician as fleabites. These occur in contact sites – arms, waist and legs, for example. Individual members of the owner's family

will not usually develop lesions simultaneously, which may cause confusion. Human lesions depend on the level of contact and whether a hypersensitivity response develops.

## Treatment

All in-contact animals should be treated. *Cheyletiella* is susceptible to many pesticides routinely used for tick and flea control in small animal practice.

Topical products include:

- Lime sulphur dips applied weekly for four weeks
- Fipronil spray (not in rabbits)
- Selenium sulphide shampoo once a week for three weeks

Most spot-on products are also effective, except for imidacloprid. Examples include:

- Ivermectin (Xeno, Dechra) for rabbits
- Selamectin once a month for three months for cats, dogs and rabbits
- Fipronil (dogs and cats only)
- Moxidectin

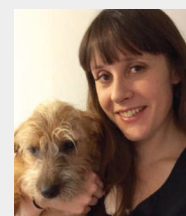
Oral products used in flea and tick control, such as the recently introduced isoxazolines, or milbemycin are likely to be effective, although as with the other products mentioned, there is no specific licence for *Cheyletiella*.

Environmental treatment is not strictly necessary, especially if long-acting antiparasitic drugs are used. However, routine cleaning of the environment allied with products designed for flea control is often advised because survival of female mites off the host for up to 10 days has been documented. <sup>VP</sup>

A full reference list is available on request

# Considering the epidermal barrier

It is important to address the needs of the epidermal barrier when managing dermatology cases



**JAYNE CLARK**  
VETERINARY ADVISOR, VIRBAC

Jayne Clark, BVSc, BSc(Hons), GPCert SAM, MRCVS, worked in small animal clinical practice for 10 years before moving into industry as a technical advisor. She has an interest in all aspects of canine and feline medicine, particularly anaesthesia, analgesia and endocrinology.

The skin is the largest and one of the most important organs of the body. It helps to support the internal environment, maintaining hydration through regulation of transepidermal water loss (TEWL) and playing a part in thermoregulation. It is also an integral part of the innate immune system with the epidermal barrier forming the primary line of defence against the external environment.

Far from being an inert structure, this barrier utilises both mechanical and chemical strategies to defend against the constant assault on the skin from external pathogens and allergens. Factors which affect the integrity or function of the epidermis can quickly result in cutaneous infection and/or inflammation; it is therefore crucial that skin barrier abnormality should not just be viewed as a consequence of inflammatory skin disease but also considered as an important, and in some cases primary, triggering factor.



The healthy stratum corneum provides an effective barrier against potential pathogens and allergens; however, it has been demonstrated that atopic dogs appear to lack this highly organised structure



Factors that adversely affect the epidermal barrier are numerous and varied, but it is helpful to consider the structure of the barrier to understand where compromise could occur. The stratum corneum (outermost epidermal layer) is the primary mediator of the epidermal permeability barrier function. A brick wall analogy may be used to describe it,

whereby the corneocytes/squames represent the bricks and a lipid intracellular matrix represents the mortar holding the structure together. The lipid matrix consists of ceramides, cholesterol and long chain fatty acids which are arranged in organised lamellar sheets.

The healthy stratum corneum provides an effective barrier against potential pathogens and allergens; however, it has been demonstrated that atopic dogs appear to lack this highly organised structure, even in skin which appears grossly normal. A study using electron microscopy and ruthenium tetroxide staining examined skin biopsies from confirmed atopic dogs and compared these to samples from normal dogs; in the atopic animals, corneocytes were vacuolated and the bands of lipids disorganised and thinner (Inman *et al.*, 2001). Many studies in human medicine also suggest that a defective epidermal barrier in combination with an abnormal immune response may contribute to the pathophysiology of atopic dermatitis (Lee and Lee, 2014).

The surface of the epidermis is covered in a hydrolipid film; this emulsion is formed from apocrine and sebaceous gland secretions which keep the skin supple, regulate TEWL and act as a further microbe barrier. Glandular secretion is under complex hormonal and/or nervous control; apocrine secretions contain a variety of interferons and antibodies, whereas the main component of the oily sebaceous gland secretion is linoleic acid. Endocrine disease, a poor plane of nutrition (particularly with regards to the fatty acid component) and genetic make-up are just some of the factors which can alter the quality, and therefore the function, of this emulsion.

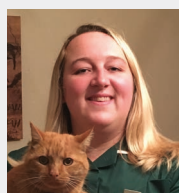
In summary, as medicine continually advances, an ever-increasing array of therapeutic options become available for treating dermatological conditions, but the importance of addressing the needs of the epidermal barrier should not be overlooked due to the key roles previously highlighted. As well as allergen avoidance measures, the use of appropriate veterinary shampoos, topical lipid products and diets designed to support dermatological function should be considered alongside anti-inflammatory and/or immunomodulatory drug options when devising treatment strategies for allergic and inflammatory skin disease. [VP](#)

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# Life-changing conversations with cat owners

Three key conversation topics that will impact the value of consultations and improve quality of life for the cat



**KELLY EYRE**  
ROYAL CANIN HEALTHY AGEING CLINIC

Kelly Eyre, RVN, was a Cat Care Assistant for the Wrexham Cats Protection, where she trained as a veterinary nurse. Kelly now runs the Royal Canin Feline Healthy Ageing Clinic and is due to complete her ISFM Diploma in Feline Nursing this year.

During my career working with cats in a rescue environment, I became aware that older cats were often overlooked. It became apparent that owners are not fully educated on the welfare of ageing cats. Starting senior cat clinics to educate owners on the extra attention ageing cats need and what they can do to make a difference became a way of addressing this deficit. The Royal Canin Feline Healthy Ageing Clinic supports longitudinal studies into the ageing of cats. We aim to fill the gap in knowledge on the ageing process of cats, educate owners on how they can recognise signs of ageing, and encourage them to make small changes to improve the quality of life of their cat.

Ageing cats have specific emotional and physical needs, and these can easily be provided by the owners with a little education and advice. While veterinary professionals may be good at conducting physical examinations, communicating appropriately with clients can be challenging. It is key to ensure that there is plenty of time for a consultation involving an ageing cat. Not only does this allow the cat to settle, but it provides ample opportunity for gathering and disseminating information.

This can be facilitated when practices run a bespoke senior cat programme, usually overseen by an enthusiastic veterinary nurse. Veterinary nurses are great at discussing the above points with owners and referring the older cats for a nurse clinic is another useful way to communicate important information to owners. The veterinary nurse can be the first point of contact with the owner in the nurse consultation, and then refer to the veterinary surgeon if they have any further concerns for the patient.

## Recognising the signs

Educating the owner on how to recognise subtle changes in their cat during the ageing process is the first step to improving health of the patient, and such awareness can be empowering for owners. Cats show subtle signs of discomfort and so can be tricky to evaluate; using a questionnaire to help gather information can be useful and should ensure

nothing is missed. A questionnaire like that in **Table 1** can be given to the owner when they book the first appointment for the senior clinic or posted ahead of time. Alternatively, the questionnaire could be uploaded to the practice website or social media so owners could complete it online.

Gaining information from the home environment is invaluable because many clinical signs, for example those arising from osteoarthritis, are subtle in cats and may not be observed in the consultation. The cat's behaviour at home is also a key indicator as to how the patient is coping with the ageing process. Avoiding interaction with members of the family or other pets and appearing "on edge" or nervous can indicate that they are feeling vulnerable in their environment, perhaps due to pain or illness.

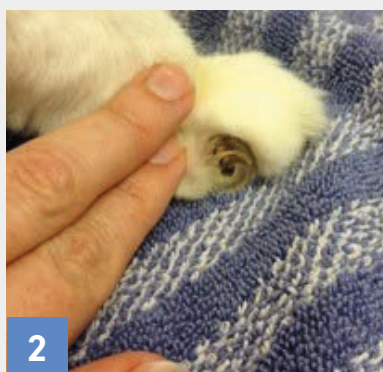
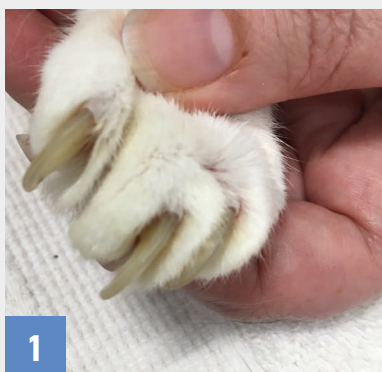
Discussing the feeding habits is also important; cats can begin to lose their sense of smell as they age and no longer find the food as inviting as it used to be. Warming the food slightly can improve the smell and palatability.

Using open-ended questions, such as "What changes have you seen in the last year?", encourages owners to provide more detail about any changes they have recognised, and improve the quality of information overall. Getting

MOBILITY CHANGES	FEEDING CHANGES	BEHAVIOUR CHANGES
Is your cat actively hunting?	How well are they eating?	How keen are they to interact with members of the family or other pets?
How much time is spent outdoors?	Which do they prefer, wet or dry food?	Have they become fearful or aggressive?
Do they jump on high surfaces as normal?	Have they started leaving food behind in the bowl?	Do they appear comfortable in the home environment or restless?
Any change in their sleeping pattern?	Have you noticed them drinking? Has it increased in frequency?	How well are they grooming themselves?

**TABLE 1** Examples of questions asked on an owner questionnaire and discussed in the consultation

them to open up and talk about their pet engages them to the next step of the consultation. Owners (especially cat owners!) enjoy talking about their pets, so the conversation is usually free-flowing. Once you have captured information



**FIGURE (1 & 2)** Claws can become thickened and begin to grow into the pads if a cat is less able to groom (photo credit: Feline Healthy Ageing Clinic) **(3)** Preliminary data show that over a third of cats have dental disease by age 10, two thirds of which have feline oral resorptive lesions (photo credit: Feline Healthy Ageing Clinic)

with an open-ended question, you can follow up with more targeted questioning in areas of key importance.

### Helping the owner to understand the needs of their ageing cat

After you have gathered sufficient information from a history, a detailed physical examination should be conducted. It helps to talk through what you're looking for and why; this will raise further awareness of important changes that the owner can monitor in the future. For example, claws can become thickened if the cat is less able to groom and begin to grow into the pads causing discomfort and lameness (**Figures 1 and 2**). This can be illustrated and explained during the physical examination. A great tip is to talk to the cat rather than the owner. Not only does this help the owner see that you care about their cat, it is also less confrontational if new findings are identified that require a delicate conversation (for example, unwanted weight gain).

While carrying out a dental examination, show the owner how to check the mouth and point out signs of disease if noted. Preliminary data from the Royal Canin Feline Healthy Ageing Clinic has shown that over a third of cats have dental disease by 10 years of age, two thirds of which have feline oral resorptive lesions (**Figure 3**). Cats usually have a strong drive to eat, and so will often continue to eat without obvious signs of pain, even in the face of advanced dental disease. Educating the owner on what can happen and what it looks like will make the owner more aware of smaller

changes to their eating habits and encourage them to routinely check the mouth.

### Encouraging the owner to make changes that can improve quality of life

Owners can make very small changes that can have a huge impact on the cat's welfare and quality of life. As cats age, their water intake often increases because older cats are prone to conditions that predispose them to dehydration. Many owners are unaware of tips to promote water intake. For example, many cats prefer fresh water, running water, large shallow bowls and to drink from a source away from their food or litter tray. Based on preliminary data from cats attending our clinic, the water bowl is placed next to the food bowl for 68 percent, while 45 percent of these cats choose to drink from other sources such as the bath, shower, outdoor puddles and glasses etc.

Advise owners to provide easier routes up to high spaces such as windowsills and beds. Moving side tables and coffee tables can be enough to help, but specific steps can be produced if necessary. Placing a step under the cat flap can make it easier for cats to get in and out of the house. Owners may mention that their cat keeps scratching the carpet instead of their scratch post. Providing a horizontal scratch mat can resolve this as cats get older

and osteoarthritis causes discomfort when stretching up to use a vertical scratch post.

Toileting accidents can begin to occur as their mobility changes, and they may find wooden litter uncomfortable to stand on. They can also find high-sided litter trays difficult to get in to, and hooded trays can force a crouching position which can be painful and difficult for the older, stiffer cat. Advising owners to provide large, open, low-sided litter trays with soft substrate can help to prevent toileting accidents.

Simple adjustments can be made should an older cat begin to limit their activities to one part of the house or struggle to climb the stairs. Owners can ensure that all necessary resources are available and easily accessible, for example on both levels of a house. This is especially important with multi-cat households. When cats begin to age, they can feel vulnerable in certain situations, so advise the owner to provide plenty of food, water, litter trays and warm places up high that are easily accessible where they can rest while avoiding any conflict.

Owners may be unaware of the subtle changes of ageing in cats and may be missing opportunities to improve their cat's quality of life. Discussing these in a consultation is imperative to achieving the best experience for the cat and owner. Raising awareness of ageing can have a positive impact on the quality of life of cats, and if the owner changes just one aspect of the provided care, it will make a difference to the welfare of that cat. [VP](#)



# A 97% LIKELIHOOD OF WEIGHT LOSS<sup>1,2\*</sup>

## STARTS WITH A CONVERSATION ABOUT BEGGING BEHAVIOUR

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



INCREDIBLE IN EVERY DETAIL

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# The challenges of recognising chronic pain

Clinical metrology instruments can be useful for measuring chronic pain, which is difficult to assess in animals



## GWEN COVEY-CRUMP

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The difficulty of assessing chronic pain in animals continues to be a challenge despite advances in knowledge about pain mechanisms and treatment.

Common conditions known to cause chronic pain include osteoarthritis and other musculoskeletal problems, chronic inflammatory skin and ear disease. As veterinary medicine advances with new treatments for cancer, for example, our patients are living longer and as a result we are faced with more "opportunities" to manage their pain. As vets, we have a limited selection of analgesics available with a marketing authorisation for veterinary species. In patients with refractory pain we frequently reach for analgesic adjuncts licensed for use in humans to use via the cascade.

Such medications are backed by weak or no evidence of clinical efficacy or safety in the species we are treating, thus we rely heavily on anecdotal reports. An example of a medication that has been used extensively by vets in small animal practice is tramadol. Evidence of the lack of efficacy and extremely low oral bioavailability of tramadol in dogs has been published in recent years. It is likely that any benefit seen in dogs is not via an opioidergic effect as is shown in cats and humans, but rather through descending inhibitory pathways involving serotonin and noradrenalin, effects which are also responsible for the deleterious dysphoric effects frequently reported (Lascelles and Epstein, 2016).

Concerns over abuse and diversion of prescribed opioids, anxiolytics, anticonvulsants and antidepressants mean vets need to be much more careful about prescribing these in future. Clearly more research is needed to explore the clinical usefulness of some of these unlicensed medications but in the current situation the best advice that may be given to vets would be to ensure you are assessing your patient regularly to judge efficacy of the treatment you administer. So here lies the challenge!

## Making accurate assessments

Assessment tools for acute traumatic and post-surgical pain as treated in a veterinary clinic environment are available and it is encouraging to see these being used increasingly in small animal practice. Examples used by the author include the Glasgow composite measure pain scale – short form (CMPS) for dogs and more recently, the combined composite measure pain scale for cats (CMPS-Feline).

However, chronic pain can be much more difficult to assess and tools designed for acute pain are not useful in this context. Many animals are stoic by nature and do not communicate their pain obviously. Anxiety in a clinic environment or in the presence of a stranger will usually inhibit an animal's response to a painful examination and this is enhanced in prey species such as small mammals, horses and farm animals. Sarah Heath, of Behavioural Referrals, goes as far as to say that it is virtually impossible to detect chronic pain in a veterinary clinic consult room (personal communication).

Animals are expert adaptors. Behavioural adaptations are subtle and occur gradually as chronic pain persists beyond injury so that many owners are completely unaware that there is a problem. This is not so different for us as humans – consider how many friends and colleagues you know who experience chronic pain. If you were to take away their verbal communication, how would you know they were in pain? You might notice them moving around with difficulty or absent-mindedly rubbing a painful area. So it is with animals. It is far more useful to look for behavioural indicators of pain as they are exhibited in the animal's normal environment in the place where they are least stressed.

There are some behaviours that can be used to assess and score in dogs and cats; these include:



Spending more time sleeping may be a sign of chronic pain



Postural adaptations due to pain may be overlooked

- Vitality and mobility (eg levels of energy and alertness; ease and fluidity of movement, including lying, getting up, sitting, jumping, turning, using litter box)
- Mood and demeanour (anxious, withdrawn, "sad", dull, confident, playful, social interactions with people and other pets, temperament)
- Self-care (eating, drinking, grooming – including over-grooming a painful area, toileting posture)
- Resting, observing, relaxing (both restlessness and sleeping more can be indicators of discomfort)
- Indicators of pain (signs of stiffness at different times of the day and relating to exercise, postural changes, lameness, avoiding certain activities eg walking across slippery surfaces, refusing stairs or jumping into the car, avoiding being jostled by other pets)

Questionnaire-based measurements of health, also called clinical metrology instruments (CMIs), are widely used to assess health and well-being in people. Those designed to assess chronic pain use a combination of measures of stiffness, pain, gait, function, quality of life and pain severity. There are a limited number of instruments designed for assessment of chronic pain in dogs and cats and even fewer for small mammals, horses and farm animals. Advantages of a CMI include the fact that it assesses natural behaviours in a routine environment during extended periods. They are patient centred and require no specialised equipment.

### Overcoming the caregiver placebo effect

One significant problem in non-verbal species is scoring pain severity. In human medicine it is said that no one can feel another's pain. Only the patient can rate their pain severity. This means that it is difficult for carers to complete pain questionnaires for non-verbal humans including very young children, people with reduced consciousness or people with advanced dementia. This clearly also applies to animals and yet several respected validated CMIs include similar questions about pain severity.

Furthermore, the strength of relationship between carer

and patient means results are likely to be influenced by the carer's perception and desired outcome for the patient. The caregiver placebo effect is strong, making even use of CMIs challenging. An innovative method to overcome this problem for analgesia research uses "masked" baseline, treatment/placebo and wash-out periods. In a study of meloxicam for cats with degenerative joint disease using both a client-specific and general CMI, both the treatment and control groups appeared to improve during the testing phase. However, when treatment was withdrawn (replaced by placebo), owners of cats which had received meloxicam were able to detect a recurrence of clinical signs compared to those that had received placebo (Gruen *et al.*, 2014).

Objective measures include the use of kinematic gait analysis, pressure sensitive walkways, and force platform devices and activity monitors. However, results of these are influenced by factors such as multiple limb lameness and differences between animal handlers. There is a weak correlation between change in peak vertical force and change in results of two CMIs – the Liverpool osteoarthritis in dogs (LOAD) and canine brief pain inventory (CBPI) (Walton *et al.*, 2013). A health-related quality of life (QOL) assessment tool (Vetmetrica) is designed to minimise respondent bias. This validated tool is applicable to any chronic disease and not just osteoarthritis. Measuring chronic pain through its impact on QOL means that you are evaluating the whole pain experience – emotional as well as physical.

Both owners and vets express frustration and helplessness in the face of their pets suffering with long-term conditions such as arthritis (Belshaw *et al.*, 2018). Coaching owners to evaluate behavioural indicators of pain at home takes a great deal of time, a commodity which is in short supply in general practice.

A useful educational website aimed at owners of dogs with osteoarthritis has recently been developed ([caninearthritis.co.uk](http://caninearthritis.co.uk)). Vets can direct dog owners to the website where they will find advice in an easy to understand format with free resources available to download such as the "good-day bad-day diary" and "the osteoarthritis booklet" which is aimed to assist vets and owners to keep track of a dog's treatment over time. Their Facebook community and discussion forum receives feedback from members reporting the benefit of being in a "community" of people with similarly affected pets.

Another organisation that offers opportunities for vets to explore the multimodal management of pain is the British Veterinary Sports Medicine and Rehabilitation Association. In their recent "journal club", the subject of pain assessment was discussed. Their autumn meeting addressing pain related behaviours will be held jointly with the British Veterinary Behaviour Association. [VP](#)

A full reference list is available on request

# Assessment of chronic pain and health-related quality of life

## How to measure chronic pain in dogs and cats through its impact on health-related quality of life



### JACKY REID

Jacky Reid, BVMS, PhD, DVA, DipECVAA, MRCVS, Professor of Veterinary Anaesthesia, is an Honorary Senior Research Fellow at the University of Glasgow and a Director of NewMetrica, a company specialising in the development of instruments to measure health-related quality of life and pain.

Pain is a complex, multi-dimensional experience involving sensory and affective (emotional) components.

The sensory component tells us when and where the pain occurs and whether its cause is mechanical or thermal. The affective component refers to the unpleasant feelings that cause the suffering we associate with pain; hence the expression "pain is not just about how it feels, but how it makes you feel". It is a uniquely personal experience – we cannot appreciate how it is perceived by another person or animal – but most people now believe we should assume animals suffer pain in a similar way to ourselves.

The subjectivity of the pain experience makes its measurement an enormous challenge – how can you measure another's feelings? According to McCaffery in 1968, "Pain is whatever the experiencing person says it is, existing whenever he/she says it does", so highlighting the importance of self-report if that is possible, which of course is not the case in our patients.

At its simplest, pain is classified as either acute or chronic. Acute pain may be considered a symptom of disease or injury, but chronic pain is regarded as a disease in its own right. As well as having an effect on physical well-being in humans, chronic pain tends to have a significant impact on the emotional well-being of the sufferer, and people with chronic pain have reported that most, if not all, aspects of their lives are significantly affected.

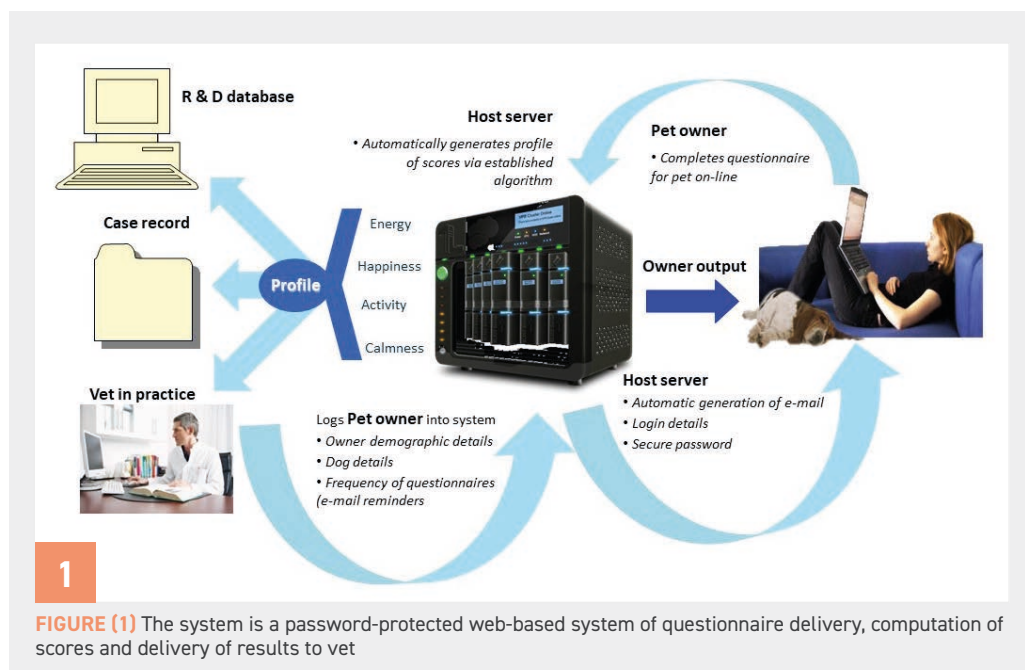
It is not surprising then that many of the instruments now used to measure human chronic pain are concerned primarily with measuring not the pain *per se*, but rather its effect on the patient's quality of life (QOL). Health-related quality of life (HRQL) is concerned with those aspects of QOL that change as a result of ill health and medical interventions.

### Measuring the unmeasurable

Over the past three decades our medical colleagues have perfected the development of structured questionnaires to measure HRQL in people using well established psychometric methods that ensure their validity and reliability. Generally, these are designed for self-report, but where that is impossible, for example in the case of infants or the cognitively impaired, an observer who knows the patient best acts as a proxy. It is important to note that, according to the FDA (US Food and Drug Administration), "Observers cannot validly report an infant's pain intensity but can report infant behavior thought to be caused by pain" and this makes sense for animals too.

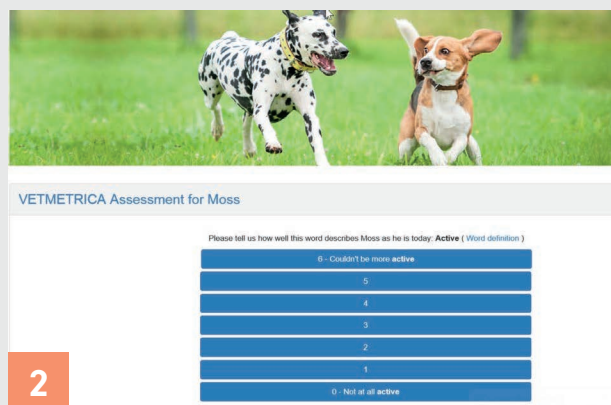
Behavioural disturbances have long been recognised as potential indicators of the presence of pain in animals and it has been suggested that non-verbal behaviour is a form of self-report. Chronic pain behaviours are often subtle deviations from normal and may only be recognised by the owner who knows the animal best, making that person the best proxy.

With increasing companion animal longevity, the incidence of chronic painful disease is rising, with osteoarthritis (OA) at the top of that list in the dog. Various clinical metrology scales have been published for its measurement, for example, canine brief pain inventory (CBPI), Helsinki chronic





**FIGURE 2** As the questionnaire appears to the owner, each question is presented on a different web page and the owner cannot return to see their previous answers or miss a question **(3)** The veterinary output for an 11-year-old Shar Pei dog with OA and inflammatory bowel disease (IBD) treated conservatively with acupuncture, hydrotherapy and lifestyle management over a period of 11 months. At referral (A) all domain scores, except for Happy/Content, were below the threshold above which 70 percent of healthy dogs will score. Having responded well to acupuncture initially, he became needle shy (A to B). There was then a steady improvement and by point D his scores were all above the threshold. Point E shows a deterioration due to a flare up of his IBD. Summaries for physical well-being (energetic/enthusiastic combined with active/comfortable) and emotional well-being (happy/content combined with calm/relaxed) are presented, which show a rapid and sustained improvement in emotional well-being compared with a slower, but steady, improvement in physical wellbeing. Graphs courtesy of Louise Clark of Davies Veterinary Specialists



pain index (HCPI), Liverpool LOAD, canine orthopaedic index (COA). These scales tend to be primarily concerned with physical limitation rather than the effect on HRQL – a much broader concept that includes emotional as well as physical well-being.

### Using Vetmetrica health-related quality of life instruments

These are valid, reliable and responsive web-based generic HRQL questionnaire instruments – one for the dog and one for the cat – designed for completion in around five minutes by the owner at home, using a computer or mobile platform. **Figure 1** shows how the system works in practice. The dog questionnaire has 22 questions for the owner (20 for the cat) and these are based on easy-to-understand words or phrases. The owner rates each of these on a 0 to 6 scale where 0 equals “not at all” and 6 equals “couldn’t be more” (**Figure 2**). On completion of the questionnaire, results are calculated instantaneously and delivered automatically to the vet and, at the vet’s discretion, to the owner. Results comprise an HRQL profile with scores in domains of QOL, four for the dog (energetic/enthusiastic, happy/content, active/comfortable, calm/relaxed) and three for the cat (vitality, comfort, emotional well-being).

To be useful, a health measurement instrument must be easy to interpret in a clinical context. Vetmetrica instru-

ment scores are norm-based, such that 50 represents the score for the average healthy animal, which in the case of the dog is also age related (0 to 7 vs 8 years or more). Results can also be interpreted in the light of the minimum important difference (MID). This is defined as “the smallest difference in score in the outcome of interest that informed patients or informed proxies perceive as important, either beneficial or harmful, and which would lead the patient or clinician to consider a change”.

**Figure 3** shows the vet output for a dog clinical case recorded over an 11-month period. Scores for each domain are colour coded and a dotted threshold line at a score of 44.8 indicates that 70 percent of healthy dogs will score above this line. It is easy to see how scores improved over time with treatment and to relate these to healthy dogs of the same age group. The MID for the dog is 7 so, where scores indicate an improvement of more than 7, this represents a clinically important change. However, this is not an exact science so all interpretation should be made in line with clinical judgement allowing a degree of flexibility.

Because of its prevalence in dogs and cats, osteoarthritis tends to dominate our thoughts of chronic pain, but many other prevalent chronic diseases such as cancer, cardiovascular disease, neurological and dermatological conditions may also be associated with pain and shouldn't be forgotten. Unfortunately, chronic disease is generally not curable and so our task as veterinary surgeons is to alleviate the symptoms as best we can and make our patients feel better by improving their QOL. [VP](#)

### Further reading

Reid, J., Wiseman-Orr, M. L., Scott, E. M. and Nolan, A. M. (2013) Development, validation and reliability of a web-based questionnaire to measure health-related quality of life in dogs. *Journal of Small Animal Practice*, **54**, 227-233.

Reid, J., Wiseman-Orr, L. and Scott, M. (2017) Shortening of an existing generic online health-related quality of life instrument for dogs. *Journal of Small Animal Practice*, E12772.

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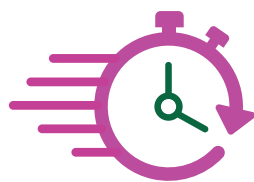
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1. Cavalleri, D. A randomised blinded controlled field study to assess the safety and efficacy of lotilaner (Credelio) in controlled fleas in client owned dogs in European countries. Parasites and Vectors. 2017; 10:526.  
2. Cavalleri, D. Assessment of the speed of flea kill of lotilaner (Credelio) throughout the month following oral administration to dogs. Parasites and Vectors. 2017; 10:529.  
3. Murphy, M et al. Laboratory evaluation of the speed of kill of lotilaner (Credelio™) against *Ixodes ricinus* ticks on dogs. Parasites and Vectors. 2017; 10:541.

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UKCACCR000058

# A considered approach to opioid use

Though opioids still have a place in veterinary analgesia, there is a growing body of evidence which suggests that they should not be considered the gold standard for perioperative analgesia



## FREDDIE CORLETTO

Federico (Freddie) Corletto, PhD, CertVA, DipECVAA, MRCVS, graduated in Italy, before completing a residency in the UK. He is a Diplomat of the European College of Veterinary Anaesthesia and Analgesia. Freddie joined Dick White Referrals in 2008, where he is Head of Anaesthesia and Analgesia.

Opioids have been the cornerstone of the development of modern veterinary anaesthesia and analgesia.

Gone are the times when pain served the purpose of "protecting the surgical site" from excessive use. Luckily, we have now moved away from the "no pain, no gain" approach to pre-operative analgesia, at least in small animals.

Opioids have been a lifeline for veterinary anaesthetists when administering pre-anaesthetic medication, inducing anaesthesia and providing post-operative analgesia, even in the sickest animals. I cannot think of many conditions in which animals are deemed not to be sufficiently fit to receive an opioid analgesic. Thanks to opioids, we can now perform very invasive procedures and can relieve post-operative pain until animals can be discharged and sent home. As veterinary anaesthetists, we are particularly lucky because side effects of opioids in animals are generally very mild compared to people. It is objectively difficult to overdose a dog with an opioid, and in the past 15 to 20 years, analgesic protocols for species more sensitive to the behavioural side effects of opioids, for example cats and horses, have been developed successfully.

Opioids are such a relevant part of our daily anaesthetic routine that we now have dedicated veterinary products covering most of our needs, from a short-acting full agonist, to longer-acting full and partial agonists. It is unquestionable that the overall effect of increased opioid use on quality of perioperative care has been positive. The big question is: at what price?

### Side effects of opioids

Less obvious, but more insidious, side effects of opioids have been investigated in people and in experimental animals suggesting that, under certain conditions, they may induce hyperalgesia (increased sensitivity to pain) and even contribute to metastatic spread of cancer.

While the effects of opioids on immunity have been investigated in people, little is known about the effect of perioperative opioid use on metastatic rate after cancer surgery in animals. Opioid-based perioperative analgesia increases the risk of cancer recurrence and metastasis in breast and prostate cancer, compared to perioperative analgesia protocols based on locoregional anaesthesia.

The exact mechanisms underlying the pro-metastatic effects of opioids in certain types of cancer are not fully understood. However, immune cells, endothelial cells and tumour cells express opioid receptors, and greater expression of the mu opioid receptor in some tumours has been linked to poorer outcomes.

Administration of physiological doses of morphine triggers intracellular events that promote angiogenesis, mitosis and therefore tumour growth, at the same time decreasing the activity of natural killer cells. While knowledge of the clinical relevance of this is currently limited in animals, its importance is such in people that "opioid free" anaesthetic techniques are becoming more and more common, and new non-opioid analgesic agents are currently being investigated.



how could a drug that reduces pain increase sensitivity to pain?



Opioid induced hyperalgesia (OIH) has been long recognised, yet poorly characterised clinically, and has baffled medics and scientists; how could a drug that reduces pain increase sensitivity to pain? Recognition of OIH in a clinical setting is not unequivocal, as persistent pain may simply be the effect of inadequate analgesia, rather than the manifestation of a more elaborate biological phenomenon.

OIH is a distinct entity from tolerance, although the two share some common molecular mechanisms. Tolerance manifests itself as decreased sensitivity to analgesic effects of opioids, usually due to long-term treatment, and increasing the administered dose restores analgesia.

OIH, on the other hand, is characterised by pain sensitisation and cannot be reversed by increasing opioid dose. Experimental animal models have demonstrated increased sensitivity to pain after administration of various opioids and using different routes. Acute administration of high doses of opioids to rodents results in a biphasic response,

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initially characterised by analgesia, and then followed by hyperalgesia. Similarly, chronic treatment with opioids results in progressive hyperalgesia.

Increased sensitivity to pain has also been reported in patients undergoing clinical procedures and receiving high doses of opioids during surgery, in former opioid addicts and in normal volunteers. While in the first and second cases the described phenomenon could have been tolerance, OIH has been well characterised in normal volunteers receiving the ultra-short-acting opioid remifentanyl.

It is plausible that administration of opioids for prolonged periods, in the absence of pain, or at high doses (perioperatively), may interfere with the balance between the endogenous pro and antinociceptive systems, resulting in OIH. A genetic basis for response to opioids, development of tolerance and OIH has also been postulated. Therefore, the same analgesic regimen may not consistently result in tolerance and OIH.

### Should our approach to treating pain change?

Looking into our clinical practice, we can probably all agree that the need to use large doses of opioids in animals in pain is often a predictor of inadequate analgesia. The simple interpretation of this phenomenon has traditionally been that the pain was so severe that the opioid dose used was inadequate, or that other pain mechanisms were involved. Therefore, in these cases we often resort to using ketamine or medetomidine/dexmedetomidine infusion with opioids, with better results.

Interestingly, both tolerance and OIH can be alleviated by administration of NMDA antagonists, for example ketamine, implying a role of NMDA receptor and the glutaminergic system in establishing and maintaining both phenomena. Similarly, alpha-2 agonists may attenuate OIH, suggesting

that the adrenergic system is involved in establishing and maintaining OIH.

It is therefore fair to ask whether we have been approaching treatment of pain correctly or, despite our genuinely good intentions, we have been treating moderate to severe pain with drugs that may rapidly cause OIH.

Should we move away from the postulate "more pain, more opioids"? Should we use less opioids and only when needed, resort to alternative analgesic techniques (ie locoregional anaesthesia) to provide a truly preventive analgesia?

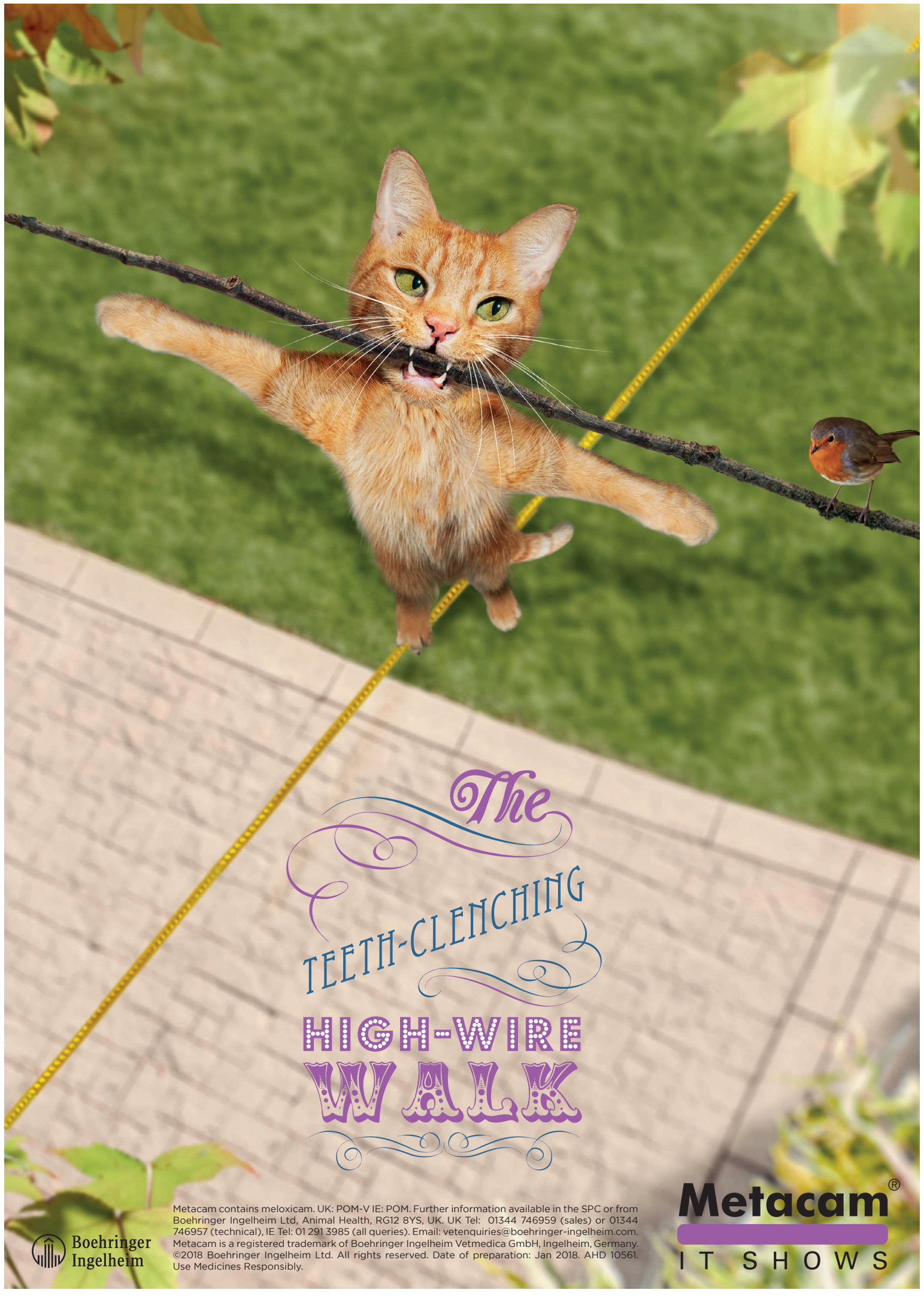
Poor analgesia results in peripheral and central sensitisation, causing hyperalgesia, and persistent pain negatively affects functional recovery after surgery. On the other hand, excessive administration of opioids may equally result in hyperalgesia. This fits well within a framework considering a dynamic balance between facilitation and inhibition of nociception, affected by events occurring in the dorsal horn of the spinal cord, with both persistent nociception and excessive opioid administration perturbing the balance.

In this perspective, the best approach is preventing nociceptive stimuli from reaching the dorsal horn of the spinal cord, and this can only be achieved with a well planned and executed locoregional anaesthesia. Publications are starting to appear in veterinary medicine, suggesting that complete reliance on perioperative opioid analgesia may not be the best option, despite still being considered a gold standard.

Locoregional anaesthesia proved to be more effective in blunting stress response and resulted in lower perioperative pain scores immediately after surgery. Another recently published study suggested that administration of methadone at regular intervals after TPLO in dogs in which a locoregional technique was used to provide intraoperative analgesia, was associated with decreased food intake, increased incidence of vomiting and behavioural changes (vocalisation, restlessness). This led, in some cases, to observers believing that the dog was in pain. Such side effects were not observed when methadone was administered to dogs, only if needed, according to a validated pain score. Case reports of opioid free perioperative analgesia are also now appearing in published veterinary medicine.

The time to ditch opioids has not come yet, but there is growing evidence that they should no longer be considered the gold standard for perioperative analgesia. Opioids still have an unquestionable place in veterinary analgesia, but we should probably not rely upon them as if they were a panacea for pain. Instead, we should develop a more critical approach to perioperative analgesia. <sup>NP</sup>

A full reference list is available on request



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# A look through the latest literature

## Lack of effectiveness of tramadol in treating pain due to canine osteoarthritis

Steven Budsberg and others, University of Georgia, Athens

Osteoarthritis is a painful condition affecting more than 20 percent of the adult dog population. Tramadol is a centrally acting synthetic opioid that is frequently used in the management of pain and joint dysfunction in dogs with chronic arthritis, despite some unfavourable pharmacological findings and a lack of supportive clinical data. The authors carried out a randomised, blinded crossover study involving 40 dogs with osteoarthritis of the elbow or stifle, in which patients received tramadol, carprofen or placebo. Their findings suggested a significant improvement in function and pain scores during carprofen treatment compared to baseline, but no beneficial effects during the 10-day tramadol or placebo treatment phases of the trial.

*Journal of the American Veterinary Medical Association*, **252**, 427-432.

## Assessment and treatment of pain in rodent species

Paul Flecknell, University of Newcastle-upon-Tyne

Almost all the currently available analgesic drugs used in human patients were originally developed through studies on small rodents. Yet the use of analgesia to address pain caused by experimental procedures in laboratory animals is unacceptably low, with less than 25 percent of lab rodents given specific analgesic treatment after surgery. Pain management is limited by an apparent reluctance to implement multimodal approaches to pain relief and by the limited use of reliable pain assessment tools. The author reviews the different behavioural and physiological methods that may be used to assess the pain experience of small mammals and the range of analgesic drug options available. He concludes that there are already effective options for managing pain in small rodents and current studies can be expected to deliver significant advances in understanding of the methods for preventing and alleviating pain in small mammals.

*The Veterinary Journal*, **232**, 70-77.

## Improvements in mobility following tramadol treatment in geriatric cats

Alonso Guedes and others, University of California, Davis

Tramadol has a relatively high bioavailability and slow clearance in cats, compared with other domestic species. This agent is often used to tackle chronic pain in feline patients but there is little published data to justify such treatment. The authors carried out a randomised crossover trial of 24 cats with osteoarthritis aged 10 years or more which received doses of 1 to 4mg/kg tramadol twice daily. The owners noted improvements in activity and overall quality of life in treated animals with the 2mg/kg dose. The authors advised caution if tramadol is to be used concomitantly with other drugs that may cause adverse gastrointestinal effects.

*Journal of the American Veterinary Medical Association*, **252**, 565-571.

## Pharmacogenetics of opioid analgesics in dogs

Kavitha Kongara, Massey University, New Zealand

Genetic variation causes differences in the rate of drug absorption, distribution, metabolism and excretion between members of the same species which will alter the efficacy and toxicity of treatment. The author examines these pharmacogenetic differences in the response of canine patients to opioid drugs. To date, there is only limited information on gene polymorphisms for opioid drug transporter and receptor proteins and their effects on opioid responses in canine patients. But by extrapolating from the results on studies in humans or laboratory animals it should be possible to identify targets for further species-specific trials in dogs.

*Journal of Veterinary Pharmacology and Therapeutics*, **41**, 195-204.

## Stability of morphine and methadone during prolonged storage in syringes

D. Y. Lee and others, University of Melbourne, Australia

Opioids and sedatives are often combined within a syringe and administered as a premedication for patients due to undergo surgery. The authors investigated the chemical and physical stability of two commonly used opioids, morphine and methadone, when stored in syringes for up to 12 months, together with the effects of mixing with other agents (acepromazine, medetomidine and xylazine). Their findings show that pre-dispensing morphine or methadone into unsealed syringes compromises the physical stability of both drugs. Also mixing methadone with other drugs may degrade its chemical stability.

*Australian Veterinary Journal*, **95**, 289-293.





**David Williams**  
Associate Lecturer, Veterinary Ophthalmology

# “Gentle care is as important for students as it is for cows”

“Gilbert and Sullivan is in our DNA as Englishmen” said the light opera enthusiast, and most in the discussion group agreed with him. It’s amazing what can be taken as fact, especially if it’s said on Radio 4! I was struck by this comment on a programme last week. Most, as I say, seemed to accept it without question, apart from one sole female voice stating most emphatically that it wasn’t in *her* DNA!

A recent advertisement for the Land Rover Discovery would have us believe that adventure is in our DNA. But what behaviour really is pre-programmed?

We know that newborn babies recognise their mother’s face even at 36 hours old – Tiffany Field and her group reported that in the early 1980s. There is indeed something in human DNA that makes us aware of the human face, as patients with hereditary prosopagnosia (face blindness) demonstrate. But truth be told this wasn’t where I was aiming to travel in this discussion. Let’s start again!

This afternoon I walked through the fields neighbouring my home village, delighted to see the sheep and their newborn lambs. But they weren’t delighted to see me. As I approached, they skipped away as soon as I came into their flight zone. Is that fear of humans coded in sheep DNA?

Keith Kendrick’s great work, summarised in his paper “Intelligent perception” published 20 years ago this year (well worth reading for free online) and still being continued in recent times, has shown that sheep do have different emotional responses to images of familiar and unfamiliar sheep and humans.

As we know from lambs that have been bottle fed, fear in these animals seems as much related to their early experiences as it is hard wired into them. An orphan lamb that has been intimately cared for by a person doesn’t develop an “inbuilt” fear of people, or at least that is my experience back 35 years ago when I was on lambing EMS.

What are a lamb’s normal experiences in the first days of life? Quite often being tail docked and castrated, being injected and moved around by a farmer too busy to spend much time giving it a caring stroke. No wonder most of them are fearful of anybody who comes close.

We also know from previous studies that dairy cattle that are shouted at and pushed around have lower milk yields than those which are gently cared for. Hedlund and Løvlie were so convinced of this that they entitled their 2015 study “Personality and production: Nervous cows produce less milk”.


Some students ask why they need to undertake 12 weeks of preclinical EMS working on farms. The answer is that this sort of an understanding of our interactions with animals and their importance is key. Yet I don’t think we tell students that enough before they go, or maybe get them to reflect enough on what they have learnt when they return.

A prior grasp of what we are aiming to achieve and then a reflection on how much we have is, or at least should be, a key part of CPD for all of us. Now we ask veterinary students going out on clinical EMS to be much more specific in what they want to gain from their time “seeing practice” as we used to call it. But it’s not all their responsibility.

I’m not sure how important some vets see their care and mentoring of students on EMS. Those 26 weeks are absolutely key in providing vital practical skills and one-to-one tuition. Gentle care is as important for students as it is for cows. Do remember that when you next have a student with you please!

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## APHA releases disease data for non-commercial chicken flocks in new interactive format

The APHA has published an avian disease surveillance dashboard, which contains data from across GB on non-notifiable diseases in small, non-commercial chicken flocks.

The dashboard presents the data in an easy-to-use format with an interactive map, allowing vets to see where diseases have been diagnosed by region, country or GB-wide. It includes the most common diagnoses in different age categories and with different presenting signs. Once a view has been selected, it can be downloaded as an image to use in a document or presentation.

The dashboard incorporates veterinary diagnoses from non-commercial, hobby and small-scale flocks of chickens up to a maximum of 350

egg-laying chickens and 2,000 chickens reared for meat.

It has been developed to share surveillance information from 2007 onwards derived from submissions to the GB veterinary diagnostic network, which is made up of:

- APHA's Veterinary Investigation Centres (VICs) across England and Wales
- The network of universities and other surveillance partners working with APHA
- Scotland's Rural College Disease Surveillance Centres in Scotland operated by SAC Consulting Veterinary Services

In 2017, APHA also successfully launched dashboards for sheep, cattle and pigs. To view the dashboards, visit: [apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm](http://apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm)

## OV briefings

30 JANUARY

### Postponement of revalidation of OCQ(V) export related modules

OVs due to revalidate their Export Official Controls Qualification (Veterinary) UX, EQ, PX, AX, GX, should note that revalidation has been postponed until further notice.

16 MARCH

### Post-mortem and diagnostic services, and availability of free carcase collection in England and Wales

A reminder about APHA post-mortem examination services and the availability of the free carcase collection service for farmers located more than an hour from one of APHA's PME sites. The briefing note also outlines other services available to veterinarians and the support APHA can offer in disease diagnosis.

11 APRIL

### Introduction of case scenarios to the OCQ(V) TT revalidation course

From 10 May 2018, case scenarios will be introduced to the revalidation course for the OCQ(V) TT. Candidates will be able to opt to submit case logs as per the current course requirement or complete case scenarios as part of the course. In time, the requirement to submit case logs will be removed.

### Government veterinarians well-being survey

A new survey is intended to capture information on the well-being of vets undertaking government work. The aim is to recognise and raise awareness of the multiple challenges faced by the distinct subset of the veterinary profession. To take the survey, go to: [surveymonkey.co.uk/r/vetswellbeing](http://surveymonkey.co.uk/r/vetswellbeing)

## New Pet Passport guidance

New guidance for OV's completing Pet Passports has recently been published on the Vet Gateway. The document (ET159 - The EU Pet Travel Scheme: How to complete pet passports) is available to view on the APHA website.

The ET140 Pet Travel Scheme frequently asked questions is still available and will be reviewed and updated as necessary.

Please also be advised that the following guidance documents have been removed from the Vet Gateway:

- ET138 EU pet passport guidance notes for completion of old model passports issued before 29 December 2014
- ET139 EU pet passport guidance notes for completion of new model passports issued after 28 December 2014
- ET141 The EU Pet Travel Scheme: the new pet passport

The new guidance can be found at: [apha.defra.gov.uk/External\\_OV\\_Instructions/Export\\_Instructions/Certification\\_Procedures/Small\\_Animal\\_Exports/index.htm](http://apha.defra.gov.uk/External_OV_Instructions/Export_Instructions/Certification_Procedures/Small_Animal_Exports/index.htm)

19 APRIL

### Delayed removal of in calf TB reactors and direct contacts in England

Delayed removal of TB reactors or direct contacts (DCs) that are due to calve within the 60 days following their identification will be considered subject to a satisfactory APHA Veterinary Risk Assessment and compliance with defined conditions.

This policy will apply in England only and will be implemented from 1 May 2018.

The full OV briefing notes can be viewed at: [apha.defra.gov.uk/official-vets/briefing%20notes.htm](http://apha.defra.gov.uk/official-vets/briefing%20notes.htm)

# Improving welfare through trade

## What changes have been made to advance animal welfare and where are the opportunities to improve?



### ADOLFO SANSOLINI

Adolfo Sansolini is the Director of Animal Welfare and Trade and a freelance journalist. He has coordinated campaigns globally and represented NGOs at many institutions including the EU, UN, WTO and FAO. He has been an invited speaker on welfare topics at events in over 25 countries.

The relationship between trade and animal welfare has traditionally been one of conflict. Farmers, retailers and food companies strive to keep prices low, and ethical standards sometimes suffer as a result. This trend accelerated after World War II, when battery cages, sow stalls and veal crates appeared, allowing costs to be lowered by maximising the use of space and reducing staff.

Though trade can pose a threat to animal welfare, it can also offer opportunities to improve it. Improvements are generally driven by public awareness, and can be supported by legislation, Free Trade Agreements (FTAs), private standards, development policies or a combination of these.

### Advances in the European Union

It was only in 1997, in the European Union's Treaty of Amsterdam, that animals were first recognised as sentient beings rather than agricultural products. Ten years later, this principle was reaffirmed in Article 13 of the Lisbon Treaty, and countries around the world have been taking similar steps.

The first law that imposed massive changes in production practices was approved in Switzerland in 1981. It phased out the use of systems and practices like battery cages, sow stalls, veal crates and live feather-plucking.

As far back as 1974, a directive made it compulsory to stun animals before slaughter in the EU (with exceptions for ritual slaughter). However, it was in the 1990s that various directives and regulations started radically changing the way animals were treated in food production by phasing out veal crates, sow stalls and conventional battery cages.

Rules have also been agreed in live animal transport, but excessively long journeys are still allowed. Some member states have proposed a maximum eight-hour journey limit. Unfortunately, there are not yet enough of them for this proposal to succeed in the Council.

Preventing the import of products from third countries is difficult, even when they come from systems banned domestically, because World Trade Organisation (WTO)

rules tend to regard such bans as illegitimate barriers to trade. Initiatives have been developed to help consumers make informed choices. One example is the Switzerland and EU introduction of compulsory labelling of eggs according to the production method.

### Improvements further afield

Obviously, animal welfare is not just an Old Continent concern. In the USA, federal legislation only exists on transport and slaughter, and the latter excludes birds, which are the animals consumed in the largest numbers.

However, in 2002, a referendum in Florida was backed by 55 percent of voters, who decided to phase out sow stalls. Since then, many referenda have taken place in various states, with increasingly high percentages of votes in favour of banning sow stalls, veal crates and battery cages.

California has launched a new initiative to hold a referendum in November 2018 aimed at banning the sale of products derived from caged animals. Other countries, such as Brazil and Taiwan, are focusing on developing guidelines and specific activities aimed at encouraging farmers to adopt higher welfare standards.

### Impact of FTAs and private standards

FTAs, which are designed to facilitate trade relations between different countries or groups of countries, started to generate positive effects for animals in 2003, when some unprecedented lines appeared in the text of the Agreement between Chile and the EU. Animal welfare was recognised as important, and some activities would be developed jointly, with an initial focus on stunning before slaughter. Only two other agreements have included animal welfare so far (EU-Canada, EU-South Korea), though for two FTAs negotiated by the US (DR-CAFTA, USA-Peru), the environmental chapter was used to achieve some progress.

Private standards are also developing fast, paving the way for new legislation, favoured by a trade environment already accustomed to animal welfare. Countless private standards and public procurement policies are now in place worldwide, adopted by producers, restaurants, supermarkets and public bodies. An excellent example of private standards in a developing country is Woolworths, the main retailer in South Africa. They only trade in free-range meat and eggs, and support wildlife-friendly farming, thus creating market opportunities for farmers who can adopt higher standards without compromising profits.

These are only a few examples of how trade-related legislation and policies can support much-needed progress for animals. As consumers, voters and vets, we have opportunities to support this trend every single day. <sup>VP</sup>



# The latest on lameness

## A summary of discussions at the Cattle Lameness Academy Seminar held on 28 March



**RICHARD GARD**  
LARGE ANIMAL CORRESPONDENT

Following a 16-year apprenticeship with Beecham, Richard established a project management and development consultancy and writes regular contributions for the veterinary press.

The second Cattle Lameness Academy Seminar involved veterinary surgeons, foot trimmers, farmers, researchers and anyone working within the agricultural industry with an interest in lameness. Developed by RAFT Solutions, the gathering was hosted by Synergy Farm Health and supported by Zinpro, CowAlert, Boehringer Ingelheim and Bayer.

Jon Reader (Synergy) highlighted the changes that have taken place since the first seminar in 2016, including a growing evidence base for day-to-day activities together with new techniques and protocols. A presentation was made to Professor Jon Huxley, whose energy and enthusiasm has driven the cooperation and developments that have brought the lameness industry together and improved the mobility of dairy cows. He will shortly be moving from the University of Nottingham to New Zealand.

### The incidence of lameness in UK herds

Dick Sibley (Westridge Vet Practice) chairs the Dairy Cattle Mobility Group and, with reference to understanding also developed from the Healthy Feet Project, the speaker emphasised that the current state of lameness in UK dairy herds is too high. Lameness management has to move on to a "predict and prevent" strategy and leave behind the idea of "test and treat". Veterinary surgeons are a part of the solution and they need to benefit from successful lameness management and not derive income from lameness failures. Twenty-five years ago, it was clarified that there was a 7:1 payback to the farmer from fertility management, but it is not so clear with lameness.

The speaker calculated that with the current situation in the UK, 25 percent of milk purchased has come from a cow in pain. Some 18,000 adult cows are culled each year for bTB and over 70,000 for lameness, but there is a big difference between farmer awareness and the actual lameness incidence in many herds. A tribute was paid to the work financed by the Tubney Trust and their support for improved animal welfare.

The clinical situation has changed from white line disease and sole ulcers 20 years ago to digital dermatitis and sole ulcers now. But lameness is not inevitable and some of the most successful and intensive dairy herds have little lameness. The future lies in becoming more efficient at what we do, with farm systems to suit the cows rather than the farmer and the farm buildings. The regulation of foot trimmers is also an important development for lameness management.

### Treating cows early

Reuben Newsome (Synergy) has contributed to the understanding of the pathogenesis of claw horn lesions. He emphasises that the challenge is to treat cows early and stop them becoming chronically lame. It takes approximately two months from the initial interruption of keratogenesis to the formation of a sole ulcer. Lameness prevention relies on managing the forces applied to the foot, where factors such as standing times, walking surfaces and social competition become important, and the transfer of forces through the foot, which relies on foot shape and cow factors that influence the structure and function of the foot.

The speaker highlighted that current research is ongoing to understand the role of insulin and the indication that high levels lead to weaker suspensory ligaments, combined with the changes around calving occurring with the laminae and a greater risk of sole damage. Susceptibility to trauma is influenced by metabolic issues and disruption to horn development. Behind the current recommendations for changes in cow lameness management lies a considerable depth of science.

Laura Randall (University of Nottingham) highlighted that the risk factors for claw horn lesions are not simple. As well as increased tissue laxity, a low body condition score and a history of lameness are key indicators. Repeat cases of lameness are a major issue and understanding why these cases occur is essential.

The management of young stock to prevent the initial case will stop the incidence of broken cows that cannot be fixed. Sara Pedersen (Farm Dynamics) is investigating current foot trimming practices. Although the majority of farmers undertake routine trimming at or around drying off, the commonly asked questions concern the optimal time and method for foot trimming. There is great variation in the targeted measurements for trimming, including foot angle, weight balance between claws, claw modelling and the techniques used. It is advised to get the method right and then move on to when might be the best time to trim.

Jonathan Huxtable (Zinpro) reported on the feeding of trace minerals and a reduction in new cases of digital dermatitis. It is established that the addition of trace minerals,



Jon Reader and Jon Huxley spoke at the seminar

including manganese, copper and zinc, can reduce inflammation in the hoof with improvements in skin condition and subsequent prevention of skin damage and infection. A direct association between trace minerals and lameness offers the possibility of decreasing the incidence and reducing the severity of claw lesions. Ongoing work indicates that there should be a focus on whole life cycle needs, from calf to calving.

### Working as a team

A team approach to lameness involving the herd manager and farm staff, the veterinary surgeon and the vet tech was discussed by Dave Phillips (Synergy Farm Health Vet Tech). It is important to recognise the limitations of the skillset available on the farm. The biggest single factor in managing lameness in a dairy herd is the desire for the herd manager to make a difference. Risk advice for lameness is the responsibility of the veterinary surgeon together with data analysis, on-farm interpretation and training. Hoof trimming and mobility scoring are carried out by the vet tech with problem cows highlighted for veterinary attention.

A case study of a 160-cow herd, presented by Gareth Foden (Cattle Lameness Academy), highlighted the difficulties for veterinary surgeons to achieve good results with problem herds. The point was made that the veterinary surgeon can only work with the cows presented to him and in the study herd, only 40 percent of the herd were seen in the year. The incidence of category 2 and 3 cows was very high (38 percent) and 43 percent of the herd were recorded with digital dermatitis. Due to poor cubicle design, the lying times per cow were very low. It was emphasised that a veterinary practice needs to get to farmers who do not recognise lameness as an issue, if the overall incidence of lameness within the practice clients' herds is to be reduced.

Tom Wright (Lambert, Leonard and May) explained that his Cheshire practice has not employed foot trimmers within the practice and the vet techs concentrate on mobility scoring, which is a way to alert farmers to underlying lameness. However, the information transfer between the vets and the independent foot trimmers is "very poor". The best client herds have a 5 percent lameness prevalence but, although 25 percent is the target, the norm is 30 percent. An aim for the future is to develop better information sharing. The requirement for veterinary involvement in lameness management by milk buyers is potentially a positive step forward.

An independent foot trimmer from Devon, Ben Westaway (Tamar Hoof Care) detailed the hoof supervisor programme used to email reports to the farmer. A herd inspection is

carried out every four months including pre-fresh heifers. The farmer contacts the vet for immediate action with score 3 cows (red), attention as soon as possible for score 2 cows (amber) and no action for score 1 and 0 cows (green). The speaker emphasised that to maintain a lameness management programme takes hard work and consistency.

### Mobility scoring


A register of mobility scorers (RoMS) is encouraging the widespread use of standardised, independent mobility scoring conducted by trained and accredited scorers on dairy farms. Jo Speed (RoMS registrar) explained that supporting materials are available, including video clips of mobility scoring. The relationship between lying times and lameness was discussed by Nick Bell (Bos International) with sole ulcer being referred to as "standing up disease".

Freshly calved cows have lower lying down times and there is considerable individual variation within herds. The optimal range is 10 to 14.5 hours with 75 percent of the cows within a 12 to 14.5 hours target. Grazed herds have lower lying times than housed cows. Studies with automated recording have roughly equivalent results to experienced mobility scorers in detecting lameness. The threshold can be adjusted for sensitivity but some cows, particularly with digital dermatitis, were missed. Work is ongoing with IceRobotics to also develop systems to monitor cows after treatment and to detect specific lesions that trigger compromised lying times.

### Genetic selection

George Oikonomou (University of Liverpool) encouraged the delegates to be aware of developments in genetic selection. Genomic evaluations are expected to be more accurate in the future and available from UK herds. The heritability for sole ulcer (at 30 percent), interdigital hyperplasia (at 35 percent) and digital dermatitis (at 22 percent) is similar to the heritability for milk yield. A major limitation is that many farms do not score lesions accurately.

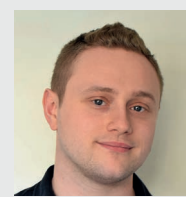
A study of researcher-detected compared to farmer-detected lesions showed results for digital dermatitis (39 percent and 5.1 percent), sole ulcer (11.5 percent and 12 percent), white line disease (18.8 percent and 9.3 percent) and interdigital hyperplasia (16.5 percent and 5.4 percent). For genetic selection, the source of information is important and for the long-term benefit of the industry, the genomics work will be able to influence lameness incidence.

In summarising the day, Jon Reader thanked everyone for their participation and asked that foot trimmers telephone the vet, that the vet phones a foot trimmer and that farmers make sure that their vet and foot trimmer are talking. 

Further information about the lameness programme is available from [cattlamenessacademy.co.uk](http://cattlamenessacademy.co.uk)

# Encouraging the use of pain relief in cattle

Veterinary surgeons are in an ideal position to help farmers better recognise signs of pain in cattle and understand how best to manage it



**MATT SWANBOROUGH**  
VETERINARY ADVISOR, NORBROOK

Matt Swanborough, BVSc, MRCVS, graduated from the University of Bristol in 2014. After a few years practising in Somerset, he joined Norbrook Laboratories GB as a veterinary advisor, providing technical and product support across all veterinary disciplines.

With veterinary and farming industries under ever-increasing pressure to reduce antibiotic usage, the role of the vet in educating clients, in both disease prevention and appropriate treatment protocols, has never been more important. Veterinary surgeons share an unquestionable level of responsibility for the health and welfare of any livestock under their care, and prevention of pain is central to this.

It is widely accepted that cattle experience pain in both a physical and behavioural sense. You do not have to delve deep into the literature to find studies that support justifying the use of non-steroidal anti-inflammatories (NSAIDs) to

prevent and treat pain and inflammation. Assuming they are used appropriately, NSAIDs can decrease suffering, increase productivity and help reduce the reliance on antimicrobials – something we should all be focusing on due to increasing antimicrobial resistance concerns.

In 2016, Norbrook surveyed vets and farmers to investigate current practices and attitudes around analgesia. When asked why farmers would use pain relief, some might have expected increased profitability to be high on the list. However, an overwhelming 83 percent said better welfare was the main reason for controlling pain.

Despite this, a survey by Hambleton and Gibson in 2017 showed that only 14 percent of farmers are using NSAIDs for calf disbudding procedures. About 49 percent of vets in the same survey said in addition to local anaesthetic, NSAIDs should be compulsory for this procedure, promoting a multimodal approach that is now encouraged by the BVA (BVA and BCVA, 2017).

If it is widely agreed that NSAIDs should be used more often, why aren't more farmers routinely using them? This emphasises the need for more education about how to recognise the signs of pain, and how to treat it effectively.



	Procedure/ condition	Author(s)	Study outcome
CALVES	Disbudding	Heinrich, A. <i>et al.</i> (2010)	Administration of an NSAID at the time of disbudding resulted in reduced pain response as well as a lowered stress response.
	Pneumonia	Guzel, M. <i>et al.</i> (2010) and Friton, G. <i>et al.</i> (2005)	NSAIDs have been shown to reduce temperature for up to 24 hours, improve clinical signs, reduce lung pathology and increase average daily weight gain.
ADULT CATTLE	Lameness	Thomas, H. <i>et al.</i> (2015)	After correctively trimming a freshly lame cow, administering either an NSAID or the combination of an NSAID and application of a corrective block increased the likelihood of recovery 35 days after treatment.
	<i>E. coli</i> mastitis	Vangroenweghe, F. <i>et al.</i> (2005)	NSAIDs administered to cows diagnosed with <i>E. coli</i> mastitis resulted in reduced temperatures, reduced inflammation of the udder and earlier improvement of clinical signs.
	Caesarean	Heinrich, A. <i>et al.</i> (2010)	Administration of an NSAID before caesarean section demonstrated increased lying time – an indicator of comfort.

**TABLE 1** Examples of papers highlighting the justification of NSAID use in cattle

The list of potential indicators of pain is long. Pain recognition is something that is universally challenging across all veterinary fields, but even more so in stoic species such as cattle. Signs of pain can include inappetence, decreased standing time, vocalisation and an altered facial expression.

While farmers are often in the best position to recognise these subtle changes, we must enable them to predict what conditions and procedures are likely to be painful. Other measurable indicators, such as pyrexia, can also be useful as a more definitive way to determine if NSAID treatment is necessary.

## Discussing the options

There are several licensed NSAID options available for farmers to use; the decision as to which NSAID should be used should be determined on a case-by-case basis. Products will vary in their speed and duration of action, potency, withdrawal periods, licensed indications and additional properties (eg anti-endotoxic effect). Veterinary surgeons should discuss standardised protocols for multiple conditions and procedures, and ensure farmers have easy access to these medicines.

Perhaps the best time to have this discussion is during a farm's annual health plan review. Health plans are often dismissed by the farmer as "just another folder of information" but the value they can offer to clients should not be underestimated. As well as reviewing said protocols and identifying areas that could be improved upon to reduce the number of cows that require treatment in the first place, it is an excellent opportunity to review a farm's medicine usage. This is something that should already be happening to ensure responsible antibiotic prescription and usage.

Health planning time is an ideal opportunity to find out if a farmer knows how the medicines in his or her drugs

cabinet work. Are they using the right medicines at the right time, at the right dose, for the right duration? Are farmers fully aware of withdrawal periods and how they can be altered through off-label use?

Withdrawal periods can sometimes deter NSAID use yet, in reality, withdrawal periods are usually superseded by antibiotic treatment. In addition, zero milk withhold NSAIDs are readily available as an option for those that don't require concurrent treatment. Even once the cost of treatment and any withdrawal periods are considered, the benefits of treatment will often outweigh the expense.

While benefits are difficult to fully quantify, **Table 1** highlights a small number of the scientific papers justifying NSAID use in cattle of all ages. These studies are often not accessible to farmers, so vets must endeavour to relay that information to their clients.

Practice newsletters, evening client meetings or smaller focus groups can be a good way to achieve this and can provide an excellent platform for informed education across all aspects of pain relief. Remember also that 83 percent of farmers surveyed said better welfare was the main reason for controlling pain.

Opinion on cattle pain relief has continued to improve over recent years and it is important that vets continue this momentum. Veterinary surgeons are ideally placed to help farmers better recognise the signs of pain, understand what conditions and procedures are likely to be painful, and understand how to manage pain. <sup>VP</sup>

Norbrook has produced a Best Practice Guide for Pain Management in Livestock, which covers some of the evidence available around the use of NSAIDs in farm animals. The Best Practice Guide can be downloaded at: [norbrook.com/resources](http://norbrook.com/resources)

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# Be happy at work

## Making time for activities you enjoy is important for maintaining a healthy work-life balance



**JONATHAN PYCOCK**  
BEVA PRESIDENT

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

The theme for my presidential year has been encouraging us to find what there is to smile about with our profession. There is no doubt that one of the biggest challenges to achieving this aim is ensuring we have the correct work-life balance. That is a phrase bandied about frequently these days and there are plenty of folks much better qualified than me to drill down into exactly what it means.

One of my favourite quotes on work-life balance is from Alexander Kjerulf, who is the founder of Woohoo and has the wonderful job title of Chief Happiness Officer. He said "Most people chase success at work, thinking that will make them happy. The truth is that happiness at work will make you successful." My colleague at VDS, Carolyne Crowe, often mentions another highly pertinent quote during her talks. Carolyne is an expert in workplace health and the quote is from Richard Branson: "Clients do not come first. Employees come first. If you take care of your employees, they will take care of the clients."

Being happy at work really does matter and the key part in achieving this must surely be getting the work-life balance correct. Although old-fashioned, the "work hard, play hard" ethic seems to have considerable merit.

We have established that "play" is important, but what exactly does it mean? I believe it is to have an interest outside work that can be enthusiastically enjoyed. "Play" interests can range from enjoying the arts, reading, painting or maybe even amateur dramatics. If you fancy



the great outdoors, it could be exploring our countryside and cities. If sport is your thing, then you may choose to either follow a sporting team or participate in a sport.

This year BEVA wanted to mark this importance of life outside work and one of the many advantages of being the reigning BEVA President is that I got to choose what we would do. Being a proud Yorkshireman and keen, albeit pretty ordinary, cyclist, I thought it would be a good idea during my presidential year to host the first ever BEVA President's Challenge Cycle Sportive.

Cycling is well recognised for improving mental well-being and boosting brain power. Apart from general health benefits, cycling improves handling and spatial awareness. It is also an incredibly social sport, so provides a great way to grow your social circle!


With that in mind, we are inviting cyclists of all abilities to join us on a ride, not only to enjoy the spectacular Yorkshire scenery, but also to help raise important funds for the BEVA Trust and Vetlife.

We have laid down three routes to suit all abilities, over the same roads used by the famous Ron Kitching, the champion 1930s road racer. Each route starts and finishes at the iconic York racecourse and will be fully supported with excellent signage and feed and watering stops along the way.

Participants can choose from a 35-mile largely flat "trot" which takes in the city of York, a 66-mile slightly hilly "canter", skirting the Yorkshire Wolds and a 91-mile "gallop" over the Rosedale Chimney, which has enough ascent to make Sir Chris Bonington happy.

Cycling has long been a passion of mine and I would love to welcome you to join me on whatever distance you fancy. This is a ride for everyone, not just vets. The views will be wonderful and it is not a race – you can take it easy and enjoy the scenery while you catch your breath and chat with friends, old and new, on the way round.

The BEVA Trust provides opportunities, support and funding to allow members of the veterinary team to volunteer for projects that seek to enhance equine welfare both locally and globally, and in partnership with other organisations.

Vetlife is a charity providing emotional, financial and mental health support to the veterinary community. 

To enter, visit: [wheelsinwheels.com/BEVA\\_Presidents\\_challenge\\_Sportive\\_UK.php](https://wheelsinwheels.com/BEVA_Presidents_challenge_Sportive_UK.php)

If you would like to donate to BEVA Trust and Vetlife, visit the Justgiving page at: [justgiving.com/fundraising/Jonathan-Pycock](https://justgiving.com/fundraising/Jonathan-Pycock)



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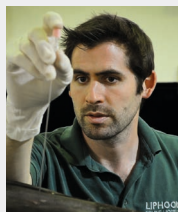
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# An update on *Borrelia burgdorferi*

## An overview of the aetiology, possible clinical signs and treatment options for Lyme disease



**JAMIE PRUTTON**  
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Jamie Prutton, BSc (Hons), BVSc, DipACVIM, DipECEIM, MRCVS, completed an internship at Rosssdales Equine Hospital before starting an internal medicine residency at UC Davis. He holds Diplomate status from the American College of Veterinary Internal Medicine and has been practising at Liphook Equine Hospital since 2015.

Exposure to *Borrelia burgdorferi* is very common in horses living within a *Borrelia* endemic area, such as the UK. The resultant disease (Lyme disease), on the other hand, is not clearly understood, nor is the exact seroprevalence in the UK.

Lyme disease is caused by the motile spirochaete *Borrelia burgdorferi*, although multiple other genospecies exist that could also lead to clinical disease. The spirochaete is transmitted by the *Ixodes* tick, with *Ixodes ricinus* being endemic to the majority of the UK. The spirochaete rapidly dies outside of the host (tick or horse) and therefore exposure to a tick bite is essential. The spirochaete is transferred from the intestine of the tick to the animal during a blood meal and it is thought that several hours of attachment are required to allow transmission.

In the human population, clinical signs can include arthritis, carditis, cutaneous pseudolymphoma, malaise and fatigue, although the list of clinical signs is ever expanding. In horses, Koch's postulates were fulfilled in one study with the organism being cultured from the skin, connective tissue, muscles and near synovial membranes nine months after infection, but none of those horses showed overt clinical signs (Chang *et al.*, 1999; Chang *et al.*, 2000; Chang *et al.*, 2005). A recent consensus statement released by the American College of Veterinary Internal Medicine discussed the controversial nature of Lyme disease and the lack of exact clinical signs (Divers *et al.*, 2018).

Within the UK, testing is mostly limited to the C6 peptide ELISA, which confirms antibody production and thus exposure, but it does not confirm current infection. Liphook Equine Hospital Laboratory offers a polymerase chain reaction that can confirm active infection on suitable samples including synovial membrane, synovial fluid, CSF and serum. A multiplex assay offered by Cornell University can distinguish the various stages of the immune response and therefore indicate if the horse is actively infected or has had a past exposure.

In one experiment by Chang and colleagues where horses were experimentally infected, the C6 titres became negative following antibiotic treatment after four months. This

negative serological status correlated with post-mortem confirmation of elimination of the organism. Therefore, it is possible that horses with persistent C6 titres may be chronically infected, could have repeated exposure or have a continued immune response in the absence of disease.

### Clinical signs

Clinically, the most documented clinical signs include neuroborreliosis, uveitis and pseudolymphoma at the site of tick attachment. In neuroborreliosis cases, clinical signs can include atrophy of spinous muscles, laryngeal dysfunction, dysphagia, facial paresis, spinal cord ataxia and behavioural changes. In these cases, pyrexia was inconsistent and the neurological signs ranged from 2 to 730 days prior to death (Johnstone *et al.*, 2016). Uveitis has been reported as mostly anterior chamber abnormalities and the normal range of signs associated with uveitis.



Cutaneous lymphoma has been documented in a number of horses with dermal nodular lesions that occurred at the site of tick attachment; *Borrelia* were confirmed by PCR on the affected tissue. Vague clinical signs are frequently attributed to Lyme disease, including stiffness, shifting leg or intermittent lameness, behavioural changes, hyperaesthesia and muscle wasting. Due to the difficulty in diagnosis, these clinical signs have not been definitively linked to *B. burgdorferi* infection.

Concurrent *Anaplasma* and Lyme disease infections have been reported so it is advisable to test for *Anaplasma* if tick exposure is documented.

DRUG	DOSE	ROUTE OF ADMINISTRATION	FREQUENCY
Doxycycline	10mg/kg	PO	Q 12h
Minocycline	4mg/kg	PO	Q 12h
Oxytetracycline	5-10mg/kg	IV	Q 12h
Ceftiofur	2.2mg/kg	IM	Q 24h

TABLE 1 Drug dose, route and frequency for *Borrelia burgdorferi* treatment

As multiple hours are needed to transmit the spirochaete from the tick into the horse, prompt removal of ticks should reduce the risk of infection

## Treatment

Treatment is a contentious subject considering the poor understanding of treatment in the human field alongside the difficulty in diagnosis in equine patients. For early human infections, oral administration of doxycycline, amoxicillin or cefuroxime over two weeks is recommended with longer treatment having little further effect. If neurological signs are seen, treatment with parenteral ceftriaxone, cefotaxime or penicillin G is undertaken for two weeks. Finally, in chronic cases manifesting with arthritis, treatment is often extended to four weeks.

Oral doxycycline is generally considered efficacious in humans but in horses the bioavailability is highly variable and might lead to treatment failure. Following a study where treatment was started three months following experimental infection, the best rate of clearance was seen with one month of IV tetracycline administration compared to oral doxycycline or intramuscular ceftiofur (Chang *et al.*, 1999). Anecdotally, there appears to be a good response to oral doxycycline. The options for treatment are indicated in Table 1.

When planning a treatment protocol, a considered approach to antibiotic stewardship should be undertaken. As such, the likes of ceftiofur, metronidazole and other antibiotics should be withheld until absolutely required and should not be used as a first line treatment in these cases. The use of antibiotics in non-clinical horses with elevated titres should be avoided and only horses with clinical signs and a positive titre should be treated.

Additional medications can be used in some cases, with NSAIDs being a mainstay in those patients that are painful

or are neurologically affected – particularly for those showing lameness or joint effusion. Dexamethasone treatment in humans has been associated with both positive and negative outcomes, so should only be considered in those cases with uveitis or acute, severe neuroborreliosis (Johnstone *et al.*, 2016).

Tick control is essential in areas with a known problem and should be the mainstay of prevention. This could include topical treatments, reduction in long grasses/ground cover and strict monitoring of horses for

ticks. As multiple hours are needed to transmit the spirochaete from the tick into the horse, prompt removal of ticks should reduce the risk of infection.

The prognosis is as hard to objectively assess as the clinical signs in horses. In humans, a 90 percent cure rate is achieved in those patients treated early with antibiotics with the remainder showing non-specific ongoing clinical signs. The only documented treatment outcome in horses is for neuroborreliosis cases where the prognosis is poor with only a single successful outcome documented.

Lyme disease is a poorly documented and understood disease. The exact clinical signs are not known except in those cases of neuroborreliosis and uveitis and therefore the use of antibiotics should be carefully considered in cases where the suspicion of disease is low. <sup>VP</sup>

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# Succeeding with succession

## The importance of planning a succession or exit plan to secure the future of a practice



### ADAM BERNSTEIN

Adam Bernstein is a freelance writer and small business owner based in Oxfordshire who writes on all matters of interest to small and medium-sized businesses.

According to the Institute for Family Business (IFB), two thirds of UK businesses (4.7 million in total) are family owned. Of these, some 17,000 collectively generate over a quarter of the UK's GDP and employ around 12.2 million people. Crucially, the IFB believes that around 100,000 of these firms change hands each year for one of several reasons – retirement, insolvency or death.

The world of veterinary medicine has its own succession stories. In October 2014, a nine-generation practice in Chipping Norton with 340 years of history came to a close when the then owner of the business, Adam Walker, retired and his two children chose not to take on the practice (*The Telegraph*, 2014). He didn't want to pressure the children to become vets – one is now a teacher and the other works for a firm that sells licensed premises.

### Difficult discussions

David Emanuel, partner at law firm VWV and head of its family business team, considers succession issues to be the elephant in the room: "Current and future generations often find it incredibly difficult to talk about succession, and can make assumptions about each other's intentions which lead

to misunderstandings and tension." He points to a recent PricewaterhouseCoopers (PwC) Family Business Annual Survey, which suggests that only 30 percent of family businesses make it to the second generation, 12 percent to the third, and just 3 percent a further generation (PwC, 2016).

Relationships can exacerbate the problem. Nick Smith, a family business consultant with the Family Business Consultancy, says relationship dynamics need to be considered: "Will my children want to take the business over? Are they capable of running a practice? Is there room for more than one child? Will they fight? How do I deal with ownership if some want to work in the business and others don't?"

### The main issues

Every business needs a succession or exit plan. In the case of a growing business, family or not, there will also come a point when the current owners need to hire external talent to maintain growth.

One solution is for the family to find time away from the business to discuss the future. Family members must know that meetings are convened on neutral territory and that they are expected to speak their minds freely and honestly.

There are two fundamental issues for David: Does the current generation want to retire? If so, when, and on what terms? And does the next generation want to take the business on? If so, when, and on what terms?

Nick wonders about an inability of the senior generation to let go of the reins of the business – "this can be for a variety of reasons including a lack of faith in their successor, a belief that only they can steer the business forward or a fear of what life after the family business holds".

### Starting the process

David sees many established family businesses wanting the next generation to forge careers of their own: "The decision to join the family business should be a conscious decision, rather than a sense of obligation, and it should bring with it the skills and experience learned elsewhere."

For Nick, there is a tricky balance to be struck between creating opportunities for the next generation and generating inappropriate expectations. In some cases, family members who are neither suited for nor motivated toward life in the family business could find that they spend their working life in the family firm.

If family members aren't committed to the future, the best answer is likely to be to sell up. David says that advice on value and likely exit options from an experienced corporate finance adviser is necessary. Nick thinks that families often choose to sell to a buyer who they believe is most likely to preserve the culture and ethos of the family business.



Current and future generations often find it incredibly difficult to talk about succession, and can make assumptions about each other's intentions which lead to misunderstandings and tension



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### Sale and no pass-down

Once the sale decision has been taken, David suggests that the family should take advice on the options. He advises seeking recommendations but notes that the advisers engaged will be dictated by the size and complexity of the business. Further, he says to “think hard about engaging people who work principally on a success fee percentage commission-only basis – the overall cost may be higher, although you may be insulating yourself from costs if a deal doesn’t go ahead – but there can be a conflict of interest for people remunerated only if a deal goes ahead”.

One way to ease the process is to undertake some financial and legal due diligence as if the seller were a buyer, to identify any gaps or issues that may affect price or saleability. Internal due diligence also means the firm is prepared for what the buyer’s lawyers will be asking for in due course.

### Seeking a valuation

Businesses are generally valued on one of three bases – the value of net assets plus a valuation of goodwill; a multiple of earnings; or discounted future cash flow.

Nick sees some families seeking the next generation pay the full market value for their interest, and other situations where shares are just given.

“In between the extremes,” says Nick, “there is a raft of approaches and solutions including discounted prices and stage payments. There are also more complicated solutions such as freezer share mechanisms, where no sale takes place but the senior generation lock in the current value of their shares to be left to the wider family and the next generation family members actually working in the business receive the benefit of any growth in value during their time in charge.”

But what of an arm’s length sale? In this situation, David says, “The family will ideally want to be paid in cash, in full, at completion, rather than risk the possibility of deferred

consideration not getting paid because the business gets into difficulties under its new owners, or a dispute arises over what should be paid.” But that, he says, may not be possible, and there may be many good reasons why the retiring shareholders keep an equity stake, agree to be paid over time or agree that some of what they get paid is subject to future performance. Even so, he suggests starting with the idea of the “clean break” and working back from there if you have to.

It’s important to remember that in a succession situation, where one generation is passing the business to the next, and the retirees are expecting a payment of value to cover their retirement ambitions, deferred payment risks may be looked at differently depending on the circumstances – families will be more trusting.

### Tax planning

As might be expected, tax planning is important and should always form part of the decision-making process, but should never be the main driver. That said, no one wants to hand over, by way of inheritance tax, 40 percent of the value of what they have worked for.

Both Nick and David consider tax planning key. Nick thinks that “the most important point is what is right for the family members and the business itself”. He believes the UK offers a fairly benign tax-planning environment for family business succession so that most family businesses can be passed on free of inheritance and capital gains tax to other family members. However, the risk of paying a bit of tax pales into insignificance if passing on the family business to the next generation means passing on a working lifetime of misery and a failing business.

David says it is important to remember that if Entrepreneur’s Relief is available, the effective rate of Capital Gains Tax is just 10 percent.

### In summary

Family businesses are peculiar entities, riven by both the need to compete in the marketplace and the need to keep familial factions onside. Whatever course is taken to secure the future of the business, one thing is certain – everyone needs to keep the lines of communication open. <sup>VP</sup>

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# The changing world of veterinary finance

Aileen Boyle, managing director of Braemar Finance, talks about the role of finance in the profession and offers opinion on how practices can improve their profitability and cashflow

Aileen Boyle became managing director of Braemar Finance last year, having been part of the Braemar story for 24 years – almost as long as the company has been around. Braemar is the trading style of Close Brothers, a merchant banking group that provides a wide range of services including: lending, deposit taking, wealth management services and securities trading.

Having joined the company as an administrator, Aileen's experience has spanned operations, credit, risk, sales, marketing and customer services.

She spoke to *Veterinary Practice* magazine about her views on finance in the veterinary sector.

## What do you think of the state of the veterinary world?

There's no doubt that it's changing and depending on which side of the fence you're on, it may be seen as positive or negative. Veterinary, like dental, is facing the rise of corporates which is making it harder for vets to get into practice. But independents are seeing a huge amount of wealth creation. And the rapid changes in technology have forced changes elsewhere; we now offer the finance vets need to stay up with the latest technology.

Change doesn't concern us. We go to all the trade shows, but we've seen buying patterns change; vets now attend shows, view equipment and then go home and check online before buying. Years ago, we'd go to a show and come back with millions of pounds worth of orders. People are more considered in their purchases now – we're seeing fewer peaks and troughs. Buying is smoothed over the year.

We're always trying to come up with innovative finance solutions that we can offer vets, such as rentals with maintenance, interest free finance, and buy now pay later – all sorts of facilities that make it easier for a vet to say "it's not a £40,000 scanner, it's a £500 a month scanner".

## How do you see the state of practice finance?

In terms of risk profile across all the sectors we work in, veterinary is one of the best; there's been no change to vet profitability – it's a very safe and secure profession. If I had a child, veterinary would be the first profession that I would like to push them into – and it makes decent profits. There



are other industries we cover that are less fortunate and more affected by the economic conditions.

The way that I look at it is that I've got a cat, it's part of the family and there's no negotiation over treatment. The accounts of vets that I see are very consistent. Dentistry is our biggest area for lending and it's the most challenging – look at the pound in your pocket today versus that of five years ago, are you really going to turn up for a six-monthly appointment if you're not in any pain?

## In an ideal world, what should practices consider when seeking finance?

The first thing to look at is the useful economic life of an asset. Consider the length of time it'll be kept – typically, five years is what we find is asked for. Also look at the best finance vehicle – we offer hire purchase, leasing, practice and personal loans and client/patient loans.

If, say, a vet wants to buy a scanner, they need to consider how long it will last and what else they have already purchased using the annual investment allowance (£200,000 in a year) – timing is critical so that the year's allowance isn't wasted as it's a great way of setting purchases against taxable profits. Our team can help find the most suitable product. We can also set up a credit line (called pre-lease) that vets can use to buy products from multiple suppliers. When all the invoices are in and paid, we'll convert that into

an agreement – there's nothing to pay while the invoices are still coming in. It's almost like a credit card with a month's grace before the bill comes in.

### When should practices not consider third party finance?

If a practice has significant cash resources and they have a good return on investment, with sufficient cash resources for all other eventualities. It's just like you or I; if you've the money in the bank to pay for a car, then pay for it. But given the current tax regime, you'd need a very good rate of return to make our financial products look very unappealing.

At Braemar, we consider ourselves responsible lenders. Recently, I had a proposal asking for £250,000 for a new dental practice, but the applicant wasn't in a good position (financially) to borrow as she had substantial personal debt. We told the applicant to clear the debt before borrowing.

### Are there any new trends, funding methods or products that practices should be aware of?

One of the most recent innovations is patient/client finance;

ours is called Fast Track and we have several hundred clients using the system. It followed on from conversations with vets over their day-to-day credit control problems.

Many treatments are for emergencies and clients arrive with their pet without thinking about how they're going to pay for it – and there can be a delay in insurance pay-outs. Fast Track can be interest free, which is subsidised by the vet, or interest bearing; either way, it gives the client an alternative to using an expensive credit card or having to leave without their animal being treated. It's only the last 12 months that it's been an online product with instant decisions and e-signatures – and 80 percent are approved.

With Fast Track, the vet would act as a credit broker and would need a Financial Conduct Authority licence unless the loan is for less than 12 months and interest free. A lot of practices offer interest free, but there are others who, for reasons such as affordability of treatment, need the licence to help fund more expensive treatments which are interest bearing. The benefit to vets is that they're paid immediately and Braemar carries the risk of client non-payment – there are no cashflow issues for the practice. **VP**

## VetsNorth search for outstanding practice managers

# VETS|NORTH

At VetsNorth we want to celebrate the important role of practice managers across the UK. A key component of every veterinary team, we recognise that without their hard work and commitment the veterinary industry could not be what it is today. We're keen to champion practice managers who go above and beyond.

To mark our practice management day at the 2018 VetsNorth Conference on 21 June, we are launching a competition to find exceptional practice managers. Winners will receive free entry to VetsNorth 2018 (or their ticket refunded) and an article recognising their great work will feature in *Veterinary Practice* magazine and in the on-site show guide at the conference in Manchester.

Do you know a practice manager who stands out from the rest? We want to hear from you! Email us a photo of your practice manager, their contact details and up to 500 words explaining what makes them great and why they should be celebrated. Applications should seek to highlight how the practice manager's work has made a difference to the performance of the practice and how their commitment to the role has made a positive impact with clients or staff.

Here are some examples of possible reasons for nomination to get you started:

- Did they help the practice through a tricky period eg building work or a change of ownership?

- Are they great at creating a team ethos?
- Did they go above and beyond to support someone going through a tough time personally who needed extra TLC?
- Are they awesome at dealing with tricky customers or diffusing conflict?
- Do they just muck in at every level from painting skirting boards in time for an RCVS inspection to mopping up nasty spills?
- Did they have an amazing idea that revolutionised life at your practice?

Entrants should be submitted to VetsNorth by email to **vetsnorth@5mpublishing.com** or by post to VetsNorth, Unit 10, Southill Business Park, Cornbury Park, OX7 3EW by 31 May 2018 to be considered.

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# Legal issues to consider when selling your practice

Ask yourself five important questions to help organise the selling process



**CHARLOTTE THORNTON-SMITH**  
HARRISON CLARK RICKERBYS SOLICITORS

Charlotte is head of the Health and Social Care Team at Harrison Clark Rickerbys. Charlotte regularly provides advice to a range of clients, including veterinarians and their practices.

## 1. How will the sale be structured?

If you are a sole practitioner or in a partnership, the practice could be sold by way of an asset transfer. If the business and assets are owned by a limited company, there is the option of selling the practice by way of a share sale or an asset transfer. Early tax advice may help you decide which route is best for you, by identifying the tax advantages of choosing one option over the other.

## 2. How are you expecting to be paid for the business?

The ideal scenario for sellers is to receive the full purchase price on the day of completion of the sale. However, buyers will often try to outline the payment structure of the purchase. Frequently, we see buyers wanting to defer part of the purchase price or adjust the price post-completion by reference to a completion balance sheet of the business. Once you have agreed the mechanism for payment, a solicitor can assist you with terms within the sale agreement to achieve your objective.

## 3. How is the property to be occupied post-completion?

If your practice occupies the property by way of a lease, the lease may need to be assigned, or the buyer may want to enter into a new arrangement with the landlord. If the freehold property is occupied by the practice, often sellers choose to retain the freehold title at completion and then enter into a lease with the buyer. Is the property subject to any security with a lender? If so, to avoid any delay, it is worth having the details of your bank's relationship manager and your landlord to hand.

## 4. Do you have any equipment subject to finance or lease arrangements?

We often see buyers requesting that outstanding finance be fully settled prior to or on completion. Discussions with your accountant and a review of your cash flow position will assist with determining the timing of any payments.

## 5. Does the practice provide financial services?

Another important issue for buyers is whether the business provides any financial services (such as selling pet insurance) and if so, what registrations are in place with the Financial Conduct Authority.

Any change in registration will have an impact on timings of the transaction, and so early discussions with the buyer to establish if they wish to continue with the provision of financial services is key.

## Be prepared!

Finally, be prepared for questions and take some time to get your house in order before the process begins. Before completion, the buyer will want to know about all aspects of your business to accurately evaluate where the risks lie, so be prepared for lots of questions: legal due diligence enquiries, property enquiries, financial and tax enquiries.

By ensuring that your documentation is in order before the transaction gets underway, you will avoid any unnecessary headaches in this part of the process.<sup>10</sup>

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## “I was reminded in no uncertain terms that yes, what us vets do does matter”

Gareth Cross



I am fortunate to be blessed with relatively few emotional ups and downs in life. I can identify with that sage of our times, Homer Simpson, when he was asked “Are you always this shallow or do you have hidden depths?”, to which his reply was, “oh there’s no hidden depths, but I get way more shallow”.

However, recently I have been through an experience that forced me to experience some emotions – mainly grief – and brought back to me how important the bond between pet and owner can be. I am referring to the loss of one of our own pets, the family ginger tom, Gruffalo.

It is easy at work to get caught up in the many peripheral things that distract us from the patients, and the bond they have with their owner. These may be clinical and scientific conundrums, cost issues, etc.

Frequently for older vets, we have plenty to distract us from those things that may distract us from the patients – like the latest GDPR regulations or staff leaving. Some days, to be able to focus on the science is a bonus; to be able to focus on the emotional needs of our clients or get attached to the patients is a rare thing.

These factors were brought back into sharp relief a few weeks ago when it became clear that Gruffalo had to go. We had diagnosed a squamous cell carcinoma under his tongue about a month before. He had a fair few health issues, and possibly these issues make you even more attached to them because they need you more. I had removed one thyroid gland, then the other several years ago. Inevitably, the disease recurred and he refused any medication until the liquid one became available. He had a non-specific skin allergy which responded to occasional depo injections.

He had other idiosyncrasies too. If you stood near him on his “pride rock” spot on the back of the sofa you would get a swipe. If you touched him when he was grooming you’d get a nip. He clearly hadn’t read the cat behaviour books that tell you cats prefer “low intensity, high frequency” social interactions; he would disprove this theory by sitting on your lap for hours on end then sleeping with one of the children most of the night.

As his slow and uncomfortable demise came to its conclusion he managed to maintain much of his character, and it was with an unsettling feeling of betrayal that I knew I was going to be the one to help him shuffle off the mortal coil. Although I told myself all the usual about sparing him the final few weeks of suffering, it did not, I can report from the other side of the consulting table, help very much.

This also brought to mind all the usual contradictions and ethical problems that pet ownership brings. I was, as was the whole family, extremely upset and occasionally weepy about the whole episode.

We did not shed a tear for anyone reported killed in Syria and we ate roast pork for dinner (ethically sourced and slaughtered). But had anyone presented a human who I had never met and offered me a choice between inflicting pain, injury or death on a beloved family pet or the random human, I would offer the pet without a second’s thought. I am sure I am pretty average in that regard.

Having a week or so of upset about our old cat has brought back in to focus what being a vet is all about, and how much our work can mean. I am sure that sometimes we all wonder why we do what we do, whether it “matters” in some wider sense.



As I shopped for some plants to put on his grave the day before the PTS, I had a brief weepy moment in the garden centre. Partly because I knew that while I was buying grave plants, he was at home in blissful ignorance waiting for me to serve him his lunchtime pouch



As I shopped for some plants to put on his grave the day before the PTS, I had a brief weepy moment in the garden centre. Partly because I knew that while I was buying grave plants, he was at home in blissful ignorance waiting for me to serve him his lunchtime pouch of the practice’s finest convalescence food. As I gathered my composure pretending to browse the weedkiller aisle, I was reminded in no uncertain terms that yes, what us vets do does matter. Our patients matter very much. VP



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