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I hope you are healthy and well in these challenging times. Thank you to all veterinary professionals who, despite new precautions limiting us daily, are finding ways to ensure that pets in need are still cared for; it’s really important for this to continue.

In this issue, the focus is on parasitology, featuring articles by Ian Wright on *Dirofilaria immitis* and by Anita Patel on common ectoparasites.

In the small animal section, Paik Koh provides useful tips on intra-oral radiography and Ellie Groves describes utilising the cat’s natural behaviour in weight management programmes.

Health monitoring tools are becoming increasingly popular and triggering interesting discussions in all areas of veterinary medicine. Some worry that pet health monitoring technologies may undermine the role of vets in the future, and you can read about this in the small animal section of this issue.

In this month’s large animal section, you can find out more about the use of herd health monitoring technology in dairy cattle.

Alongside this, Mike Bardsley provides an overview on liver fluke in cattle, highlighting the epidemiology of the parasite.

BEVA past president Jonathan Pycock discusses the importance of informed consent and gives advice on achieving it in equine practice specifically, but the article is relevant in all areas.

Also in the equine section, a report from the National Equine Forum 2020 highlights growing concerns of an illegal trade of donkeys.

The practice management section this month tackles issues such as dealing with overdue payments and registering a veterinary practice. Do you want to make sure your practice’s website is the first people see when they’re looking for a local vet? Make sure to give Will Stirling’s marketing article on improving your website’s SEO a read. Sian Wiltshire also gives her top tips on ensuring your inventory management strategy is efficient, effective and cost-controlling.

Don’t forget, if you have to self-isolate and can’t get your copy of the magazine, all of our content is also available on our website for free: veterinary-practice.com.

Please stay safe, take all possible precautions and follow government guidelines when seeing patients.
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Veterinary practices to remain open only for emergency care and to maintain food supply chain

Veterinary practices are remaining open to focus on emergency care and urgent treatment for animals while reducing face-to-face contact between staff and clients as extensively as possible, following Boris Johnson’s announcement of new restrictions to curb the spread of COVID-19.

Under the measures announced by the Prime Minister on Monday 23 March, everyone is being instructed to stay at home and only go out for a small number of essential reasons including shopping for basic necessities and any medical need.

The BVA has advised that veterinary practices can be considered essential services under the new measures, as we deliver emergency care and work to maintain the food supply chain. However, in the interests of safety and complying with government advice, vet practices should only be delivering emergency treatment and urgent care and should be cancelling routine and non-urgent appointments.

Vets are also insisting that animal owners comply with strict social distancing measures in order to keep clients and colleagues safe. For animal owners, this will include calling the practice ahead of time for advice and may mean waiting outside while your animal is seen and treated. Owners must avoid contact and keep at least two metres apart from other people at all times.

Vets temporarily permitted to remotely prescribe veterinary medicines during COVID-19 pandemic

In light of the UK government’s current guidance on reducing the transmission of coronavirus (COVID-19) by limiting non-essential contact with others, the RCVS Council has agreed to temporarily permit the remote prescription of veterinary medicines where appropriate and where complying with government advice leaves no other available options.

Under normal circumstances the RCVS Code of Professional Conduct for Veterinary Surgeons does not allow veterinary surgeons to prescribe veterinary medicines (POM-Vs) without a physical examination of the animal(s) having first taken place. However, RCVS Council has decided that there should be a temporary departure from this position under the current exceptional circumstances. This position will continue to be reviewed on an ongoing basis and, in any event, no later than 30 June 2020.

The guidance states that veterinary surgeons may only prescribe POM-V medicines via remote means where there is no other option, eg a medicine categorised as a POM-VPS, NFA-VPS or AVM-GSL that would be a suitable alternative, and that they are satisfied that any risk to the animal is outweighed by the benefit.

The RCVS has developed a set of frequently asked questions on coronavirus and related issues that sets out considerations veterinary surgeons should make before deciding on whether or not to prescribe veterinary medicines remotely. These FAQs can be found at rcvs.org.uk/coronavirus – the RCVS recommends members of the professions read Question 4 in respect of making decisions around remote prescribing.

BVA calls for inclusion of veterinary practices in support plans for businesses affected by COVID-19

The BVA has written to the government urging for veterinary practices to be covered by support measures for businesses affected by COVID-19, recognising them as “business critical” on account of the essential services they provide that protect animal health and welfare, public health and well-being.

On 17 March, the Chancellor Rishi Sunak unveiled a £350 billion package of measures including rates reliefs and grants to support retail and hospitality businesses affected by the coronavirus, and pledged to do “whatever it takes” to keep these sectors afloat in the challenging times ahead. However, veterinary practices have so far not been included in the scope for this support, despite the fact that they will also be entering a period of significant financial difficulty and continuing to provide vital care and treatment to animals while contending with staff shortages and reduced turnover.

BVA also calls for business rates reliefs that have already been announced for some businesses to be extended to veterinary practices, most of which are small and medium-sized enterprises. Eligible businesses will receive 100 percent rates relief for a year in England and 75 percent in Scotland, with Wales and Northern Ireland expected to announce similar plans shortly.
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EMS requirements for veterinary students temporarily suspended

The RCVS Council has agreed to temporarily suspend its requirements for UK veterinary students and veterinary degree programmes around extra-mural studies (EMS).

Veterinary students are required to complete a minimum of 38 weeks of EMS throughout their degree programme in order to gain real-life work experience to enhance their university-based studies. However, the following amendments were approved by RCVS Council members by email on 16 March 2020.

Extra-mural studies
It will not be compulsory for students to complete EMS over the next eight-week period, after which the situation would be reviewed. This would apply to students in any year of their studies.

The RCVS recognises that for students in their final year of study, it may be difficult for them to make up any missing EMS prior to graduation. Vet schools should continue to support students and explore alternatives for final-year students’ EMS placements; however, any shortfall in up to four weeks’ duration in EMS relative to the requirements should not be a barrier to completion of the programme.

For students in years one to four of their studies, it would be expected that there will be sufficient time for them to make up the full 38 weeks of EMS required to complete their degree programme. However, this will be reviewed as the COVID-19 pandemic progresses.

These measures will be subject to further review/extension depending upon the prevailing situation with the COVID-19 pandemic. The RCVS will monitor the impact of this through EMS completion data provided by UK veterinary schools.

Final examinations and assessment
The RCVS recognises that, as a result of the measures being implemented to minimise the risk to students and staff due to the COVID-19 pandemic, it may be necessary for UK veterinary schools to consider alternative methods to assess students in certain areas.

In concordance with the RCVS Standards for Accreditation of Veterinary Programmes, UK veterinary schools should continue to ensure that any alternative assessment methods continue to be robust, valid and reliable, and ensure students have met the RCVS Day One Competences.

Requirements for student VNs and training programmes temporarily suspended

The RCVS VN Council has agreed a series of actions for veterinary nurse students and veterinary nurse training programmes.

Clinical placements
Universities and awarding organisations have requested a degree of flexibility around the RCVS VN Registration Rules and completion of the RCVS Day One Skills (DOS), in light of the COVID-19 situation. The following therefore applies:

It will not be compulsory for students of any year to complete clinical placements within the next eight weeks, after which the situation will be reviewed.

The RCVS recognises that for final-year students, it may be difficult to make up the hours of EMS missed prior to graduation. Universities and colleges should continue to support students and explore alternatives; however, any shortfall relative to the requirements should not be a barrier to completion of the programme.

For non-final-year students, the RCVS expects that there will be sufficient time for them to make up the number of hours prior to completing the programme. However, this will be reviewed as the situation progresses.

Student veterinary nurses will still be required to complete the DOS for Veterinary Nurses in their totality as these seek to assure competency at the point of registration. Where a student has completed the DOS in less than the 1,800 hours, this will be assessed on a case-by-case basis on application to register.

Assessments
Universities and awarding organisations may need to explore alternatives to the current delivery of the unseen and OSCE used for assessment of the RCVS Day One Competences and Skills for Veterinary Nurses. In this respect, the RCVS Examinations Manager and Chair of VN Education Committee will review proposals for changes to the assessment.

As universities and awarding organisations explore alternative methods, they should continue to consider the robustness of their processes in assessing practical skills.

Universities and awarding organisations will still be required to assure the RCVS, through subsequent analysis and evaluation, that all their assessments were sufficiently met Day One Competences and Skills.
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New Blue Cross manifesto to improve animal welfare

National pet charity Blue Cross is pushing for a new start for animals. The new manifesto includes a call for the better enforcement of welfare legislation, the regulation of sanctuaries and rehoming organisations, and better recognition of the benefits of pets for mental health and well-being.

Blue Cross is concerned that a lack of local authority resources is making it difficult to properly enforce animal welfare legislation. The charity is calling for increased local authority resources and training to ensure officers have the required knowledge to apply all relevant pet welfare legislation.

While the majority of animal rescue and rehoming organisations maintain high standards of animal welfare, some can become overwhelmed and struggle to meet animal welfare needs. Blue Cross is calling for a consultation on regulating animal sanctuaries and rehoming organisations and the introduction of an accompanying system of inspection to ensure welfare standards are met.

Blue Cross is calling for a comprehensive review into the provision of animal-assisted therapy for mental health patients and for mental health professionals to receive training in the five freedoms enshrined in the Animal Welfare Act 2006 to enable them to support their service users. The charity is also calling for the benefits of pet ownership in alleviating loneliness to be included in the Loneliness Strategy.

BVA calls for clampdown on illegal puppy smuggling

The BVA has renewed its calls for tighter restrictions on pet travel following the government’s response to the Efra Select Committee report on tackling illegal puppy smuggling.

Defra minister Lord Goldsmith has written to the Committee responding to a series of questions and recommendations on tightening rules. In a press statement, Efra Committee has praised the new “Petfi shed” awareness campaign but raised concerns that some of the regulatory and delivery recommendations have not been taken on board.

One specific recommendation made by BVA calls for the minimum age that puppies can travel to the UK to be increased from the current 15 weeks.

In response, Lord Goldsmith has stated that the government “has no immediate plans to change our pet travel arrangements”.

Commenting, BVA President Daniella Dos Santos said: “This is such a missed opportunity for meaningful action to clamp down illegal puppy smuggling and improve disease controls. It’s far too easy for organised criminals to bring puppies into the UK for sale by abusing the current pet travel controls.

“EU Exit has provided an opportunity to strengthen our rules and only allow puppies to enter the UK at an age where they can no longer be advertised as cute puppies. It’s deeply disappointing that Defra isn’t considering taking this action.”

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BSAVA Congress 2020 cancelled

Due to the growing concerns caused by the continued global spread of COVID-19, BSAVA has announced the decision to cancel Congress 2020, which was due to take place in Birmingham in April.

Amanda Stranack, BSAVA CEO, said: “BSAVA recognises the pressures the current situation brings to bear on the veterinary community and in making this difficult decision, has the interests of the profession first and foremost in its mind.

“We would thank all those who have worked hard over the past two years to contribute to the development of Congress, a huge amount of effort goes into preparations from BSAVA volunteers, congress participants and our staff.”

Sue Paterson, BSAVA President, said: “It is with great regret that we have made the difficult decision to cancel Congress, which has taken place annually for more than 60 years. Congress is an incredibly important event in the veterinary calendar, and we were all looking forward to an inspiring agenda and saying a fond farewell to the city that has made Congress such a great success over so many years. The health and well-being of our attendees is of utmost importance to us, and whilst we are sorry to be making this decision, we are confident it is the right one.”

BSAVA Congress provides more than 450 hours of CPD over 4 days, and BSAVA is aware that cancelling the event will have big implications for many delegates. BSAVA remains committed to supporting vets and vet nurses to access high quality CPD, and is now looking at alternative routes for delivering congress lectures and podcasts.

Sue Paterson added: “Whilst we won’t be able to deliver the full congress programme, we will be working with our speakers to capture as many lectures as we can to make content available online.”

More details will be shared as they become available. BSAVA will be notifying delegates, exhibitors and other service providers directly with more information and next steps.

BSAVA will continue to review its full programme of events and CPD as the national situation continues to develop. Updates will be shared regularly on the BSAVA website.

APHA receives £1.4 billion budget boost for world-leading Weybridge Laboratory

The UK’s world-leading scientific and veterinary capability will be enhanced after a £1.4 billion investment boost to the APHA to protect the country against the increasing threats of animal and plant diseases.

The new funding, announced by the Chancellor in the Budget on 11 March, will be used to redevelop and future-proof the current Weybridge facility, a unique site with specialist research and laboratory facilities and capabilities for animal health science and disease control. The money will ensure the UK continues to be a world-leading science capability and safeguard the agency’s role in fighting current and emerging animal and plant diseases.

The APHA is responsible for safeguarding animal and plant health for the benefit of the people, the environment and the economy. This has included providing scientific evidence and advice to government in controlling outbreaks of foot and mouth disease in 2001, testing several thousand samples for avian influenza (bird flu) during outbreaks in the winter of 2016/17 and recent research that has paved the way for field trials of a cattle vaccine to combat bovine tuberculosis (bTB). APHA is currently supporting PHE in the government’s response to the coronavirus outbreak.

This investment will help the UK economy by protecting against animal and human disease risks. The UK currently exports £4.2bn of livestock, meat and meat products, dairy and animal by-products per year. These exports are safeguarded by the services that APHA provides and the investment will enhance the UK’s international reputation as a safe trading partner in the food and farming sectors, supercharging the opportunities for global trade. This investment will also attract high-quality scientists and technical experts, making it an even more attractive place to work.

APHA Weybridge provides expert advice to the United Nations Food and Agriculture Organization, the World Organisation for Animal Health and the World Health Organization, as the international reference laboratory for a large range of animal diseases.
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Delegates at Vets South debated ethical questions surrounding under- and overtreatment

The keynote panel at Vets South 2020, held on 5 and 6 March at Sandy Park in Exeter, triggered a lively debate surrounding the ethical considerations of treatments. Chaired by Jon King, centre manager for the Wales Veterinary Science Centre in Aberystwyth, the session tackled the problems of under- and overtreatment in veterinary medicine and surgery.

Panellist Alison Moores, soft tissue surgeon at Anderson Moores Veterinary Specialists, began the discussion by explaining the straightforward situations: if the surgery is benign, has a good recovery rate and the analgesia is manageable, or if the animal may die today or is in pain, then the surgery is likely reasonable. Unreasonable surgeries are ones which are difficult, have high morbidity and pain, or if the animal would end up struggling for the rest of their lives.

David Williams, ophthalmologist at the Cambridge vet school and regular Veterinary Practice contributor, pointed out that making this distinction may seem easy, but different surgeons may have different opinions on where to draw the line from their experience of the efficacy of the surgery. Agreeing, Alison emphasised that people accept different complications. One example she gave was in the case of feline injection site sarcomas. Usually, she takes a 3cm margin, but there is a paper that reports 5cm margins may be better with a 10 percent complication rate. However, if you look at the scapula region, a third of cases end up dehisced. For this reason, she doesn’t like doing the 5cm margin, but some do.

The panellists then spoke about palliative care. For some conditions, it’s impossible to offer a cure. This is the case for medical treatments, such as chemotherapy, but also some surgical, such as sarcoma removal. The animal may be in pain because of it, so removing it may be beneficial. However, it is likely that it may return – Alison suggests that this form of palliative surgery is acceptable, but only if the procedure has a low morbidity.

Jon then asked the panel, in their opinion, is there a length of extra time a treatment gives an animal which makes it seem reasonable? For example, if the surgery were to give a dog an extra two months, compared to six more.

Ian Ramsay, professor of small animal medicine at Glasgow University, highlighted that it’s important to remember that these are median figures. Half of the animals receiving the treatment or surgery are likely to not live that long, and half are likely to live longer. “Not everyone understands this and it’s one of the hardest things... if you can’t reach that level of understanding with the client, should you be doing the procedure?”

From a medical point of view, his thoughts are always the length of the course and the quality of life whilst on the treatment – if the treatment would give the dog an extra six months, that may seem great, but if those six months are spent suffering it is probably not worth it, and it’s important to ensure that the owner understands this.

But what if the owner wants to go in a different direction to your opinion? An audience member raised this concern: “you can sometimes lead clients with your own opinion, but at what point do you go against their wishes?”

“We always lead our clients to some extent, because we only give them the information we want to,” replied Alison. “It’s important to give them the facts and clearly specify what is your opinion.” Using the example of injection site sarcomas once again, she always gives owners the facts before adding what she’s seen in practice. “Generally, I do what the client wants – unless it’s overtreating. If you say ‘this is not in your pet’s best interest’, owners tend to agree at this point. There are people who choose to have their animals put down when I think we could give them a very good quality of life for very little difficulty, or with a minor operation, and it is OK to choose euthanasia. Sometimes, you can get the
impression that that’s what they want to do, but they want you to suggest it. They want you to tell them that it’s OK to stop, as they may feel guilty. Learning to read people in this way is something vets learn with time.”

“Owners are coming to us because of our experiences,” added David. “Sometimes it’s OK to say your opinion, but remember that they know their pet better than anyone... We’re all in this together for the same reason: the welfare of the animal.”

It can be hard to put yourself in the owner’s shoes though, especially if you have never been in that situation. “My favourite line is ‘if it were my dog, I would...’ It’s difficult to imagine how you would react in a similar situation if you have never owned a pet, never had a pet put down or never had a pet go through surgery. Like I say in my lectures, every vet should have to live with a chronically ill animal or have a pet go through surgery – it’s a huge learning experience,” Ian explained. It’s not necessarily just about knowing the facts about the different options, but it’s also about knowing how to have that conversation with an owner, which some vets, especially new graduates, may find difficult.

The panel also highlighted the importance of taking into account individual circumstances, and not just the type of treatment. Different owners have different situations and different budgets, and what may be the best option for one animal may not be for the next, even if they are suffering with the same issue.

An audience member had concerns about the ethics behind performing a mandibulectomy in the case of carcino-mas of the mouth – is the animal living just to be there, and as vets, are we doing the surgery just because we can?

The three panellists agreed that dogs are quite happy after the surgery – they don’t even seem to notice and just get on with it. The surgery doesn’t seem to have a morbidity associated with it, but the tumour does. So, by removing the mandible and the carcinoma, you are taking the pain away from the animal. However, you might not do it for a cat as they don’t tolerate it as well. “It’s important to take the differences between species into account,” reminded Alison.

“You have to stop and think: are you doing this for the owner, for you to say you have done something, or are you doing this for the patient?” advised Jo Oakden, BVNA junior vice president. She highlighted that it’s important that animals can live out their natural behaviour and gave the example of a cat with four prosthetic limbs. “It can’t scent mark by scratching, it can’t jump, it can’t climb – the vets may have removed its pain but it can’t be a cat.” On the other hand, dogs can have wheels and run around happily as they have a different focus: being with their owner, the interaction, food, walks, etc. “Cats have their own behaviour and this needs to be taken into account.”

It is important to remember that what works for one symptom, one pet or one owner may not work for another, and there are many factors that need to be taken into account. This is where experience has the biggest role to play, and where senior vets can help newer graduates when possible.

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Restoring nature through veterinary practices

Creation of a wildlife area at your veterinary practice can benefit the health and well-being of the environment, people and animals.

visited PDSA’s Kirkdale hospital, one of two PDSA Pet Hospitals in Liverpool and of 48 nationwide, on a crisp February day. A vet and a vet nurse, Charlotte Chappell and Laura Borrini, had led the creation of a wildlife area on the site and I took an opportunity to see what they had done.

The hospital was as busy as ever. Charlotte is a local conservation volunteer and in her spare time, with Laura, had organised tree-planting and the repair of a raised bed. They self-funded and had organised a staff work party to plant 20 native whips and rebuild the bed with boards.

One Health in action

The linking of the health and well-being of environment, people and animals make this a classic One Health project.

Spring bulbs were beginning to break through in the raised bed. In the summer, the team intend to grow plants that are both pollinator-friendly and could be fed to hospitalised rabbits – cornflowers, nasturtiums and thyme, for example – providing both environmental and animal welfare benefits. Staff use a nearby bench on their breaks.

The linking of the health and well-being of environment, people and animals make this a classic One Health project.

One Health in action

The linking of the health and well-being of environment, people and animals make this a classic One Health project. Superficially, the hospital’s plot was modest: a bench overlooking 20 bare sticks and a square of winter-beaten foliage. But its great potential lies not only in its spring-awakening at a local level, but in its ability to inspire others, to be replicated and to be part of a national whole.

One Health has the world’s complex challenges at its heart. As well as recognising the interconnectedness of our physical and mental health with that of the environment.
Taking part in nature-based activities, as low-key as pausing near trees during a busy day, can contribute to a reduction in levels of anxiety, stress and depression and animals around us, it promotes collaborative working, stressing that our biggest challenges will demand this. Unprecedented biodiversity loss and human mental health are two of these challenges. In the UK, in 2019, 41 percent of UK wildlife species studied had declined since 1970, with numbers of butterflies down by 17 percent and moths down by 25 percent (Hayhow et al., 2019). Mental health problems represent the largest single cause of disability in the UK (NHS, 2020) and depression is a leading cause of disability worldwide (WHO, 2020). Supporting the health and well-being of vets and vet nurses is a priority for the profession (Vet Futures, 2015).

Restoring nature
Wildlife areas created by small and medium-sized businesses, like the one at Kirkdale – from a window box to a raised bed – can collectively provide valuable habitat for pressured species. This is the basis of Avon Wildlife Trust’s “My Wild City” initiative, in partnership with Bristol City Council (Avon Wildlife Trust, 2020), which engages businesses, communities and others to provide habitats such as bug hotels, planters or small trees. The collective action helps create meaningful wildlife “corridors” through the city.

Coordinated, local-scale planting like this is also the basis of the brilliant “Bee-Friendly Practice” scheme, which encourages veterinary practices to provide pollinator-friendly planting. Dr Chris Palgrave of the British Bee Veterinary Association writes that “if each of the 5,321 UK veterinary practices planted a tub or 1m² border to sustain visiting bees, together we could make a real difference” (Palgrave, 2020). Practices signing up to the scheme receive a packet of bee-friendly seeds, as well as other promotional materials including a flower bed label, posters, leaflets and window sticker.

Mental health and well-being
Kirkdale PDSA’s bench not only signifies the importance of taking breaks at work, but the value of doing so outside. A growing body of evidence shows that taking part in nature-based activities, as low-key as pausing near trees during a busy day, can contribute to a reduction in levels of anxiety, stress and depression (Natural England, 2016). The RCVS Mind Matters Initiative encourages regular breaks, “ideally away from ringing phones or allowing a chance for some fresh air” (Mind Matters, 2018).

Greening the veterinary profession
By linking our complex challenges with human health, we help ourselves, we find a powerful additional motivator – our health – for necessary sustainability action and we harness a network of trusted, credible healthcare professionals to help influence and lead society. The veterinary professions are “greening”. BVA’s #GreenTeamVet is helping to promote activities such as the Bee-Friendly Practice scheme and BVA has published a comprehensive, forward-looking position paper on sustainable animal agriculture (BVA, 2019), which it is using for lobbying. BVA also convened the UK One Health Coordination Group, which last year published the illuminating “One Health in Action” report (BVA, 2019), giving further examples of everyday One Health projects.

Multi-site organisations such as PDSA, or umbrella bodies such as the Veterinary Major Employers Group, are well placed to help replicate and coordinate local actions. The profession is being assisted by Vet Sustain, the veterinary group formed to inform and inspire action for sustainability, who are working alongside BVA and others on six focus areas, including environmental initiatives in practice (Vet Sustain, 2020).

A calling raven flew over the PDSA hospital as I left. Evoking wild, remote places, it was unexpected in the blue skies over urban Kirkdale but a perfect end to my visit and a reminder of our potential to enjoy and restore biodiversity everywhere.

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MENTAL HEALTH

When being a vet is your whole identity

Identifying closely with your career isn’t a bad thing, but it makes you vulnerable to a painful identity crisis if you burn out

Psychologists use the term “enmeshment” to describe the situation when boundaries between people become blurred and individual identities become unimportant, eroding one’s sense of self.

Many vets I counsel have become enmeshed not with their partners but rather with their careers. “What am I if not a vet?”

You know how it is. You’re introduced as “X the vet”. It’s an immediate ice-breaker. We’re so easy to talk to because we’re full of stories about the most unusual type of animal we’ve ever treated, and so on.

A particular confluence of high achievement, intense competitiveness and culture of overwork has caught many in a perfect storm of career enmeshment and burnout.

Over the years, we’ve found that these issues interact in such complex ways with people’s identity, personality and emotions that it often requires full-on psychological therapy to address them successfully.

A culture where staying behind after work for hours late into the night is considered the norm, and leaving on time is a bit weird, doesn’t help us to have a life outside of work where we can exercise our non-vet identity.

Maybe our job is all that we see of value in ourselves. This belief is further cemented by our families who are so proud we graduated as vets and by strangers at dinner parties who are in awe of how interesting our jobs are. However, constructing one’s identity around a career is a risky move although it may feel very comfortable for very many years.

What if you get the sack? Especially from a big corporation making it especially difficult to get another post. What if you become disabled or unable to continue your specialisation due to physical problems? What if you need to move geographically and you’re middle aged? Who wants a middle-aged vet when we can have such good new grads?

No matter how it happens, becoming disconnected from a career that forms the foundation of your identity can lead to bigger issues, such as depression, anxiety, substance use and loneliness.

So how do you know if your identity has become enmeshed with your career? Ask yourself how often do you think about work when you’re not at work? How do you describe yourself on Tinder? How long after you’ve just met someone do they know what you do for a living? Where do you spend most of your time?

If you are concerned that you are unhealthily enmeshed with being a vet, maybe try to extend yourself out of that enmeshment, although it takes some bravery.

Start small

You don’t need to run a marathon to get exercise. Maybe just walk and run more without having to achieve anything. We’ve been high achievers ever since the 11+ exams. Give it a rest. Running and walking mindfully vastly increases their benefits.

It has been shown that the optimum number of close friends associated with good mental health was three to five (Dunbar, 1992). Reaching out to three to five friends who are not vets can help us to become a bit less enmeshed with the job.

We all know the narcissists out there who crave attention and reaffirmation, who are out canvassing for popularity six nights a week desperate for the masses to adore them and boost their sense of self. The people who send a party invite to 110 of their closest friends on WhatsApp so each of their friends can see how many friends they have. This is a concerning sign of poor mental health.

So, reconnect for sure. But again, like not running a marathon, we don’t have to build up an impressive portfolio of friends in a competitive fashion just to clock up the numbers.

Look beyond your job title

Consider reframing your relationship to your career not simply in terms of your company or title, but in terms of your skills that could be used across different contexts. For example, many psychotherapists who burn out on seeing clients find that their skills translate well to human resources management or guidance counselling.

While identifying closely with your career isn’t necessarily bad, it makes you vulnerable to a painful identity crisis if you burn out, get laid off or retire. Individuals in these situations frequently suffer anxiety, depression and despair. By claiming back some time for yourself and diversifying your activities and relationships, you can build a more balanced and robust identity in line with your values.

References


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.
Is there any evidence to support the use of garlic as a wormer?

Imagine this scenario: you are reading through the worming advice being given by pet owners in a Facebook group, who say that garlic can be used as an alternative to conventional anthelmintics. Some owners are recommending its routine use to prevent dogs or cats becoming parasitised, and others are recommending it if the pet is known to have an intestinal worm burden. What is the evidence base for this recommendation?

Evidence
No papers were identified that addressed the use of garlic as a prevention from parasitism of intestinal worm species. Three papers were identified that either fully or partially investigated the use of garlic for reducing intestinal worm burden. Two of the studies focused on dogs (Bastidas, 1969; Andrei et al., 2011), while the other focused on cats (Ronagh et al., 2015). All studies were clinical trials that either used the animal as its own control or allocated the animals to separate treatment groups.

The study by Andrei et al. (2011) used garlic in conjunction with other herbs in a tincture, meaning any potential anthelmintic effect of the garlic would be confounded with the other components. The tincture was associated with a greater than 90 percent reduction in eggs per gram of faeces for all studied worm species (Toxocara canis, Ancylostoma spp., Trichocephalus spp.). This was found for both population studies – shelter dogs and owned dogs. The authors aimed to investigate the efficacy of the worming preparation overall, rather than the effect of garlic in isolation as an anthelmintic, so it is unclear what the relative contribution of the garlic was. The study finished immediately after the end of the tincture dosing period and therefore did not measure any long-term outcomes.

The other canine study (Bastidas, 1969), with a sample size of one, demonstrated that larvae count of Ancylostoma caninum decreased during daily dosing with garlic, but eggs per gram of faeces remained similar following a five-day dosing period. Additionally, there was rapid recovery to pre-dosing levels observed two days following treatment cessation. While presence of adult female worms was not an outcome measure of the study, these post-treatment changes in larvae count suggest that the addition of garlic to the diet (at this dosage and dosing period) did not affect adult female worm mortality or longer-term fecundity rates (the number of eggs produced by a female adult worm) over the dosing period studied. With a study size of one, the findings could potentially be explained by undefined confounding effects.

The final study found that cats dosed with garlic showed a numerical reduction in Toxocara cati eggs and a numerical reduction in fecundity rate (Ronagh et al., 2015). No such reduction was observed for control cats. However, the cats were euthanised at the end of the study and the authors did not measure faecal egg counts for a few days post-treatment cessation. Therefore, while the egg counts were lower – likely due to a reduction in the number of eggs produced by each viable female – it is not known whether any inhibitory effect of the garlic is temporary or more permanent. It is unclear whether discontinuing the garlic treatment would lead to an increased egg production again, or whether the garlic provided an increased morbidity or mortality rate of adult female worms.

Conclusion
In summary, garlic may have a temporary inhibitory impact on larvae and/or egg production of the intestinal worm species studied. However, no studies directly studied the effect of garlic as an adulticide, which remains an important practical limitation in the use of these findings. All the studies considered demonstrated limited data handling and limited statistical analysis, and had small sample sizes. The relative lack of studies addressing the query means not all known intestinal worms in the UK were studied. Thus, any positive anthelmintic effects at the level of the individual species may still limit clinical use to the practitioner or owner seeking an anthelmintic effective against a broad range of intestinal worms.

In light of these limitations, and with consideration of the toxicity levels of garlic, clients should be advised that garlic is not proven as an effective anthelmintic (against multiple species or a single species) for use in dogs and cats to prevent or treat an intestinal worm burden.

The full Knowledge Summary can be found at veterinaryevidence.org/index.php/ve/article/view/163
Wildlife crimes involving raptors

An ill or injured bird of prey could be evidence of wildlife crime and veterinary surgeons can play a crucial role in reporting anything suspicious

For most people, the idea of intentionally harming a wild bird is unthinkable. Yet sadly there are those who illegally shoot, trap and poison birds of prey. This not only causes harm to individual birds but also affects the population and distribution of the species, and the ecosystems to which they belong. This is a problem which is continuing, often unseen, despite efforts by police and conservationists.

Birds of prey – or raptors – are protected by law under the Wildlife and Countryside Act 1981. To intentionally kill or injure one is a criminal offence and could result in an unlimited fine or up to six months in jail. The RSPB has a dedicated Investigations Unit whose job it is to help prevent and detect these crimes, working with police and other government agencies, with the long-term aim of ending the systematic persecution of the UK’s raptors.

The results can be brutal. In 2019, a male hen harrier was found alive, caught in an illegally set metal spring trap on a Scottish moor. Despite dedicated work by a vet, the bird’s leg could not be saved and the bird had to be euthanised. The RSPB has seen birds peppered with shots, with more than 10 pieces showing up under X-ray, and poisoned by substances left out in the open which also pose a serious risk to people and pets.

So why does it happen?

Raptor persecution is usually associated with game bird shooting, particularly driven grouse shooting in the upland moors of northern England and Scotland. On land managed intensively to support the highest possible number of red grouse to be commercially shot, birds of prey are seen by some as unwanted pests and systematically eradicated, regardless of the law. Since 1990, two-thirds of people convicted of raptor persecution offences have been gamekeepers and many moors have become crime scenes, largely empty of birds of prey.

In the Peak District’s northern Dark Peak, which is dominated by driven grouse moors, no peregrine falcons bred whatsoever in 2017. Rare hen harriers, which should be found in their hundreds across the English uplands, produced just 12 successful nests in England in 2019. This species could go extinct as a breeding bird in England in our lifetime. In both these examples, independent scientific reports have concluded that persecution is the major contributing factor.

There’s a problem in lowland areas too. Reports sometimes come in from dog walkers finding birds like buzzards and owls dead or injured near land managed for pheasant and partridge shooting. Some people with racing pigeon interests have also been known to target sparrowhawks and peregrines, especially around towns and cities.

The RSPB, which is a conservation-led rather than a welfare organisation, takes a neutral stance on the ethics of shooting but steps in when criminality and conservation issues arise.

In 2017, RSPB Investigations Officers witnessed a gamekeeper shoot two short-eared owls on a grouse moor in Cumbria. They filmed him disposing of one body by hiding it in a dry-stone wall, and stamping the other into the boggy ground. They phoned the police and after a dramatic chase across the moor the man was arrested there and then. The RSPB employs half a dozen fieldworkers to deploy covert cameras, monitor problem areas and gather evidence to assist with police investigations. But they can’t be everywhere at once.

How you can help

More often than not cases come to light as a result of a phone call or email by someone who has found a dead or injured bird of prey in suspicious circumstances. Reports like these are crucial. The latest Birdcrime report, produced by the RSPB, showed 87 confirmed incidents of raptor persecution in the UK during 2018. However, the team is concerned that many crimes are going undetected and unreported.

Veterinary surgeons play an important role in helping detect incidents of raptor persecution which could otherwise be missed. A buzzard or sparrowhawk brought into your surgery may have been the victim of an unfortunate accident or a natural death, but there’s also a chance it has been deliberately targeted.

If you do come across an ill or injured raptor, and suspect there may be criminality involved, please immediately report it. The end of this article has more information on how to do this. If you are uncertain of the best course of action, please contact the RSPB’s Investigations Unit for advice. The details of any examination or treatment may be important evidence and this information needs to be retained. If a bird dies or has to be euthanised it should be carefully labelled and stored pending any investigation that may be needed. The BSAVA Manual of Wildlife Casualties (2017) has a helpful chapter “Investigating Wildlife Crime” written specifically for vets.

JENNY SHELTON

Jenny Shelton works for the RSPB as part of the Investigations Team which helps detect and prevent crimes against birds of prey. She coordinates communications to help raise awareness of the issue which is affecting some of the UK’s most at-risk species.
Mark Naguib is an Advanced Practitioner in Zoological Medicine based at Battle Flatts Veterinary Clinic in Stamford Bridge, near York. For the past six years, North Yorkshire has clocked up more confirmed incidents of raptor persecution than any other UK county, and Mark has seen the results of many of them.

“We get quite a lot of buzzards,” says Mark. “One came in about a year ago which had a fractured leg: it was a classic shotgun shot case. Sadly, in North Yorkshire we are the bird of prey persecution capital of the UK, so we have a lot of shot and poisoned birds come through.”

Mark and his team regularly X-ray birds which turn out to be shot, providing clear and crucial evidence that a crime has taken place (Figure 1).

“On an X-ray, there’s no way you can mistake a shotgun pellet for anything else,” says Mark. “Though it’s very easy in birds to miss fractures, especially in the shoulder area, because they’re very different anatomically to dogs and cats. It’s really important to assess that area really thoroughly both when the bird is awake and when you X-ray it. The positioning of the X-ray is really important too. We see a lot that have been missed.”

While fractures may indicate a bird has been the victim of shooting (Figure 1), a bird with missing feet may indicate a trapping offence (Figure 2). The RSPB has received images of barn owls with their feet severed by metal spring traps. Meanwhile a swollen crop is often a sign a bird has ingested something so toxic that the food did not have time to get from the crop down into the body before it died.

Unlike the RSPCA, which deals with welfare issues, the RSPB doesn’t have the capacity to rehabilitate injured birds, so vets are an invaluable asset when it comes to treating raptors which have been illegally targeted.

“I think it’s something which all vets should be doing if they can,” added Mark. “It’s a really valuable service and a way of giving back to the community and helping our wildlife which is under a lot of strain at the moment from man-made causes. It’s also really interesting! Everything about birds is awesome, their anatomy, their physiology… they’re the species I enjoy working with the most. Wildlife work is very rewarding and if you’ve got an interest in it there are lots of places you can learn about it. And we’re always on the end of the phone if anyone wants advice.

“As an animal lover, it’s very frustrating that people are deliberately harming these birds. We can only do what we can do, to raise awareness and help the ones that can be helped. With any wildlife work, the end goal has to be rehabilitation. By that, we mean the release of a bird which can go on to have a good quality of life independently. If it cannot be treated, we euthanise it. If that’s the case then at least we can limit their suffering.

“Being a vet, I don’t often get to see the birds I’ve worked on being released, but I have been present for a few including… when a peregrine falcon was released. To see that bird flying again was fantastic, it really makes it worthwhile.”

Illegal wildlife poisoning is a particularly worrying problem. Poison baits, typically involving an animal carcass laced with a toxic pesticide, are illegally placed in the countryside to target birds of prey or other predatory animals (in birds of prey, look for a swollen crop indicating that it has died soon after feeding). These place other wildlife, people and companion animals at risk.

The RSPB is also asking vets to report incidents involving wildlife or pets which may have been poisoned. A government scheme will arrange for the necessary post-mortem examination and toxicology tests to be undertaken (any samples from such animals should be retained in case needed for testing). If a bird of prey you are treating dies, or has to be euthanised, please don’t incinerate it. The body may be valuable evidence.

Finally, if you obtain any information about raptor persecution or suspect that it is taking place, please get in touch with the police and RSPB Investigations. The RSPB employs designated Intelligence Officers who are trained in handling sensitive information. All methods of contact are treated in complete confidence; no calls are recorded and your details will not be passed to anyone else without your permission.

**TAKING ACTION**

For more information about reporting wildlife crime, please visit rspb.org.uk/birds-and-wildlife/advice/how-to-report-crimes/

In the first instance, please call the police on 101 and ask for a Wildlife Crime Officer.

Please report any wildlife or companion animals which may have been illegally poisoned to the government Wildlife Incident Investigation Scheme (WIIS) on Freephone 0800 321600.

Please also immediately report potential crimes relating to birds of prey, or animal poisoning incidents, to the RSPB. Call 01767 680551 (England, Wales, NI) or 0131 3174100 (Scotland), or email crime@rspb.org.uk.

The RSPB regularly pays for X-rays of birds of prey to look for signs of criminality and to support the work of the police. The RSPB are very grateful for the support from many vets who often undertake this work free of charge or at a reduced cost.
Preventative healthcare in the fish tank

With more people keeping fish, what problems frequently arise and what advice can vets give worried owners?

Fish keeping is a popular and growing hobby, with estimates ranging from 117 to 134 million ornamental fish being kept across at least 4 million fish-owning households in the UK. Fish keeping encompasses outdoor pond fish (koi, goldfish), tropical freshwater fish (neon tetra, dwarf gourami) and tropical marine fish (common clownfish, domino damselfish).

Aquarium fish can also fetch a high price at market: uniquely patterned koi can reach over £1,000,000 at auction; a colour morph arowana, Osteoglossum bicirrhosum, once sold for $400,000 (approximately £330,000); and rare species of marine angelfish reached bids of $30,000 (approximately £25,000).

With a growing number of budding home aquarists prepared to pay a great deal of money for their fish and looking to invest in their health and well-being, veterinary surgeons are more and more likely to be faced with questions on fish health and dispense advice on fish care and well-being.

What advice should vets give to worried fish owners?

Fish live in a medium that is essential to their existence: water. The quality and health of this is where the fish keeper needs to start to provide the strongest foundation for optimal care (Figure 1). All good advice for worried owners should start with water quality and water conditions, stocking density and feeding rate. Fish owners can be encouraged to bring in a photo of their fish, if it is tricky to physically bring the individual in to the practice, and to talk about the aquarium conditions and husbandry provided.

New tank syndrome

Many health problems arise because the water in a home pond or aquarium is not left to mature and too many fish are added too quickly to a “raw” set-up. An aquarium or pond is a biological, living system. Fish added into this system become part of the cycle, producing waste that is removed by the bacteria that live in a mature filtration system and in the substrate. A new aquarium has none of these biological processes in place and so the fish keeper must stock such a system gradually. It can take up to two months before an aquarium has the full biological capacity to remove waste normally.

Common symptoms of “new tank syndrome” include:

- Lethargy and reluctance to feed
- Fish gasping for air at the water’s surface
- Vigorous gill movement and intense respiration
- Sudden, seemingly unexplained deaths of fish
- Unusual or abnormal orientation in the water column (e.g. a fish rolling on its side)
- Noticeable blood-red fin veins and gills
Too much food, too many friends
A common health and welfare problem seen in home aquaria is overcrowding and feeding fish too much and too often. Many fish have evolved to consume food in small amounts as and when it is located within their habitat. The feeding of a large amount of processed fish flakes or pellets in one go can cause water pollution and a build-up of toxic ammonia that, in large concentrations, can kill the fish in the tank.

Feeding regimes should be maintained in line with the fish’s evolutionary history; aside from a few species that are predators engulfing large single meals (eg large cichlids such as oscars, *Astronotus ocellatus*, or pike cichlids, *Crenicichla* spp.) most fish available for the home aquarium need to eat little and often. Two to three small feedings of flakes or pellets, all consumed within a few minutes, will keep fish at a healthy body condition, provide behavioural stimulation and prevent poor water quality.

Diet of the fish being kept should always be investigated so that correct nutritional requirements are provided. Some fish have particular dietary needs in the aquarium; for example, the aforementioned oscar has an essential need for dietary vitamin C.

Pet fish can suffer from being overweight; goldfish fed too much and kept in restricted conditions that limit exercise can build up large fat deposits. Abdominal swellings and a ballooned or bloated appearance (with scales sticking out like a pinecone) is not going to be a case of a fish that needs to go on a diet, but rather of a more serious bacterial infection. Such symptoms need to be checked out by a veterinary surgeon and changes to water conditions and filtration are required.

Overcrowding in an aquarium depletes the amount of dissolved oxygen available and can cause fish to gasp at the surface. Overcrowding will increase ammonia, nitrate and nitrite concentrations in the water as filtration is less efficient and so an increase in water changes is required. Overcrowded fish will be stressed, show signs of aggression or fear and may hide away or attempt to flee from rivals.

Common symptoms of behavioural stress in aquarium fish include:
- Loss of normal colouration. Fish are either pale and “washed out” or show dark lines or spots that are not normally present
- Damaged and ragged fins caused by aggression (fin nipping) from tank mates
- Hanging at the water’s surface or resting lethargic on the substrate
- Constant hiding away or reluctance to explore the aquarium
- Clamped fins (held close to the body)
- Loss of body condition and appetite

Again, such advice is species-specific; many aquarists of Rift Valley cichlids (eg Lake Malawi and Lake Tanganyika cichlids) maintain high stocking densities to replicate the natural systems and natural behavioural ecology of these species.

Check on your water conditions and quarantine new arrivals
Common fish disease can be brought on by changes in environmental parameters that lead to stress. For example, white spot (*Ichthyophthirius multifiliis*) is a parasitic infection that is common in freshwater fish and is generally caused by fish being stressed by a change in their environment (eg suddenly experiencing a change in water temperature). White spot is easily introduced into an aquarium with new arrivals placed into a home aquarium without any quarantine, and can live on plants too.

Note that marine white spot/“marine ich” (*Cryptocaryon irritans*) is a different type of disease caused by a ciliate parasite. Marine white spot spends a longer time encysted on the fish compared to freshwater white spot, and the use of copper-based treatments is problematic due to marine fish often being housed in reef aquaria containing invertebrates (copper-based treatments are lethal to invertebrate marine life). As such, it is essential that all new fish be quarantined before they are added to a marine reef system, otherwise it can take up to three months for a reef tank (kept free of all fish) to be clear of marine white spot.

Owners should be encouraged to maintain safe water parameters and do regular checks of water chemistry to ensure that levels of ammonium and nitrites are not building up to dangerous concentrations.
Maximising the cat’s natural instinct to help tackle obesity

Considering how food is delivered as well as the diet itself can be beneficial when managing a cat’s weight

Obesity is recognised as a disease in companion animals and over 50 percent of cats in the UK are estimated to be overweight or obese (PDSA, 2018). Obesity has a significant adverse effect on health and welfare, and proactive management by veterinary professionals to increase owner education, address obesity and minimise the likelihood of its potential consequences is important (Box 1). This article focuses on feeding and feeding management in cats to both minimise the likelihood of a cat becoming overweight and help to encourage successful weight loss where cats have become overweight or obese.

Defining “overweight” and “obese”
Several body condition score (BCS) scales have been developed, but a nine-point scale is recommended by the BSAVA and WSAVA and is the most extensively validated one. For a cat, ideal BCS is classed as a score of 5, with each additional unit corresponding to 10 percent over the ideal weight. A score of 6 or 7 (10 to 20 percent overweight) is classed as overweight, whilst a score of 8 or 9 is classed as obese. Recording a BCS regularly is a more accurate way of determining body composition than weight.

Appropriate management
If a cat has been identified as overweight or obese and weight management recommendations are made by the veterinarian, they should consider both the diet the pet is on and feeding management. Whilst a purpose-formulated obesity management diet is often recommended by the veterinary professional, there may be less emphasis on feeding management or how to encourage physical activity – particularly in cats where simply increasing the length of the walk or encouraging swimming is not a feasible option. However, by considering cats’ natural feeding behaviours,

EDUCATION IS KEY

- In a recent survey, 74 percent of cat owners believed their cat is an ideal weight, but 65 percent did not actually know their cat’s current weight or BCS
- When asked to match an outline of a cat’s shape with the shape of their cat, 53 percent of cat owners selected either an overweight or obese BCS and less than a third of owners scored their cat as ideal – very different to the 74 percent who had believed them to be an ideal weight (PDSA, 2018)
- Regular body condition scoring and appropriate education of owners to teach them how to body condition score their cats is a very important aspect of weight management: it can help both as a prevention strategy to minimise the likelihood of them becoming overweight and, for some owners, as a powerful way of helping them to recognise that their pet is not a healthy weight or shape
- Monitoring programmes should start during growth, and weight and BCS should be recorded annually as a minimum
- Given that neutering is a risk factor for weight gain, increased monitoring of weight and BCS for the two years after neutering is especially important

Box (1) Education of what a healthy cat looks like is important. There is currently a mismatch between the number of cats classified as overweight or obese and the number of owners recognising this (PDSA, 2018)

we can both reduce the risk of obesity and help to more successfully tackle it should it occur.

Nutrient profile of a weight loss diet
Most therapeutic weight loss diets are designed to be increased in protein, low in fat and high in fibre, reducing their caloric density to help lead to effective weight loss and increased satiety. In overweight cats, a gradual weight loss of approximately 1 percent body weight per week should be aimed for, though weight loss is often slower than this. For any cat over a BCS of 7, a therapeutic weight loss diet should be fed. Feeding a maintenance or “light” diet can both lead to potential nutrient deficiencies and unsatisfactory weight loss.
The nutrient profile of any diet selected should consider the following (Nestle Purina, 2015):

- Maintenance of lean body weight and loss of excess fat
  - Higher protein levels and high protein:calorie ratio has been proven to minimise loss of lean weight and encourage loss of fat during weight loss in cats (Laflamme and Hannah, 2005). Increased protein may also help reduce oxidative stress during weight loss. Appropriate overall caloric restriction, particularly by restricting fat (the most energy-dense nutrient) is important

- Avoidance of any potential nutrient deficiencies in the face of reduced calorie intake
  - Using a diet with increased nutrient:calorie ratio is important to ensure the diet provides both complete and balanced nutrition when fed at an amount also compatible to achieve weight loss

- Enhanced satiety to discourage excess consumption
  - Increased fibre levels are particularly important to aid satiety. In some cases, this can help to reduce begging behaviour (Saker et al., 2019). Cats have also been shown to voluntarily consume less food when fed a slightly higher protein diet

- Excellent palatability to encourage owner compliance and maintain the important part of the human–animal bond associated with feeding

**Considering feline behaviour**

Pet cats now have a very different lifestyle to feral cats and their wild ancestors. Rather than hunting for multiple small meals throughout the day, they tend to have a much lower level of physical exercise, may have restricted outdoor access, and tend to have their food provided – often *ad lib* – rather than having to work for it.

Feral cats and the domesticated cat’s wild ancestors are natural predators and would have spent a large period of time during the day on solitary hunting trips, only half of which would be successful (Dantas et al., 2016). This would have resulted in significant energy expenditure – much more than the domesticated cat’s energy expenditure walking to or from their food bowl. Furthermore, prey caught in the wild tends to have a relatively low energy content. A mouse, for example, may equate to approximately 30 calories. This is in significant contrast to the commercial foods fed now, which, whilst complete and balanced, are also often calorie-dense and highly palatable resulting in a tendency for some cats to overeat.

In addition to this, the majority of domesticated cats are neutered, which can reduce their energy requirements (Root et al., 1996) and can result in increased food consumption from almost immediately after the procedure (Saker et al., 2019). Many cats are also kept in multi-cat households and may be fed together. For some, this can be stressful and result in rapid eating to escape from what is a perceived stressful situation.

All of these aspects should be considered when optimising the home environment and feeding management – both to help limit the likelihood of weight gain and to successfully help achieve weight loss in any overweight cats.

**Encouraging “hunting” for food**

Wherever possible, encouragement should be made to make cats hunt for their food (Dantas et al., 2016; Saker et al., 2019). This can both increase physical activity and slow down eating. It can also reduce any feelings of guilt that an owner might feel if and when they see their cat’s food bowl is empty.

A range of different feeding enrichment toys and puzzle feeders exist on the market that may require the cat to bat or chase them to release the food and can provide...
both physical and mental stimulation, helping to increase environmental enrichment whilst providing enjoyment for both the owner and cat (Dantas et al., 2016). Stationary puzzles including foraging toys and mats (Figure 1A), toys requiring sliding, pawing or obstacles (Figure 1B) and rolling puzzles such as balls releasing kibble (Figure 1C and 1D) exist. The toys should be selected according to the owner’s and cat’s preferences. Toys can also be homemade by members of the family (Figure 2) – a cost-effective and fun option to encourage all members of the family to become involved in any weight loss programme to maximise the likelihood of success and to help increase the bond felt between family members and the pet.

Alterations to the home environment
Alongside delivery of the food, alterations of the home environment to encourage exercise and play can be considered (Saker et al., 2019). Ramps, cat trees and perches may help (Dantas et al., 2016) – and vertical spaces are also naturally liked by many cats. Food can also be hidden in these places to add variety to the location(s) it is offered in. Playing with balls, encouraging cats to chase toy mice (Figure 3) or playing with feathered toys can also increase exercise and stimulation, as well as build a bond between the owner and cat – demonstrating to an owner that there are alternative ways to build bonds with the cat rather than feeding alone (Saker et al., 2019).

Maximising the cat’s “grazer” behaviour
Where feasible, small meals fed little and often can replicate hunting trips in the wild (Saker et al., 2019), may be preferred by many cats and help to increase energy expenditure if cats are encouraged to “work” for their food on a regular basis. Taking an average 25g mouse of approximately 30kcal, a 4kg cat might need to catch eight or nine mice daily to meet their energy requirements. However, this equates to only approximately 8g of an average commercially available dry cat food, or very slightly more than this if feeding an obesity management diet for weight loss. This emphasises the importance of education of what the cat should be being fed, which may be very different to what the owner has previously thought they required, and also highlights that careful food measurement by owners – by weight, not cup estimates – is critical. Feeding such small meals in puzzle feeders rather than a bowl might help to reduce owner concerns that the bowl is empty and they could be underfeeding their cat. It can be worth considering weighing the daily allowance and then potting up for the day, to avoid owners individually weighing each small meal which may be time or labour intensive. If an owner is out all day, automated feeders could be a potential option to enable delivery of multiple small meals and “rations” the cat more effectively if they are home on their own (Saker et al., 2019). This also removes some of the guilt from an owner for feeding less (Saker et al., 2019), as well as reducing potential overeating and/or feelings of frustration in the cat.

Treats are given to cats by 81 percent of owners (PDSA, 2018), and the additional calorie intake this provides can be a contributing factor to obesity. Encouraging the feeding of small, regular meals may also help owners to reduce their need to treat since their cat is being provided with food regularly. However, for some owners treating – and ensuring this is something different to the main meal – remains a key part of the cat-owner bond for them. Sometimes potential bonding alternatives such as grooming or playing may be successful. However, in other cases an owner may be insistent on treating. In such cases, treats may be incorporated into the “grazing” during the day, but the owner must ensure these are removed from the weighed daily allowance. Options such as a prawn, wrapped in foil for the cat to bat around and play with before unwrapping and eating, may be popular with some owners, and raw courgette can also be used in some cats as a low calorie treat.

Considering diet texture
As well as the nutrient profile of the food fed, consideration of the diet’s texture can be important. Wet pouch or canned diets contain significantly more moisture than dry foods, and thus have a lower energy density as-fed. Using wet diets may help increase gastric filling and reduce voluntary energy intake in cats. If wet food isn’t an option, encouraging water intake in other ways may help cats feel satiated, including offering a special treat that includes as much water as possible (Saker et al., 2019). One example would be a prawn.

From an owner’s perspective, choosing a wet diet will result in feeding a greater volume of food, which could potentially increase compliance. Given pouches are often in a “single serve” format, it may make measurement easier for some owners too and reduce the temptation to open another pouch to feed extra food.

For some owners, feeding a combination of wet and dry may be a more preferable, and slightly less expensive, option. However, if this is chosen, it is important they adjust both feeding guides accordingly to account for the fact they are feeding a combination of two foods. Experimentation with flavours and textures to choose a diet which the cat enjoys is important and may help reduce the tendency to treat if the owner can see their pet enjoying the meal.

In summary
Taking advantage of cats’ natural instinct to work for their food can both provide environmental enrichment and improve the potential success of any weight management undertaken. Considering how the food is delivered as well as the diet itself can have a significant impact on client compliance as well as encouraging weight loss in cats. It may also have an important prevention role to minimise the likelihood of cats becoming overweight.

A full reference list is available on request
Pet monitoring technology

Can the growing number of available health monitoring technologies undermine the role of vets?

Two-thirds of UK dog and cat owners would be interested in using devices that monitor the health and activity of their pet. But a lack of awareness about the availability of these technologies and the contribution they can make to improving pet health has limited the uptake so far, a survey has found.

MSD Animal Health questioned more than 5,000 pet owners in five European countries about their understanding of pet health issues and their own role in identifying and tackling disease. It found that while only about 10 percent of pet owners in those countries were familiar with these devices, there was a strong appetite for taking a more proactive role in maintaining their pets’ health.

In a meeting at the BVA headquarters in London, veterinarians examined ways that the profession can encourage clients to make better use of monitoring devices and how the information produced can improve their own ability to diagnose and treat disease.

Rachel Dean, director of clinical research with the VetPartners group, dismissed suggestions that these technologies could potentially undermine the role of vets. “When used wisely they can contribute to the care that we give to our clients’ pets,” she said. “Many of the common conditions that we see such as diabetes and osteoarthritis are influenced by the lifestyle of the pet, and these technologies can give us the accurate information on what is happening at home that we need to make good recommendations to the client.”

However, there are many different activity monitoring devices on the market and the information that they provide can be of variable quality – “there is a lot of dodgy data out there,” she warned.

David Hallas is managing director of MSD subsidiary Sure Petcare, one of the main providers of these technologies. He acknowledged that this type of equipment does not undergo the same rigorous pre-market testing required of medicines or vaccines. But he was confident that his own company’s products do provide accurate data.

It has an ongoing programme to refine the algorithms that interpret pet behaviour, based on matching the information produced by movement-sensing accelerometers with the behaviour observed during thousands of hours of video recordings, he said.

David cited examples of situations in which the information provided about the movements of an animal have identified the source of health and welfare problems. One dog seen by US vets was shown to be awake for much of the night. After some investigation, it was realised that the dog was cold and that providing a warm and comfortable sleeping area quickly resolved the issue.

The company was currently working on an improved algorithm to identify occasions when a dog is scratching itself excessively as a consequence of a flea infestation. If combined with a mobile phone app that alerts the owner to the need to order an ectoparasiticide from their veterinary practice, this will improve the health and welfare of the animal while minimising any environmental effects of unnecessary treatments, he explained.

One of the company’s next goals is to generate an algorithm that can make the dog’s owner and veterinarian aware of the incidence of epileptic seizures. This work is challenging because those events will usually occur irregularly and it may be difficult to gather good quality video recordings. But epilepsy will be a priority because it is such a difficult condition to treat and such a worry for the owners, he said.

It is not just the owners and their veterinary advisors that will take an interest in the data generated by activity monitors, suggested Dr Hallas. He predicted that detailed information about the pet’s lifestyle will help steer insurance companies towards setting premiums that reflect the benefits of regular exercise in reducing the risk of certain diseases.

Other technologies now available can affect another lifestyle factor that has a huge influence on a pet’s health and welfare – its diet, he said. Personalised feeding devices are being produced which can detect the animal’s microchip and will open up when it approaches and close after it has finished feeding.

This system can help keep uneaten food fresh but will be most useful to owners of multiple pets, ensuring that not all the food is consumed by the greediest animal in the house or by an interloper from outside. But it will also guarantee that any investment in prescription diets for pets with a particular medical condition is well spent, he said.

The range of new technologies that are available now, and in the future, do present their own problems, noted Dr Hallas. They will generate massive amounts of data that could be overwhelming for anyone attempting to keep track. So, it is essential that there is technology included in the system that will provide automatic alerts to the owner’s mobile telephone or to their veterinary advisors only when significant changes are detected.

He said several different technologies will come together to help both owners and pets to provide better care for these animals. “The future of pet technology is a connected digital ecosystem, increasing engagement among ‘pet parents’ and helping connect them with their veterinarians,” he said.

Dr Hallas said the company, its clients and veterinarians need to work together to ensure that the benefits and problems that come with these technologies are fully understood.

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Dental radiography offers patients a high standard of care, whilst also providing practices with higher diagnostic yields and an increase in procedures.

Dental radiography offers patients a high standard of care, whilst also providing practices with higher diagnostic yields and an increase in procedures, generating an additional revenue stream. Radiographs also constitute an important part of the medico-legal record-keeping process and are a useful tool for client education.

For efficiency and accuracy of taking dental radiographs, these criteria need to be fulfilled:

- Target tooth/teeth centrally positioned and the main focus
- Root apex/apices clearly seen with a surrounding 2 to 3mm border of bone
- Good definition between the four main hard tissues (cortical bone, cancellous bone, tooth dentine and enamel)
- No superimpositions on the target tooth/teeth with other teeth or other objects
- No artefacts visible on the main focus of the radiograph, such as blood, film scratches or fingerprints
- Optimal exposure times

It is advisable to perform dental prophylaxis prior to radiography. Calculus is radio-opaque and can obscure or confuse the interpretation of the radiographs. Indications for taking dental radiographs are as follows:

- Missing/fractured/discoloured teeth
- Tooth resorption
- Pre- and post-extraction
- Periodontal pockets
- Worn/abraded teeth
- Gingival enlargement/masses/tumours
- Painful or sensitive teeth
- Draining tracts
- Nasal discharge/epistaxis
- History of oral pain, hypersalivation or pawing at the mouth
- Decreased interest in toys or food
- Evaluation of prior treatment
Canine radiography angles and positioning

Maxillary and mandibular incisors
The film is placed flat against the incisors and parallel to the hard palate. With your starting point at 0° (midline of the head), direct the beam in a rostro-caudal direction to a tilt of 20°, aiming at the maxillary/mandibular canines. The use of a paperclip at a corner of the film can help orientate the right from the left incisive arcade (Figure 1).

Maxillary canines
The film is placed flat against the canines, parallel to the hard palate. With your starting point at 0°, angle the beam 20° to 45° over the canine. The variation of 20° to 45° depends on the width of the maxilla. Use the smaller angle for a narrower maxilla. The aim is to obtain a lateral view of the canines without superimposition of the conchal crest, neighbouring incisor and premolar and bony palate over the root apex (Figure 2).

Mandibular canines
Film and angles placed as for maxillary canines. Once in place, tilt the beam in a rostro-caudal direction. This will prevent superimposition of the canine over the mandibular symphysis and opposite mandible (Figure 3).

Maxillary and mandibular premolars
Film placed over the premolars, parallel to the hard palate. With your starting point at 0°, angle the beam 45° over the premolars (Figure 4).

Maxillary fourth premolar and molars
Film placed as far caudal in the mouth as possible, and parallel to the hard palate. With your starting point at 0°, angle the beam 45° over the fourth premolar and molars. This projection will allow you to view the distal root, but will cause superimposition of the mesiobuccal and mesiopalatal roots of the fourth premolar (Figure 5).

A minimum of two views will be required to separate the roots of the fourth premolar. The second view should utilise the same 45° angle, but with a caudo-rostral or rostro-caudal tilt, which will separate the mesial roots for assessment (Figure 6).

Mandibular molars
Film is placed parallel to the mandibular body, between the mandible and the tongue. The beam is angled at 90° to the film. This projection is used for teeth caudal to the second mandibular premolars (Figure 7).
Any form of dental trauma

Evaluation of disease progression

While the above list provides the criteria on when to take dental radiographs, the American Animal Hospital Association (AAHA) and the World Small Animal Veterinary Association (WSAVA) suggest that full mouth dental radiographs should constitute an essential part of a complete dental/oral exam in all new dental patients. Dental radiography units need to be manoeuvrable and located close to the dental station for ease of use. When units are located far away from the dental area, or are cumbersome, they tend to be used infrequently. Radiographic exposures are dependent on three things: kilovolt peak (kV), milliamperage (mA) and exposure times. Most modern dental radiography units have pre-set values of 70kV and 8mA, so the only variation is the exposure time set by the operator. This is dependent on patient skull size/soft tissue coverage and ranges from 0.15 seconds (cat) to 0.80 seconds (large dog), depending on your radiography unit’s specifications.

Patient positioning should be consistent and radiographs taken in a systematic way. This eliminates the variability of angles required and minimises the risk of missing areas of the dental arcade. Positioning needs to take into consideration the frequent turning of patients during procedures. In this article, we describe angles used in a patient positioned in lateral recumbency, with the hard palate perpendicular to the table (Figures 1 to 10). This position allows the operator to perform dental treatments with minimal turning of the patient. Note that the patient will need to be turned once to gain access to the opposite side of the mouth.

Several techniques can be used to obtain dental radiographs. The simplified technique (Woodward, 2009) is described here, as it uses predetermined angles. The angles are set at 20°, 45° and 90°. These angles are set based on the tube head being aligned with the nasal philtrum. This would read 0° on your radiography head and is your reference point at all times.

In dogs, size 4 plates are commonly used for dental surveys and size 2 plates in cats. Swabs or paper towels can help to keep the film positioned in place. The care and storage of films need to be considered to obtain optimal image quality. Film plates need to be cleaned frequently to avoid artefacts such as thumb prints and blood smears. Thorough examination of films prior to use avoids the use of damaged or scratched plates which will be visible on the images.

The consistent and practised use of these techniques will make intra-oral dental radiography easy and quick to perform, reducing patient anaesthetic time whilst giving good diagnostic yields and effective treatment planning.

A full reference list is available on request
The saying goes “Primum non nocere’. First do no harm. Sounds very old, doesn’t it? Must go back to Hippocrates? Well, there are two problems with that. First, it’s not in anything that Hippocrates left us, and second, he would have spoken Greek not Latin. In fact, the phrase originates with the physician often called the English Hippocrates, Thomas Sydenham (1624–1689). Even that attribution comes from Dr Thomas Inman in his Foundation for a New Theory and Practice of Medicine from 1860. “We crouch under the cloak of Sydenham, and say, that our motto is none other than a translation of his Latin aphorism respecting a physician’s duties, ‘Primum est ut non nocere.’” Now, having never done Latin at school – my comprehensive school told me that if I wanted to be a vet then sciences were the thing to do, not classics – I can’t tell you what the “est ut” is doing there.

Anyway, non-maleficence – doing no harm – seems a good motto for life quite as much as medicine or veterinary medicine. You might ask why I am telling you all this. My aim in fact was to tell you that in my ambulatory service visiting veterinary clinics, far from doing no harm, much of the time I don’t seem to do much at all apart from owner reassurance!

Yesterday morning’s call was to a horse with an area of corneal oedema and a couple of focal cataracts arising from a trauma last year. The horse could see well and was not at all distressed. I was happy to say that I thought everything would stay much the same, nothing need be done.

Today’s first case was a lovely Retriever, a working dog for the deaf. Duncan’s owner was devastated by the finding from her vet of cataracts – would this be the end of his life aiding her? Thankfully the lens opacities were focal dots in the back of both lenses, nothing that would stop Duncan from seeing. Have a look at both cases on my Instagram feed @bow_teye if you don’t follow me already! Duncan’s examination took a few seconds and I felt rather awkward charging his owner for it – her relief was priceless, it was clear, but the cost on a minute by minute basis seemed to be nearly that of a premier football player! But the practice I was working for had a defined charge and so the client happily paid up.

Next came a Husky Akita cross. His corneas were misty with a lipid deposit, a diagnosis of stromal lipid dystrophy, that again, took no more than a few seconds. Would this opacity cause a problem? I compared it for the owner with my rather grubby spectacles that I could happily see through as they were so close to my eyes. Such a demonstration might be seen as unwise given that I’m being paid to look at animals’ eyes – doing that through mucky glasses could be considered suboptimal! But the dog’s owners seemed happy with the comparison.

Our work as vets is quite as much linked with how owners view us, as whether we cure their pets. A bow tie and a slit lamp lead people to have confidence in me, even when all I’m saying is that “all is well”, not offering complicated surgical options or costly medications. And here’s the problem for a new graduate who may not be able to foster that confidence. How are we to instil that in our newest vets?

When I look at final year students at Cambridge now, I see a mix of what they were like at their interview six years ago and how they have developed since. I’m so proud of what they have become and, even though they might not see it as yet, how they are ready for work as a vet. This works because as a vet school we have just 60 to 70 students in each year so we can give them a really personal education, and one where they get plenty of experience talking to clients. Quite how other schools manage to educate several times that number each year is something I’ve yet to work out!
**Managing *Dirofilaria immitis* in the imported dog**

With the increasing number of rescue dogs, we need to be more aware of the signs of lungworm infection and how to treat it

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**IAN WRIGHT**  
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*Dirofilaria immitis* is a filarial heartworm primarily of canids but which also can infect ferrets and felines. It is a significant cause of heart disease and bronchitis in infected pets. Transmission occurs through feeding by infected mosquitoes, with acute clinical signs occurring through migration of larvae to the pulmonary artery, potentially leading to thromboembolism, caval syndrome and subsequent pulmonary hypertension. Worm death can also lead to anaphylaxis and thromboembolism. Typical resulting acute clinical signs include sudden death, anorexia, weakness, dyspnoea, a jugular pulse and a weak femoral pulse, anaemia, haemoglobinuria, vomiting and rarely pleural effusion. Chronic cardiac and respiratory signs can also develop. Chronic respiratory signs tend to be more common in cats.

Although *D. immitis* is not endemic in the UK, increasing numbers of infected rescue dogs are being imported from endemic countries. Some of these have already been diagnosed with infection, with new owners in the UK being given varying accounts by rehoming charities regarding how serious infection may be. Others will be unaware that infection is present. It is important that infection is diagnosed quickly so decisions can be made with owners regarding treatment options and prognosis discussed. Although the mosquito vector is endemic in most European countries, including the UK, a colder climate in Northern Europe has prevented heartworm from becoming endemic. This is because the adult mosquito does not live long enough in colder climates for heartworm to complete its life cycle. As a result, there is little chance currently of *D. immitis* establishing in the UK. Climate change, however, has allowed spread of the parasite northwards, raising the possibility that if this trend continues, endemic foci could establish in the South of England. Veterinary professionals must therefore also be aware of the possibility of infection in dogs imported from endemic countries so UK mosquito vector exposure can be reduced.

**Diagnosis**

A thorough clinical exam of imported pets will identify clinical signs which can then be compared to common exotic parasitic diseases in the countries that the pet has visited. If those signs indicate possible cardiovascular or respiratory disease, then heartworm infection should be considered as a differential. All imported dogs should be screened for heartworm infection however, even if they have already been tested before importation, unless the reporting lab or test can be verified. Testing varies in sensitivity and specificity and the likelihood of infection being missed can only be assessed if the suitability and reliability of the test used can be established. With the exception of serology, testing identifies the presence of adult worms which reach maturity six months post infection. Testing should therefore be repeated six months after arrival in the UK unless the dog has been present in the country for over six months on initial presentation. If the patient is healthy then it is an option to delay testing until six months have elapsed.

Tests to aid in diagnosis include:

- **Examination of blood for microfilaria** – direct smears are a highly specific test in experienced hands but also insensitive. Concentration techniques such as the modified Knott’s test make direct blood examination more sensitive in canine patients and is useful in helping to quantify numbers of circulating microfilariae and detecting those of other filaroid nematodes such as *Dirofilaria repens*. If microfilariae are detected, the larvae must be distinguished from *D. repens* ([Table 1](#table1)) which will also be present in endemic countries. Some UK labs now offer modified Knott’s as a test, eliminating the need to identify microfilariae in practice which can be difficult.

- **Ultrasound examination** – the cuticles of adult heartworms are highly echogenic and so in experienced hands echocardiography can be very sensitive and specific. It can be useful in giving an indication of adult worm burden.
Antigen serology – this is considered the gold standard in the living canine patient. It is highly specific and, in canine patients, also highly sensitive. Sensitivity increases as adult female worm burden increases, with the test detecting antigens in uterine secretions.

Antibody serology – positive antibody serology results only indicate past or present exposure to infection which will be common in dogs living in endemic countries. It is therefore a less appropriate screening test and should be interpreted in relation to clinical signs and other diagnostic tests.

Treatment and prevention

Treatment of infections with adult worms requires surgical removal or treatment with an adulticide. Intravascular snares and forceps are often used in endemic countries to remove worms in the least invasive manner.

Echocardiographic visualisation of large numbers of worms in the pulmonary artery allows the use of flexible alligator forceps under fluoroscopic guidance to remove the worms, while avoiding pulmonary thromboembolism. However, these techniques require experience and specialised equipment and as a result most UK vets will require a medical approach to treatment of adult worms.

Before medical treatment is initiated, microfilarial load using a modified Knott’s test should be established as high burdens will increase anaphylaxis risk. The size of adult burden should also be established as large numbers of worms will increase the risk of obstruction and thromboembolism. It is an option not to risk complications of treatment if infected dogs are subclinical and have very low worm burdens. There is a risk of heart disease or thromboembolism developing as worms age and die, however, and the risk of complications from treatment are relatively low if burdens are low and the patient healthy. Risks of fatal complications climb as worm burdens increase if clinical disease is advanced or disease from concurrent infections such as *Leishmania infantum* or *Ehrlichia canis* are present. Prognosis and complications from treatment as well as cost and duration should be discussed with clients before it is undertaken.

There is a risk of heart disease or thromboembolism developing as worms age and die.

Dogs with significant clinical signs of heartworm disease should be stabilised before administering an adulticide. This may require administration of glucocorticosteroids, diuretics, vasodilators, positive inotropic agents and fluid therapy.

Adulticide treatment consists of initial treatment with doxycycline and macrocyclic lactones in advance of adulticide treatment. Different protocols are available, but a typical example is:

- Day 1 – doxycycline 10mg/kg sid or bid for 30 days
- Heartworm preventive (macrocyclic lactone) on day 0 and 15

Table (1) Differentiating diagnostic features of *Dirofilaria immitis* and *Dirofilaria repens* microfilariae in the blood of dogs

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th><em>D. IMMITIS</em></th>
<th><em>D. REPENS</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheath</td>
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<td>missing</td>
</tr>
<tr>
<td>Approximate length (µm)</td>
<td>205 to 283</td>
<td>260 to 308</td>
</tr>
<tr>
<td>Width (µm)</td>
<td>5.0 to 6.5</td>
<td>6.0 to 8.0</td>
</tr>
<tr>
<td>Front end</td>
<td>conical</td>
<td>blunt</td>
</tr>
<tr>
<td>Posterior end</td>
<td>straight</td>
<td>hook shaped/bent</td>
</tr>
</tbody>
</table>
Owners adopting infected dogs need to be aware of the risks of ongoing infection and treatment options

Prednisone has some benefit in reducing the risk of thromboembolic complications if given alongside adulticide treatment where worm burdens are high (Dzimianski et al., 2010). If high worm burdens are suspected, then oral prednisolone can be used from the initiation of adulticide treatment at 0.5mg/kg twice a day for one week and 0.5mg/kg once daily for the second week, followed by 0.5mg/kg every other day for two weeks. These doses are also useful in managing bronchitic signs. There is no evidence that aspirin has any protective effect against thromboembolism in heartworm cases during treatment.

The three most significant factors involved in post adulticide treatment complications are the severity of existing pulmonary vascular disease, the number of worms present and level of exercise. Of these three, over-exercise is thought to be the most significant (Fukami et al., 1998). Exercise should therefore be restricted during treatment, starting from day 0 to at least one month after the last adulticide injection. This will reduce the risk of severe thromboembolism. Cardiovascular disease can be assessed by radiography and ultrasonography and adult burden is crudely estimated by ultrasonography. Elimination of adult worms remains a priority however, even in high-risk patients although in the non-acute patient there is the opportunity to attempt to stabilise cardiac and pulmonary signs with supportive treatment before adulticide treatment is initiated. The highest risk period of complications from pulmonary thromboembolism is 7 to 10 days after adulticide treatment but can occur up to four weeks after adulticide treatment is completed.

An alternative treatment which avoids the use of the adulticide melarsomine is the “slow kill” regime. This should not be used as a first-choice treatment as it has been linked to the development of resistance (Bowman et al., 2012), and carries some risk of anaphylaxis due to the killing of microfilariae from active infection over a long period of time. This is particularly true when large numbers of microfilariae are present in the circulation. There is also no decreased risk of thromboembolism using this method. It should therefore only be used if surgery is not indicated or practical and melarsomine is not available or unaffordable.

The protocol is:

- Doxycycline 10 to 20mg/kg SID or BID for 30 days
- Ivermectin at minimum dosage of 6 to 12mg/kg monthly or topical moxidectin 2.5mg/kg monthly until two consecutive negative antigen test results after 12 months

Exercise restriction is also recommended with this protocol from the start of treatment until infection is eliminated.

Conclusion

Heartworm is a serious and potentially fatal infection of dogs, and owners adopting infected dogs need to be aware of the risks of ongoing infection and treatment options. Many owners will adopt new pets from endemic countries with no idea that they are infected and rapid diagnosis and recognition of relevant clinical signs is essential both for welfare of the individual dog and to minimise the risk of UK mosquito infections being exposed to the parasite in the future. While there is a risk of fatal complications from both infection and treatment, many dogs will go on to make a full recovery if risk factors for complications are carefully managed, worm burdens low and clinical disease not advanced.

References


Common mites and skin disease: an overview

It is becoming easier to treat common ectoparasitic conditions but some risks can be overlooked

The common ectoparasitic conditions encountered in general practice include demodicosis, sarcoptic mange, cheyletiellosis, otoacariasis and harvest mite infestations (Table 1). In the last few years it has become much easier to treat these conditions successfully without risk to the pet, owner and environment. However, there are situations when they are overlooked, especially when dealing with more complex dermatological cases. Some of these mites are contagious to in-contact animals and some cause zoonotic infestations.

Demodicosis

Demodex mites are normal residents of canine skin; however, they can cause skin disease when they multiply excessively. In dogs, three species – Demodex canis, D. injai (Figure 1) and D. cornei – have been associated with clinical disease.

Inherited genetic factors and other predisposing factors – including age, poor nutrition, hormonal changes, endoparasite infestation and neoplasia – are associated with the multiplication of the resident mites and subsequent disease. More recently, allergic dogs, patients at a veterinary hospital, were found to have a higher incidence of demodicosis than normal (Bowden et al., 2018). It is not known whether this was due to immunosuppression by the drugs prescribed for the concurrent allergic skin disease, or due to the immune dysregulation associated with the allergy itself. Secondary pyoderma often complicates the condition, resulting in further immunosuppression of the host.

Clinical signs

The clinical forms of demodectic mange are:

- Localised: fewer than five small circumscribed patches of scaling and alopecia with or without erythema. This form is usually seen in young dogs and the lesions tend to appear around the eyes, muzzle, limbs and/or trunk. Generally, the lesions are non-pruritic, unless there is secondary bacterial infection. In most individuals (90 percent) the lesions will resolve spontaneously (within one to three months); however, in a small number they either persist, or go on to become generalised.

### Table 1

<table>
<thead>
<tr>
<th>DEMODECTIC MANGE</th>
<th>SARCOPTIC MANGE</th>
<th>CHEYLETIELLOSIS</th>
<th>OTODECTIC MANGE</th>
<th>HARVEST MITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-contagious</td>
<td>Contagious</td>
<td>Contagious</td>
<td>Contagious</td>
<td>Non-contagious</td>
</tr>
<tr>
<td>Not zoonotic</td>
<td>Zoonotic</td>
<td>Zoonotic</td>
<td>Rare zoonosis</td>
<td>Mostly seasonal: summer and autumn</td>
</tr>
<tr>
<td>Familial and breed predispositions</td>
<td>No breed predispositions</td>
<td>No breed predilection</td>
<td>Puppies and kittens at higher risk</td>
<td>Associated with chalky soil</td>
</tr>
<tr>
<td>Variable pruritus depending on with or without pyoderma</td>
<td>Highly pruritic</td>
<td>Pruritic</td>
<td>Pruritic</td>
<td>Predilection sites ear pockets, around the teats, interdigital areas</td>
</tr>
<tr>
<td>Distribution localised/multifocal</td>
<td>History of foxes</td>
<td>Kennels/catteries</td>
<td>Predilection site mainly dorsum</td>
<td></td>
</tr>
<tr>
<td>No specific predilection sites but can take pattern of underlying disease</td>
<td>Predilection sites pinnae, elbows, hocks and ventrum</td>
<td>Predilection site mainly ears</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE (1)** Difference in clinical presentations associated with common mites affecting the skin
Generalised: more than five sites are seen on the individual. The clinical signs include multifocal patches of alopecia, scaling with or without alopecia, ulceration, crusting, comedones, hyperpigmentation, follicular casts, papules, pustules, draining sinuses and sometimes nodules in some breeds, such as Bull Terriers and Bulldogs.

Pododemodicosis occurs in many dogs with generalised demodicosis; however, there are a small number of cases where the feet are the only affected site and occasionally only a single foot is affected. In many cases there is also a concurrent deep pyoderma.

Adult-onset demodicosis occurs when the condition develops in an adult individual over two years of age which did not have the disease previously. This form can be localised, generalised or restricted to the feet. Adult-onset demodicosis is associated with systemic diseases, such as hyperadrenocorticism (iatrogenic or spontaneous) and neoplasia, and with the use of immunosuppressive drugs.

Seborrhoea oleosa on the trunk, often accompanied by erythema, hyperpigmentation and sometimes comedones, is seen in West Highland White Terriers (Figure 2), Border Terriers and Fox Terriers. This syndrome is often associated with *D. injai*.

Facial pruritus and dermatitis associated with *D. injai* is seen in some breeds such as Shih Tzus and West Highland White Terriers. Often the dogs have concurrent *Malassezia* dermatitis and pyoderma.

The diagnosis is confirmed by microscopy on deep skin scrapings, hair plucks and tape strips. In cases with a purulent exudate, large numbers of mites may be present in the exudate. In dogs with adult-onset demodicosis it is important to look for the trigger, or an associated immunosuppressive condition.

**Treatment**

The treatment for demodicosis has been revolutionised in recent years with the availability of licensed products that are easy to administer, and they have excellent efficacy compared to some of the older products.

The isoxazolines, a new class of ectoparasiticide, are potent inhibitors of arthropod nervous systems. They antagonise GABA and glutamate receptors. Currently afoxolaner, fluralaner and sarolaner are the licensed isoxazolines for demodicosis. Amitraz is another licensed product but is rarely used these days given the efficacy of the other products. Moxidectin combined with imidacloprid is licensed but is not always successful in complete resolution. Lotilaner has been reported as efficacious against *Demodex* mites but is currently unlicensed.
Common mites and skin disease: an overview

Sarcoptic mange
Sarcoptic mange is an intensely pruritic condition caused by *Sarcoptes scabiei var. canis* (Figure 3), a mite primarily infesting dogs, but also occasionally cats, foxes and humans. The life cycle of the mite is three to four weeks and involves larvae and nymphs. The adults live for three to four weeks and can survive off the host for a short period if the environmental conditions are right. It is highly contagious, mostly by direct contact, but also through fomites.

Clinical signs
It is a highly pruritic condition and in the more advanced cases, high doses of glucocorticoids, or oclacitinib or lokivetmab, fail to control the pruritus. Typical lesions are erythematous papules and yellow crusts. Lesions often develop on the ventral thorax, elbows, hocks and margins of the pinnae. An itch–scratch reflex on the pinnal margins is present in most dogs with lesions at this site. The disease can become generalised if not treated, exhibiting extensive alopecia, erythema, excoriations, crusts and lymphadenopathy. It is zoonotic.

The diagnosis is based on history, physical examination and skin scrapings. Finding the mite, its eggs or faecal pellets on skin scrapings is diagnostic. The enzyme-linked immunosorbent assay (ELISA) serological test measuring anti-*Sarcoptes* IgG is shown to have sensitivity ranging between 83 and 92 percent and specificity ranging between 89.5 and 92 percent (Bornstein *et al.*, 1996; Curtis 2001; Lower *et al.*, 2001). False positive reactions are associated with cross-reactivity with house-dust mite antigens and false negative reactions may result from performing the test too soon, or due to the action of glucocorticoids if used.

The parasite can be difficult to find on skin scrapes and one of the best tests, if there is a high index of suspicion, is trial therapy. Trial therapy should be given to any dog suspected of having scabies, even if scrapings are negative as sarcoptic mange is a curable disease.

Treatment
Afoxolaner, fluralaner and sarolaner are the licensed isoxazolines for sarcoptic mange. Weekly amitraz applications, selamectin and moxidectin applied every two weeks (off-label) have been used in the past.

Cheyletiellosis
Dogs are often infested by *Cheyletiella yasguri*, cats by *C. blakei* and rabbits by *C. parasitivorax*, but cross-infestation can occur. The life cycle occurs entirely on the host and lasts three to five weeks. Adult mites live for about 14 days in the keratin layer of the skin and can survive off the host for a few days.

Clinical signs
Excessive scaling on the dorsum is the principal sign, with pruritus being variable. The condition is zoonotic. Diagnosis is based on microscopic examinations of skin scrapings, adhesive tape technique and/or coat brushings.

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Whilst there are no licensed treatments for cheyletiellosis, the products mentioned for harvest mite treatment below are likely to be effective, in addition to selamectin, moxidectin, ivermectin and amitraz.

Otoacariasis

*Otodectes cynotis* mites live and multiply mainly in the ear canals where they bite into the epidermis, resulting in irritation and inflammation, and feed on exudate and cerumen. They can survive in the external environment for four to five days. Infestation occurs either by direct contact or from a contaminated environment. These mites are visible to the naked eye (pin-head sized white dots) on otoscopic examination and are found mainly in the ear canal, but may migrate to the neck, gluteal region and tail. Type I and III hypersensitivity responses to mite antigens have been reported.

The life cycle lasts about three weeks. Eggs hatch into six-legged larvae and then into eight-legged protonymphs and deutonymphs.

Clinical signs

Signs are mainly those associated with otitis externa. They include erythema and a brown-black, dry, coffee granule-like exudate in the ear canals. In some cases, pruritus and self-induced alopecia may be seen on the skin around the face and neck. In rare cases, middle ear infestation, through a ruptured tympanic membrane, can occur.

The diagnosis is based on visualisation of mites by otoscopic examination, or by microscopic examination of ear exudate (mounted in liquid paraffin). Mites may be seen on skin scrapings if areas other than the ear canals are involved.

Treatment

Sarolaner, selamectin and moxidectin are licensed for *Otodectes cynotis* treatment.

Harvest mite infestation

The harvest mite *Neotrombicula autumnalis* is common in parts of the UK, particularly in areas with chalky soils. The life cycle takes between 50 and 70 days. Adults live in organic decaying material. Eggs hatch into six-legged larvae which are parasitic. These larvae attach to dogs, cats and many other species including humans. The natural hosts are thought to be small rodents such as field mice.

Clinical signs

Clinical signs vary in intensity from mild to severe. Pruritus often affects the feet, ear margins and ventral thorax and abdomen. Close inspection may reveal the orange parasite either alone, or in clumps (Figure 4). In the UK, the parasite is generally encountered from July to October, but the length of the season depends on the prevailing environmental factors, such as a mild/severe winter.

Treatment

Harvest mites are difficult to treat and often glucocorticoids are needed to provide relief. Fipronil applied weekly to the predilection sites during the summer and autumn months may prevent attachment to the skin.

Key points

Common reasons for failure to diagnose mites:

- Assumption that the owner uses routine flea and parasite control on a regular basis, but does not
- Assumption that the clinical signs are allergic in nature
- Over-reliance on serum allergy test results
- Inappropriate site selection for skin scrapes

Common reasons for treatment failures:

- Failure to treat for long enough, ie two weeks beyond two consecutive negative skin scrapes
- Resistance to a class of active ingredient
- Failure to identify and treat concurrent microbial infections
- Underlying immunosuppression, particularly neoplastic disease
- Concurrent use of glucocorticoids and immunomodulators such as oclacitinib
- Failure to treat in-contact pets
- Failure to treat the environment
- Improper dilutions or storage of products
- Poor compliance, when using amitraz

*Sarcoptes, Cheyletiella* and *Otodectes* are contagious and so in-contact pets must be treated. These mites can survive in the environment for a few days and so environmental treatment with a permethrin spray is essential.

A full reference list is available on request.
A look through the latest literature

Prevalence of *Fasciola hepatica* in the UK horse population

Alison Howell and others, University of Liverpool

The liver fluke *Fasciola hepatica* is a common, widespread pathogen with significant effects on the health and productivity of ruminants. Although horses will often graze the same pasture as cattle and sheep, it is generally believed that equines are resistant to fluke infection. The authors investigated the accuracy of an ELISA for fluke antibodies in equine serum samples and examined 183 horses at a UK abattoir. Four of those horses (2.2 percent) had adult flukes in the liver, while the seroprevalence was estimated at 8.7 percent. A range of non-specific clinical signs were recorded in seropositive horses. They conclude that exposure to liver fluke may occur frequently in horses and that the parasite may be an under-recognised cause of liver disease in that species.

*Equine Veterinary Journal, 52*, 194-199

Evaluation of a rapid test for *Leishmania infantum* infection in dogs

Sergio Villanueva-Saz and others, University of Zaragoza, Spain

Canine leishmaniosis is a condition with significant zoonotic potential and so prompt identification of infected dogs is essential. The authors investigated the performance of a rapid immunochromatographic test (FASTest LEISH, Megacor Diagnostik) in comparison with two established ELISA methods. Their results indicate that the novel test had a 100 percent sensitivity and a 99.1 percent specificity and that it may be particularly useful as a screening test for the detection of healthy, seropositive infected dogs.

*Acta Veterinaria Scandinavica, 61*, 38

Successful treatment of sinonasal aspergillosis with voriconazole and plaque debridement

Ryan Bray and others, Blue Pearl Pet Hospital, Sandy Springs, Georgia

Three dogs were presented with histories of sneezing, purulent nasal discharge and epistaxis. Fungal plaques were detected during rhinoscopy, and computed tomography revealed nasal turbinate destruction with cribiform plate lysis. Each dog underwent surgical rhinotomy for fungal plaque debridement, followed by oral voriconazole treatment for at least 22 weeks at 2.5 to 3.3mg/kg twice daily. This was a lower dose than that recommended in earlier studies but there was no noticeable recurrence of signs after treatment was discontinued.

*Journal of the American Veterinary Medical Association, 256*, 111-116

Detection of *Bartonella* spp. in dogs after infection with *Rickettsia rickettsii*

Erin Lashnits and others, North Carolina State University, Raleigh

Fleas and ticks infected with *Bartonella* species have also been shown to be capable of transmitting the rickettsial parasite responsible for Rocky Mountain spotted fever. The authors describe a study looking at the epidemiological association between the two parasites in a laboratory setting. Their findings indicate the possibility of recrudescence of chronic subclinical *Bartonella* spp. infection after exposure to *Rickettsia*, as well as the horizontal transmission of the former through direct contact between dogs.

*Journal of Veterinary Internal Medicine, 34*, 145-159

Control of *Microsporum canis* dermatophytosis in cats in an animal shelter

Lena DeTar and others, Oregon Humane Society, Portland

Although dermatophytosis infections in cats are usually mild and self-limiting, the condition is particularly problematic in animal shelters because the agent is contagious, zoonotic and environmentally hardy. The authors investigated the risk factors associated with infection in incoming cats at a large welfare charity facility and the reliability of current diagnostic methods. They state that the protocols described in their study can optimise the efficiency of diagnostic procedures used and reduce the time needed before cats and kittens can be rehomed.

*Journal of Feline Medicine and Surgery, 21*, 1198-1205
A good understanding of the epidemiology of fasciolosis is key to controlling the liver fluke

**FIGURE (1)** Rainfall improves the habitat of *Galba truncatula*, the vector of *Fasciola hepatica*, which thrives in damp environments

**FIGURE (2)** Low protein levels in the bloodstream, caused by *F. hepatica* infection, causes swelling under the jaw, known as “bottle jaw”

In dairy herds, because fasciolosis is predominantly a subclinical disease its importance can be easily underestimated by farmers. Subclinical disease causes reduced milk yield, depressed fertility and lower body condition scores. In high yielding dairy herds, it has been shown that just a few liver flukes can reduce milk yield and butterfat. The effects of liver fluke in late pregnancy result in a negative energy balance, a lower birth weight of calves and an increase in metabolic disease post-calving.

Replacement heifers with fasciolosis will have poorer growth rates and feed conversion and it will affect their lifetime productive performance.

In beef suckler herds, the effects on fertility, milk quality and condition scores are similar to those in dairy cows. Calves and fattening cattle show a marked reduction in daily live weight gain and there will be consequences to the carcass quality. The effects of fasciolosis are most severe in spring calving beef herds where pregnant cows lose...
bodyweight which results in weaker calves, poor quality milk and a predisposition to secondary infections. It is also important to recognise the effect that fasciolosis has on breeding bulls and their performance and to ensure they are included in treatment plans.

If the disease is allowed to progress to the clinical stages then the signs seen are severe weight loss, diarrhoea and swelling under the jaw or “bottle jaw” (Figure 2) which is a result of low protein levels in the blood stream. Liver fluke infection can also precipitate other serious diseases such as “black disease”, a clostridial infection which results in sudden death, or it can be associated with outbreaks of Salmonella. There are also concerns that fasciolosis reduces the accuracy of the bovine tuberculosis skin test.

However, despite all this wealth of knowledge, fasciolosis is still an important disease in cattle, in fact it is estimated that it costs the UK cattle industry around £40.4 million annually. One of the main issues revolves around the difficulty in producing effective new medical compounds to treat the condition. Most of the current flukicides available have been around for a long time and were developed from the salicylanilide and benzimidazole compounds which were introduced in the 1970s. The most potent of these compounds is triclabendazole and resistance to its action is becoming an increasingly reported problem.

The situation for the dairy industry became more complicated in 2013 when the European Commission, working with the European Medicines Agency, changed the summaries of product characteristics (SPCs), marketing authorisations (MAs) and labels of many medicines containing flukicides across the European Union. Since that time many anthelmintics have also had their SPCs and MAs reviewed.

The development of the Infi niPlex for Milk assay test (IPM) has facilitated testing for the residues of all medicines and allowed a more proactive surveillance by the licensing authorities, dairy processors and retailers. Veterinarians, pharmacists and SQPs should ensure that all farmers are made well aware of the restrictions that apply in dairy animals regarding the use of certain flukicides (and anthelmintics) and also that advice on withdrawal periods is clear and concise.

Dairy herds require a whole herd strategy for the control of fasciolosis because once the parasite becomes established there are few opportunities available to treat it in the adult milking herd. The only treatment opportunity (for a restricted group of products) which avoids discarding milk is at the start of the dry period, so the first target of the control plan should be to have heifers entering the herd that are as free as possible from infection. This is an achievable target because there are many more options regarding treatment in youngstock. Extra risks involve purchased animals entering the herd carrying egg-laying fluke, sheep grazing the dairy pasture and the possibility of introducing triclabendazole-resistant strains.

Beef herds are able to be much more proactive regarding treatment protocols for all classes of stock. It is important to rotate compounds and also to ensure that the treatments are targeted at the correct time to kill fluke and also reduce egg contamination of the pasture. Flukicides which are effective against immature fluke should only be used when immatures are present, as determined by the life cycle, to limit the development of resistance.

It is essential that the farm veterinarian is involved with the development of the fluke control program and protocols should be decided upon to monitor its effectiveness. Purchased animals should be quarantined and tested. A variety of tests are available and care is needed to use the correct test in order to obtain meaningful results.

The faecal coproantigen test does not rely on adult fluke being present or egg production; it detects liver fluke two to three weeks before eggs are found in the dung and it can be used as soon as seven days after treatment to measure success.

Faecal egg counts are not completely reliable; clinical disease can be caused by both mature and immature fluke, and adult liver fluke may not shed heavily in cattle. Eggs may accumulate in the gall bladder before being released and may only be present sporadically in the faeces. After successful treatment, eggs may be detected for up to three weeks due to dead flukes disintegrating and releasing eggs. Always take fresh samples from a number of cattle and submit pooled samples. Where faecal egg counts are positive but the coproantigen test is negative, it would suggest that rumen fluke, rather than liver fluke, are present in the herd.

The fluke antibody test is specific for exposure to immature and adult liver fluke. It takes two to four weeks for detectable antibodies to be produced and it is useful for cattle in their first grazing season, purchased animals and as an early warning in farms with a low risk after a wet summer. The antibody test can be useful both in individual animals and on a herd basis in dairy herds using a bulk milk sample. The test shows exposure to infection rather than current infection and it takes a three- to six-month period for the antibody levels to start to fall. The bulk milk test can be used to monitor the effectiveness of a fluke control programme in dairy herds, with titres gradually falling over a year showing the effectiveness of the control plan. If rapid feedback is required it would be more appropriate to use the faecal coproantigen test.

Abattoir feedback from culled cows provides very useful information and it is an area where communication has improved markedly in recent times, with many reports also distinguishing between active and historic infection.

Other good management practices such as regular body condition scoring and metabolic profiling (albumen, AST, GGT and GLDH) are helpful in gauging whether there is an underlying subclinical infection in the herd.\[1\]
Herd health monitoring

An expert round table discussed the impact of using health monitors in dairy cattle

Technology that automatically monitors movement in cattle may prove vital in improving the mental health of dairy farmers, according to speakers at a round table discussion on the future of UK dairying.

The devices either worn on a collar or inserted into the cow’s ear can reduce much of the uncertainty felt by farmers about the health and performance of their stock and massively improve the quality of life for workers in an increasingly high-pressure industry, they said.

“These devices are the best herd managers in the business – they are looking at the cow every few minutes and asking them – ‘Are you alright?’ and ‘Are you in heat?’ With this technology we will know what she is up to at any time,” said Paul Westaway, business manager for the company that developed the equipment, Allflex Livestock Intelligence.

The meeting at BVA headquarters in London was organised by Allflex’s parent company, MSD Animal Health, and assembled an international team of farmers, vets and agricultural economists to address the many challenges facing the industry.

Cheshire-based dairy farmer Richard Edge felt that his own business epitomised the changes that have been occurring in the dairy industry throughout Europe. In just one generation, that farm has grown from a 100-cow unit to one that is now milking around 700 animals. “It is all about doing more on less resources – we have increased cow numbers with the same unit of labour. That means we have to target our time and focus our attention on those cows that are sick and not have to worry about healthy animals.”

Dr Jude Capper, a consultant on sustainable agriculture, noted that these trends have placed increasing pressure on cattle farmers and have contributed to the industry’s “shocking” mental health record, with more than one farm suicide a week. “Anything that makes life easier for those people, while also providing benefits for animal health, productivity and farm sustainability, has to be a winner.”

Richard Edge confirmed that there have been significant improvements in productivity since the technology was introduced on to his farm in August 2018. “The biggest change has been through much more accurate detection of cows coming into heat, which has led to massive improvements in fertility. That in turn has allowed to be more selective about the cows that we are breeding from. In the long term, we will be able to concentrate on improving the genetic quality of the herd.”

Paul Westaway noted that the other main advantage of monitoring technology was that it could detect signs of ill-health in a cow, perhaps a day and a half before these become apparent to even an experienced human observer. The technology will automatically send an alert to the farmer or vet allowing treatment to begin more promptly. “As a result, you will often be able to deal with a problem using anti-inflammatories or a drench, rather than having to administer antibiotics. So, there are substantial environmental benefits as well,” he said.

The typical cost of the equipment will work out about £20 per cow per year, Paul suggested. The current price of a replacement dairy cow is about £2,000 and so by extending the cow’s productive life, the technology will normally pay for itself within a year.

If the positive economic impact of using the technology is so obvious, then why isn’t it used throughout the UK and European dairy industry? Paul believed that one of the barriers to wider adoption is the demographics of the farming population. In many countries the average age of farmers is around 60 years and he felt that there was often a reluctance in this age group to embrace unfamiliar methods.

These farmers may need some encouragement and guidance from their veterinary advisors. But Richard Edge believed that word of mouth recommendations from their farming peers would eventually encourage many more herd managers to adopt these methods. Paul Westaway pointed out that another factor driving these changes in Europe will be productivity grants which are increasingly targeted towards technological developments.

Professor Raphael Guatteo, a specialist in herd health management at the Nantes veterinary school in France, acknowledged that many bovine practitioners will also need additional training to understand how these technologies will affect their working lives. “We are used to talking about One Health but we are now entering a time when we should be thinking about One Welfare. These developments will have an impact on the well-being of animals, of farmers and indeed their vets.”

But Paul Westaway warned that technology is not a silver bullet that will cure the economic and social problems affecting the industry. It must be part of a holistic approach, alongside other management strategies such as vaccination and herd health programmes, to safeguard the sustainability of the dairy sector.

“We must also remember that we are under increasing scrutiny from the general public and will have to justify ourselves by showing that dairy products are produced according to high welfare and environmental standards. We must be able to show consumers that we are rearing happy cows.”

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But Paul Westaway warned that technology is not a silver bullet that will cure the economic and social problems affecting the industry. It must be part of a holistic approach, alongside other management strategies such as vaccination and herd health programmes, to safeguard the sustainability of the dairy sector.

“We must also remember that we are under increasing scrutiny from the general public and will have to justify ourselves by showing that dairy products are produced according to high welfare and environmental standards. We must be able to show consumers that we are rearing happy cows.”

Richard Edge confirmed that there have been significant improvements in productivity since the technology was introduced on to his farm in August 2018. “The biggest change has been through much more accurate detection of cows coming into heat, which has led to massive improvements in fertility. That in turn has allowed to be more selective about the cows that we are breeding from. In the long term, we will be able to concentrate on improving the genetic quality of the herd.”
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How do we achieve informed consent in equine practice?

It is important to ensure owners are aware of all risks before proceeding

Jonathan Pycock
PAST PRESIDENT, BEVA

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

In the HR/Management session at last year’s BEVA Congress, one of my VDS colleagues, Tim Phillips, gave an excellent presentation with the title “Managing the top five difficult situations in equine practice”. As ever, the selection of the situations was arbitrary as it is somewhat personal, but the five situations chosen by Tim likely reflect the main issues we deal with on behalf of colleagues at VDS: informed consent; sedating horses for clipping or for para-professionals; trainers, keepers, owners: client confidentiality and clinical records; PPE on horses known historically to the practice; and giving permission for a physiotherapist to treat a client’s horse.

Tim in fact spent the entire presentation on the topic of informed consent. There is no doubt it is an important subject and one that has evolved considerably in recent years. When one combines that with the fact that our regulatory body considers it of vital importance and central to how we provide appropriate veterinary care, it is worth studying the subject in an equine context.

If we look at the human medical field, the NHS states that “consent to treatment means a person must give permission before they receive any type of medical treatment, test or examination”. This must be done on the basis of an explanation by a clinician. It goes on to state that for consent to be valid, it must be voluntary and informed, and the person consenting must have the capacity to make the decision.

Voluntary implies that the decision either to consent or not to consent to treatment must be made by the person, and must not be influenced by pressure from medical staff, friends or family.

Informed means that the person must be given all of the information about what the treatment involves, including the benefits and risks, whether there are reasonable alternative treatments, and what will happen if treatment does not go ahead.

Finally, capacity signifies that the person must be capable of giving consent, which means they understand the information given to them and can use it to make an informed decision.

Consent can be given verbally or in writing. In certain circumstances, such as an emergency treatment to save their life or where there is a risk to public health, then it may not be necessary to obtain consent.

Whilst the veterinary profession often useful extrapolates from the medical profession, the author does not believe informed consent in the veterinary context can be wholly understood in the context of what is applicable for medical colleagues. The obvious example is that we are dealing with animals unable to give consent themselves.

During a panel discussion at BSAVA Congress in 2017 on the topic, it was generally agreed that informed consent is centred on good communication. The point was well made by Ian Ramsey that for consent to be valid it must be voluntary and informed, and the person consenting must have the capacity to make the decision. Carol Gray, who was working on a PhD on informed consent, was also a panellist and suggested it would be prudent for practices to ensure full disclosure of risks of treatment and to document that disclosure.

What level of risk needs to be considered in discussions with owners during the process of obtaining informed consent? This is unclear and may be affected by a recent ruling in the medical profession: Montgomery v Lanarkshire Health Board (Supreme Court 2015).

In the veterinary profession, it is accepted that what risks associated with a procedure or treatment should be known to a vet is a matter falling within the expertise of that vet. As such it will be governed by the “Bolam” test. This is a well-established legal principle whereby a vet has to make a reasonable decision or behave reasonably. It does not have to be what the majority of his or her colleagues would have done, rather it needs to be what a reasonable number of similarly qualified vets would have done, or not done, given all the same circumstances. It is perhaps fortunate that reasonable number lacks a precise definition.

However, the Montgomery ruling found that what risks need to be conveyed to the patient is a matter for a court to determine rather than by reference to medical opinion alone. Exactly how the Montgomery ruling will apply to the veterinary profession is not known. There is no doubt it is important for all equine vets to spend time ensuring owners are aware of all risks and benefits of procedures or treatments before proceeding.
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Illegal donkey exports

Attendees of NEF 2020 were warned of the illegal trade of donkeys and their skin to meet the demands for the production of ejiao.

Cellular agriculture – growing animal products in tissue culture – could help reverse a disastrous decline in the population of donkeys across the globe, a meeting on equid welfare was told.

Ian Cawsey, director of advocacy for the Donkey Sanctuary, told the National Equine Forum in London on 5 March 2020 that the use of donkey skins (Figures 1 and 2) to make the Chinese traditional medicine product ejiao was driving an illegal international trade in the animals and their body parts.

Ejiao is increasingly popular with China’s growing middle class as a health tonic or face cream and around 4.8 million skins a year are needed to meet the current demand. Home production can only supply about a third of the skins needed to produce the collagen-based product and so around 3 million skins are imported (Figure 3).

This not only causes suffering for the animals concerned but also threatens the livelihood of some of the poorest communities in Africa and Asian countries that are heavily reliant on donkeys as pack animals, he said.

There is evidence that the illegal trade in both live animals and donkey skins is a significant biosecurity hazard. “There were outbreaks of equine influenza and other diseases in West Africa in 2019 that caused the deaths of an estimated 60,000 animals. Although this cannot be blamed exclusively on the donkey skin trade it is significant that the incidents occurred along the established trade routes,” Ian said.

Donkeys are a source of low cost, carbon-free transport for poor rural communities. In the absence of these animals, it is usually women and children that have to carry out the work, denying them opportunities to gain an education or earn a wage. Hence 19 countries across Africa and Asia have banned the slaughter of donkeys to try to maintain the numbers of this economically vital domestic species.

But the substantial profits that can be made from the skins means that the illegal trade is thriving and the conditions of donkeys during transport and slaughter (Figures 4 and 5) “have led to the worst welfare abuses that experienced staff working for the international welfare organisations have ever seen”, said Ian.

The Donkey Sanctuary is working with an alliance of other welfare charities to try to curb the illegal trade. Together, they are also providing funding for wardens to guard the donkeys at markets where the animals may be stolen while their owners are trying to sell their produce. These wardens are also being given training so that they can provide basic welfare and health advice to the owners, he said.

The group, which includes other UK charities such as the Brooke Hospital, SPANA and World Horse Welfare, is also lobbying the governments of China and the exporting countries to introduce better controls on the slaughter and movement of animals. “Only last week, the government of Kenya, which has been a major hub for the export of
donkeys brought in from neighbouring states, announced that it would close the slaughterhouses supplying the trade in donkey skins. This was very good news but I fear that the people that are making such big profits from this business will find another source before too long," he said.

The main focus of the welfare organisations is to try to reduce demand for imported skins in China. He said the Chinese government has been encouraging efforts to develop large-scale farming of donkeys within that country although it is estimated that it will take 20 years to build up the population to a sustainable level.

The emergence of diseases such as coronavirus has again focused the attention of the Chinese authorities on the risks associated with uncontrolled movements of animals. They have listened sympathetically to the welfare organisations’ call to suspend imports of donkeys and donkey products and are considering their response. The charities have also been discussing with the ejiao manufacturers the possibility of using alternative sources of collagen including donkey skin cells grown in tissue culture.

“We are not going to eliminate the demand for this product altogether and so we must work with them to reduce the impact. The companies have their own concerns about biosecurity and in creating a sustainable and consistent quality material for their industry – it may be that cellular agriculture is the answer,” Ian said.

Asked by an audience member what UK animal-lovers can do to help their efforts to eventually eliminate this "bloody and awful trade", Ian Cawsey said the most important thing they could do would be to spread the word. It was frustrating for welfare organisations that the international trade in donkey skins has been going on for many years and yet most people were unaware that it exists. "The main thing that people in this audience can do when they leave this forum is to talk about what they have heard today and make sure that everybody knows about this issue.”

All images courtesy of The Donkey Sanctuary
Dealing with overdue payments

What can practices do to chase overdue invoices?

According to risk manager Atradius in its October 2018 Payment Practices Barometer, the UK has the highest proportion of overdue invoices in Europe at a staggering 48.7 percent. The next worst is France at 47.45 percent followed by Switzerland at 46.5 percent. Those wanting prompt payment ought to relocate to Denmark where overdue invoices stand at 32.65 percent, or the Netherlands, which has just 34.55 percent of invoices overdue.

Retail practices are less likely to suffer late payment, but those working for “corporate” clients are more than likely going to encounter cashflow issues from time to time. The problem for them is what to do to speed up the process.

Philippa Dempster, managing partner of law firm Freeths, thinks debtor days are being pushed out for a number of reasons, notably “electronic invoicing and payment systems, that seem to slow things down as details have to match precisely, and purchase order numbers which cause issues too”.

The difficulty with getting paid

Problems for many are caused by the lack of documentation. Paul Carrotte, head of collections at ICSM, a debt recovery specialist, thinks that firms need to become more guarded with their approach. “Industry has moved beyond gentlemen’s agreements,” he claimed. “A simple handshake and ‘my word is my bond’ was once enough to seal many a contract, but not any more.”

Alex Hilton-Baird, managing director of Hilton-Baird Collection Services, agrees. Experience has taught him that “whether a signed contract, proof of delivery or terms and conditions, it can be difficult to recover payment without proof of the debt”.

A similar view is taken by Philippa. As a lawyer, a good contract goes to the core of excising delays. She advises firms to insert two key provisions into their contracts – a right to suspend further supplies or services if there is no payment and the terms have been exceeded; and secondly, that a contract can be terminated if payment is late.

She explains that these terms are critical as the law does not provide a right to cease supply when payment is late – “even if you think that a client is likely to be insolvent, you are generally not entitled to stop performing the contract and if you do, they would be entitled to terminate the contract itself and claim compensation”. By extension, Philippa says that businesses who put clients “on stop” are playing a dangerous game if not permitted contractually.

Other useful clauses that Philippa recommends are that the undisputed part of any invoice should be paid regardless; there is no set-off so a client in dispute must pay without deduction and then bring a separate claim; limitation of liability and exclusion of indirect and consequential losses and ideally loss of profit too; and a right to claim interest.

For Alex, the key to getting paid is knowing who you’re selling to. He reckons that credit checks, for instance, are vastly underused and says that “businesses should be routinely checking existing customers as well as new customers”. He says that a useful tool for this is an account opening form. Practices can use it to gather all the information they need at the outset, including contact details of key personnel and company registration numbers, while also getting the customer to agree to and sign the terms and conditions of sale.

Do-it-yourself?

Dealing with recalcitrant debtors isn’t easy, but the process can be started in-house without the need to call in the professionals.

Alex makes the point that there are often instances where debtors can be evasive purely because they can’t afford to pay the sums owed. This is why he says creditors should make contact and “work… to agree a repayment structure that fits – if indeed that is the case. The excuses some give for non-payment can range from the weird to wonderful, so getting to the bottom of whether they’re genuine is crucial.”

Paul agrees with this tack, but adds that creditors should remain firm and not become a pushover – “insist all new work or orders are paid up front but allow them...
to pay the outstanding amount over a period of time in small instalments”. It’s not ideal but at least the debt will be paid.

One tip from Philippa is to record payment run cut-off dates: “Many businesses process invoices in the month that they are received and so if you prepare a monthly invoice and it’s received the first few days of the following month, it can often miss the payment run... Changing when you send invoices out can make a considerable difference.”

A final notice letter on practice letterhead is another weapon to consider. There are many templates to choose from and letters should be delivered with proof of postage or with email read and delivery receipts. The letter should restate what is owed and that it must be paid immediately or by a set date.

Another option noted by Paul Carrotte is a personal visit to the client: “They may be embarrassed but if you can catch them and speak one-to-one, it can break the ice and give you the opportunity to gauge their true intentions.”

**Bringing in the professionals**

However, where debts are disputed and have not been resolved within two to three months, then in Philippa’s experience, it will have to go legal for the impetus to resolve it. Before issuing proceedings, she warns creditors to “assess the risk and keep all the evidence”.

Action improves payment odds, says Philippa. Where debts aren’t disputed, over 90 percent will be paid reasonably promptly if the matter goes legal. But “where debts are disputed, we find that around 60 to 70 percent will get resolved by negotiation before issue of proceedings. Where proceedings are issued, it is rare that the matter will not settle well before any trial. In our experience, less than 1 percent of cases will go to trial.”

As to the cost, many recovery agents operate on a success fee basis, taking only a minimal upfront administration fee. This, according to Alex, “mitigates the risk of ‘throwing good money after bad’”. Further, under the Late Payment of Commercial Debts (Interest) Act, businesses have the right to compensation and statutory interest on any overdue invoices to help cover debt collection costs.

In Philippa’s experience, few take advantage of the Act, or their own terms and conditions, which entitles them to charge interest, until the debt has gone “legal”. She says, “solicitors will either work on the basis of hourly rates with estimates, fixed cost, or on a ‘no win, no fee’ basis”.

But if the matter is being handed on, time is of the essence. As Paul has seen, most “don’t want to upset the customer or are concerned at the cost of doing so. But leaving it too late can mean that other people have already started their own legal action leaving you at the back of the queue or your client has become insolvent leaving you high and dry altogether.”

Often, though, once the matter is passed to a debt recovery specialist, a first stage legal letter might just do the trick. Paul says “sending these letters shows you mean business and is a further ramping up of pressure. Many firms will pay up at this stage or seek terms to settle over time which is better than proceeding to collection and/or legal action.”

But some seasoned late payers won’t ever pay up without further action. As Paul points out, “debtor can move address, deny ordering the work, despite the evidence against them”. At this point a debt collector may be needed. There is, of course, no guarantee that a visit from the collector will work; taking the claim to court may be the last, and only, other option.

Paul highlights that “once judgment is obtained then the fun really starts. Some people don’t realise the power of a county court judgment. It isn’t just a black mark against a company’s credit rating, it really does open up the doors to what you can do to get your money back.”

**In summary**

Ultimately, the earlier a practice takes action to recover an overdue invoice, the better chance there will be of avoiding a bad debt. One thing is certain – sticking one’s head in the sand isn’t going to make the problem go away.
How do I register my veterinary practice?

There are important things to consider when registering or preparing to sell a veterinary practice

**REBECCA LEASK**

HARRISON CLARK RICKERBYS SOLICITORS

Rebecca Leask is a Partner within the corporate department and heads the Health and Social Care team at Harrison Clark Rickerbys. In addition to her work as a solicitor, she is also a qualified barrister and Notary Public, and sits on the board of the West Midlands Care Association. Rebecca’s focus is assisting businesses to achieve their potential, whether through buying, selling or restructuring.

The RCVS is the regulatory body for veterinary practices in the UK and regulates veterinary surgeons in accordance with the Veterinary Surgeons Act 1966. An individual in the UK can only practise as a veterinary surgeon if they are RCVS registered. Further to this, since 1 April 2009 practice premises must be registered with the RCVS to allow veterinary surgeons to supply medicines from their premises.

Despite the limitations on who can practise veterinary medicine in the UK, there are fewer restrictions on who can own a veterinary practice. There are no requirements that the owner of a practice must be a veterinary surgeon or veterinary nurse.

There are many factors which indicate that a premises fulfils the definition and therefore requires registering; these include, but are not limited to:

- Veterinary surgeons provide veterinary services from the location
- The premises is advertised or promoted as a veterinary practice
- A premises which is open to the public to bring their animals for treatment or a base from which veterinary services are provided to more than one client
- A place where medicines are delivered wholesale on the authority of at least one veterinary surgeon

Premises generally do not need to be re-registered if the practice changes ownership. If it is simply the owner or the practice name which changes, and the staff and operational running remains the same, then the owner must simply advise the RCVS of the changes. New registration is required if the staff, management and/or the operational running of the business changes.

The registration of premises must be renewed each year on 1 April. There is a cost of £34 per veterinary practice premises. No VAT is payable on the renewal fee. The RCVS will send out an issue for payment up to four weeks before the renewal date, and if the premises are part of a group then the invoice is sent to the head office or main premises.

Planning to sell your business

If you are planning on selling your veterinary business it is important to consider what is needed before beginning the process.

In order to assist with the transaction and ensure that everything runs as smoothly as possible it is worth spending time getting your business in order. For example, checking you have copies of registration paperwork, insurance policies, employment contracts and property documents. This list is not exhaustive but obtaining copies of all documents related to your business as early as possible will assist in the process.

As part of the transaction, the buyer will carry out due diligence of your business and therefore being able to easily locate the documentation requested will avoid delaying the transaction. This process can be time consuming as often there will be a large amount of documentation to disclose. If there is anything which you think your solicitor will need to know then tell them at the beginning so that they are fully informed on any issues.
Improving your website’s SEO

The aim of your SEO game is to appear first in any local Google searches for vets

S o, you’ve built an amazing new website for your clinic – but unless people can easily find it, your lovely new site is going to go unread and unloved. This is where search engine optimisation (SEO) comes in. SEO is the science of helping as many people as possible to find and explore your business online.

How important is it to appear at the top of local searches for vets? Well, the latest statistics show that the top placed vet on a local Google search gets 36.4 percent of all clicks, the number two spot gets just 12.5 percent, whilst number three gets a paltry 9.5 percent of clicks available.

How do I get to number one?
The two ways to reach the coveted top spot are either by paying Google to advertise (via a paid Google AdWords account) or by what are known as “organic” results.

Organic results are instances where your site is prioritised by Google as being particularly relevant for local searchers. To do well in organic searches, you need to design your online presence to meet Google’s preferred standards, with relevant and easy-to-access information, ensuring that you naturally rise to the top of search results.

The best thing about organic SEO compared to Google AdWords is that, apart from a bit of your time, it’s free!

What’s the benefit?
When people see you in the top spot of search results, then the high level of “social proof” that you’re giving them about your status and professionalism means that potential clients will implicitly trust that you’re the best choice for their pet.

If you’re right in front of your customers, at the right moment, with the right solution, you’ll be in the perfect place to win their business.

Simple steps
There’s a lot of confusing and highly technical stuff out there from SEO experts. The good news is that by taking a few simple steps to optimise your pages and content you can go much of the way towards producing similar basic results to the professionals. Set aside a morning and you’ll be able to make these changes yourself.

For the sake of simplicity, we can look at making improvements in four areas:

- Your own website
- Your Google listings
- Reviews
- Link building

Your own website
Google needs help in understanding your business. There are things you can do which can help Google rank you. A good web developer should be able to demonstrate that they have built your website to the latest Google standards and that they are keeping your website up to date, and working 100 percent as it should be. Page load speed, metatags, URLs, how your site appears on mobiles and keywords are all things that Google will be looking at when ranking your site.

If you think your site might need improving, then this is an area where you might consider employing someone to do some SEO consulting work for you.

Your Google listings
Google prioritises websites that use their Google My Business page. If you search online you can find easy checklists to help you optimise your listing to its maximum potential. Key things include having your opening times listed, lots of professional photos of your smiling team and a blog section to post regular updates of your current special offers.

Reviews
A few years ago, Google moved to prioritise reviews in search listings, so the simple upshot is that the more five-star Google reviews you have, the higher up the rankings you go. Make sure you regularly remind your team to ask for reviews from happy customers, and ensure that you are responding and actively managing any negative reviews so that you look as good as you can to prospective new customers.

Other people’s pages and link building
The other thing that really helps your listing is the amount of “backlinks” that you have to and from your website. A really simple way to grow your backlinks is to ensure that your practice is listed on all the available free listing websites you can find, such as Yell, Yelp, Bing and Thomson Local.

Conclusion
Whilst the points above are a start with the basics, there are lots of other more technical things you can do to improve your SEO. If you’re in a highly competitive area and want to ensure you stay ahead of your rivals, then speak to an SEO expert about really mastering your online presence.

WILL STIRLING
Will Stirling is a freelance marketing consultant who has worked in small animal practice marketing for over a decade, consulting on marketing strategy. He now spends his time helping independent veterinary clinics to grow and thrive.

MARKETING
Revamp your inventory management strategy

There are small steps practices can take to ensure their strategy is efficient, effective and cost-controlling

**Strategies for success**

**Determine stock thresholds to monitor inventory levels**

Some common issues in inventory management stem from either under- or overstocking products, and both can negatively affect the bottom line. When understocked, a practice runs the risk of reduced profits and displeased customers if products are not available when needed. When overstocked, practices may experience higher costs for supply spend and labour, while also creating the risk of product expiration.

To strike the right balance, practices should develop inventory thresholds to help maintain proper stock levels to improve cash flow by adjusting the order frequency. A practice should keep less of the high-value products in stock but order them more frequently, while maintaining more of the low-value products in stock and ordering them less frequently.

An "A-B-C" analysis (Table 1) can be a great tool for prioritisation. A product’s category should consider its monetary worth, intrinsic value and potential for revenue. Begin by developing inventory thresholds for the As – the items that account for the top 20 percent of revenue, value and/or consumption of the practice. Then, work through the Bs and Cs – the remaining 80 percent of revenue.

It is important to assess the average daily use of each product and determine how much stock is needed until the next order. Be sure to include some safety stock to account for the time it takes to receive the order, as well as unanticipated increases in demand.

**Establish ordering efficiencies**

While it may be tempting to pursue the most cost-effective option for each product, engaging several different suppliers can make the process tedious and time-consuming. Conversely, leveraging a single distributor will streamline subsequent orders and allow practices to develop a trusted, personal relationship with their distribution partner.

When seeking out a partner, look for a distributor with buying group capabilities. This enables the company to negotiate on its customers’ behalves to secure the best prices. These efforts also benefit practice personnel – instead of spending time comparing numbers and negotiating, staff can focus their time on higher revenue-generating activities.

The most effective partners will also offer added value services such as training and professional development, equipment servicing, human resources support, safety services, practice insurance and financial services.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TYPE OF PRODUCT</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>High-value, high-volume pharmaceuticals</td>
<td>Vaccines, flea treatments, wormers, non-steroidal anti-inflammatory drugs</td>
</tr>
<tr>
<td>B</td>
<td>Mid-value, mid-volume pharmaceuticals and high-volume consumables</td>
<td>Prescription diets, chronic medication</td>
</tr>
<tr>
<td>C</td>
<td>Low-value, low-volume pharmaceuticals</td>
<td>Most consumables, blood transfusion sets, urine sampling kits, barium</td>
</tr>
</tbody>
</table>

*TABLE (1) An "A-B-C" analysis aims to categorise the inventory based on the value it brings to the business*
Couple automation with staff training
Implementing automated processes where possible is also an effective strategy to increase traceability and efficiency while reducing the likelihood of human error. A sophisticated, tech-forward inventory management system can show exactly what is in stock at any given time, track sales and trends in real-time and automatically create orders as needed based on the maximum and minimum values set in place. While there is significant value in automation, leaving it unchecked is likely to create compounding issues. It is important to train staff members to supplement automation with a cycle counting system, which ensures stock is still counted and checked on a regular basis. By coupling automation with personnel training, staff will have more time to focus their efforts on providing high-quality care.

Collaborate to develop a tailored solution
Inventory management can be complicated and time-consuming, so it is often valuable to engage an external partner to design, develop and install a comprehensive solution, tailored to respond directly to individual needs. An effective collaboration begins with a site visit to identify unique inventory management challenges, followed by a consultation with leadership to design a bespoke solution that addresses those unique challenges. If there is ever a shift in practice offerings or patient population, external partners can help evolve the inventory management system to match.

Empower staff to uphold processes
Practices should look to designate “inventory managers” in an effort to reduce confusion, double ordering or inaccurate purchases. A sense of ownership over the inventory management process will encourage the selected staff to drive its success and continuity. Additionally, any new staff members must be thoroughly trained during the onboarding process to ensure they understand the procedures that have been set in place. Regardless of whether or not they are in the inventory manager role, each staff member has a stake in inventory management and a responsibility to uphold processes in their day-to-day activities. The key is reinforcement via periodic check-ins with staff.

Key takeaway
As we anticipate growth in the animal health market over the next few years, practices should take the opportunity to revisit and revamp their inventory management strategies now. With the proper processes and personnel training, inventory management can bolster profitability, generate satisfied clients and set up a practice for success.

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Re vamp your inventory management strategy
People. That’s what they don’t tell you about when you decide you want to be a vet. Yes, you may love animals and be good at science, but pretty soon into the job and you realise there’s a whole world of issues out there that you can’t revise your way into understanding. Each veterinary problem that comes your way also has a maze of human psychological and financial problems attached to it. A good example came my way this week in my favourite ever start to a letter from a vet referring a case to me: “I am referring this nightmare to you, you can thank me later...” and thus ensued a list of the diverse human and veterinary issues that needed to be dealt with.

However, for all the headaches and baggage that people bring to your consult room along with their pets, you start to realise that some of these in fact form some of the most rewarding parts of your job. They can also give you insight into people’s lives that you can carry forward and help you deal with the next tricky customer, and help you realise there is often a reason why they are like that.

A particular case that made a deep impact on me was of an older lady with an equally geriatric Labrador. I dealt with various medical problems with the dog, but as the week went on it became clear that I was losing the battle against a collection of medical ailments, but also mainly against the steady march of time and the grim reaper who will come for us all. This particular lady had always been a difficult client, and stubbornness and reluctance to follow advice had, over the last year, started to blend with the onset of some sort of dementia – forgetfulness, not understanding, turning up to the clinic at random times and demanding to be seen, etc. I am sure we all deal with clients like this.

However, it sometimes isn’t until you spend time with someone and then have to visit their house that it sinks in how different their life is from yours. I’m a pretty averagely emotionally insensitive bloke, but when I walked in the door of that house I wanted to cry. The dog, so long a harbinger of a difficult half hour for staff when it came in the practice, was unable to stand and in the bedroom. This room was waist deep in unwashed bedding; I couldn’t tell what was the dog’s and what was hers – if indeed there ever had been a difference. The bed itself had a bare, stained mattress. The dog peed all over the carpet and the owner didn’t bat an eyelid, so I cleaned up as best I could, as I knew that otherwise it would just add to the already damp floor. We managed to get the dog up the stairs and into the ambulance and back to the practice. Inevitably and tragically the dog was put to sleep a few days later. I just thought of her going back to the house with the only company she had no longer there. Other clients bring a bit more cheer. I had been fixing up various ailments for a 20-year-old cat over the last few years, a bit like maintaining a classic car. She belonged to an elderly owner who I always thought was in his mid-sixties, but I recently found out he was 80. I imagine when he was younger, he was a “bit of a character”. As he could not drive, he was usually chauffeured by his mate, similar age, ex-military and about 6’3” even allowing for age-related shrinkage. Together they always gave the impression of being two naughty boys let out by their mums for the afternoon. The banter flowed and they always did without question whatever was needed for the cat. So, when the call came in at 9pm for the final visit, to the slightly dodgy end of town where he lived, it was without any huffing and puffing about out of hours visits that I duly trekked out to take my chances getting to the house. The old cat came home wrapped in a blanket knitted for her by his wife. Theirs was, thankfully, a very together family home.

The first story I imagine will have an epilogue. The last time the lady in question lost her only dog, she reappeared at the vets a few weeks later with an almost identical replacement old Lab. I am waiting for the day, not too far away I hope, when the receptionist comes into the office to complain that “she’s back, got another dog and she’s complaining about...” I will let up a little silent cheer, put on my serious face and say “Shall I have a word with her?”

“Each veterinary problem that comes your way also has a maze of human psychological and financial problems attached to it.”

Gareth Cross
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