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Welcome to the April issue of Veterinary Practice magazine. We have something a bit different this issue, with an introduction to veterinary forensics and a detailed guide on how to complete an expert report. Stephen Cooke uses a real case example to illustrate how reports often deviate from RCVS guidelines and offers advice on how to complete a sound report that will stand up in court.

Also new this month, in her first opinion piece for the magazine, Gudrun Ravetz discusses gender equality and specifically, the under-representation of women in leadership positions. In her interesting and informative assessment of the issues faced by female veterinary professionals today, Gudrun reminds those in leadership positions to be aware of their unconscious biases.

Results of the health survey undertaken by Sovereign Health in collaboration with Veterinary Practice magazine are here, and reveal some key work-related health issues in the profession. The majority of respondents reported that they currently suffer from work-related stress and anxiety, and 25 percent suffered from depression due to work in the last year. Mental health is recognised as an important issue in the profession and initiatives have been developed to help tackle it, but these results indicate that practices could be doing more to support the well-being of employees.

The “In Focus” topic this issue is orthopaedics and Turlough O’Neill offers a useful guide to managing incomplete ossification of the humeral condyle. Also in the small animal section, David Grant looks at canine scabies and Jayne Clark considers the role of sugars in dermatology. There is a detailed review of hepatic encephalopathy and an interview with the MD of Natures Menu, who tells us about the company’s journey.

Our large animal correspondent, Richard Gard, covers the pros and cons of block calving, while in equine, Madeleine Campbell asks whether “natural cover” of horses is ethical and Jamie Prutton reviews treatment options for equine vasculitis. Jon Pycock looks on the bright side of practice in this month’s BEVA column, listing some of the many positives of being an equine vet.

An outline of the duties of directors (and what the consequences might be if they are not met) can be found in the practice management section, as well as a review of the vital skills necessary in delivering difficult news to clients.
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Survey results reveal the prominence of mental health issues in the profession and identify areas where changes could be made.

Veterinary forensics
Forensic work is a growing area of interest in the profession and requires a different set of skills from routine diagnosis and treatment.

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RCVS Council elects new Junior Vice-President

Members of the RCVS Council have elected Niall Connell as the new Junior Vice-President for 2018 to 2019 and confirmed Amanda Boag as President for the same year.

Members elected Niall as Junior Vice-President at a meeting of Council on 8 March, where a number of other appointments were confirmed, including Amanda as President, Professor Stephen May as Senior Vice-President, Kit Sturgess as Treasurer, Susan Dawson as Chair of Education Committee and Kate Richards as Chair of Standards Committee.

Niall qualified from the University of Glasgow’s School of Veterinary Medicine in 1982 and worked in mixed practice in Fife before joining the PDSA in 1984. He was Senior Veterinary Surgeon at the Glasgow East PDSA PetAid Hospital for 15 years, during which time he was an honorary lecturer at Glasgow vet school and an examiner. Niall took ill-health retirement from clinical practice in 2009 due to multiple sclerosis and now works as a Clinical and Professional Skills Instructor at Glasgow vet school.

He was elected to RCVS Council in 2013 and has served on the Audit and Risk and Education Committees, as Vice-Chair of Veterinary Nurses Council and as a veterinary assessor during the two alternative dispute resolution trials with Ombudsman Services and, latterly, the Veterinary Client Mediation Service.

In asking for RCVS Council members’ votes, Niall said: “I am passionate about highlighting RCVS’ work, achievements and ethos in person and on several social media platforms to maximise engagement with our professions and with undergraduates. I have an excellent relationship with RCVS staff which is very important. I relish the prospect of working with my fellow Council members, College staff and our professional colleagues in the field for the best outcomes.

“The College is immersed in many important projects such as Vet/VN Futures, Mind Matters, graduate outcomes, career pathways and One Health, as well as Brexit, global positioning and the Veterinary Surgeons Act. I would devote all my time and energy to being RCVS Vice-President/President.”

Niall, along with other members of the College’s Officer Team, will take up their positions at RCVS Day 2018, which takes place at the Royal Institute of British Architects on 13 July.

Ceva Animal Health extends its anti-parasitic range with the launch of Duoflect

Ceva Animal Health has launched Duoflect, a new strength formulation for the treatment and prevention of flea and tick infestations in cats and dogs, and the environment.

Containing a new strength formulation of fipronil and (s)-methoprene, Duoflect’s duration of action against fleas is 100 percent longer in cats (eight weeks) and 13 percent longer in dogs (nine weeks) than the market-leading fipronil combination, while its duration of action against ticks is 150 percent longer in cats (five weeks) and 50 percent longer in dogs (six weeks). It acts against adult fleas on the animal and immature flea stages in the environment and can be used as part of a treatment strategy for the control of flea allergy dermatitis.

Duoflect is available in new, easy-to-use, free-standing pipettes for easier administration and handling of the pet. The product is competitively priced and is available in boxes of three or six pipettes and in five presentations: small cats (1-5kg), large cats (>5kg) and small dogs (2-10kg), medium dogs (10-20kg), large dogs (20-40kg) and extra-large dogs (40-60kg). It is suitable for cats and dogs from eight weeks of age.

Vets hail government plans to ban shock collars in England

The BVA has welcomed Defra’s consultation on banning the use of shock collars in England, following a sustained joint campaign by BVA and other organisations. Commenting on the announcement, BVA President John Fishwick said: “We welcome the Government’s launch of a consultation on banning the use of shock collars in England and would like to see it result in an effective ban soon.

“We know from leading veterinary behaviourists that using fear as a training tool is less effective than positive training methods, such as encouragement or rewards, and can take a toll on an animal’s overall welfare.

“We were in Westminster last week along with several animal welfare charities to highlight the issue and call upon Members of Parliament to back a ban on the use of shock collars. We were pleased to see several MPs pledge their support.”

BVA will continue to push for an outright ban on the sale and import of shock collars across the UK.
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The British Veterinary Receptionist Association (BVRA) held its first annual congress at the Lea Marston Hotel, Warwickshire on 28 February. The congress was a sell-out and despite the challenging weather conditions, over 100 delegates attended the event.

The association’s co-founder, Brian Faulkner, emphasised the importance of the receptionist’s role within veterinary practice and declared that “The BVRA's mission is to recognise and raise the status of veterinary receptionists within the UK veterinary profession. The BVRA will do this by acting as a professional body to focus on the interests of veterinary receptionists as well as evolving the receptionist role through affordable CPD and training leading to the attainment of the Accredited Veterinary Receptionist Award.”

Guest speakers included Steve Holman from Simply Health and Andrew Rastall from Connected Vet. Steve gave two informative talks covering “dealing with challenging customers” and “handling confrontation” while Andrew talked about how to successfully post, promote and boost your practice’s profile on Facebook.

Dogs that show fear or anxiety when faced with loud or sudden noises should be routinely assessed for pain by veterinary surgeons, a new study has found. Animal behavioural scientists examined cases of dogs which had developed a sensitivity to loudness, different pitches or sudden noises, and found that those that also had associated musculoskeletal pain formed a greater sensitivity to noise.

The study suggested that there could be association between a fear of noises and underlying pain. The researchers believe that pain, which could be undiagnosed, could be exacerbated when a noise makes the dogs tense up or “start”, putting extra stress on muscles or joints which are already inflamed, causing further pain. That pain is then associated with a loud or startling noise, leading to a sensitivity to noise and avoidance of situations where they had previously had a bad experience.

Researchers say that veterinary surgeons should ensure that all dogs with behaviour problems associated with noise receive a thorough physical examination to see if pain could be a factor in their fear or anxiety, so that undiagnosed pain could be treated, and the behavioural issue tackled. All the dogs that had pain and were treated showed an improvement of their behaviour. The findings have been published by Frontiers in Veterinary Science.

Dogs with noise sensitivity should be routinely assessed for pain by vets

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Practices across the UK are set to benefit from free Online Bitesize CPD thanks to a partnership between Agria Pet Insurance and Improve International. Every practice that works with Agria will be given free six-month subscriptions for practice staff to access a wide range of topics including: cardiology, ophthalmology, small animal medicine, feline medicine and exotic animals.

Improve International is one of the UK’s leading veterinary training companies. Online Bitesize CPD enables veterinary professionals to meet their annual CPD requirements in short convenient bursts. The CPD modules are 20, 40 or 60 minutes long and provide engaging, interactive experiences, with digital badges and CPD certificates awarded on completion.

All veterinary professionals that take advantage of this offer will also be given access to an exclusive six months of Agria Pet Insurance for half price – to help pet’s of practice staff too!

Practices not yet working with Agria are invited to get up and running to make the most of free Online Bitesize CPD and the other benefits working with Agria offers – from “5 Weeks Free” policies, to flexible, lifetime-only cover and £25 available annually towards vaccinations and preventative care for clients’ pets.

This exclusive offer launches at BSAVA Congress on 5 April 2018. Contact your Agria Business Development Manager for more information or go to agriapet.co.uk/bitesize and complete the enquiry form, using “FREE CPD” in the subject line.
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College announces recipients of 2018 RCVS honours

The RCVS has announced the recipients of this year’s RCVS honours, including those who will be receiving the new Impact and Inspiration Awards. The Impact Award recognises veterinary surgeons who are undertaking projects and initiatives that have a discernible impact on the profession and/or animal health and welfare, and the Inspiration Awards recognise those inspiring others with their actions and words.

Jade Statt, the founder of the StreetVet project, which provides free and accessible veterinary care to homeless pet owners in London, is the recipient of the Impact Award. She was nominated by StreetVet volunteer Gabriel Galea who said: “Jade’s most substantial contribution has been to the welfare of the dogs she selflessly gives up her time and energy to treat, using resources she works hard to source.”

Derek Knottenbelt and Ebony Escalona are the recipients of this year’s Inspiration Awards. Derek, who is Emeritus Professor in equine internal medicine at the University of Liverpool and Director of Equine Medical Solutions, has been recognised for inspiring generations of veterinary students, residents and specialists.

Ebony was recognised for her work as a veterinary advisor at the Brooke equine charity, as the founding member of the Vets: Stay, Go, Diversify Facebook group which encourages veterinary surgeons to share their experiences and ideas, and for her involvement in the Learn Appeal Project which provides basic veterinary, farriery and husbandry information to rural communities without access to internet connections.

The recipients of the International Awards are Alemaye-hu Hailemariam, a veterinary surgeon who does much of the Brooke’s clinical and educational fieldwork in Ethiopia, and Rachel Wright, who trained as a veterinary nurse and founded the Tree of Life for Animals animal hospital in Rajasthan, India.

The Queen’s Medal, the highest honour the College can bestow on a veterinary surgeon, recognises a distinguished career. This year’s recipient is Peter Clegg, an equine vet who is Head of the Institute of Ageing and Chronic Disease at the University of Liverpool, an institute engaging in veterinary, medical and biomedical research relating to musculoskeletal biology and ophthalmology. His nominator, Mandy Peffers, said that throughout his research and clinical careers, Peter “has been instrumental in developing and mentoring many individuals”.

All awards will be bestowed at RCVS Day 2018, which takes place on 13 July.
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Tackling recruitment issues

What can large animal practices do to improve staff recruitment and retention?

Experienced clinicians are leaving the profession and many new graduates are reluctant to take on the challenges of working with farm clients. Sophie Aylett, director of the award-winning Meadows Farm Vets practice in Bromsgrove, Worcestershire, offered a few recruitment and retention tips to colleagues attending the SPVS-VPMA congress in Newport on 27 January.

Hers is a farm-only practice set up from scratch in April 2010. It now employs eight full-time vets and serves around 750 farm clients over a 50-mile radius. At the opening session for the congress, the management team received the SPVS Vet Wellbeing Award 2017 in the small practice category.

“I was surprised to be picked for the award, we haven’t done anything in particular to qualify for it. We just try to look after our staff and do the basic things properly,” she explained.

But 18 months ago, the practice did take the rather unusual step of employing four new clinicians at around the same time with either very limited experience or none at all. “They were all very suitable candidates and we knew that we would be needing more staff because we are still growing and attracting new clients.” By introducing them at monthly intervals, the practice could give them their full attention for the first month and closely mentor them for another five months. “The first one started in the summer and the idea was that by the next spring, for our busiest period, they would need very little supervision,” Sophie explained.

Previously, the practice had shied away from employing inexperienced clinicians but after discussions with her husband Richard, the practice manager, she decided to change the policy. Instead of concentrating on the interview results, they asked existing staff members to look at the applications and then took the candidate out to lunch to assess how well they got on with their potential future colleagues. “We felt it was more important for the new vets to be able to communicate with clients and other staff members than have clinical experience – we can give them all the training they need in surgical skills.”

Employers should not ignore any relevant experience when picking staff at a time of labour shortages, she suggests. One of the four had worked at a farm practice as a TB tester and another had spent six months working in small animal practice. “It may be that this person has had very little practical exposure to farm work but they may have other skills that they can bring to the table. It helps, for example, in understanding how to carry out a consultation and the small animal surgical skills are readily transferable.”

Each of the four greenhorn vets was allocated a mentor, who was rotated at intervals to give them some insight into the different approaches of their senior colleagues. By the end of the six months, they were pushed into the deep end in carrying out challenging procedures like a caesarean on their own. “At least, that is what we told them. In fact, there was a colleague waiting in a lay-by five minutes away who could be called in if anything did go wrong. But believing they were in sole charge helped in getting them up to speed and in building their self-confidence.”

Sophie came up with the idea of a “star chart” to help monitor their new colleagues’ clinical progress. This listed the range of clinical procedures that the management regarded as essential for all farm practitioners. Each time the new vet carried out one of those procedures it would be noted on the chart and when the mentor was satisfied that they had achieved full competence, the event was marked by the addition of a gold star.

Sophie says that the star chart created a degree of friendly competition between the four graduates but it also had a practical purpose. It was pinned to the wall in the practice office and the reception staff could look up and see which vet still needed to work on a particular procedure and could then allocate visits accordingly.

Achieving each individual goal was worth more than bragging rights for the new vets. “We introduced an automatic pay rise for each one when they hit one of the main targets, like achieving competence in carrying out a caesarean. They may still be taking 50 percent more time to do the job than their experienced colleagues but that will come with time and for the moment they are bringing in valuable income to the business.”
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The importance of dental care

At VetsSouth, Bob Partridge outlined the best ways to get clients on board with pet dental care

There is evidence to suggest that 80 percent of cats and dogs over the age of three need dental treatment. And there is a whole host of systemic problems that accompany dental disease, from cardiovascular disease to brain abscesses and chronic conjunctivitis. Why, then, is the condition so undertreated?

On 7 February, dental expert Bob Partridge spoke to VetsSouth delegates about ways they could bring clients on board with dental care. Importantly, he believes you must involve the whole team in the process – including veterinarians, veterinary nurses and receptionists.

Bob explained that it is important to have a dental ethics practice policy. “The full extent of dental problems is often only evident once we have the animal anaesthetised. Because of that, we need to have systems in place so we can communicate to clients and say, ‘We thought we needed to take out two teeth, but we’ve taken out six’.”

He also advises that every practice allocates a lead veterinary dental surgeon – somebody who has undergone extra training and can advise on advanced treatment and when to refer to a specialist.

Compliance issues

Only about 50 percent of clients are likely to book their pet in for a dental on the advice of a veterinarian, Bob said. Based on 80 percent over the age of three having dental problems and a 50 percent compliance rate, he calculated that the expected number of dental assessment and structured healthcares per week, per vet in his practice is 5.2 dogs and 4.2 cats. “Is anyone doing that number in practice?” he asked. “No” was the answer. “That’s assuming only 50 percent of people are complying. It’s also only talking about those animals aged over three. We are woefully undertreating dental disease.”

Every opportunity to bring up the subject of dental disease with clients should be grasped. To get a lifelong commitment to caring for dental disease, sow the seed early, Bob advised. “Ensure that clients are used to the idea of lifting the lip and examining the mouth. For every single dog and cat having its first examinations, examine the mouth and talk about toothbrushing and preventative care…” If clients are used to talking about dental disease and they get it every time they come into the practice, they will be more likely to comply,” he explained.

Pre-operative care

Bob noted that reducing the bacterial loading inside the mouth during pre-operative home care will increase safety for the staff and patient. The use of oral mouthwashes should be considered and in some cases, tooth brushing as well – even before the teeth are scaled.

Getting some pain relief on board before the dental is important. “Our client message with that is that we are decreasing the anaesthetic risk during the procedure. For a lot of our dental cases, we’re looking at elderly patients – higher-risk patients. Anything we can do to decrease the anaesthetic risk has got to be of benefit. Often when I’m examining mouths, I show things that must be causing pain. Get the owners to empathise with that. By reducing bacterial load, we’re trying to improve our chance of success, too.”

It’s also a good time to talk about some innovative products. Bob regularly uses Sanos – a product that can be painted into the sulcus between the gum and tooth once the teeth have been cleaned to prevent plaque build-up. “I use my pre-operative consultation to talk about this and try to get clients to buy into the use of Sanos there and then.”

Post-operative care

Pain relief, mouth washes, using soft food for a couple of days and tooth brushing are some key components of
post-operative care, said Bob. "Again, pain control is the feature of client messages, and trying to increase our chance of success. The client has spent a lot of money on dental work, so try to get them to realise they’re investing in this procedure."

This investment will involve ongoing care, such as tooth brushing, prescription diets and regular checks. "For tooth brushing, I always say to clients that they’re looking at a two-month project. Pick a set time of day and every day, at that time, play with the toothbrush. Start off presenting it with the toothpaste on, and build up to brushing teeth properly. Giving them permission to know that it won’t be perfect on day one can be useful. The routine is important."

He emphasised that the most effective component is the brush. "Microfibre toothbrushes are great for training but they won’t get into that key space between the gum and the tooth," he advised. The taste of toothpaste can aid compliance, he said, but avoid human toothpastes and look for VOHC approval. He recommends mouthwash after extractions and for patients with gingivitis.

Marketing dentistry to clients
Bob’s key message was to engage the whole team. The process of marketing can involve training, using newsletters and waiting room displays – Bob has a display in his waiting room that takes clients through the journey of dental care using a video. Video allows you to talk about the technologies you have and why you do things the way you do; he recommended asking local college students to help put it together.

"Try and get clients talking to each other," he urged, suggesting using the practice website to share positive feedback from clients following dental work. "Just ask them to say it again to the iPhone, because clients will believe other clients."

Overcoming barriers
Bob argued that the biggest barrier to dentistry is not client acceptance – it is vets. "Dentistry is not regarded as sexy by the universities; there are no dentistry specialists employed by the UK veterinary schools today. We know how common dental disease is, yet we’re not teaching vets how to treat it properly. A-type personalities don’t like doing a bad job so they’d rather not do it at all – saying ‘We’ll monitor it’, ‘We’ll check it at the next vaccination’... [But] we know what’s going to happen. It’s going to get worse, so why leave it?"

Dental work also tends to be done at the end of the day, when everyone is rushed, pressured and running on low glucose levels. Having good equipment is important, Bob said, and it’s worth investing in: "The item of equipment that is going to give you the greatest return is your dental machine. It will pay for itself within a year." To finish his talk, Bob summarised the key considerations: putting the patients’ needs first; investing in training and equipment; considering innovative products; and, finally, getting everybody in the practice involved.

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Considerations for avian surgery

Avian expert Neil Forbes gave a whistle-stop tour of surgical techniques in birds at VetsSouth

In his talk entitled “Basic surgical techniques in birds”, Neil Forbes rose to the challenge of condensing his breadth of experience into a stimulating, fast-paced presentation on 8 February.

Neil began by noting that all surgeries commonly conducted in other companion animals can be done in birds. “There are differences of course – a lot of our patients are smaller... My best record is a successful caesarean on a 26g lizard.” With maximum blood loss of 1 percent body weight, loss of 0.3ml to 0.7ml blood could be fatal for a budgie, Neil said, emphasising that surgery must be more delicate and precise in birds.

Because birds hide signs of illness, they also tend to be in a worse condition than other animals by the time they enter the practice. “We should assume that all traumatised or sick patients are suffering from shock. We'd normally assume they’re 10 percent dehydrated unless there are signs that it is worse than that,” Neil explained. To treat fluid loss in a 1kg patient, he advised that half the deficit be replaced during day one (plus their maintenance daily requirement), then a quarter on day two and a quarter on day three. Neil stressed that more birds are saved by good nursing – appropriate fluid and nutritional support as well as patient care – than by any medical or surgical procedure.

Preparation

Before you begin, it is important to have hospital cages that can maintain a patient between 80°F and 90°F (26.7°C to 32.2°C), controllable radiant heat and accurate weighing scales, Neil said.

“In terms of routes for fluid therapy, we would only recommend intra-osseous in very, very debilitated patients where you cannot find an IV port. We'd use the distal ulna or proximal tibio-tarsus,” he noted. In his practice, syringes of fluid are kept in a baby milk-bottle warmer so they are always available at the right temperature. Remember that subcutaneous fluids can’t be given to all species, he warned: toucans, hornbills and penguins, for example, have subcutaneous air sacs, so putting fluids into them could cause them to drown.

Prior to surgery, every patient needs a full physical examination and their medical histories re-evaluated, said Neil. “We need to consider and correct dehydration, anaemia, hypoglycaemia, hypothermia and any electrolyte- and acid-based disturbances.” The bird should be weighed so all parenteral medication can be drawn up in advance. All surgical cases must have a venous access port and they must all be intubated.

Environment

Importantly for avian surgery, you need illumination and magnification. “When you use magnification, you see your hand tremor and that gives you a better ability to control it,” Neil explained. “For instruments, we want standard-sized handles with miniaturised ends. Preferably counterbalanced because that reduces the likelihood of finger fatigue. And we want finger-rolling action. We sit down, rest our forearms and want to pass the needle through the tissue with the needle holders by rolling our finger. It’s much more controlled and we want to minimise tissue damage.”

Because the instruments are delicate, they must be looked after well. In his basic kit, Neil has:

- Ratched needle holders with pen-shaped handles (to allow finger-rolling action)
- A large pair of scissors (to prevent abusing the small pair)
- A fine pair of scissors
- Harris ring-tipped forceps
- A Volkman spoon
- A couple of pairs of very fine artery forceps
- An Alm or similar retractor
- Sterile cotton buds

Anaesthesia and therapeutics

Safe medications and doses will often be species specific, Neil said. He also reminded delegates about restricted drug use in food-producing species and the obligation to record every prescription-only medicine used in these patients.

Anaesthesia is used to reduce stress on the bird rather than to immobilise it. “Gas exchange is 10 times more efficient than in mammals, so overdose with a volatile agent is much easier in birds,” the speaker warned. “If the nurse is not experienced with avian surgery, I would suggest weighing the patient [and] giving it a parenteral agent to give you 30 minutes surgical anaesthesia. If you stick to the lower dose, you can repeat that once.” He also urged delegates to be very careful with local anaesthetic, citing the lethal dose of 4mg/kg in birds.

Remember the fundamentals of how surgery in birds is different. Think about equipment, anaesthesia, micro-surgical instruments and operating position. “And practise,” Neil urged, “go to wet lab training and do the techniques in front of specialists.” The take-home message was that though it is essential to be thoroughly prepared, veterinary surgeons shouldn’t be afraid of avian surgery.

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Treating endometritis with antibiotics

Use of intrauterine antibiotics in mares with endometritis should be approached cautiously, says a new Knowledge Summary in Veterinary Evidence

Existing recommendations suggest the condition should be treated with antibiotics regardless of its cause, but the evidence indicates that treatment with antibiotics is unlikely to improve pregnancy rates in mares and may even be detrimental to fertility. As such, clinicians should use antibiotic intervention judiciously, apply additional diagnostics to identify the cause of endometritis and avoid antibiotics altogether in mares with no history or signs of the condition.

The evidence

The data was reported in January’s Knowledge Summary entitled “The use of antibiotics in broodmares with post-service endometritis”, which sought to uncover whether, based on current evidence, antibiotic treatment is superior to other routine therapies at improving pregnancy rates.

Collectively, the evidence provided by the seven relevant studies identified did not support the existing assumption that antibiotics delivered into the uterus post-service increase the likelihood of pregnancy. But the evidence does demonstrate that some treatment with routine therapies – with or without antibiotics – is better than no treatment at all in mares with endometritis.

Combination treatments

Considering there are a number of possible non-antimicrobial therapies for endometritis (including lavages, mucolytics, immune modulation treatments and ebolic agents), establishing whether intrauterine antibiotic intervention is more, less or as effective is important in preventing the unnecessary use of antibiotics.

It is worth acknowledging therefore that there is no evidence in the studies that intrauterine antibiotics increase pregnancy rates when compared to other therapies. In fact, the current data shows that, when used individually, ebolic agents and antibiotics have similar effectiveness.

Notably however, when combined, the effects of antibiotics and ebolic agents appear to synergise and provide higher pregnancy rates compared to using them as standalone treatments. Dual therapies are consistently shown by the evidence to be more effective than individual treatments.

Interventions with lavage and oxytocin; antibiotics and oxytocin; and lavage, oxytocin and antibiotics all demonstrated pregnancy rates of between 45 and 62 percent.

The fact that there is little difference between the pregnancy rates produced by various combinations has increased significance when taking into account why intrauterine antibiotics are currently – unnecessarily – recommended for all cases of endometritis in mares. It is thought that intrauterine antibiotics enhance fluid removal by causing cervical dilation, but the evidence demonstrates that other, non-antimicrobial intrauterine therapies encourage the same process, hence restricting the need for antibiotics to their effect on pathogens.

Diagnosis, culture and sensitivity

Endometritis can be notoriously difficult to diagnose, made more challenging by the lack of a clear definition of the condition. It is clear from the evidence that additional diagnostic methods such as culture and cytology of endometrial samples should be employed to establish whether individual cases of endometritis are bacterial in nature.

Furthermore, isolating the bacteria involved (assuming the cause is pathogenic) is important to ensure an appropriate sensitive antimicrobial is used, and also for minimising the use of widely resisted or restricted antibiotics.

In one study, all isolates were sensitive to gentamicin and ceftriaxone (although it is worth noting that types of bacteria are likely to vary geographically). Streptomycin was heavily resisted – in the case of *E. coli*, by 100 percent – while penicillin showed both moderate resistance and sensitivity.

As such, the currently available evidence indicates the need for further research in the diagnosis of post-service endometritis and the pathogens involved.

Full Knowledge Summary

veterinaryevidence.org/index.php/ve/article/view/132/217

Authors: Elizabeth Barter and Annalisa Barrelet
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A new system of stunning set to improve animal welfare

It is hoped that a new mechanism for stunning cattle will be accepted by the Muslim community for use in halal slaughter

A val Fuseini, a PhD student at the University of Bristol School of Veterinary Science, presented a new system for stunning cattle at the Winterbotham Darby Animal Health and Welfare Day, held at the school on 8 March. The system induces unconsciousness in a different way to stunning techniques that are extensively used today. Demand for halal meat is growing rapidly and in turn, an increasingly high proportion of farm animals are slaughtered while conscious. Much of this meat ends up on supermarket shelves and in restaurant meals without any indication as to the means of slaughter. “I can assure you that (unless you don’t eat meat) you would have, at some point, eaten meat from animals that were slaughtered without stunning,” said Awal.

How do the systems differ?

An animal’s brain has 85 billion neurons; these cells communicate by passing chemicals between one another. If an animal is stunned by passing electricity through the brain, communication is disrupted. That causes unconsciousness, Awal explained. In the system he is developing, electricity is instead applied directly to the cell and pores are created. In this novel technique, electroporation causes unconsciousness, he said.

Unconsciousness from conventional electrical stunning does not last very long. Awal noted that “if you stun a cow (head only), the duration of unconsciousness is likely to last an average of 55 seconds. Within that time, if you are bleeding the animal, the animal is likely to recover.” In the new system, the animal will only recover when the pores reseal. That, he claimed, takes no less than four minutes, and should be sufficient time for the animal to bleed to death without the risk of recovery.

Post-stun convulsions should also be reduced with the new system. In conventional stunning systems, these convulsions (characterised by kicking) are caused by the communication disruption between neurons. This effect is not safe for the slaughter operator, nor is it good for product quality.

“If we are able to extend the duration of unconsciousness, we will improve animal welfare. If we can eliminate the convulsions associated with conventional stunning, we can reduce the kicking injuries and we can improve product quality because it reduces bruising.” Most importantly though, Awal said, “we may be able to convince halal organisations to accept stunning”.

Implications for halal slaughter

In 2016, the team carried out a survey of 66 Islamic scholars from 55 organisations in the UK to see what they understood about stunning and whether they find it acceptable in halal slaughter. The scholars were asked if they believed that stunning induces unconsciousness. Around 80 percent answered no. They believed that stunning causes pain but does not induce unconsciousness. “They don’t understand why we stun an animal to cause it pain and then cause it pain again with slaughter,” explained Awal.

It was explained to the scholars that stunning has been shown scientifically not to cause pain. They were then asked: “If stunning is shown to induce unconsciousness and doesn’t cause instantaneous death, would you accept stunning?” 95 percent said yes.

The system is still being developed. In the first stage of the research, voltage was applied to cattle heads and the amount of electricity that entered the head was measured. In the second stage, voltage was applied to brain cells to measure electroporation. At 130 joules, the poration of brain cells was optimal. Anything above that will kill cells and wouldn’t meet halal requirements. “We found the right parameters to humanely kill animals,” said Awal.

If a voltage source were applied to the head and pores were created in the cells, the animal would lose consciousness. However, if the animal isn’t bled, the pores will reseal and the animal will get up. This has important implications for halal preparation. “The Quran says to slaughter animals alive. It doesn’t say slaughter them conscious,” Awal explained. “We can stun animals, induce unconsciousness, but still meet the halal requirements.”

Live animal trials were to follow, as part of plans to produce a commercial unit. “We have found that induction of unconsciousness in this system will improve welfare, safety, meat quality, and may be accepted by the Muslim community,” Awal summarised.

In the question session following Awal’s presentation, it emerged that this system would be more expensive than the current system. Overcoming this cost increase may be a barrier to its widespread integration into slaughterhouses, particularly while there is no requirement for meat products to be labelled with the mechanism of slaughter. Cattle had been deemed the most important area to focus on; it was not noted whether the system might later be adapted for other animals.
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Mastering self-regulation

When emotions are running high, they cannot be ignored, but they can be carefully managed.

The management of emotions is called self-regulation; it’s the quality of emotional intelligence that liberates us from living like hostages to our impulses. Last issue, we presented the concept of self-awareness, ie being in touch with our emotions and our conditioned responses to those emotions. By being self-regulatory, we can choose how we want to respond to emotions and take control of our responses, both external and internal.

People with high levels of emotional intelligence are less likely to respond instantaneously and reactively to a difficult or challenging situation. Allowing your reflexes to determine your actions can lead to more ongoing distressing emotions and a rollercoaster of emotional turmoil.

The response of a person with good self-regulation is that which the individual has consciously chosen to have. For example, when that work colleague chooses to rant at you again, you can allow the chain of pain, low self-esteem, bad mouthing and insomnia to take hold. Or, you can choose to (a) recognise the pain from the insult (b) place it firmly in the past and (c) stop the chain of unhelpful subsequent conditioned responses to it right there. If you keep doing this, it will gradually become the conditioned response to the inevitable ranting of the emotionally unintelligent colleague.

People with high emotional intelligence are likely to have:

- An inclination towards reflection and thoughtfulness
- An acceptance of uncertainty and change
- Integrity – specifically the ability to say “no” to impulsive urges

Reflection and thoughtfulness

This is our mindfulness practice, which we discussed several editions ago. If you spend only 10 minutes mindfully meditating every day, self-awareness and self-regulation become easier. If you spend an hour a day, they become an integral part of you. Practice your five-minute mini meditations with a guided meditation, like “Mindfulness Bell” on YouTube. But remember, there is no substitute for longer periods of un-guided meditation.

Acceptance of uncertainty and change

Our lives are ever-changing. What we accept as a “given” for half of our lives can be snatched from under us suddenly with devastating effects if we are not open to change. We are desperately clinging onto our status quo and yet our parents die. No two days are the same.

Change can be unsettling, big changes can be distressing and bereavement can lead to relentless grief. We have to work at accepting it. The emotionally intelligent person finds self-regulation easier because they embrace the unexpected, no matter how good or bad it is.

Integrity and the ability to say “no” to urges

If we are truly compassionate, self-aware and have good morals, we are less likely to give in to impulsive urges such as the urgent need to blame someone or something for each unpleasant event in our lives. Narcissistic people can justify blaming others for their own unhappiness very convincingly, usually convincing themselves at the same time.

The emotionally intelligent, self-regulating person doesn’t need to instantly blame to deal with distressing emotions. They don’t lose their temper; they don’t smash the keyboard when the laptop messes up or kick kennel doors when the Staffie howls for a day and a half.

The emotionally intelligent, self-regulating person doesn’t need to instantly blame to deal with distressing emotions.

If you have consciously chosen to go to your room and punch the pillow and scream to get something out of your system in response to the emotions something or someone has given rise to, so long as you have taken ownership of that response and responding that way does not cause you or others more distress, then so be it. That still shows a degree of self-regulation – you made a conscious decision to respond in that way.

Self-regulation is not about turning off or turning our back on our emotions. Contrary to that, if we are acutely self-aware and totally in tune with our feelings, both positive and distressing, only then can we be the master of our behaviour in response. It is very empowering to be able to choose our internal response as well as our external reaction in a given situation. This can only (and yet surprisingly easily) be achieved with conscious effort.
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Resisting a begging pet is difficult and may lead to overfeeding.\textsuperscript{3,4} Find common ground with pet owners with a new conversation around begging behaviour, and improve adherence to your weight loss recommendations.

Identifying key health challenges

Survey results reveal the prominence of mental health issues and identify areas where changes could be made

Mental health in the veterinary sector has been widely discussed in recent years. The BVA has reported that the suicide rate among vets is nearly four times the national average – double that of other healthcare professions. It is something the industry has taken steps to address – initiatives such as the RCVS' Mind Matters support those working in the veterinary field with their mental well-being.

As the number of people in society affected by depression grows, should we, as an industry that is more susceptible to experiencing mental health problems, be doing more to address the well-being needs of employees so that the signs of struggle can be recognised and responded to as early as possible?

Many employers will be aware of the need to support the health of their staff, but often they aren’t equipped to do this effectively.

To get to the root of the concerns and challenges, Veterinary Practice magazine joined forces with one of the UK’s leading health care cash plan providers, Sovereign Health Care, to conduct a national health and well-being survey of veterinary professionals and employers. The results make for interesting reading.

Of those surveyed, 85 percent said they currently suffer from work-related stress and anxiety, and in the last 12 months, a quarter of respondents had suffered from depression due to work. The majority of respondents (69 percent) said they needed to seek help from a doctor as a result of their symptoms.

While the reason for stress and anxiety was largely attributed to long hours (50 percent) or heavy and difficult workloads (47 percent), 35 percent said difficult clients were to blame and a quarter of respondents cited poor relationships with bosses or colleagues as a trigger. When asked if employers were doing enough to help to support their mental well-being, many said they didn’t believe they were, with 52 percent saying they thought there were no effective stress management or mental health support programmes in their place of work.

How might these issues impact the profession?
Chief Executive of Sovereign Health Care, Russ Piper, said: “While we know those working in the veterinary sector are more prone to stress and mental health-related issues, the results of this survey would indicate that, despite efforts taken to support the sector, many are suggesting they feel let down by their employers. A workforce that feels unsupported or doesn’t know where to turn can lead to all kinds of issues with productivity, absence and ultimately the loss of skilled staff. It is vital that employers look at ways to support the health of staff and give them the confidence to communicate their worries and concerns in the future so that they can continue to perform well professionally.”

There is still a lot of stigma surrounding mental health, and knowing how to deal with mental health issues can be challenging for both the employer and employee. Speaking about feelings and showing vulnerability is still seen by many as a sign of weakness or something that people simply don’t know how to approach with others.

When asked how work-related stress or anxiety made them feel, over 70 percent of those surveyed said it made them question their ability to do their job and 43 percent said they felt physically unwell. A notable 41 percent said it made them want to seek new employment (Figure 1).

Perhaps more worryingly, over a third of those surveyed that suffer from work-related stress and anxiety say they ignore how they feel and hope it goes away (36 percent) or hide it from others (35 percent). The vast majority of respondents (93 percent) have had to take up to three days off work because of stress or anxiety in the last 12 months,

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**FIGURE 1: HOW DOES WORK-RELATED STRESS OR ANXIETY MAKE YOU FEEL?**

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to seek new employment</td>
<td>41%</td>
</tr>
<tr>
<td>I feel undervalued</td>
<td>50%</td>
</tr>
<tr>
<td>It causes difficulties at home</td>
<td>33%</td>
</tr>
<tr>
<td>It stops me from doing my job properly</td>
<td>41%</td>
</tr>
<tr>
<td>It makes me question my ability to do a good job</td>
<td>72%</td>
</tr>
<tr>
<td>It damages my professional relationships</td>
<td>24%</td>
</tr>
<tr>
<td>I feel physically unwell</td>
<td>43%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>
25 percent became reclusive and 9 percent had felt suicidal.

What can be done?
Sixty percent of employers surveyed said they were extremely concerned about stress and mental health problems in the veterinary sector, with 38 percent believing that an employee assistance programme (EAP) is the most important benefit they can offer staff, along with a health benefits package (25 percent). A quarter of employees agree with employers that an EAP is an important staff benefit, 58 percent would like to see a more supportive work culture, 50 percent want employers to open the lines of communication and 48 percent believe flexible working would help.

Russ added: “The problems caused by poor mental health are not immediately solvable, but there are steps that can be taken to help lower stress levels in the workplace. Implementing an EAP can help support the well-being of your workforce, particularly their mental health. An EAP is easy to put in place and provides staff with access to confidential support, assistance and face-to-face counselling to help them deal with a range of life events.

“Not only does an EAP benefit the individuals that use the service, but it can also benefit employers and managers who may not be trained to deal with the issue at hand and give them somewhere to signpost their team members for professional guidance and support.”

The results of this survey will not be shocking to most in the veterinary profession. The issue has been well-publicised and there are initiatives in place to tackle the growing prominence of mental health problems in the sector. Nevertheless, the statistics bring home the importance of caring for the mental well-being of employees and colleagues.

The issues become even more vital when considered alongside other pressures on the profession. In a sector that is already amidst an employment crisis, 72 percent of participants question their ability to do their job and 41 percent wish to seek new employment because of work-related stress or anxiety.

Workplaces can do more to help quash these issues. The results emphasise the need for support in the workplace; over half of respondents thought there were no effective stress management or mental health support programmes in their place of work. This can change. Many employers and employees believe that putting an EAP and health benefits package in place would be beneficial. Responses from employees also imply that a more supportive work culture is needed, with more open communication and flexible working where possible.

The results are from a survey of 60 veterinary sector employers and employees in the UK conducted for Sovereign Health Care in January 2018 by Survey Monkey. For more details about how Sovereign Health Care can help support the health and well-being of your workforce, visit sovereignhealthcare.co.uk/business.

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What is veterinary forensic medicine and why is it important?

Forensic work is a growing area of interest in the profession and requires a different set of skills from routine diagnosis and treatment.

The adjective “forensic” is defined in the Concise Oxford Dictionary as meaning “relating to, used in, or connected with a court of law”. Thus, “forensic veterinary medicine” can be considered the “use of veterinary knowledge applied to the purpose of the law”.

Although veterinary surgeons have played a part in such work for many years, it is only in the past decade that the subject has really come into its own, with the appearance of authoritative textbooks (Merck, 2007; Cooper and Cooper, 2007, 2013; Munro and Munro, 2008; Huffman and Wallace, 2013; Bailey, 2016).

There has been a tendency to equate “forensics” with the investigation of alleged cruelty to/abuse of an animal. Forensic veterinary medicine has provided evidence in a wide range of animal-related litigation. It has also been employed in the context of activities such as insurance claims, appearances at tribunals, inquiries, environmental impact assessments and defending or propounding allegations of professional misconduct or other disciplinary measures.

The importance of greater veterinary involvement in forensic work was first strongly emphasised in the UK in papers directed primarily at members of the profession (Chapman, 1986; Cooper and Cooper, 1991). Soon after, the UK’s Forensic Science Service (now, alas, disbanded) established a unit devoted to analysing animal DNA and at about the same time, numerous small laboratories, in the UK and elsewhere, began to develop and advertise an “animal forensics” capability. Interest among veterinary schools is growing: last year, the University of Surrey launched a dedicated veterinary forensic pathology and science service.

Key features of veterinary forensic medicine

There are three main ways in which animals are involved in litigation:

1. As the cause of an incident – animals of different species, singly or in groups, can cause injuries, death and financial loss
2. As the victim – if they are killed, injured, poached, exported illegally or treated inhumanely
3. In providing information that is relevant to an incident – for example, because an animal was present when a crime was committed
In circumstances where the animal is the victim (the most usual reason for a veterinary involvement), legal cases generally fall into four categories:

1. The animal has died under unusual, unexpected or suspicious circumstances and is investigated with a view to determining the circumstances – that is, the cause, mechanism and manner – of death
2. The animal is alive but exhibits unusual, unexpected or suspicious clinical signs or is injured or incapacitated under unusual or suspicious circumstances
3. The animal’s welfare apparently is, or has been, compromised. In these cases there is a need to determine whether an animal is being (or has been) subjected to unnecessary pain, suffering, discomfort or distress
4. A non-domesticated animal appears to have been taken, killed or kept in captivity unlawfully – a form of “wildlife crime”

Dealing with a forensic case that involves animals can involve a variety of techniques:

- Examination and assessment of the alleged crime and the interviewing of people who are, or are believed to be, involved in the incident or may have relevant information
- Examination of live animals
- Examination of dead animals
- Examination of the environment
- Collection and identification of specimens, including derivatives and samples, for laboratory testing
- Correct storage and despatch of specimens for laboratory testing and presentation of evidence
- Laboratory tests
- Production of report(s)
- Appearance in court
- Retention of reference material for further court proceedings or for reference

The provision of forensic evidence must be scientific and objective in the recognition that, ultimately, it is likely to be presented in a report and, if in court, must be in accordance with the rules of procedure of that court.

It is important to note that, whatever the context, forensic veterinary work differs in many ways from routine diagnosis and treatment and requires in particular a combination of in-depth investigation, strict adherence to protocols and standard procedures and a degree of lateral thinking (Cooper and Cooper, 2016).
In every case, be it writing a veterinary expert report on the scientific interpretation of laboratory data or standing up in court acting as an expert witness on behalf of the court, I find that I am learning more about the subject than I have from reference books.

This article is intended to help general practitioners who are involved in forensic matters benefit from examples of what can happen afterwards.

**Animal Welfare Act 2006**

A large number of welfare investigations are carried out under the provisions of this Act. A very important part of the practical enforcement of issues affecting the welfare of animals is the ability to remove them from the environment in which suffering is being caused or likely to be caused.

Section 18 of the Act defines the powers available to (properly appointed) inspectors and (police) officers. Note that an “inspector”, for the purposes of this Act, and defined in section 51 of the Act, is currently likely to be a state veterinary service inspector or an inspector authorised by a local authority.

A welfare worker, for example someone employed by the RSPCA, PDSA or RSPB, is not considered to be an inspector under the provisions of this Act and therefore must rely on an officer or an inspector to exercise various powers, such as set out in section 18 of the Act, legally. These workers have no powers of entry onto premises such as homes, gardens and farms.

The relevant part of section 18, powers in relation to animals in distress, is subsection 5: “An inspector or a constable may take a protected animal into possession if a veterinary surgeon certifies— (a) that it is suffering, or (b) that it is likely to suffer if its circumstances do not change.”

If you, a veterinary surgeon, are aiding an animal welfare worker or other inspector or officer in a case involving the welfare of animals, you may be asked to complete a section 18(5) certificate under the Act. This procedure is very important; it will allow the inspector or officer (but not the welfare worker) to take into possession (seize from the owner or keeper) the animal whose welfare you consider to be compromised. The officer or inspector will, usually, immediately pass that animal into the care of the welfare worker. It is often the case that you will be asked to carry out a forensic clinical examination of the animal so you can fully document its state of health.

The s18(5) certificate is often saved on a practice management system as a blank pro forma or you may be presented with a blank form at the scene. Figure 1 shows an example that is, in my experience, typical of the completed certificates issued by veterinary surgeons and used in court as evidence supporting a criminal investigation and prosecution.

**RCVS guidelines**

The RCVS produces some very comprehensive guidelines in its Code of Professional Conduct. Chapter 21 – “Certification” – details the 10 Principles of Certification as well as paragraphs with commentary and advice (eg 21.3).

21.3 includes the statement “The simple act of signing their names on documents should be approached with care and accuracy” and 21.5 details “Veterinarians should also familiarise themselves with the form of certificate they are being asked to sign and any accompanying Notes for Guidance, instructions or advice from the relevant Competent Authority.”

In my opinion, Figure 1 shows a number of obvious deviations from the RCVS certificate requirements. The list of deviations I have compiled is probably not complete (I do not believe that I have seen everything yet), but I offer it here as an indication of what is actually done. I have provided my commentary as to why I think there are problems with relying on this certificate in the forensic arena and have given advice on how to avoid criticism.
Deviations from RCVS guidelines

“Print Name” and “Signed” transposed

21.3 not satisfied. I know this is picky and obvious, but it may be seen by others as indicating a lack of attention to detail by the veterinarian responsible, which may be reflected in other parts of the certificate (as was the case in this example). If your errors lead to you being challenged in court, not only are you going to be embarrassed but it may not reflect well on the profession.

Exhibit number

The certificate describes “puppies in a cage”, however, their exhibit numbers are not properly listed. Is it four puppies: “AF-1” and “2” and “3” and “4”; or five: “AF” and “1” and “2” and “3” and “4”; or four: “AF-1” and “AF-2” etc? This is contrary to principle 10. Certificates should clearly identify the subject being certified. There are four sections on this pro forma so why was each exhibit (puppy) not given its own, unique entry? If there were more than four individuals then a second certificate should have been prepared.

Description

The number of puppies is not defined (and there is not enough certainty regarding the exhibit numbers to be certain of that number).

Each of the puppies is not identified in sufficient detail to enable the individual to be “clearly identifiable” (unique markings, microchip, colour, sex, etc) – contrary to principle 10. The use of hospital collars (temporary plastic collars on which identification marks may be written in indelible pen) is commonplace, cheap and very reliable. If all the puppies were very similar and no alternatives available, then simply marking each with a felt pen or nail varnish (mark on the left ear = AF-1, on right ear = AF-2, etc) would suffice.

The certificate clearly alludes to the singular “animal” for each part of the document, ie “The animal is likely...”, so, to lump many individuals together is not consistent with the format of the certificate. The effort required to detail each individual into a separate part of a certificate and follow its format is part of the discipline required of you.

Parts of the certificate left incomplete

This is contrary to principle 6. A simple score-through of the blanks would have prevented this criticism.

No mention of the subsection of section 18

It is not noted to which subsection the certificate applies (the certificate may be used for subsection 3 or 5). If the document was intended to be an s18(5) certificate, then that should have been indicated.

No copy made of the certificate

This is contrary to principles 1 and 8. I have not yet been aware of a single veterinary surgeon copying certificates such as this for their own records. Certainly, copies are made (usually by the prosecuting agency), however, the originals invariably are issued at the scene without this requirement having been met. Most mobile phones can take photographs, which can be printed later, and there are many apps (some free) which will produce PDF files of photographic images taken on mobiles.

Address of issuing veterinarian missing

This is contrary to principle 6. Again, I have yet to see a single s18(5) certificate with such information included. Even if you have not brought your practice stamp with you, you should add the practice details in longhand as you may not be the only “J Smith MRCVS” in the UK that day.

Certificate completed and signed in black ink

This is contrary to principle 6. Make sure you have a pen of any colour other than black to hand when completing these certificates.

No unique certificate identifier

This is contrary to principle 8. The certificate itself is an item of evidence and should be given a unique identifier (which, if necessary, could then be associated with an exhibit number or may even be an exhibit in its own right) by you. Your initials and a number will do, but be sure to record the identification in your contemporaneous notes.
Circumstances of issuing of a certificate
I have compiled a few points from my experiences in court regarding these certificates. I am not legally trained or qualified, so my comments here are “for information only” and must be verified by a legal professional if their content is intended to be relied upon.

Firstly, if you intend to issue an s18(5) certificate, you must issue it as a signed paper document, completed properly, to the officer or inspector before they try to take possession of the animals to which the certificate applies. It is not sufficient to issue a “verbal” certificate, eg “Yes officer, I do believe that the puppies in that cage are likely to suffer if their circumstances do not change, pursuant to s18(5) of the AWA 2006.”

If the officer or inspector relies on your verbal statement (even if you prepare a written certificate later and provide it after the fact), it may be argued in court that the seizure was unlawful and that the evidence obtained as a result should be excluded from the hearing. This could jeopardise the hard work, time, effort and money expended in collecting that evidence.

Try to do as much homework as possible before undertaking welfare cases. You are the professional and you owe it to everyone concerned to be aware of the rules and responsibilities that forensic work may demand. Familiarise yourself with the relevant parts of the Animal Welfare Act 2006 and its accompanying documents. Find out if you have the correct paperwork, make sure you have appropriate equipment (including a blue biro) and the “visit kit”.

If you are in doubt as to how to proceed, stop. Ask for help and advice; organisations such as the RCVS, BVA, BSAVA and VDS are all there to help and are the best placed to do so. Do not be pressurised into doing something that you are not comfortable with.

Finally, examine the animal. The 1st Principle of Certification states that “A veterinarian should certify only those matters which: … b) can be ascertained by him or her personally; …”. Whether or not you think it is necessary to state the obvious, it will be much better received by a court if you could say that you turned up at an animal welfare crime scene with, at least, a stethoscope and thermometer, and could document that you used them.


**Tails from the “other side”**

What makes a veterinary nurse become an insurance assessor?

In my case it was simple. I had come to the end of my locum job in Brighton and my friend recruited me. My plan was to stay at Agria for six months. Eleven years later I am still here – but why? Surely going from hands-on, vocational work to soulless insurance assessment was a step down the career ladder?

The first thing I learned is that insurance is not soulless. Our team – three quarters of which are qualified veterinary nurses – is full of empathy, sympathy and compassion for our customers (less so for our colleagues, who we love to horrify with tales of fabulous abscesses and unbelievable foreign bodies...).

We laugh with our customers when they tell us that their pet has eaten yet another pair of pants, and we cry with them when their new puppy ends up in hospital with parvovirus.

We laugh with our customers when they tell us that their pet has eaten yet another pair of pants, and we cry with them when their new puppy ends up in hospital with parvovirus. All the cases that we see have one thing in common – they require us to work hands-on helping our customers get the very best care for their pets.

Pet insurance is not veterinary practice. There are very few similarities, but we are all professional people working for the greater good of our customers. We don’t have to stay until midnight assisting with a caesarean section or rush to the practice at 3am with a gastric torsion on its way.

However, we are in the unique position to completely understand what that is like. All the veterinary nurses who work here have had to deal with a busy reception area, puppies with no bladder control and consultations running behind. When we call you and you ask us to call back – we can visualise how busy you are and won’t pressure you for immediate answers to our queries.

My first few weeks in an office job were a shock to the system. I could grow my nails, wear jewellery and have my hair down. I no longer had fears of emptying my tunic pocket to find a maggot or wondering where the smell of anal glands was coming from.

I was in practice for 10 years and thought I was a career veterinary nurse, I couldn’t imagine doing anything else. I loved training the student veterinary nurses and I loved the pure nursing of the animals. My first few weeks in an office job were a shock to the system. I could grow my nails, wear jewellery and have my hair down. I no longer had fears of emptying my tunic pocket to find a maggot or wondering where the smell of anal glands was coming from.

We have very different roles from each other – veterinary practitioners and insurance staff – but, at the end of it all, we are all working together for our customers, for the health of their pets.

Hazel Phillips
Claims Assessor, Agria Pet Insurance

Hazel qualified as a veterinary nurse in 2000, and joined Agria in 2006. She has since got married, had two kids and worked her way up to the position of claims team leader.

SPONSORED CONTENT

Have a burning question that you’d like to ask the ‘other side’ about pet insurance? Let us know at admin.vet@agriapet.co.uk and we’ll do our best to shed some light on anything you want to know via this column.
Canine scabies (sarcoptic mange) is one of the oldest known skin diseases. It is caused by the superficial burrowing mite *Sarcoptes scabiei* var *canis* (Figure 1). Affected animals rapidly develop hypersensitivity to the mite, resulting in severe pruritus.

### Clinical features
Scabies is highly contagious and there may be a history of contact with other dogs, also exhibiting pruritus, in kennels, grooming facilities, parks or in the household. In the UK urban foxes are a source of infestation. The condition is progressive without treatment and will become generalised.

Lesions include papules, alopecia, erythema, crusts and excoriations. In the early stages, lesions may be subtle and consist of mild pruritus, scaling and fine crusting, especially on the edges of the pinnae. They then extend to involve the facial area (Figure 2). As the disease progresses, there is involvement of the elbows, hocks, brisket, ventral abdomen and eventually most parts of the body.

Affected dogs may develop systemic signs of disease such as anorexia with weight loss, and a peripheral lymphadenopathy is common. Severely affected dogs will incessantly scratch and bite, causing excoriation (Figure 3). Severe neglected cases can result in death and scabies is also a common cause of death in urban foxes.

A rare form of the disease is one involving severe generalised crusting, analogous to a human variant called Norwegian scabies. In these cases, there are usually multiple mites and an underlying immune suppression should be suspected.

In a multi-dog household, it is possible that some dogs will harbour mites but not show signs. In time, without veterinary intervention, hypersensitivity develops and these dogs will also become pruritic.

Contagion to humans is common. Lesions occur in contact sites with the dog, arms and abdomen, for example, and are extremely pruritic. These lesions generally spontaneously disappear with appropriate treatment of the dog, although communication with the family physician is advisable.

### Differential diagnosis
- Allergic skin diseases (atopy, food, flea)
  - In the early stages, scabies can mimic atopic dermatitis in particular and respond to anti-inflammatory doses of glucocorticoids. This response is lost as the disease becomes more generalised and there have been cases where even immunosuppressive doses of glucocorticoids failed to control pruritus
- *Malassezia* dermatitis
- Superficial pyoderma
  - If combined with *Malassezia*, the resulting pruritus can be as severe as that of scabies
- Demodicosis
- Dermatophytosis
- Pemphigus foliaceus if severe crusting is present

### Diagnosis
A history of severe pruritus, increasing in severity with time, and increasingly poorly responsive to glucocorticoids is suggestive. If acaricidal treatments have been used, it is important to check compliance. Pups bred in poor husbandry conditions are susceptible.

A physical examination should be undertaken with attention to typical lesion sites. Rubbing the ear margin between the thumb and forefinger causes the dog to scratch. This pinnal-pedal reflex is highly suggestive of scabies, although not 100 percent positive. It should prompt treatment even if other tests are negative.

Tape strips should be done to rule out *Malassezia* and superficial pyoderma. Also take superficial and deep skin scrapings. Multiple samples (up to 10) are advised, as *Sarcoptes* is very difficult to find except in the Norwegian type mentioned above. Excoriation sites should be avoided. Scrapings can be taken from the edge of lesions. A single mite or egg is diagnostic.

ELISA assay is a useful test in chronic cases. The test detects IgG antibodies against *Sarcoptes* antigens. It is highly sensitive and specific. False negatives may be obtained in early cases, as there is a time lag of three to five weeks after infestation for seroconversion to take place. False positives may occur due to persistence of antibodies for...
several months after successful treatment.
Dermatohistopathology is also useful. Non-specific findings include epidermal hyperplasia, superficial perivascular dermatitis with lymphocytes, mast cells and eosinophils (Hnilica and Patterson, 2017). Mite segments are very occasionally found within the stratum corneum and upper epidermis (Figure 4).

In the presence of suggestive clinical signs, and when sampling has failed to find mites, a therapeutic trial is recommended. A product with a licence for Sarcoptes should be selected, and is best administered by a veterinary surgeon or nurse to eliminate compliance problems.

Systemic treatments are suggested for a therapeutic trial for accurate dosing and better compliance (Hnilica and Patterson, 2017). Three monthly checkups are suggested, as most cases will resolve in that time.

**Treatment**

Canine scabies is not always an easy disease to diagnose but treatment is straightforward in most cases. There is no lack of products with a licence for the treatment of canine scabies and any of them will be highly effective if used according to the manufacturer’s instructions.

Examples of suitable products include sprays (fipronil), washes (lime sulphur dip), spot-on products (selamectin, imidacloprid/moxidectin) and chewable tablets (sarolaner). These examples are not exhaustive and the choice of product will depend on an individual clinician’s preference.

All dogs in the household should be treated, bedding should be destroyed and the environment treated with parasiticidal sprays, using products suitable for flea control.

There is usually a response within two weeks with maximum effect in six to eight weeks. Glucocorticoids may be used to help control pruritus in the first week or so, but only in confirmed cases and not in conjunction with therapeutic trials.

Formulating a year-round parasite control programme that includes measures against fleas, ticks, other mites and endoparasites provides effective protection against canine scabies.

**Prognosis**

The main limiting factor with scabies treatment is a failure of compliance. Measures taken to avoid this include monthly checkups (with reminders), and nurses or veterinary surgeons administering the treatment. In these cases, the prognosis is very good.

**References**

An update on the role of sugars in dermatology

Should glycotechnology be utilised in topical formulations?

 Sugars, or carbohydrates, are the most abundant class of organic compounds found in living organisms. There are two major subfamilies: the simple sugars (monosaccharides) and the complex sugars (oligosaccharides composed of 2 to 10 monosaccharides and polysaccharides composed of more than 10 monosaccharides).

Sugars have mainly been known for their role in providing and storing energy, but they have far more varied functions, particularly with regards to the skin. They are widely involved in cell signalling associated with the modulation of inflammation and play an important role in microbial adherence, colonisation and biofilm formation (Lloyd et al., 2007).

Glycotechnology encompasses the further exploration of these roles and how similar exogenous carbohydrates can be utilised in topical therapies to help control cutaneous infection and inflammation.

The role of sugars in surface microbe-host interactions

The skin is constantly exposed to potential pathogens but often these only pose a threat when the structure and/or function of the epidermal barrier is compromised. Skin infection results when microbes adhere to host skin cells, proliferate and produce virulence factors.

They achieve this using lectins – glycoprotein structures expressed on their cell wall or cell membrane pili that can recognise and bind to skin sugars – which are abundant on animal cell surfaces. Microbes also harbour surface carbohydrates, which promotes intracellular adhesion and therefore the formation of biofilms.

Due to the importance of sugars in microbial adherence, a promising approach in dermatology is to use exogenous carbohydrates, which mimic the naturally occurring ones. Instead of binding to the host cell, the microbial lectins recognise and bind to these exogenous carbohydrates, thus saturating binding sites and rendering them unable to adhere to host skin cells. In vitro studies have been published that demonstrate that specific saccharides can effectively inhibit and reduce microbial adhesion (eg Bond and Lloyd, 1998; McEwan et al., 2005).

The role of skin sugars in surface immunity

Keratinocytes can become activated by exogenous factors, for example infections, irritants and allergens, and/or endogenous stimuli, such as cytokines released from the immune system. Once activated, these keratinocytes release a wide panel of cytokines such as interleukin-1 (IL-1) and tumour necrosis factor alpha (TNF-α), which initiate the inflammatory cascade. Cytokines possess both a receptor binding domain and a carbohydrate binding domain, the latter of which is a lectin and recognises specific sugars.

This interaction is essential for producing the immune signal, so blocking the carbohydrate binding domain with specific exogenous sugars results in reduced pro-inflammatory cytokine stimulation. An in vitro study evaluating the modulation of canine keratinocyte activation (Ibisch et al., 2001) demonstrated a greater inhibitory effect on the release of TNF-α in the L-rhamnose solution (a 75 percent decrease) compared with a dexamethasone solution (a 56 percent decrease).

In summary, the use of specific exogenous sugars can provide anti-adhesive and immunomodulatory benefits, thus aiding in the management of cutaneous infection and inflammation. Utilising glycotechnology in topical formulations such as shampoos and ear cleaners represents an innovative and useful addition to the armoury of dermatology therapies.

References


Hepatic encephalopathy (HE) is described as a spectrum of neuropsychiatric abnormalities seen in patients with liver dysfunction after exclusion of other known brain disease (Ferenci et al., 2002). HE is most frequently found in association with some form of portosystemic shunt (PSS) in dogs and cats but may also occur in other hepatic disorders that lead to end-stage liver failure.

Pathogenesis
HE has a complex pathogenesis and is likely a culmination of multiple factors. While an increased blood concentration of ammonia is the most commonly cited cause (Bexfield and Watson, 2009), the clinical signs can also be associated with several other metabolites including mercaptan, amino acid imbalances and abnormalities of the GABA-benzodiazepine receptor.

The pathophysiology of HE can be divided into three different phases (Bexfield and Watson, 2009):

1. Ammonia and other waste products are generated from protein in the process of food digestion and absorption in the digestive tracts or the breakdown of endogenous protein (muscle) if an animal is in negative nitrogen balance. The blood concentration of these toxic metabolites increases due to impaired liver function or the direct entry into the systemic circulation in PSS.

2. Amino acid imbalance subsequently occurs and causes changes in the serum.

3. Brain cells are damaged by the toxic metabolites. Impaired cognition is also caused by changes of neurotransmitters, including monoamine and their receptors.

A number of concurrent factors may exacerbate the clinical signs of HE (Lidbury and Cook, 2016, Table 1). Management should be aimed at reducing these factors.

### Signalment
PSS is the most common cause of HE in dogs and cats, with most cases more specifically due to a single congenital PSS (Lidbury et al., 2012). The signalment of dogs with HE naturally reflects this; 33 months is the median reported age of dogs displaying clinical signs of HE (Lidbury and Cook, 2016). While there are currently no studies showing breeds of dogs predisposed to HE, breeds most likely to have a congenital PSS include Havanese, Yorkshire Terrier, Maltese, Dandy Dinmont Terrier, Pug, Miniature Schnauzer, Standard Schnauzer and Shi Tzu (Tobias and Rohrbach, 2016).
Several breeds of cats have been reported to be affected by congenital PSS, including domestic shorthair; Persian, British Shorthair, Ragdoll, domestic longhair, Birman, British Blue and Tonkinese. The median age at presentation is eight months (Scavelli et al., 1986).

Clinical signs
The syndrome of HE is well recognised in dogs and cats and typically results in intermittent, diffuse cerebral disease that varies in intensity from day to day, ranging from depression and lethargy to seizures and coma. Episodic signs of encephalopathy, which worsen after a meal, are particularly suggestive of HE. Clinical signs can be divided into four stages (Salgado and Cortes, 2013; Table 2). Cats in later stages may also present with golden or copper-coloured irises secondary to decreased hepatic metabolism (Lipscomb et al., 2007).

In all stages of the clinical syndrome, animals may show non-neurologic signs related to the underlying disease such as vomiting, diarrhoea, weight loss, ascites, insufficient growth, polyuria and polydipsia (Taboada and Dimski, 1995).

Diagnosis
There is no definitive diagnostic test for HE, therefore a diagnosis is based on the presence of consistent clinical signs, the exclusion of other causes of encephalopathy, laboratory findings, imaging studies, and response to treatment (Lidbury and Cook, 2016). Portosystemic shunting is the most common cause of HE, so all affected patients should be evaluated for this.

Blood tests are useful in determining liver function; tests should include:

- Total protein
- Albumin
- Blood urea nitrogen
- Total cholesterol
- Glucose
- Total bilirubin
- Ammonium
- Total bile acids

Hyperammonaemia indicates PSS or hepatic insufficiency and the measurement of pre- and post-prandial bile acid concentration is a useful test for diagnosing hepatobiliary disease, including PSS (Salgado and Cortes, 2013).

A definitive diagnosis of PSS requires diagnostic imaging or surgical exploration. Several imaging modalities are useful for this purpose, including angiography, abdominal ultrasonography, portal scintigraphy, computed tomography angiography and MRI angiography (Lidbury and Cook, 2016).

Treatment
The underlying cause of the HE should be treated, including surgical ligation of congenital PSS. In the meantime, it should be managed medically with supportive management measures dependent on whether a patient has acute or chronic HE. A typical regime for management of an acute HE crisis involves the components outlined in Table 3 (Bexfield and Watson, 2009; Lidbury and Cook, 2016).

Traditionally, dietary management of HE patients has revolved around protein restriction to reduce ammonia absorption from the colon. More recently, it has been suggested that colonic ammonia absorption is really only significant in patients fed on poor-quality diets that contain poorly digestible protein (Bexfield and Watson, 2009). Moreover, it has been demonstrated that patients with chronic liver disease may develop severe muscle wasting from being in a long-term catabolic state and a low-protein diet can lead to increased muscle protein catabolism, promoting further hyperammonaemia (Center, 1998).

The current practice when reintroducing food to patients with HE is as much protein as they can tolerate, or to

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<th>STAGE II</th>
<th>STAGE III</th>
<th>STAGE IV</th>
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<tr>
<td>Mild confusion</td>
<td>Lethargy</td>
<td>Incoordination</td>
<td>Recumbency</td>
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<tr>
<td>Inappetence</td>
<td>Ataxia</td>
<td>Confusion</td>
<td>Complete unresponsiveness</td>
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<td>Dull demeanour</td>
<td>Markedly dull behaviour</td>
<td>Stuporous</td>
<td>Coma</td>
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<td>Mild irritability</td>
<td>Personality changes</td>
<td>Inactive but arousable</td>
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<td>Disorientation</td>
<td>Occasional aggression</td>
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**TABLE 2 Stages of hepatic encephalopathy**
restrict protein to a level that is just enough to prevent HE. If protein restriction is necessary, a minimal intake of 2.1g protein/kg body weight/day is recommended for dogs; 4.0g/kg body weight/day is recommended for cats (Cordoba et al., 2004).

Selection of an appropriate dietary protein source should also be considered. Nonmeat protein-based diets are often recommended for dogs with HE (Proot et al., 2009). Due to the unique metabolic requirements of cats, the use of vegetable protein sources is not advised. A high quality, highly digestible protein should be fed little and often in normal amounts. A feeding tube should be considered in patients that are anorexic. Treatment should be monitored by weighing the animal regularly, body condition scoring and checking blood albumin levels (Bexfield and Watson, 2009). Protein levels in the diet should be increased if blood protein levels fall or the dog loses weight. A commercially prepared prescription diet (such as Royal Canin Hepatic) is appropriate for patients with HE (Cordoba et al., 2004; Proot et al., 2009). If the patient becomes neurologically asymptomatic, the level of protein in the diet can be slowly increased by 0.3 to 0.5g/kg at 7- to 10-day intervals using an additional dairy or vegetable protein (Cordoba et al., 2004).

Identify, remove and treat any precipitating factors such as gastrointestinal bleeding, constipation, metabolic alkalosis, hypokalaemia, azotaemia or inflammatory disease.

Withhold food and water for 24 to 48 hours.

Administer intravenous crystalloid fluids taking into account the change in fluid volume and changes in fluid distribution (note that some authors recommend avoiding lactated Ringer’s solution).

Avoid/treat hypokalaemia – measure potassium levels regularly and supplement fluids as necessary.

Avoid/treat hypoglycaemia, as this can cause irreversible brain damage and seizures – measure blood glucose frequently and supplement fluids as necessary.

Administer warm water enemas (10ml/kg q4-6 hours) to remove any source of ammonia from the faeces. Lactulose can be given per rectum after a cleansing warm water enema at a dose of 1-3ml/10kg body weight (diluted to 30 percent with warm water) q6-8 hours for dogs and cats. Oral lactulose may be administered once an animal is able to swallow.

Give antibiotics, eg ampicillin, intravenously at a dose of 20mg/kg q6-8 hours to protect against bacteraemias.

Administer a gastroprotectant (eg intravenous ranitidine) if there is evidence of gastrointestinal bleeding. Oral sucralfate should only be used once an animal is able to swallow. Cimetidine should be avoided as it is metabolised by the liver.

Use a low-dose propofol infusion if seizuring (1mg/kg bolus followed by 0.1-0.2mg/kg/minute infusion to effect). The use of diazepam to control seizures is controversial as it is heptatically metabolised.

Administer intravenous mannitol (0.5-1.5g/kg over 10-20 minutes) if clinical signs are suggestive of cerebral oedema.

If protein restriction is necessary, a minimal intake of 2.1g protein/kg body weight/day is recommended for dogs; 4.0g/kg body weight/day is recommended for cats (Cordoba et al., 2004).

A full reference list is available on request.
Fulfilling the growing demand for raw pet food

Craig Taylor, MD of Natures Menu, tells us about the journey of the company, which has expanded dramatically over the last five years.

How has Natures Menu developed since its conception?
The business was originally called Anglian Meat Products and was started by my father in 1981, when he saw just how much poultry was being discarded by the industry. He started mincing, grinding and freezing the product and selling it to local dog and cat breeders. Breeders were soon asking about other meats, which led to more diversity in product and the business was born. The original minced chicken product is still one of our top five highest-selling products.

The major changes have come during the last five years, as the demand for natural pet foods increased. We have tripled our turnover during that time and now have an even more diverse range of products, including freeze-dried raw foods, which is a first for Europe.

What obstacles have you had to overcome to get to this point?
The DNA of British pet food has been meat and biscuit for a long time. Due to the lack of change (which is key when ensuring your pet gains as many nutritional benefits as possible), we are now looking at 10 percent of pets being physically unable to move to a different diet. Bodies become aligned to one type of food if they are fed the same every day, and the animals’ health can suffer because of this.

Pet owners are often too scared to change the diets and frequently opt for the mantra of “stick with what you know”, only they do not always know what ingredients are going into these meals. Natures Menu clearly labels the ingredients in all our products, so that consumers know exactly what their pet is eating.

Research has shown that a staggering number of people feed their pets butcher offcuts and this is a key concern; this meat is not being tested or packaged properly, plus it is not controlled by Defra or the FSA. It is alarming that so many owners are sourcing their raw pet food from butchers, supermarkets and market stalls.

We are here to drive natural pet foods for the benefit of pets. There will always be both positive and negative sides to the debate on raw food diets, but science is now helping to develop the understanding of what has been a controversial topic.

Raw pet foods are here to stay but will continue to be challenged by the professional veterinary industry and general science to ask how we can make sure consumers use raw in a safe environment. Is it our place to promote home safety? Yes. Will the natural pet food industry continue to grow despite the ongoing debate? Absolutely.

What do you put this growth down to?
It is down to the complete change of perception on raw feeding. Vets and consumers have a real hunger to learn more about natural pet foods and this has ultimately led to major growth in the market.
Five years ago, there were 14 registered raw pet food producers in the UK. Today there are 96. The industry ships 500 tonnes of raw food to market a week, and it has become a significant part of the pet food world. Raw is a separate category in stores worldwide now. It is nice to see the industry mature into a credible and managed sector, adopting good practice guidelines. It is very important that products are retailed professionally and safely.

**What are the benefits of moving to the new site?**

For one, Natures Menu is the new signpost for the Norfolk gateway. It is sad in Norfolk that other large established companies have gone; we want to show that businesses can thrive here. The location is logistically excellent and brings production, processing and delivery all under one roof. We can ship 1,000 to 2,000 orders per day via the 70 delivery vans.

The move has also allowed us to tap into another layer of quality people from both Norfolk and Cambridgeshire. Five years ago, we had 74 employees and today we have 221. It is very important that we invest in growing the team as the business is the people.

**What does the future hold for Natures Menu?**

Our aim is for Natures Menu to continue to be leaders in the industry and to double our turnover in the next five years. We will continue to educate vets and nurses through our CPD, which will ultimately increase consumer knowledge, and show that pets thrive and are healthier if you feed them good quality products. We will also be taking the CPD to universities, so those just starting out in their career in the veterinary industry will do so armed with all the facts on raw feeding.

**Europe’s No.1 for raw and raw inspired pet nutrition**

Learn More About Raw

FREE educational support available. Try our Raw Consultant Course and earn 8 CPD hours.

Call us today on 0800 0183770 or contact melanie@naturesmenu.co.uk to find out more about our complete and balanced raw meals and CPD courses or about booking a lunch & learn for your practice!
Fractures of the humeral condyle are common in the dog. The lateral side is fractured most often (in 34 to 67 percent of cases), with intracondylar fractures (often referred to as “Y” or “T” fractures) less common (26 to 35 percent of cases). Lateral condylar fractures are most prevalent in skeletally immature dogs, whereas medial and intracondylar fractures are usually seen in skeletally mature dogs and are often, but not exclusively, associated with more severe trauma, such as a road traffic accident.

It has been recognised that Spaniel breeds have a high incidence of humeral condylar fractures (Marcellin-Little et al., 1994; Butterworth and Innes, 2001). Often these injuries are in skeletally mature dogs, with unexpectedly low levels of trauma. It is now recognised that some dogs have a sagittal, radiolucent fissure present at the intracondylar isthmus, which separates the medial and lateral parts of the condyle and may extend from the articular surface to, or towards, the supratrochlear foramen (Figure 1). Initial reports revealed these fissures in the contralateral limb of dogs with humeral condylar fractures, but further investigations have shown fissures unilaterally or bilaterally in lame or clinically sound dogs (Marcellin-Little et al., 1994; Butterworth and Innes, 2001).

The exact pathogenesis of this fissure is unclear. Theories suggest failure of fusion of the separate centre of ossification of the distal humerus, gives rise to the condition (incomplete ossification of the humeral condyle; IOHC). It is proposed that normal physiological loading on this weakened condyle may cause the fissure to progress across the physis to the supratrochlear foramen. Recently it has been suggested that in some dogs, the fissure represents a stress fracture developing after ossification is complete, and therefore should be called humeral intracondylar fissure (HIF) (Butterworth and Innes, 2001). This is supported by reports of the appearance of fissures in previously normal condyles. The presence of joint incongruency has been implicated in the development of these stress fractures (Moores and Moores, 2017).

**Diagnosis**

Diagnosis is based on demonstration of a fissure. To see them, the X-ray beam must be directed parallel to the fissure. Several different craniocaudal projections may be required. An artefactual line may be created by the superimposition of the ulna on the condyle (a “mach line”) (Butterworth and Innes, 2001). Occasionally the fissure may extend only partway across the condyle (a partial fissure). New bone formation can be seen on the lateral epicondylar ridge in response to instability. Normal radiographs do not exclude the presence of a fissure.

Computed tomography (CT) is the gold standard. CT scans reveal the presence of a complete (Figure 2) or incomplete (Figure 3) hypoattenuating area of the condyle. Importantly, CT allows assessment of the elbow joint for other lesions, such as elbow dysplasia and incongruency. In one study, 95 percent of affected dogs had bilateral fissures, with medial coronoid disease in 26 percent and degenerative joint disease in 79 percent of elbows (Marcellin-Little et al., 1994; Butterworth and Innes, 2001).

Dogs with IOHC may present with lameness, condylar fractures secondary to IOHC or as an incidental finding in non-lame dogs. Dogs with fractured condyles are treated with appropriate internal fixation. While the epicondylar ridges tend to heal if stability is provided, the intracondylar region may never heal. In the case of a juvenile with a lateral condylar fracture, we often use a small pin as an antirotation device. In cases of IOHC, we recommend a more robust form of fixation, typically a bone plate spanning the fracture site (Figure 4). As the condylar fissure frequently fails to unite, there is an increased risk of fatigue failure of the transcondylar screw (Figure 5) with subsequent condylar fracture, recurrence of lameness or loss of fracture reduction. For this reason, the largest transcondylar screw that can be safely placed should be used.

**Management**

Management of IOHC must balance the benefits of the procedure against the risk of complications. Surgical stabilization by transcondylar screw placement aims to resolve lameness and reduce risk of fracture or of developing lameness. In cases of lameness with pain associated with
the elbow and the presence of a fissure, screw placement is recommended. Complication rates as high as 59.5 percent have been recorded, with seroma formation and post-operative infection (30.4 percent) (Hattersley et al., 2011).

The use of positional rather than lag screws increased the likelihood of post-operative sepsis (Hattersley et al., 2011). Implant failure is minimised by increasing the screw size. It is recommended that the transcondylar screw protrude 2mm to 3mm from the transcortex to aid easier removal should screw failure occur. The use of a shaft screw has been advocated, as this has a thicker shaft or core, increasing the radius of the screw at the fissure line and dramatically reducing the risk of failure by breakage. It is reported that screws placed from lateral to medial, as is the most common practice, had a 50 percent complication rate, whereas screws placed from medial to lateral (Figure 6) did not have any major complications (Moores and Moores, 2017).

Conservative management is associated with high rates of fracture of the humeral condyle; 43 percent of partial fissures and 8 percent of complete fissures fracture within 18 months of diagnosis (Marcellin-Little et al., 1994). In a second study that followed 30 dogs with IOHC diagnosed in 34 elbows, only five dogs (six elbows) (18 percent) progressed to fracture in 24 months; a further two dogs had persistent lameness and had transcondylar screws placed. Twelve other dogs were reported to never be lame, eight were occasionally lame but did not require medication, one was persistently mildly lame and did not require medication and two were persistently lame and required medication (Moores and Moores, 2017).

Interestingly, the fissure size does not relate to fracture risk, suggesting that stress of repetitive loading can cause the fissure to develop and fail (Moores and Moores, 2017).

In summary, IOHC is commonly seen in Spaniels and investigations should be performed if there is an increased index of suspicion. Fractures need to be repaired robustly and owners warned of likely failure to achieve bone union at the fissure site and the possibility of implant failure. Partial fissures and complete fissures can progress to fracture or lameness. Transcondylar prophylactic screw placement can help treat lameness and prevent failure, but have high complication rates. Use of as large a screw as possible is recommended, and placing the screw from medial to lateral may decrease the number of complications. Conservative management may be considered in clinically unaffected dogs; however, this may need reviewing should signs appear.

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

**Canine mandibular reconstruction with a liquid nitrogen-treated autograft**

Yasuhiko Okamura and others, Iwate University, Morioka, Japan

Surgical resection is an effective treatment for most localised tumours of the mouth and associated structures in dogs. However, this may result in mechanical and cosmetic abnormalities that are unacceptable to some owners. The authors describe the treatment strategy used in a 10-year-old female German Shepherd Dog with a large peripheral odontogenic fibroma and malignant melanoma of the lower jaw. The mandible was removed, devitalised by immersion in liquid nitrogen and re-implanted. The regenerated bone contained a normal cell population while the cosmetic appearance of the jaw was preserved and its normal function restored. *Journal of the American Animal Hospital Association, 53*, 167-171.

**Limb shortening as a limb-sparing treatment in canine radius osteosarcoma**

Sarah Boston and others, University of Florida, Gainesville

Amputation is the recommended treatment for the majority of canine patients with an appendicular osteosarcoma, although various limb-sparing strategies have been reported. The authors describe a novel technique used on a 14-year-old female Labrador Retriever with an osteosarcoma and pathological fracture of the right distal radius. This involved a standard resection, but instead of replacing the 6cm bone defect with an endoprosthesis, the limb was acutely shortened and a carpal arthrodesis plate applied. Postoperative function was satisfactory and the patient tolerated the shortened limb. However, due to chemotherapy complications, the dog was euthanased after 127 days. *Veterinary Surgery, 47*, 136-145.

**Effect of metastasectomy on prognosis in dogs with osteosarcoma**

Hailey Turner and others, Colorado State University, Fort Collins

Osteosarcoma is the most common malignant bone tumour in dogs and a high proportion of cases develop metastatic disease. An estimated 90 percent of canine patients may have metastatic disease at first presentation but those lesions will usually be clinically undetectable. The authors examined the records of 194 client-owned dogs with histologically confirmed appendicular osteosarcomas treated with amputation and chemotherapy. They investigated the effect of surgically removing larger lung metastases on the survival of dogs which re-presented with stage III disease. Only those dogs with fewer than three radiologically visible pulmonary nodules received further surgery. The duration of disease-free interval between initial diagnosis and progression to stage III disease did not significantly influence overall survival time. But in selected dogs, metastasectomy did extend median stage III survival time from 49 to 232 days. *Journal of the American Veterinary Medical Association, 251*, 1293-1305.

**Repair of parasagittal fractures of the proximal phalanx in Thoroughbreds**

Matt Smith and others, Newmarket Equine Hospital Referrals, Newmarket

Parasagittal fractures of the proximal phalanx are one of the most frequently reported long bone fractures in Thoroughbred racehorses. Yet the last study on the outcomes in a large case series in the UK was published 30 years ago. The authors describe the findings in 113 cases seen at a major equine referral hospital. Long incomplete parasagittal fractures were the most common finding, found in 82 cases. A total of 54 (48 percent) of these horses made a full recovery after surgery with a higher proportion of those under two years old able to race. The prognosis was poorer in cases with complete parasagittal or comminuted fractures. *Equine Veterinary Journal, 49*, 784-788.
Gender equality has become a live issue of late – somewhat ironically in the same year we celebrated 100 years since the first women won the right to vote in the UK. The concerns over whether we have true equality are by no means limited to the veterinary profession but highly relevant, given the gender shift in the profession.

In 2014, for the first time the RCVS Survey of the Profession announced that 57.6 percent of vets working in the profession were female. We had, it seemed, reached a tipping point. In the same survey, 46.8 percent of men described themselves as a partner, director or sole principal, compared to just 13.8 percent of women. The 41 to 45 years of age cohort was the first to reflect increasing numbers of female veterinary graduates compared to male, and the balance was almost equal in the 46 to 52 age group. Despite this, just 40 percent of specialists were women and only 10 percent were Fellows.

While getting to the top of our profession may take time, women remain under-represented in leadership positions. Looking at five major corporate veterinary groups, just eight of the 34 board or senior management level positions are filled by women. Two of the companies had no females at all. Interestingly, two companies with women as CEOs were more diverse and had at least an equal split of men and women in their senior management positions.

Pay is another reflection of seniority, skills and contribution, and here too there is disparity. The gender pay gap seems to persist throughout careers. A BVA Voice of the Veterinary Profession survey in spring 2017 found significantly more male vets were earning above £95,000 (22.6 percent) than female vets (3.2 percent). In other professions, such as law, women are more likely to fill lower paid, salaried positions, while men are working in leadership positions with greater autonomy and higher pay. Are we heading in the same direction?

There are clearly numerous issues here and many reflect society as a whole. New provisions for shared parental leave have had little impact on male working patterns. However, the desire for part-time and flexible working has increased across the board – and according to BVA surveys, part-time working is preferred by 25 percent of all vets currently working full time. Shift patterns could allow us to provide a service at times when it suits the public and by evening out peaks and troughs, allow us to use resources and assets more efficiently.

Good leadership is as much about the company culture as it is about good business acumen. Some people might appear to be “born to lead” but the skills can also be learned. There are many examples of great female and male leaders within the profession – we just need more of them.

Women often lead in a way that is very different to men, which may make it hard for those making recruitment decisions to value their contribution equally. However, the more participative and consensual way of management that tends to be adopted by women may do more to foster team working and retention. Judging others by our own values and failing to appreciate that there are different ways to achieve the same goals may be holding us back, but it’s a common problem.

The Harvard Business Review reported on a session designed to evaluate decision making for funding by venture capitalists and observed that women entrepreneurs were evaluated in a different way to men. Aggression and arrogance in men were qualities that were framed positively in the context of being an entrepreneur, while women were viewed as being more “emotional”. Men “had money to play with” and women were “reckless with money”. Caution was considered “sensible” in men but a sign of weakness and uncertainty in women.

Perhaps not surprisingly, 52 percent of men received the funding they asked for, compared to just 25 percent of women. Those seeking funding to set up their own practice might expect to encounter similar subjective views, which are discriminatory on a whole other level.

As managers, we need to be aware of our unconscious biases in decision making, especially when we select those we want to mentor and encourage into management. As candidates, we all need to consider the strengths of our own leadership styles and see those as benefits rather than limitations. We have a fantastic opportunity as a profession to look at all the available evidence objectively. It’s about seeking out the best and brightest.

About Gudrun
Gudrun Ravetz is Chief Veterinary Officer for Simply Health Professionals and the BVA Senior Vice President. Gudrun has worked in companion animal practice as well as in industry and management. Gudrun joined the Society of Practising Veterinary Surgeons and went on to be their President in 2012.
Transition management for dairy herds

A look at the impacts of block calving and the importance of vet-farmer communication

To put before farmers the risks and benefits of particular aspects of cow management and encourage them to make decisions about change appears to be the modern approach. Advice comes from many directions and increasingly professional advisors are engaged, including the vet. Case histories are brought forward to enthuse about particular approaches and the findings of research are proffered to support technical developments. Over this winter and for the foreseeable future, it appears that many aspects of cow care are being related to antibiotic usage and the benefits of reducing volumes by better feeding, fertility, immune response, housing, milking technique, staff training and a wide range of activities and directives. It seems that by mentioning antibiotics, farmers will listen to whatever message follows.

The benefits and drawbacks of block calving
It was interesting to attend an on-farm session on autumn block calving presented by AHDB Dairy. In block calving, all cows calve within a twelve-week period. To achieve this, there must be a strong motivation because the management of the herd has to undergo a different mind-set to all-year-round milk production. There are issues about milk price contracts and the demands from purchasers for even milk intake, and the farmer is committing to long-term change, but beneficial changes appear to be due to intensification of activities.

On the farm visited, the management of the baby calves had been left to one person and there had been difficulties with healthy rearing and a higher than desired pneumonia count. With block calving, too many calves are born each day for one person to manage, so the whole colostrum uptake and rearing regime becomes more “professional”. By Christmas, baby calf management is over and this intensification of effort has yielded more healthy calves, better growth and conception rates and more heifers entering the herd either as replacements or for herd expansion. Of great importance was the view that calf rearing was now a job well done.

The farm had to consider carefully the availability of tracks. Access for the cows onto the pasture takes place approximately six weeks earlier (February/March). Cow tracks that are not used by tractors enable the cows to walk into the fields with less impact on gateways and walking through mud. Infrastructure had been put in to enable earlier and longer grazing periods with water troughs in the middle of the fields. With the cows dry in the summer months (July/August), attention is paid to the grazing paddocks and achieving two or three cuts of silage.

The farmer was asked what motivated him to start the process of breeding and management to achieve block calving. “So that we could get some time off during the summer,” was the reply.

The Vital 90
Throughout February, Elanco arranged a series of discussion meetings for veterinary surgeons and their clients to consider the value of concentrating knowledge and effort on the 60 days before calving and 30 days afterwards (“The Vital 90”). Dr Christian Scherpenzel (GD Animal Health Holland) outlined the relevance of developments in gene research to everyday mastitis. The speaker summarised the findings as showing a “zoo of bugs in the udder”. A healthy quarter yields 7,000 bacterial sequences. Where there is a clinical infection, the dominant strain reduces the presence of other species, but treating with antibiotics has not been shown to reduce the volume of commensals. Clearly, a much deeper understanding of infection and therapy will follow as the technology is applied.

The anti-inflammatory response of the cow during pregnancy and the dry period was highlighted by the speaker. In the third trimester of pregnancy there is a stronger anti-inflammatory response to protect the new born calf. Lactoferrin inhibition of bacteria has been identified for many years but this is lower in high yielding cows. Emphasis is placed on the drying-off technique and it was clear from the discussion that there are different approaches in individual herds and for individual cows. Feeding and energy levels can increase immunity and improve the immune response to infection in the udder.

Veterinary surgeons are urged to discuss drying-off technique in detail with clients. AHDB Dairy and University

Richard Gard
LARGE ANIMAL CORRESPONDENT
Following a 16-year apprenticeship with Beecham, Richard established a project management and development consultancy and writes regular contributions for the veterinary press.
of Nottingham have produced videos and fact sheets to aid implementation of best practice. Cows bred for quick milk release have a higher susceptibility to mastitis infections, with 60 percent of cows recorded with open teat canals two weeks after drying off. The speaker advises that the use of a teat sealant only at drying off needs to be combined with hygienic dry cow housing. Because the cow has a higher susceptibility to intramammary infections in late gestation, management to improve the pro-inflammatory response is likely to be beneficial.

Mike Overton has moved to Elanco following research at the universities of California and Georgia. Highlighting the risks, costs and opportunities with transition management, he noted that healthier transition cows yield greater profit for the farmer. Studies have shown a wide variation in the recorded incidence of disease between herds. The speaker emphasised that the accurate recording of disease is critical for understanding the impact of disease on a herd and for improving herd management. Different people define and record disease differently. The true impact of disease is underestimated due to the poor quality of recording.

**Rewarding disease detection**

There are essential aspects to be developed between the veterinary advisor and the farmer client. It is important to agree what is being detected and recorded with treatment decisions and standardised protocols. The veterinary surgeon needs to pay attention to records and provide feedback to the farmer and the farm staff. It is important to show value to the farmer of him taking the trouble to record. The cost of veterinary time to do this is low with the effort mainly coming from the farmer, but the up-front effort to have effective systems yields long-term benefits. One of the factors to be addressed early on is that better recording leads to higher levels of disease recognised within the herd. It is necessary to reward staff for better working practices. The initial rise in disease should fall with earlier treatments and disease prevention management.

There were gems of information that came out during discussion. Having emphasised the subsequent impact on immune dysfunction from a negative nutritional balance with transition cows, the speaker advised that cows should not be moved within 10 days of calving. It would have been useful to establish the practice on different farms and whether individuals are moved to calving accommodation during the risk period. This was just one of many aspects that will need to be discussed between the vets and their clients on the way home.
PLenty to smile about

Should equine vets be focusing more on the things that make the profession so great to be a part of?

This is BEVA's 56th year and the association continues to grow in numbers and in strength. BEVA's main objectives advance the veterinary and allied sciences for the welfare of the horse, and for public benefit through our education and training programme, the updating of information on our website and continued representation and lobbying, both nationally and internationally.

Of huge importance in assisting BEVA achieve these aims has been the development of a massive educational programme. This includes over 50 CPD courses and 12 webinars (which are free to members).

The “jewel in the crown” of our CPD programme is undoubtedly the annual congress, thought to be the second largest equine congress in the world. Spread over three days, there are over 100 hours of innovative lectures, debates, workshops and practical demonstration sessions on offer. Congress 2018 will be held at the International Convention Centre in Birmingham from 12 to 15 September.

BEVA Congress 2018 and its theme “plenty to smile about” represents the highlight of my presidential year. We face many challenges, some of which impact negatively on our health and well-being, but we are aiming to focus on the positives. We want to celebrate careers as equine veterinary professionals and assist colleagues to achieve the correct work/life balance.

I thought a fabulous way to get some ideas was to ask my BEVA Council colleagues what they found so good about being an equine vet. I was overwhelmed with the responses, some funny, some innovative and some poignant, but all of them giving us tremendous cause for optimism if we can manage to convey the positive, encouraging and supportive messages through to our young colleagues who are the future of our profession.

Apart from the obvious one of helping that selfless and wonderful animal the horse, my favourite, and one often repeated, was the collegiality, friendship, laughter and support provided by your colleagues. Here are some others; see if you can guess from which council member they came!

- Helping students and younger colleagues has been highly rewarding
- Enjoying the challenge of incorporating science with welfare, thus enhancing the life of the equines in my care
- Having a job that gives me financial security and remuneration, allowing me to have a fantastic life – not commonplace in the current economic market
- Being faced with fascinating and demanding challenges on a regular basis and the mental stimulation that brings
- Working with the latest imaging technology on a daily basis
- Working as part of a great team, driving around the beautiful countryside all day long meeting a huge variety of clients, many of whom are friends and very grateful for the work we do in both a preventative and emergency role
- An interesting and rewarding career with no two days ever the same and always more to learn
- Combining a love of horses and science into a job
- The feel-good factor of working in a medical service-providing profession that helps those that cannot help themselves
- I cannot imagine another profession which is as loyal and endearing as ours
- Our patients are such deserving, selfless beasts who bring so much happiness to people’s lives
- Teaching the next generation of students/vets not to be scared, whether that’s of the medical mysteries, the horse or the clients
- Knowing that you have made a difference to a distressed client

Maybe, just maybe we have a tendency to complain a little too much about our lot, not realising how blessed we are to be intelligent and capable. Maybe, just maybe we need to stop worrying about what we are not good enough at, and congratulate ourselves on what we have already achieved.

In many ways, BEVA Congress symbolises the intelligence (the education), humility (the honesty), compassion (the support) and nuttiness (the crowd-surfing at the dinner dance) which make our profession wonderful to be a part of. So, for sure there is plenty to smile about, as you will see at Congress 2018 in Birmingham. See you there!
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Is “natural cover” ethical?

Modern horse breeding systems often reduce the ability for horses to express normal behaviours, but which system has the greatest welfare benefits?

One of the requirements for good welfare under the Five Freedoms framework (Webster, 1994) is that animals should be able to express normal behaviours. The importance of this welfare need was emphasised in the Five Domains model developed by Mellor and co-workers (Mellor and Beausoleil, 2015), and is nowadays well recognised.

This piece argues that modern methods of horse breeding, whether artificial or “natural cover” systems, deny horses the ability to express the normal behaviours associated with reproductive activity. However, the loss of such behavioural freedoms may be justified by a benefit in terms of reduced risk of injury during breeding. Artificial insemination systems offer positive welfare effects associated with reduced risk of transport-associated stress and disease.

Artificial insemination systems offer positive welfare effects associated with reduced risk of transport-associated stress and disease

Normal breeding behaviours of horses
In the wild, the breeding behaviours of horses centre around social interactions which occur within a group consisting of a dominant stallion and his “harem”. Though horses are seasonal breeders, the stallion and “his” mares interact year-round (McDonnell, 2000). When a mare is in oestrus, the stallion will typically engage in prolonged “teasing” behaviours to test her sexual receptivity, before venturing to mount the mare (often initially with his penis still withdrawn, or sideways, until he is confident that the mare is not going to kick him), and subsequently to engage in coitus. The mare frequently initiates contact with the stallion when she is in oestrus, and positions herself in such a way as to facilitate copulation (McDonnell, 2000).

Modern horse breeding systems
The organisation of the equine breeding industry differs hugely from the naturally occurring situation. Whereas feral horses exist in established hierarchical herds and harems, human-controlled horse breeding frequently involves the mating of horses which are unknown to each other. Though some breeders do still allow stallions to socialise and mate with mares at pasture without human interference (“pasture breeding”), the majority of breeders nowadays use either “natural cover” (less confusingly referred to as “hand breeding”) or artificial insemination systems. The main drivers for the adoption of such systems have been the desire to reduce risk of injury to stallions and mares unfamiliar with each other (for both systems), and to abolish the need for stallion and mare to be in the same location (artificial insemination systems).

Hand breeding systems typically involve the mare being held by a handler and immobilised, often using hobbles and/or nose twitch. The mare may have boots on her hind legs (to reduce the risk of her injuring the stallion by kicking), and her neck may be protected with a leather cover against the stallion biting her. The stallion is led towards the mare, and often expected to mount her swiftly, with minimal teasing/interaction between stallion and mare being allowed.

In artificial insemination systems, semen is normally collected using an artificial vagina, using either a “dummy mare” or a mare in oestrus for the stallion to mount. Where a real mare is used, she is likely to be immobilised in the same ways as for a hand breeding system. The mare being bred is subsequently restrained (usually in stocks) and inseminated using semen (freshly collected, chilled or frozen) which is placed in the uterus via a catheter.

Negative welfare effects associated with modern breeding systems
Clearly, artificial insemination systems radically reduce or completely abolish the opportunities for stallions and mares to express normal breeding behaviours, since there is no need for the mare and stallion to even catch sight of each other for the breeding process to be completed. The interaction between the mare and stallion in hand breeding systems is normally deliberately minimised in an effort to reduce the risk of injury. While often undertaken enthusiastically, the process of semen collection is essentially an unnatural process for the stallion, as is the process of hand breeding with minimal preceding interaction with the

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Plenty to smile about
oestrus mare – something which can be reflected in both systems in low libido when compared to stallions breeding in a harem situation (McDonnell, 2000).

An additional consideration is the welfare of any foal at foot – in artificial insemination systems foals can typically remain alongside their mothers, either in or adjacent to the stocks in which the mare is restrained. When hand breeding is being used, foals are normally separated from the mare to reduce the risk of injury, which can be stressful for both mare and foal.

**Positive welfare effects associated with modern breeding systems**

Many of the restrictions on normal reproductive behaviours imposed upon mares and stallions in modern breeding systems are undertaken with the aim of reducing the risk of injury (and thus safeguarding welfare). Thus, using a dummy mare rather than a real mare to collect semen from a stallion reduces the risk of injury not only to the stallion and the mare, but also to personnel. Similarly, immobilising the mare and allowing minimal interaction between stallion and mare during hand breeding is aimed at reducing the chances both of the mare kicking the stallion, and of the stallion biting or striking out at the mare.

There are additional positive welfare effects associated with the use of artificial insemination systems. Hand breeding necessarily requires the mare and stallion to be in the same place. Often, this involves mares and their foals being transported significant distances (sometimes internationally), which can be stressful, and can expose them – either during transportation or upon arrival at the premises with many, often transient, animals – to unfamiliar pathogens.

These stresses can be avoided by keeping the mare and foal at home and having semen delivered (though it should never be forgotten that all venereal diseases which can be spread by coitus can also be spread in artificially inseminated semen). Finally, when a popular stallion is being used in a hand breeding system, he may be required to breed three or four mares a day, which can be physiologically stressful (Allen, 2015). Where semen is collected artificially, the ejaculate can be divided, typically between four to seven mares, which significantly reduces the number of breeding efforts required by the stallion each day.

**Conclusion**

Both hand breeding and artificial breeding systems reduce the ability for horses to express normal behaviours when compared to pasture breeding or feral situations. However, in a harm:benefit (utilitarian) ethical analysis, such reductions in the ability to express normal behaviours could be traded for protection against injury. One should aim to maximise the benefits and to minimise the harms.

Though artificial insemination systems are not devoid of risk of injury, it is lower than that associated with hand breeding systems, at least where a dummy mare is used for semen collection. Collecting and dividing ejaculates reduces physical demands upon the stallion compared to hand breeding systems. Artificial insemination of mares at home also reduces the risk of contact with infectious (non-venereal) disease, and of stress due to transportation and/or to separation of mare and foal, compared to hand breeding systems. For these reasons, while neither system allows the expression of normal breeding behaviours, artificial semen collection and insemination is ethically preferable to hand breeding (so-called “natural cover”).

**References**


Managing vasculopathies

How to identify and treat some of the most common aetiologies of vasculitis

Vasculopathies encompass an abnormal immune response involving the vascular system rather than being attributable to a specific aetiology. Multiple inciting causes can be implicated in vasculitides; broadly, these can include primary infection, toxic insult or systemic immunological disease. The most commonly affected area is the post-capillary venules (Morris, 1987; Knottenbelt, 2002). Often the vasculitis is undiscerning and will lead to clinical signs ranging from localised disease in one organ to multisystemic disease, but more frequently it is associated with cutaneous disease. This manifests most often as subcutaneous oedema, erythema and serum oozing.

During the initial clinical examination, a full history can elucidate an aetiology for the vasculopathy; for example, recent drug usage, contact to a toxic substance or historical disease. Biopsy can be a very useful adjunctive diagnostic in the more challenging and non-responsive cases; most biopsies show a degree of leukocytoclastic inflammation with varying degrees of neutrophilia depending on the underlying aetiology (McFavin and Zachary, 2007).

Underlying immune response

Post-capillary venule vasculopathies (small vessel vasculopathies) are the most frequent in horses and are normally caused by immune-complex deposition with a resultant autoimmune response (Danila and Bridges, 2008). The immune complexes themselves do not induce inflammation but activate neutrophils, as well as other white blood cells,

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NAME</th>
<th>MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
<td>Immediate</td>
<td>Mast cell degranulation mediated by IgE. Often seen on mucosal surfaces and skin. Unlikely to be involved in most vasculitides.</td>
</tr>
<tr>
<td>Type II</td>
<td>Antibody mediated</td>
<td>Antigen:antibody interaction associated with target or bystander cells, leading to activation of the complement cascade. Often seen with drug reactions and blood transfusions.</td>
</tr>
<tr>
<td>Type III</td>
<td>Immune complex mediated</td>
<td>Deposition of immune complexes in tissue leading to inflammatory reactions via complement and white blood cell recruitment. Most frequently associated with vasculitides.</td>
</tr>
<tr>
<td>Type IV</td>
<td>Delayed onset</td>
<td>SENSITISED T-helper 1 cells are activated by antigens leading to the ongoing inflammation. Associated with contact dermatitis (Figure 1).</td>
</tr>
</tbody>
</table>

TABLE 1 The different types of hypersensitivity reaction

Purpura haemorrhagica

This is an aseptic necrotising vasculitis most frequently seen as a sequel to either Streptococcus equi subsp. equi or S. equi subsp. zooepidemicus. The syndrome is characterised by well demarcated oedema of the limbs (Figure 2), muzzle and occasionally ventrum (Garcio-Seco, 2002), as well as petechiation of the mucous membranes (Figure 3).
In some severe cases, myositis can be seen. The clinical presentation is due to deposition of IgA within the vascular walls leading to marked inflammation and endothelial damage due to complement and neutrophil activation with subsequent extravasation of plasma.

Diagnosis can be made with a biopsy of the affected tissue but is more frequently made following a diagnosis of the inciting cause (S. equi equi), either via PCR/culture of appropriate samples or very high antibody titres. For more information on the diagnosis and treatment of S. equi equi, refer to the strangles article in last month’s issue.

Treatment is centred around the removal of the inciting cause alongside appropriate antibiotics if the horse is still infected. Penicillin is normally the antibiotic of choice, but oral medication with trimethoprim sulphurs can be used. Steroidal therapy is usually essential to reduce the inflammation and should be the mainstay of therapy. Further appropriate supportive care, like lower limb bandages and IV fluid supplementation, should be given when required.

Pastern and cannon leukocytoclastic vasculitis
This disease solely affects the non-pigmented portion of skin on the limbs and does not appear to be associated with either hepatopathy or photosensitising agents. IgG deposition occurs within the affected limbs leading to activation of complement and therefore endothelial damage. This damage leads to hyperaemia, serum ooze and subsequent crusting. At the onset of disease, it can be associated with dermatophytosis or bacterial infection, but these are not required to maintain the lesions.

Biopsy can be useful in the diagnosis but due to the location on the cannon and commonly around synovial structures, this can be technically demanding. The clinical signs are indicative of the leukocytoclastic vasculitis but are not pathognomonic. Blood work should be performed in all cases to rule out a hepatopathy.

Treatment is based around removing the inciting cause, if one is present, using antibacterial and antifungal shampoos (such as ethyl lactate-based shampoos) as well as ensuring crusting is removed prior to other topical therapies.

Removal of crusting can be best achieved by the liberal application of aqueous cream to all affected areas followed by wrapping lightly with clingfilm and then stable bandages. These should be changed every 12 hours until all crusts are removed. Steroids can then be used to reduce the inflammation while also ensuring that the affected areas are not exposed to UV light. During the day, this should be achieved by stabling the horse and applying stable wraps; at night, the legs can be allowed time with bandages off. Treatment can take months before complete resolution.

Photo-activated vasculitis
This vasculopathy is seen secondary to ingestion of plants containing photodynamic agents or more frequently due to a failure of the liver to detoxify phylloerythrin secondary to hepatic insufficiency. The accumulation of phylloerythrin causes free radical formation, leading to local endothelial damage. Horses will often appear to be photophobic, have erythematous skin and serum oozing and can easily be confused with leukocytoclastic vasculitis cases.

Diagnosis is normally made based on clinical signs and abnormalities on the biochemical panel, including raised gamma-glutamyl transferase, glutamate dehydrogenase and bile acids, among other changes. Treatment is based on exclusion of UV light and requires resolution of the underlying liver disease or removal of the offending plant from the horse’s diet. Steroids will frequently be required to reduce the inflammation within the tissues.

Conclusion
Vasculopathies can have wide-ranging causes and the primary aetiology must be identified to resolve the clinical signs. Most treatment is symptomatic and based around the use of anti-inflammatories such as steroids, but can also include other immune-suppressives (Fellipe, 2015). Prior to instigating treatment, owners should be warned about the likely duration of treatment and common difficulty in returning the skin to normal.

A full list of references is available on request.
Being a meteorologist must be quite challenging. Or at least it must have been before the advent of satellite imaging and computer modelling that could predict with some accuracy the weather for the next few days, or maybe it’s just hours! Michael Fish, it turns out, got it wrong in 1987 because neither he nor anyone else in the weather forecasting team realised there was an area of turbulence somewhere in the mid-Atlantic that was going to develop into a substantial storm.

Similarly, nobody could predict the “Beast from the East” which has troubled us with bitter cold over the past month. This is somewhat ironic given that 55 years ago (in the year I was born – 1963), Edward Norton Lorenz, who had been a meteorologist since the middle of the Second World War, published a paper “Deterministic nonperiodic flow” in the Journal of the Atmospheric Sciences.

Lorenz was troubled by the way that meteorology at the time used linear models for prediction of weather patterns. Most atmospheric phenomena are actually non-linear and as he suggested, “Two states differing by imperceptible amounts may eventually evolve into two considerably different states... If, then, there is any error whatever in observing the present state – and in any real system such errors seem inevitable – an acceptable prediction of an instantaneous state in the distant future may well be impossible... precise very-long-range forecasting would seem to be non-existent”. This is the so-called butterfly effect, where the movement of one butterfly’s wings may result in a tornado weeks later, though it was years later that he formally published it as such.

Interestingly, computer modelling for weather forecasting these days sets up a number of scenarios with slightly different initial states and follows them through. Meteorologists can look at all these models and if a sizeable number of them lead to the same weather system, the weather forecasters can be rather more certain that this is what is likely to happen.

I must admit that all this comes from a fascinating TV programme I watched a few nights ago. And as I watched, I wondered what similarities there were between weather forecasting and the predictions we make in disease progression in the animals we treat.

I’d love to be able to predict more precisely whether the patch of darkly pigmented tissue in the iris of the sweet cat I saw last week would turn nasty, spread to the liver and kill the cat. Enucleation of a sighted eye goes against my better judgement, I have to say. A biopsy will quite possibly leave the cat with an eye filled with blood and probably encourage tumour spread if it is a neoplastic process. An aspiration of aqueous on the other hand is unlikely to give us an answer but rather that annoying “insufficient sample provided” from the pathologist.

I can give a reasonable answer by seeing that the pigmented tissue is like a velvet cloth covering the iris (bad news!), rather than a mere darkening of the iris tissue while maintaining its normal surface contour (good news!), but I can’t be sure. Maybe the fact I can’t is rather like Michael Fish and the ’87 storm. But clearly, I’m not the first person to think of this. A quick Google search for “computer modeling of cancer metastasis” yielded “about 30,300 results” in 0.1 seconds, although it’s taking me slightly longer to see if any of those hits is worth looking at – perhaps next month I’ll let you know.
A director’s duties

What are the responsibilities of a director, and what are the consequences if these duties are not met?

Running a practice as a company offers many benefits, including easier fundraising, protection of personal assets and the potential for greater tax savings. But holding a directorship that comes with running a company involves a number of duties and obligations. The law is very prescriptive about this, and for good reason.

In exchange for limited liability and general immunity for company debts, directors must care for the success of the business and, should insolvency loom, protect the position of creditors.

The authorities take a dim view of those that breach the law. Take the January 2017 case of Nathan Brown and Carole Brown, the directors of C&N Shearing (Shearing), a Lancaster animal husbandry and livestock business, who failed to maintain or deliver the company’s accounts.

The company entered administration on 12 February 2015 with assets of £32,243 and liabilities of £751,727. An investigation found it was not possible to determine Shearing’s income and expenditure during its final trading period or establish that all money paid out was for the benefit of the company. It was also not possible to determine what stock belonged to the company, what book debts were due to the company, verify what happened to assets valued at £123,440 in the 2013 annual accounts or verify how much was owed to creditors. Carole Brown was disqualified as a company director from 27 December 2016 to 2022 while Nathan Brown was disqualified from 2 January 2017 to 2023.

And then there was the case of Norfolk Farm Vets v Molly McKay, which involved “various serious and wide-ranging allegations of breaches of fiduciary duty against a director of the applicant company”. The company has since been dissolved.

Responsibilities

According to Peter Windatt, an accountant and licensed insolvency practitioner with BRI Business Recovery and Insolvency, companies must have at least one director who is legally responsible for running the company and making sure its accounts and reports are properly prepared. Directors must be at least 16 and not disqualified; while most have a director’s title, the law recognises what is termed a shadow director. “An individual in this situation,” says Windatt, “is without title but nevertheless acts as if they are a director. Consequently, the law assigns them the duties and obligations of a formally titled director. Avoiding the term ’director’ doesn’t remove the duties and liabilities from an individual.”

There are many general statutory duties placed on directors by the law, which Windatt outlines: “Firstly, directors must act within their powers – that is, comply with the company’s constitution and exercise powers only for the reasons they were given.”

Windatt explains that directors must critically act in a way they consider is most likely to promote the success of the company for the benefit of its members: “To do this they must have regard to all relevant matters, which the law specifically says involves ‘considering the likely consequences of any decision in the long term; the interests of the company’s employees; the need to foster the company’s business relationships with suppliers, customers and others, as well as the impact of the company’s operations on the community and the environment; and the desirability of the company maintaining a reputation for high standard business conduct; and the need to act fairly as between members of the company’.”

But there are other obligations to note: directors must exercise independent judgement, that is, not be swayed by others, and must also exercise reasonable care, skill and diligence. This is key for Windatt – he says directors must be diligent, careful and well informed about the company’s affairs: “If a director has particular knowledge, skills or experience relevant to his function (for instance, they are a qualified accountant and act as a finance director), they will

Directors must exercise independent judgement, that is, not be swayed by others, and must also exercise reasonable care, skill and diligence

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Where a company is guilty of an offence then any person who consented, or contributed, to its doing so will also be guilty.

be judged accordingly."

Another notable duty is the need to avoid conflicts between director’s interests and those of the company. This means not accepting benefits from third parties unless the company authorises acceptance, while declaring any interest in a proposed transaction or arrangement before it is entered into.

A final duty is close to Windatt’s own professional interests. Directors should consider or act in the interests of creditors (particularly if insolvency is a possibility) while maintaining confidentiality of the company’s affairs.

When things go wrong – disqualification

Of course, many businesses are well run and outlive their founders. However, when a business fails, “the Insolvency Service will examine the failure and if the director and his actions have been found wanting, can seek the disqualification of the director(s),” says Windatt.

He offers a note of advice to directors: “To protect their position and to comply with the law, directors should ensure their companies maintain and preserve proper accounting records and should submit them to the relevant authorities upon insolvency.” He frequently sees directors investigated by the Insolvency Service with a view to taking action against them, and says: “Any director that’s been disqualified will no longer be able to act as a director of a company, take part, directly or indirectly, in the promotion, formation or management of a company or limited liability partnership; or receive company’s property. For most, this is likely to have a significant impact on their future earnings, especially as they may be disqualified for up to 15 years.”

Reasons for disqualification

Disqualifications are made under the Company Directors Disqualification Act (CDDA). From Windatt’s perspective, the CDDA “is intended to raise standards of responsibility and to have a deterrent effect. The emphasis is on the civil rather than criminal nature of the proceedings”.

Accordingly, there are a number of reasons for disqualification including conviction of an indictable offence; persistent breaches of company law; fraud etc in winding up; on summary conviction; for “unfitness” where company becomes insolvent; following investigation; infringement of competition law; wrongful trading; or where bankrupt or a failure to pay a county court administration order against the individual.

Penalties for breaching Disqualification Orders

There will always be some who think they can ignore a disqualification order, but they risk severe punishment. In these circumstances, they would face imprisonment for up to two years and/or a fine on conviction following indictment, or imprisonment for up to six months and/or a fine on summary conviction. And the threat isn’t idle – there have been convictions.

Shadow directors can also be disqualified under the CDDA. Further, bankrupts who continue to act without the permission of a court can find themselves having their discharges suspended or being made subject to Bankruptcy Restriction Orders/Agreements which, like the CDDA provisions, can extend the disabilities of bankruptcy for up to 15 years. Windatt explains that individuals can face further sanctions: “Where a company is guilty of an offence then any person who consented, or contributed, to its doing so will also be guilty. In addition, there is personal liability for company debts arising during a period when a person acts while disqualified.”

Interestingly, but not surprisingly, Windatt has seen some directors who are disqualified, either under the CDDA or by virtue of being made bankrupt, have their spouse/partner or other close friend/relative “front” a business while they carry on running it from “behind the scenes”. “This all too frequent scenario unravels when the subsequent business fails. At this point, the stooge quickly reveals what they were and who the real controller was.”

To conclude

At the end of the day, companies can and do fail for any one of many reasons, most of which are unfortunate but not deliberate. However, where a director has not acted in good faith or in accordance with their duties, they can expect their activities to be punished and their ability to earn a living curtailed. Quite simply, directors who are worried about their position and liabilities should take advice before it is too late.

Cases

Nathan Brown and Carole Brown
lancasterguardian.co.uk/news/lancaster-animal-live-stock-bosses-disqualified-from-being-company-directors-1-8321702
Norfolk Farm Vets v Molly McKay
radcliffechambers.com/barrister/dawn-mccambley/company
Recent investment volatility

An update on recent investment volatility and why it is not the same as risk for long-term investors

It is important to remember the benefits of a long-term approach to stock market investing. This sentiment becomes even more important when we consider recent news stories concerning investment market corrections.

Political and economic shocks have given stock market investors and pension savers a rollercoaster ride over recent months. Despite continued drama about the UK’s Brexit deal, along with other, international matters, such as Donald Trump’s policy change, the financial facts remain much the same. It pays to take a medium-to-long-term view when planning for investment success.

Volatility (the tendency for share prices to fluctuate without warning) is not the same as risk for investors who are willing and able to ride out short-term setbacks. Those who resisted the temptation to panic sell when markets fell in 2016 avoided turning paper losses into real ones and many were rewarded when prices recovered healthily in 2017.

The danger of knee-jerk reactions to short-term fluctuations was demonstrated dramatically when the UK voted to leave the European Union. Various experts had predicted dire consequences if the Brexit campaign won, and the FTSE 100 did indeed fall sharply when the referendum result was announced. However, this benchmark index soon bounced back when markets realised that weaker sterling would make exports more competitive – and most FTSE 100 revenues are earned overseas. The index increased by more than 10 percent from its low point in June 2016 to trade above 7,000 in October the same year, having started the year just above 6,000.

The benefits of diversification

A diverse investment portfolio, using collective investment funds that are well-managed can help. They offer tried-and-tested ways to diminish the risk inherent in stock markets through diversification.

Funds spread individual investors’ money over dozens of different shares, bonds and other assets to reduce exposure to the risk of setbacks or failure at any one company – or, in the case of international funds, any one country. The principle is not to put all your eggs in one basket.

Collective investment funds also enable investors to share the cost of professional fund management. For example, an income fund manager’s duty will include assessing whether dividends are sufficiently covered by corporate earnings to reduce the risk that income distributions might be cut, or cancelled, in the future. It is a remarkable fact that some pooled funds have maintained or increased income distributions to investors for several decades, though of course there are no guarantees they can keep this up.

The importance of income during periods of share price uncertainty

While most media coverage focuses on share prices and the capital value of stock market indices, such as the FTSE 100 (or the S&P 500 in America), the importance of income should not be overlooked. Not many people know that dividends have delivered most of the real returns – that is, in excess of inflation – from shares over the long term. This is especially important when the media are focusing on sharp corrections in the capital value of shares/market indices.

Barclays conducts one of the most comprehensive annual analyses of returns from assets including bank deposits, gilts and shares with data stretching back more than a century. The Barclays Equity Gilt Study 2016 showed that £100 invested in shares reflecting the changing composition of the London Stock Exchange since 1899 would have grown to just £177 after adjusting for inflation if dividends had been spent when they were distributed.

By contrast, the real return from shares soared to £28,232 if dividends were reinvested. Barclays calculates that the “real” annualised average returns with dividends reinvested were 5 percent. But only a tenth of that (0.5 percent per year) came from rising share prices.

Interestingly, this comprehensive analysis also demonstrates the importance of investors taking a long-term approach to maximise returns from the stock market and minimise their exposure to short-term setbacks or volatility. For example, investments in shares over any period of just two consecutive years since 1899 had a 68 percent probability of beating returns from cash or gilts.

If investors in shares sold up after two years, there was a risk of nearly one-in-three that they would be worse off than if they had kept the cash in the bank or gilts. However, shares delivered bigger returns than bank deposits over 75 percent of all the periods of five consecutive years since 1899. The probability of shares beating deposits was even higher if invested for 10 years or more, rising to 91 percent.

While the past is not a guide to the future, it can help us understand our options. Whether considering only the extraordinary events of the last few years or looking back at the last century and further, it makes sense to take a long-term view of investment and to diminish the risks inherent in stock markets by diversification. A well-diversified investment portfolio provides a tried-and-tested way to do so.
When “being nice” is not enough

Delivering information to clients can be a difficult aspect of the job, but it is important that it is done skillfully

Imparting difficult news is one of the most important and challenging tasks we face in practice. I would like to share a recent personal experience which emphasises that the way we deliver information can be a memorable experience, whether good or bad, for our clients.

After a much longer wait than usual to hear the result of a routine mammogram following cancer treatment some years ago, I became anxious. This anxiety was heightened when I was called into the room with the cancer care nurse. Alarm bells rang in my head and no sooner had I sat down than the consultant said, "There’s something on the mammogram so I might as well get on with it." The next few seconds felt interminable. All I could hear was my own voice reliving my earlier experiences. The consultant wasn’t gauche or unsympathetic. He was very “nice”. However, “nice” without the appropriate skills wasn’t enough.

What did I need? What do our clients need?

It was a different consultant to during my first diagnosis; my relationship with this doctor was pleasant but superficial. If he had gauged my starting point, he would have had a better idea of my concerns and level of understanding.

It would have helped to address worries which surfaced prior to my mammogram. When asked how I was, I said, "It’s probably not related but I have had a persistent cough for a while." Deep down I knew this wasn’t relevant but I felt my concerns needed to be acknowledged and explored. Unfortunately, I was met with, "keep away from me, I don’t want to get what you’ve got." Though said in a friendly manner, this didn’t address my disquiet.

Research demonstrates that many of us do not blurt out our concerns, but deliver them as a series of verbal or non-verbal cues, which can have a deleterious effect. Acknowledging and addressing cues, and discovering what the client is feeling, can be vital when delivering difficult news – particularly where multiple team members are involved. Remember that the client may have developed a different perspective between appointments.

Secondly, I would have liked a more appropriate "warning shot", since my head was elsewhere by the time I entered the consulting room. There is no "one size fits all" with communication skills, but it would have been helpful to hear something like, “I’m really sorry but I’ve got some difficult news. Your results aren’t what we’d hoped for.” Providing several “warning words” can be equally valid for our clients.

Finally, I needed more time to receive the information at my pace. We often talk glibly about clients needing time, yet we rarely see colleagues providing it. Simulated clients often feedback that this obvious skill is rarely used.

Because the consultant kept talking, I didn’t take much on board; when asked if I had any questions, I said “no” because he hadn’t created an environment in which I felt comfortable raising my queries. The result was a sleepless night and a phone call the following day. This could have been avoided had I been given time, more information and a two-way dialogue on my thoughts.

Effective communication isn’t set in stone; when we see clients are not on board, we can always honestly say so, winding back the dialogue or asking if there is something else. This phrase can be effective, and more specific at this point in the dialogue than “anything else”.

For my part, the news looks as though it is not as serious as last time. I await the definitive diagnosis from my biopsy and hope the news on this occasion, whether good or bad, is delivered with more skill than just a nice personality.

CHRISTINE MAGRATH

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Clinical freedom is highly valued. For many vets it is seen as a right. It is the yin to the yang of the responsibility we have as vets to our patients, and to the daily risk we carry in doing something wrong and getting sued or struck off. If every decision I make and procedure I do holds the power to kill or cure my patient, and ruin me if it goes wrong, I feel I should have a right to make those decisions on my own terms. It is therefore no surprise that when something interferes with that freedom, vets, and I imagine other clinicians, feel deeply aggrieved.

In a recent round of interviewing vets for a job, a recurrent dissatisfaction cited by those working for corporates was a feeling that there was a restriction in drug availability. They felt they had been working in very tight clinical and billing regimes that could limit treatment options. The overall effect of working to financial targets on a limited regime of treatment options is proving to be quite demoralising.

Restrictions and confounding factors that limit our freedom of choice are usually financial. They can come from a variety of sources, including from the owner’s budget and from insurers. The worst of this is when insurers rule out treatment options, like stem cell therapy for arthritis, or an arbitrarily constructed list of non-covered conditions, simply to keep premiums low. It is deeply frustrating to have treatment options narrowed by an accountant in an insurers office. It is not ideal for the poor patient either.

To put this in context, I asked a local GP friend of mine to give us an idea of what clinical freedom is like for doctors. To keep it concise we focused on prescribing drugs in a GP surgery. They responded:

“GPs have the freedom to prescribe whatever they choose, believe it or not. One of the many roles of a GP however is as an NHS resource allocator, which has become ever more sharply focused in recent decades, such that a strong culture of cost-effective prescribing has developed. Until a few years ago, we were actively incentivised to prescribe more than 95 percent generic versus branded drugs, but now generic prescribing is the default position, unless a branded drug in the same class is more cost effective. Twenty-two local GP practices in North Devon are actively compared with each other by Clinical Commissioning Group pharmacist advisers across the board and we feel uncomfortable to be at the wrong end of a bar chart suggesting our practice is squandering NHS resources compared with our more efficient local colleagues. Conversely, we are proud to be shown to be not just comparatively cost-effective prescribers, but also safe and NICE compliant, though the latter is harder to prove without detailed audits.

“As individual prescribers using desktop software, we are automatically reminded which of the 900 or so drugs are in our county formulary, and how much they cost per prescription. If we choose a medication which is less cost effective, we are reminded with a pop-up using Scriptswitch software. Although we are strongly encouraged to prescribe within local formulary boundaries (our last compliance I believe was around 98 percent) and this again has been a comparative indicator, there are many reasons why we go "off formulary". These can include patient intolerance, patient selection (though this is a tiny proportion), secondary care initiation of drugs and dispensing preferences, if you are lucky enough to be a dispensing practice (though still subject to local comparative scrutiny).

“Hospital consultants are increasingly accepting of GPs changing a chosen drug to its more cost effective equivalent, and we will sometimes challenge a suggested prescription if its indication is not licensed, as it is ultimately the prescriber’s (ie the GP’s) responsibility if a serious adverse event occurs.

“Many GP practices have in-house pharmacists now and we have recently taken on one to share with three other practices. She is able to prescribe, as are our nurse prescribers.

“I could write a lot more, but how about a pint some time? Ask me about: repeat prescribing, bulk changes, audits and searches in response to safety alerts, controlled drugs, doctor’s bags (what, no drugs?!), private prescriptions, out of hours drug stock…”

As usual, please email me with any comments or feedback on garethcross@hotmail.com. How free are you in your work? Perhaps you believe that some restriction or guidance is a good thing – let me know
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