

Veterinary PracticeToday

THE JOURNAL FOR PERSONAL & PROFESSIONAL DEVELOPMENT

Women in the veterinary profession

Managing the myths



Pet behaviour

Major causes of problem pet behaviour

Chronic otitis

Assessment in treatment planning

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UP FRONT...

It's what you do, not who you are...

In 2014, for the first time ever, more than half of the respondents to the RCVS *Survey of the Veterinary Profession* were women – with the ratio of those working in clinical practice being 57 per cent female to 43 per cent male. The question has been asked, 'Can – and should – women begin to shape the profession in the way *they* want it to accommodate their lifestyle and career choices?'

At the recent VPMA/SPVS Congress a similar question was posed at the Big Debate – whether we should be thinking 'outside the box' when it comes to addressing the increasing 'feminisation' of the veterinary profession, and how to maintain the quality and continuity of care if using an increasing number of part-time employees.

These are all very relevant questions; but perhaps the time has come to stop focusing on the 'gender issue' and simply get on with planning enlightened veterinary care and good employee care without constant reference to the male/female mix or part-time versus full time. The answer has to be to deal with the situation we have now – and will have in the future – and plan for it. Debate is important; yet is unlikely to change the fundamental issue of more female vets whose requirements are different from those of many of their male colleagues.

In her comment article, 'Women in the veterinary profession', Cat Henstridge talks about the changing face of the veterinary profession and asks if we are ready for it. She highlights the need for employer flexibility and points out that rather than seeing an increasing feminisation of the profession as a threat, female vets should be seen as valuable assets who – given the right support – would be long-term, loyal employees.

A very high profile female vet, Katie McConnell, president of the BSAVA, features in our profile interview. She is a good example of a successful woman who has faced up to the challenges, is now determined to share her experiences, and is not afraid to speak out about the problems still to be tackled.

For those who would like to be more positive about life in practice, it would be worth their taking time to read Anne-Marie Svendsen-Aylott's article on 'Changing your reality'. Happiness, she writes, is one of the key drivers to success. Happy people are better decision-makers and have better working relationships – in her article, she points out that there are ways of changing your reality to improve happiness and, therefore, success.

Anne-Marie suggests that there is always another vantage point such that, rather than getting bogged down in 'can't dos', it is always possible to see the 'can do' options. Pointers here, then, for the need for the veterinary profession to embrace the *potential* in female vets rather than perceive them as obstacles.

Maggie Shilcock
Editor

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Publisher

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enquiries@veterinarypracticetoday.com

Elmtree Business Park
Elmswell
Bury St Edmunds
Suffolk IP30 9HR

Tel: 01359 245310
Fax: 01359 245253

veterinarypracticetoday.com

Subscriptions

subscriptions@veterinarypracticetoday.com
Tel: 01359 245310

Advertising

advertising@veterinarypracticetoday.com
Tel: 01359 245310

Editorial

Editors

David Watson
david.watson@visionline.co.uk

Maggie Shilcock
maggie.shilcock@visionline.co.uk
Tel: 01359 245310

Associate editor

Sarah Kidby
sarah.kidby@visionline.co.uk
Tel: 01359 245310

Design

Graphic designers

Gemma Baker
Bradley Young
designer@visionline.co.uk

Production

Publications manager

Clara Heard
clara.heard@visionline.co.uk
Tel: 01359 245310

Marketing

Media and marketing co-ordinator

Sarah Boshier
sarah.boshier@visionline.co.uk
Tel: 01359 245310

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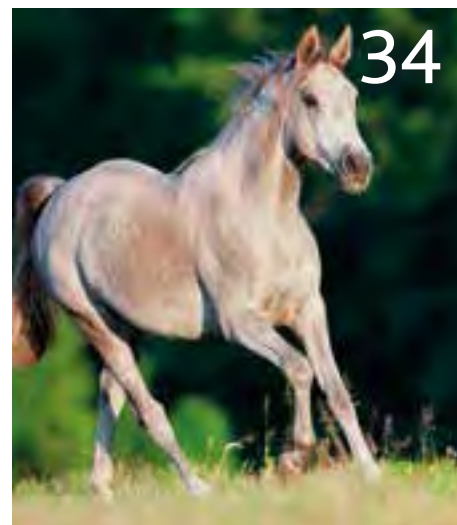
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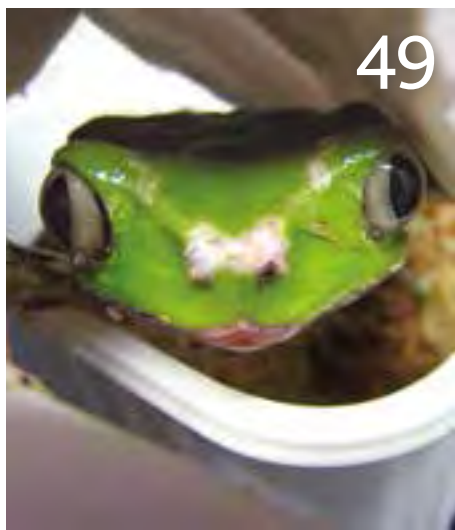
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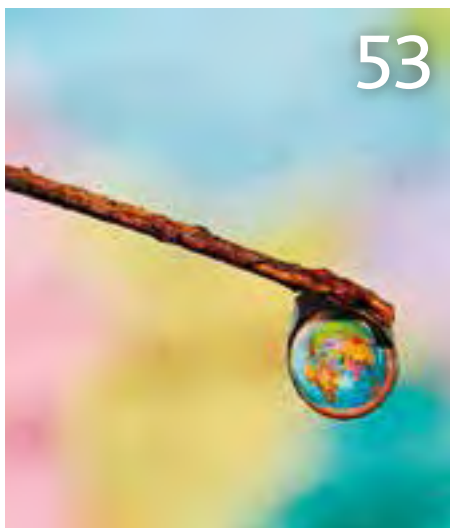
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Featured contributors



Samantha Bloomfield
BSc MA VetMB
GPCert(SAS) MRCVS

Samantha has a Degree in Nutrition from King's College, London, and qualified as a veterinary surgeon from Cambridge University in 2005. Since then she has worked in mixed and small animal practice in the UK and abroad. Although now working in general practice, she has over 30 years experience of hand-rearing sick and premature animals starting with her time running a referral clinic for puppies and kittens.



Bruce Maclean
BSc(VetSci) BVM&S MRCVS

Bruce graduated from the University of Edinburgh's Royal (Dick) School of Veterinary Studies in 1992. He then spent time in the avian and exotic department at Utrecht University studying the veterinary care of birds and exotic animals, before setting up his own first-opinion and referral birds/exotics practice. He has contributed chapters to BSAVA manuals and several articles in UK- and US-based veterinary publications.



Loni Loftus
BSc(Hons)Equine Science
MSc Applied Animal Welfare and Science

Loni is the veterinary behaviour programme leader for Central College of Animal Studies animal training and behaviour courses. She has over 10 years experience of working in equine training and behaviour and continues to practise as an animal behaviourist with a varied case-load of dogs, cats and horses. Her interests are based around injury, disease, rehab, behaviour and welfare.



Adelle Isaacs
BVSc GPCertFAP MRCVS

Adelle graduated from Bristol University in 2007. She has worked in large animal practice at Larkmead Vets in south east Oxfordshire since graduation. She gained the GPCertFAP qualification in 2010 and in 2013 became a junior partner at Larkmead Vets. She has a particular interest in small ruminant health planning and farmer education.

Women in the veterinary profession: managing the myths



Cat Henstridge
BVSc MRCVS

Cat graduated from Bristol in 2003 and since then has practised as a small animal vet in the West Midlands. She is married, to another vet, and has two small children. Although they all keep her busy, she writes a regular blog on her website, catthevet.com and also produces freelance articles for several veterinary and pet-related outlets.

Women. We used to be only a tiny minority in the veterinary profession, but over the past few decades the pendulum has swung wildly in the opposite direction and now over 70 per cent of graduates are female. The face of veterinary medicine is changing, but are we ready for it? Is it a bad thing? Could we be supporting these female members better? I would say “maybe”, “no” and a definite “yes”!

In many ways, I am a typical veterinary surgeon of our times. I am in my mid-30's. I am female. I have a young family and I work part-time. The majority of our profession are now female (57 per cent), half of us are aged between 30 and 49, and a third are living with dependent children. Nearly one-third of practising women work part-time, compared to just over 10 per cent of men (RCVS, 2015).

I worked hard for my career and I love what I do. I am fortunate in that I am able to manage a family and work – but it is a challenge. I certainly cannot see myself going back to full-time work any time soon, nor to out-of-hours duties – and I am not unique in those opinions. Of my peers who are mothers, not a single one works full-time and only those in large animal or equine practice are on call. However, only one has left practice entirely – a reflection of the passion and determination vets hold for their careers.

Challenges

There are many barriers to women returning to practice; but two of the biggest are the hours we work and finding childcare to match them. With the vast majority of nurseries and childminders closing at 6pm, evening surgeries can be especially difficult for the veterinary parent to achieve. This is where a supportive family network can be a godsend, although not everyone is lucky enough to have this help close to hand. In addition, traditional full-time working patterns mean at least three 7pm (or later) finishes per week plus weekend clinics; which is a sacrifice myself, and many others, are simply not prepared to make.

Of course, fathers are parents too and may face similar challenges. However, in the majority of relationships it is the mother who takes on the bulk of the responsibility for child-rearing, and this is certainly borne out by the figures from our profession.

Training and flexibility

Some women decide the challenges are too great and opt to take a career break. Most have every intention of rejoining the profession once their families are grown up; but this can be extremely difficult. It is easy to lose skills and confidence after only a few months of maternity leave, so those who have left for longer are often feeling decidedly ‘rusty’ and vulnerable.

A greater level of support and training needs to be available to encourage these individuals back into practice. At least two CPD providers run refresher courses at the moment, although these can be expensive. We need to try to expand the range of options for training ‘returning’ vets to ensure it is affordable and accessible.

I feel the key to helping parents back to work is flexibility and support from their employer. We are now in a time of a 24-hour culture, where clients may well appreciate being able to be seen at hours outside the more ‘traditional’ surgery times. These could, for some parents, also be easier for them; which would allow the practice to continue to be profitable while retaining loyal and experienced employees. Also, an awful lot of work can be done between the hours of 10am and 3pm, should there be the will to schedule it in.

The fact is we simply cannot afford to lose these female vets from the profession, right at the point when their skills have been honed over a good few years in practice – the average age of a ‘first-time mum’ in the UK is 29 (ONS, 2013). They have repaid the investment in their training and support when first in practice and they will be highly skilled and extremely valuable employees.

As an aside, maybe there is one positive we can take from the drop-out or decreased hours of female vets; namely, the growing

“It is easy to lose skills and confidence after only a few months of maternity leave, so those who have left for longer are often feeling decidedly ‘rusty’ and vulnerable”

need for more vets overall. With student intakes rising at all the established universities and new courses spreading like rashes, this will hopefully mean there may be some jobs available for these keen young graduates when they finally qualify.

Despite my personal challenges I am now extremely happy working reduced hours and being able to spend valuable time with my children while they are young. I feel fortunate to have a career where part-time work is reasonably easy to come by, won't have a detrimental effect on my professional progression and is relatively well paid. The same may well not be true for the veterinary nurses I work alongside – especially the latter point – and I think this should be considered and tackled in parallel with the issue for veterinary surgeons.

Career progression

Another problem that is often raised is the lack of women in senior or managerial roles. It has been mooted that as the 'bulge' of graduated female vets becomes more mature, we will face a crisis in recruitment in this kind of role. However, I think this is disingenuous and ever so slightly patronising.

Certainly in the latest RCVS survey a much larger proportion of male vets are principals, directors or partners than women – 48 per cent compared to 13 per cent (RCVS, 2014). However, this does, to some extent, reflect the differing age profiles of the sexes. It will be interesting to see how this changes over the coming years, particularly, when as a solution, some vet parents are turning to starting their own business.

This may seem like an extreme reaction; but if they can continue their careers and be in control of their working times and hours – all the while building a secure future – it may be a sensible move. Some make the commitment independently, whereas many opt for the corporate model. In the Vets4Pets/Companion Care practices, just over 50 per cent of joint venture partners (JVPs) are women. This shows that given the right support and encouragement, women are not only keen to take on leadership roles, they excel at them.

Also, I feel it is important to look more widely at the barriers younger vets face when climbing the career ladder. The traditional path of working for years in the same practice and progressing from assistant to partner, can seem laughably outdated now. Senior vets are less willing to give up the reins, the financial buy-ins can be huge and the younger generations often see veterinary medicine as simply a job, rather than a lifestyle choice. They don't want to take on the extra responsibility – which doesn't always come with extra income – of business ownership.

A fuller analysis of this is beyond the scope of this article, but I do feel sometimes women are being unfairly maligned for a problem that is not exclusively theirs.

Spheres of influence

Women are faring better in the higher reaches of the academic side of the veterinary profession. In 1994, only 13 per cent of RCVS Specialists were female, whereas now the corresponding figure is 40 per cent. Even taking into account the change in proportions in male and female vets, this represents a significant increase.

Clearly this should be applauded and maybe we should be looking at how this is being achieved by the universities

"There are many barriers to women returning to practice; but two of the biggest are the hours we work and finding childcare to match them..."

and referral practices. Are women with these extra levels of specialisation able to be more aggressive in their demands on their employers if they are 'worth' more? Can they work shorter hours because they can generate more money? Or are they more likely to be 'child-free' having reached this level?

There is also no doubt that, amongst the leaders of our profession there is a lack of female representation; although, again, this is starting to change. Even though male members on the current RCVS Council outnumber female by 18 to six, during the past 10 years there have been four female presidents and last year there was a record number of women standing for election.

It is understandable that women juggling young families and careers may not have time for such extracurricular activities now but as they, and their families, mature, there is no reason to assume they will not step up to the plate.

The cynic in me says it is 'every man for themselves' with individual female vets having to fight their corner alone and negotiate flexible working independently with their bosses. This can be incredibly intimidating and stressful.

In our disparate and independent little profession there can never be an overriding solution; yet I feel we need to explore all the options and have a sea change in attitude – such that a young, female vet is not seen as a walking fertility 'time bomb'; but rather as a valuable asset to the practice, who, if given the right support, could be a loyal employee for years to come.

Bottom line

The facts are that our profession is becoming increasingly 'feminised' and these women are going to have children. However, putting their uteruses to good use will have no effect on their brains. They can – and do – want to work.

At the moment there seem to be many barriers in their way – from a perceived loss of skills and confidence and unsociable working hours to inflexible employers and childcare challenges. This makes their lives unnecessarily difficult and may force them out of the job entirely, which is a waste on so many levels.

We are bleeding talent, drive and ambition, which will only do our profession a huge disservice; so we need to work together to support veterinary parents and ensure the demands of family life are compatible with those of practice life.

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RCVS Survey of Veterinary Surgeons (2014)

Office for National Statistics (2013)



Laura Buckley
BVetMed CertVD DipECVD MRCVS
European Specialist in Veterinary
Dermatology

Laura graduated from the Royal Veterinary College in 2003. She spent six years in general practice where she achieved her RCVS Certificate in Veterinary Dermatology.

In 2012, Laura completed a three-year residency in veterinary dermatology at the University of Liverpool and was subsequently awarded the European Diploma in Veterinary Dermatology.

Following her residency, Laura worked in private practice where she provided a dermatology service for two referral clinics in Yorkshire and London and for the Guide Dogs Centre at Redbridge in Essex. Laura returned to the University of Liverpool in 2014 as lecturer in veterinary dermatology and clinical skills, and teaches and assesses the postgraduate RCVS CertAVP dermatology course there.

Laura's clinical interests include canine and feline allergic skin disease, antimicrobial resistance and chronic otitis.



**Suggested Personal & Professional Development (PPD)*

OTITIS

Managing chronic otitis – the role of assessment in treatment planning

Chronic otitis is seen commonly in small animal veterinary practice and it is a cause of considerable discomfort for affected animals and distress for their owners. A thorough assessment of the factors contributing to the development of chronic otitis is essential for the successful management of these cases.

This article (the first of two) covers the steps required to make a full assessment of the factors contributing to the development and progression of otitis and how to use this information for targeted treatment planning.

Cases of chronic otitis are often challenging to manage owing to a complex pathogenesis (Gotthelf, 2004; Morris, 2004), the involvement of multi-drug resistant bacteria (Nuttall, 1998) and a lack of licensed treatment options. A thorough assessment of the factors contributing to the development of chronic otitis is essential for the successful management of these cases. Failure to identify a particular component of the pathogenesis or focusing on one area at the expense of another is more likely to lead to treatment failure and disease recurrence.

Normal ear anatomy and physiology

An understanding of the normal anatomy and physiology of the ear is important for treatment of otitis cases. Healthy ears have an effective 'self-cleaning' mechanism that prevents the build-up of debris and bacterial overgrowth. When treating otitis, it is essential to restore normal ear anatomy and function to avoid early disease recurrence.

Ear canals are not sterile. The external ear canal (EEC) has a mixed population of *Staphylococcus* spp., *Bacillus* spp. and *Malassezia* spp. with other bacteria being identified in lower numbers (Cole,

2009). The middle ear has low numbers of *Escherichia coli*, *Staphylococcus* spp., *Branhamella* spp., *Streptococcus* spp., *Enterococcus* spp., *Bacillus* spp., *Bordetella bronchiseptica* and *Clostridium perfringens* (Cole, 2009).

This commensal flora is managed by the animal's immune system and otic self-cleaning mechanism and only contributes to disease where there is otic pathology – most commonly inflammation associated with allergic skin disease in dogs – leading to bacterial overgrowth. Transient visitors to the EEC, such as *Pseudomonas aeruginosa* and *Proteus mirabilis* (Grono, 1969) should only contribute to disease where there is significant pre-existing otic pathology.

The EEC is made up of vertical and horizontal components. Apart from the deeper part of the horizontal canal which is osseous, the EEC is cartilaginous (Gotthelf,

2000) and should be pliable on palpation. It is lined by modified skin consisting of small hair follicles, sebaceous glands and ceruminous glands (Cole, 2009). The combined secretions of these glands form cerumen which traps debris, desquamated epithelial cells and microbes and coats and protects the epidermis. Cerumen also has antimicrobial properties owing to the presence of antimicrobial peptides and immunoglobulins.

Epithelial migration is the process whereby living epithelial cells within the EEC migrate centripetally from a point of origin on the tympanum and carry cerumen and its contents up and out of the ear canal and on to the pinna (Gotthelf, 2000). The combination of cerumen production and epithelial migration form the self-cleaning mechanism within the EEC.

The tympanic membrane (TM) separates the external ear

Figure 1. The healthy tympanic membrane viewed otoscopically. Note the dorsally located, vascular pars flaccida, the taut pars tensa lying ventrally and the stria malleolaris located to the right of centre.



Figure 2. Bulging tympanic membrane in association with primary secretory otitis media in a Cavalier King Charles spaniel.



canal from the middle ear. It is composed of the pars flaccida and pars tensa (**Figure 1**). When viewed otoscopically, the pars flaccida is located dorsally – it is pink, opaque, loosely attached and contains blood vessels. The pars tensa is located ventrally and is thin, taut, opalescent and variably translucent. The insertion of the manubrium of the malleus can be visualised through the dorsal part of the pars tensa as the stria mallearis (Gottelf, 2000).

The middle ear is the air-filled space extending from

the dorsolateral epitympanic recess, through the tympanic cavity proper to the ventromedial tympanic bulla. In the cat, the middle ear is divided by a bony septum which has implications for management of otitis media. Where disease is present in the ventral compartment of the tympanic bullae, surgery for ventral bulla osteotomy should be considered because access for medical management is difficult.

The middle ear cavity – including the inner layer of the TM – is lined by mucous

membrane, continuous with the respiratory epithelium of the nasal cavity. The three auditory ossicles (malleus, incus and stapes) are located within the epitympanic recess.

The oval (vestibular) and round (cochlear) windows lie below the epitympanic recess on the medial aspect of the middle ear, connecting it to the inner ear. The ostium of the Eustachian tube (ET) lies within the tympanic cavity and the tube opens into the nasopharynx, permitting drainage of material from the

middle ear and equalisation of air pressure on either side of the tympanic membrane (Cole, 2009; Gottelf, 2000).

Pathogenesis of otitis – the three 'P's

The pathogenesis of otitis is multifactorial. These factors can be classified into three groups known as primary, predisposing and perpetuating factors. All factors contribute to the disruption of the normal anatomy and physiology of the ear but only primary factors are capable of inciting otitis.

Table 1. Primary factors contributing to the pathology of otitis

Primary factor	Examples	Comments
Foreign body	■ Grass seed	Usually causes unilateral otitis
Ectoparasites	■ <i>Otodectes cynotis</i> ■ <i>Demodex canis</i>	Rarely causes chronic otitis
Allergic skin disease	■ Atopic dermatitis ■ Food-induced atopic dermatitis	Most common cause of otitis in dogs
Endocrinopathies	■ Hypothyroidism ■ Hyperadrenocorticism ■ Diabetes mellitus	Often accompanied by systemic signs of disease
Epithelialisation discrepancies	■ Primary seborrhoea ■ Sebaceous adenitis	Usually present with generalised skin disease
Autoimmune/immune-mediated disease	■ <i>Pemphigus foliaceus</i> ■ Juvenile cellulitis ■ Adverse drug reaction (topical & systemic)	Cases unlikely to present for otitis alone, ears affected along with generalised skin disease
Tumours	■ Neoplasia ■ Inflammatory polyps	Ceruminous gland adenoma and adenocarcinoma most common tumours of EEC; fibrosarcoma and lymphoma affecting middle ear rare
Eustachian tube disorder	■ Primary secretory otitis media (a)	Cavalier King Charles spaniels
Miscellaneous	■ Proliferative and necrotising otitis of cats ■ Idiopathic inflammatory/hyperplastic otitis (b)	■ Affects young cats and kittens ■ Cocker spaniels

(a) Stern-Bertholtz et al, (2003); (b) Miller et al (2013).

Table 2. Predisposing factors contributing to the pathogenesis of otitis

Predisposing factor	Examples
Conformation	■ Hairy external ear canals – poodles ■ Stenotic ear canals – shar pei, British bulldog ■ Pendulous pinnae – basset hound, bloodhound ■ Excessive cerumen production – cocker spaniels
Environment	■ Frequent swimming or bathing ■ High temperature and humidity
Iatrogenic	■ Overzealous cleaning ■ Use of inappropriate cleaning agents

“These factors can be classified into three groups known as primary, predisposing and perpetuating factors”

Recently, Miller et al (2013) reclassified the pathogenesis of otitis into four groups comprising primary and secondary causes and predisposing and perpetuating factors. However, the factors within each group remain the same and so to simplify the assessment process the author still uses the previous system which is outlined in this article.

Accurate assessment of the pathogenesis of otitis and resolution and long-term control of each of the contributory factors is essential for successful management.

Primary factors

These are the underlying cause of otitis. Disease processes causing inflammation of the epithelium of the ear canal, alteration of the normal epithelial environment, obstruction of the ear canal, middle ear or ET or immunosuppression lead to disruption of the mechanisms required to maintain ear health. Inflammation and microbial overgrowth and infection occur as a result.

Primary factors are summarised in **Table 1**.

Predisposing factors

These factors make ear disease more likely to occur in an individual but are unlikely to cause disease in the absence of a primary factor.

Predisposing factors are summarised in **Table 2**.

Perpetuating factors

These factors develop as a result of primary and predisposing factors and act to prevent the resolution of otitis. They include microbial infection, progressive pathological change and otitis media.

Microbial infection

This causes further inflammation of the EEC epithelium and hyperplasia of the ceruminous glands, leading to increased glandular secretions and an altered epithelial environment which promotes microbial overgrowth. Initial microbial infection involves the commensal flora, including Gram-positive staphylococci and streptococci and *Malassezia pachydermatis*. If inflammation and increased glandular secretion persist, transient organisms – including *Pseudomonas aeruginosa* and *Proteus mirabilis* – can become established in the ear canal.

Progressive pathological change

With ongoing inflammation, the canal epithelium becomes hyperplastic and normal anatomy and physiology is lost. Through progressive hyperplasia, the canal becomes stenotic. Severe hyperplasia of the ceruminous glands leads to an uneven ‘cobblestone-like’ epithelial lining.

With chronicity the epithelium becomes irreversibly fibrotic and the ear canal cartilages lose their pliability as they become progressively mineralised. In severe cases, osteomyelitis or cholesteatoma, a keratin-filled epidermoid cyst within the middle ear, can develop (Miller et al, 2013).

Otitis media (OM)

Otitis media forms a chronic, septic focus which can lead to otitis interna or recrudescence of otitis externa. It occurs most commonly following disruption of the TM in cases of chronic otitis externa, but can also occur in association with ET dysfunction and neoplasia, or polyps arising from the middle ear.

Assessment of the three ‘P’s

For all cases of otitis, the factors contributing to pathogenesis need to be considered. This is particularly important for chronic otitis, where perpetuating factors are severe and will lead to rapid disease recurrence if not addressed. The various factors are identified via history taking, physical examination and diagnostic investigations.

Miller et al (2013) suggest making a list of the factors identified in each case to ensure they are addressed throughout the course of treatment. Where more than one primary factor is possible, a list of differential diagnoses should be made to ensure they are revisited later in the course of treatment/investigation, once perpetuating factors are under control.

History

Obtaining a thorough history is very important in determining the primary factor(s) involved in otitis. Otitis caused by allergic skin disease may be mild initially, but often begins in animals between six months and three years old; whereas otitis associated with endocrine and neoplastic disease is seen in older animals.

Breed predispositions exist that may increase suspicion for certain diseases – atopic dermatitis in Labrador retrievers, golden retrievers, West Highland white terriers and so on.

A general history is important for highlighting systemic diseases; the chronicity of ear disease may be helpful

in the investigation of the cause – foreign bodies and *Otodectes* infestation usually have an acute onset, whereas other primary diseases are associated with chronic or recurrent disease.

The presence of true unilateral disease is usually associated with foreign bodies, inflammatory polyps or neoplasia. All other primary factors affect both ear canals; although it is common to have one, more severely affected, ear and this is often mistaken for unilateral disease by the owner.

Also of importance are previous therapies and the animal’s response to this can be vital for diagnostic planning and selection of further therapy.

Physical examination

This is also very important in determining the primary factors involved in otitis. Concurrent skin lesions are often seen with allergic skin disease, keratinisation defects and immune-mediated disease.

The character and distribution of lesions will provide useful information for narrowing the list of differential diagnoses – for example, pruritus and diffuse erythema, lichenification and excoriation affecting the ears, feet and ventral abdomen in dogs with atopic dermatitis (AD). Some animals with AD, however, can have clinical signs that are restricted to the ear canals.

Endocrine disease can present with both dermatological lesions and abnormalities associated with systemic

“The presence of true unilateral disease is usually associated with foreign bodies, inflammatory polyps or neoplasia”

Table 3. Perpetuating factors that may be identified on otic or neurological examination

Examination	Abnormality	Possible perpetuating factor
Otic	<ul style="list-style-type: none"> EEC pliability/mobility loss Progressive pathological changes observed via otoscopy TM opaque, discoloured or bulging (Figure 2) Absence of TM 	<ul style="list-style-type: none"> Severe hyperplasia/mineralisation of EEC, neoplasia Epithelial and ceruminous gland hyperplasia, stenosis, fibrosis Possible otitis media Probable otitis media
Neurological	<ul style="list-style-type: none"> Hearing loss Vestibular signs (head tilt, ataxia, nystagmus, 'tight' circling towards lesion) Facial nerve dysfunction (facial asymmetry, decreased motor function, e.g. palpebral reflex, ear twitch) Sympathetic nerve dysfunction causing Horner's syndrome (ptosis, miosis, enophthalmos, protrusion of third eyelid) Parasympathetic nerve (chorda tympani) dysfunction causing reduced tear secretion and keratoconjunctivitis sicca 	<ul style="list-style-type: none"> Obstruction or stenosis of EEC, loss of TM, ototoxicity Otitis media/interna Otitis media/interna Otitis media/interna Otitis media/interna

Table 4. Summary of the radiographic views to evaluate the ear canals and tympanic bullae

Radiographic view	Pros	Cons
Dorsoventral	<ul style="list-style-type: none"> Positioning easier and more consistent than ventrodorsal view Bullae closer to film minimising magnification effects Comparison of both ear canals, bullae and petrous temporal bones 	Superimposition may make interpretation difficult
Open-mouth rostrocaudal	<ul style="list-style-type: none"> Comparison of both osseous bullae and evaluation of petrous temporal bones 	Can be hard to achieve symmetry and extubation required
Lateral oblique	<ul style="list-style-type: none"> Visualisation of bullae without superimposition of other skull structures 	Doesn't allow comparison of the two ear canals
Lateral	<ul style="list-style-type: none"> Visualisation of bullae without superimposition of other skull structures 	Bullae superimposed making interpretation difficult

Table 5. Normal radiographic appearance of the external ear canal and tympanic bulla and potential pathological changes seen with otitis

	External ear canal	Tympanic bulla
Normal radiographic appearance	<ul style="list-style-type: none"> Air-filled tubular structure 	<ul style="list-style-type: none"> Thin-walled, round to oval air-filled structure Margins smooth, complete and of uniform thickness Appears thicker-walled in dorsoventral view owing to superimposition of petrous temporal bone In cats, appears double-walled owing to bony septum
Pathological changes	<ul style="list-style-type: none"> Narrowing/occlusion of canal and replacement of air-filled lumen by soft tissue density (hyperplasia, neoplasia) Dystrophic mineralisation Bone destruction involving the base of the calvarium or temporomandibular joint (neoplasia) 	<ul style="list-style-type: none"> Soft tissue/fluid density within lumen, increased radio-opacity and size, thickening of wall +/- lysis and periosteal reaction (otitis media) Lysis and destruction of wall, bony proliferation, soft tissue swelling of adjacent tissue, increased radio-opacity of bulla owing to soft tissue proliferation/fluid accumulation (neoplasia) Opacification of lumen, bony thickening, soft tissue mass in the pharynx or ear canal (inflammatory polyp)



Figure 3. Preparation of an otic smear.

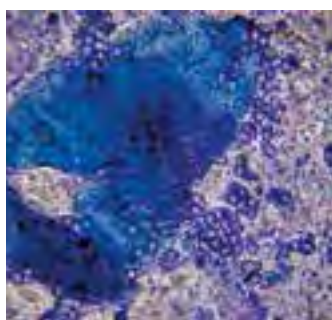


Figure 4. Diff-Quik stained indirect impression smear demonstrating multiple budding yeasts and large, anucleate keratinocytes in a dog with *Malassezia* otitis.

disease, such as hepatomegaly, muscle wastage, alopecia and loss of skin elasticity with hyperadrenocorticism. Some primary diseases – such as foreign bodies, *Otodectes* infestation and tumours – can be diagnosed on physical examination alone if visualised.

Predisposing factors should be determined and documented for future management and an initial assessment of perpetuating factors can be performed via otic and neurological examinations (**Table 3**). Otoscopy is limited in many cases because of pain or stenosis, so sedation and analgesia or general anaesthesia (GA) may be required for adequate assessment. For stenotic ear canals, assessment will be improved by using corticosteroids to reduce hyperplasia – prednisolone 1mg/kg once daily for one to two weeks, for example.

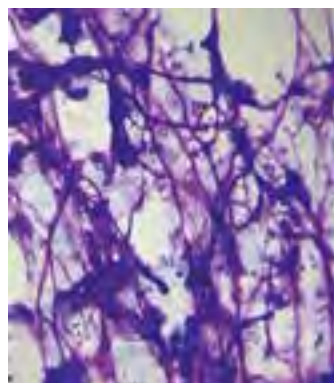


Figure 5. Diff-Quik stained indirect impression smear demonstrating mixed cocci and bacilli bacteria with numerous degenerate neutrophils showing nuclear streaming in a dog with chronic bacterial otitis resulting from atopic dermatitis.

Diagnostic tests

Diagnostic tests are required to identify primary factors that cannot be visualised on initial otoscopic examination and to make a full assessment of perpetuating factors.

Cytology

Cytology is used to identify otic parasites and to further assess otic discharge. It is a very useful diagnostic tool as it is economical, easy to perform and can be done in the conscious animal. It provides valuable information on the type and presence of microbial infection versus inflammation, and guides our approach to therapy. It is also extremely useful in assessing response to therapy and monitoring for recurrent disease.

Material is collected from the ear canal on a cotton bud. For the assessment of parasitic disease, the material is mounted in liquid paraffin and covered with a cover slip. For the assessment of inflammatory cells and microbes, the sample is rolled on to the slide (**Figure 3**), air-dried and stained with a rapid Romanowsky stain (Diff-Quik, for instance).

Figures 4 and 5 show examples of cytological findings from otitis cases.

Culture and susceptibility testing

Culture and susceptibility testing (C&S) is not particularly useful for the diagnosis of microbial infection and may be misleading in the management of otitis. Yeasts can be identified accurately using cytology and have broad susceptibility to antifungals. C&S identifies the species of bacteria involved in otitis cases and their susceptibility to systemic antibiotics.

Where topical treatment is used, susceptibility testing is not useful. Also, because the ear canal is not sterile, the use of this test can lead to the propagation of insignificant species and/or quantities of a bacteria, with subsequent unnecessary extension and/or change of antimicrobial agents. The test should, therefore, only be performed in conjunction with cytology.

Diagnostic imaging

Radiography
Radiography can be helpful in determining the severity of perpetuating factors. The most useful views to evaluate the ear canals and tympanic bullae are summarised in **Table 4**. Radiography is less sensitive than advanced imaging techniques for the detection of perpetuating factors.

Table 5 summarises the pathological changes affecting the EEC and middle ear that may be identified using radiography.

Computed tomography (CT)

Computed tomography allows cross-sectional imaging of the outer, middle and inner ear. Evaluation of CT images relies on comparison of symmetry and evaluation of criteria similar to those used for radiographic interpretation.

CT, however, facilitates visualisation of finer detail than conventional radiographs – in particular of the inner ear – allowing more specific diagnosis, prognosis and treatment planning. It is superior to magnetic resonance imaging for lesions affecting bony structures of the ear.

Magnetic resonance imaging (MRI)

MRI gives better resolution of soft tissue lesions than CT, so these two techniques are complementary. However, MRI is more costly than CT and takes longer to perform (approximately 45 minutes) so it is reserved for patients where accurate diagnosis cannot be established by CT.

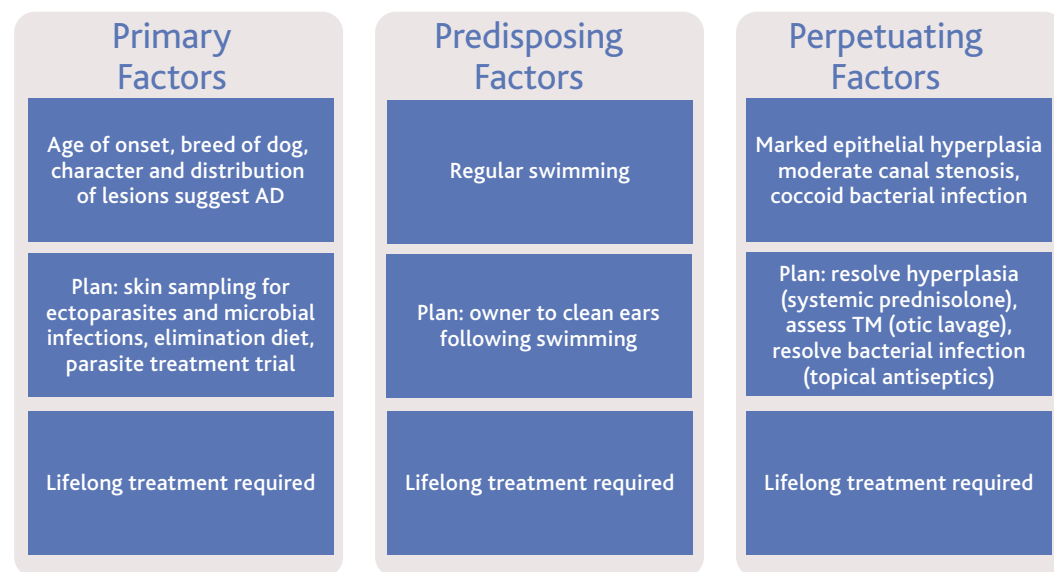
MRI is particularly useful for detection of early changes in the epithelial lining of the bulla along with accumulation of fluid/debris. It also allows successful imaging of the inner ear and visualisation of lesions of the membranous labyrinth, such as labyrinthitis.

Otoscopy and otic lavage

Otoscopy and otic lavage are required in chronic otitis cases for complete assessment of primary, predisposing

“Where topical treatment is used, susceptibility testing is not useful ... because the ear canal is not sterile, use of this test can lead to the propagation of insignificant species and/or quantities of bacteria”

Figure 6. Management plan based around the factors contributing to the pathogenesis of otitis.



and perpetuating factors. Otoscopy is limited by severe hyperplasia and stenosis of the ear canal and, as previously mentioned, pre-treatment with corticosteroids may be required. Owing to the pain associated with chronic otitis, most cases require GA for assessment via otoscopy and all cases undergoing otic lavage require endotracheal intubation and inflation of the cuff to prevent aspiration of fluid via the Eustachian tubes.

Otic lavage is therapeutic and is also required for the full assessment of perpetuating factors – epithelial and ceruminous gland hyperplasia/fibrosis, change or absence of TM suggestive of OM – where there is discharge in the ear canal. Sterile saline should be used for lavage of the EEC and middle ear to avoid ototoxicity. Ceruminolytic agents may be required for removal of dry or waxy exudates but careful assessment of the integrity of the TM should take place prior to the use of potentially ototoxic agents.

The video otoscope has a number of advantages over hand-held otoscopes. It produces a larger, more detailed image of the ear canal for assessment of the

epithelium and TM. The light intensity is greater and permits transillumination of the TM for assessment and for myringotomy and sampling of the middle ear. It also permits the use of instruments – such as myringotomy needles and biopsy forceps – within the ear canal without obscuring the view of the examiner.

Treatment planning

Once a list of the factors contributing to a particular otitis case has been made,

this can be used to produce a treatment plan to resolve perpetuating factors, to guide further investigation of primary factors and to make a long-term management plan with which to address predisposing factors and any primary factors requiring ongoing treatment (**Figure 6**). ■

PPD questions

1. In cats, which anatomical structure limits the success of medical management of otitis media?
2. Which diagnostic test is the most useful for the identification of bacterial otitis?
 - A. MRI
 - B. Cytology
 - C. Culture and susceptibility testing
 - D. Video otoscopy
3. Which primary factor is most commonly associated with otitis in dogs?

Answers
1. Bony septum separating tympanic bulla into dorsal and ventral components
2. B
3. Allergic skin disease (atopic dermatitis)

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Samantha Bloomfield
BSc MA VetMB GPCert(SAS) MRCVS

Samantha has a Degree in Nutrition from King's College, London, and qualified as a veterinary surgeon from Cambridge University in 2005.

Since then she has worked in mixed and small animal practice in the UK and abroad.

Although now working in general practice, she has over 30 years experience hand-rearing sick and premature animals starting with her time running a referral clinic for puppies and kittens.

*Samantha has a website offering help and advice to breeders and to the veterinary profession, puppyandkittenclinic.com and her book, *Bloomfield's Manual of Puppy Hand Rearing*, is available from the website and from amazon.co.uk*



**Suggested Personal & Professional Development (PPD)*

PUPPIES

Examination and assessment of newborn puppies

Various reports quote neonatal puppy losses of between 10 to 30 per cent from birth up to weaning. About 70 per cent of these losses are during the birth process and the first week of life; a large percentage of these could be avoided by early and accurate assessment of the puppy at birth, and by constant monitoring by the breeder to indicate when intervention is needed.

Appearance and development of normal puppies

Puppies may appear lean at birth, but they should fill out rapidly within the first 24 hours as they feed and become fully hydrated. Similarly, their foot pads should plump out. The puppies should be sleek with a shiny coat, warm to touch and, when handled, root around in the hand looking for a nipple from which to suck. A clean finger inserted into the mouth should stimulate a strong suck reflex.

Healthy puppies sleep for most of the time and, apart from occasional twitching, should appear relaxed. When woken, puppies should search vigorously for a nipple and actively seek their mother with a strong progressive crawl. They may vocalise when doing so in a series of low grade squeaks. Once fed, they should rapidly nestle back with the litter (**Figure 1**).

Puppies should be born with their eyes closed and these usually start to open at around 10 days, but can be delayed up to 14 days.

Newborn puppies require physical stimulation to pass urine and faeces. The bitch does this by licking the perineal region. The first faecal material (meconium) is dark and greasy in appearance. After this, the faeces should be of 'toothpaste consistency' or firmer and of a dark yellow to brown colour. By two to three weeks of age, the puppy should be able to pass urine and faeces spontaneously.

Physical examination and assessment

As soon after birth as the bitch will allow, each puppy should be identified, weighed and examined for abnormalities. Breeders should be encouraged to do this at home, if the puppies are born at the veterinary practice, a written record of this should be given to the breeder. Puppies can be identified by coat markings and sex but if two puppies are similar, a small dab of different coloured nail polish to ears and tail tips is a useful method of identification.

Body weight

Normal birth weights for the smaller breeds can range from 75g to 350g, medium breeds 200g to 300g, and the larger breeds from 400g up to 800g.

Puppies should be weighed as soon after birth as the bitch will allow, and thereafter, every 24 hours. For the first 24 hours, the puppy may lose a few grams, but should at least remain stable or increase slightly as it becomes more hydrated with feeding.

Over the next 48 to 72 hours there should be a steady daily increase in weight. Daily weight gain depends very much on the breed, but should be even across the whole litter. Body weight should double by seven to 10 days if reared by the bitch, with an average increase of five to 10 per cent body weight each day.

General appearance

Note whether the puppy is rooting in your hand and feels warm, or if it is cold to

Figure 1. Newborn puppies should spend most of their time asleep with the litter.





Figure 2. Immature, but full-term, puppy. Note the lack of hair on the ear buds, around the muzzle and lower limbs. The hair coat is rough instead of being sleek and shiny.

the touch and limp. Check for a suck reflex.

A healthy newborn puppy at rest naturally curls up; a puppy lying flat out is an indication of hyperthermia or illness. After the first five days, it is more normal to see puppies lying flat on their side when sleeping.

The puppy should look filled out with a shiny, sleek coat. A rough, dull coat is a sign of an ill puppy. Immature puppies lack hair coverage on their ears, lower limbs and feet (**Figure 2**).

Skin

The skin should be pale pink – on the back of the neck, it should relax quickly when pinched lightly, indicating good hydration. The puppy should be checked for any injuries incurred during birth or from the bitch during nursing.

Head and spine

Check for the presence and number of nostrils, eyes, ears and overall symmetry of the head. Open the mouth by placing light pressure on the corners of the mouth and check the hard palate and soft palate for abnormalities. This may be anything from the



Figure 3. A puppy with a cleft palate.

whole of the palate missing, through cleft palate, (**Figure 3**) to tiny pinprick holes.

Check the nose for any nasal discharge. In newborn puppies, this is most likely to indicate an infection in the nasal chambers – probably from inhaled milk owing to poor feeding technique or a cleft palate.

Run a finger over the top of the head to check for an open fontanelle (an incomplete closure of the bones of the skull). This will be a soft depression on the top of the skull. Run a finger along the length of the spine and check for any deviation of the spine and tail.

Legs and feet

Check for the presence of normal limbs and toes. Ensure the puppy appears to have normal joints, particularly of the hips and stifles.

Chest and rib cage

The chest should be symmetrical in shape. Ensure that it is not flattened and 'box-like', or that the sternum is not protruding into the chest cavity (*pectus excavatum* or 'swimmer' puppies).

Abdomen

By 24 hours following birth, the abdomen should be sleek and the same width as the chest. A bloated, hard abdomen may indicate diarrhoea or obstruction as a consequence of anal atresia.

Umbilicus

Check the umbilical cord has been chewed off at a reasonable length by the bitch. The cord should dry up and fall off within two or three days. If the cord is very short or missing, check to make sure that there is not an umbilical hernia.

The umbilicus should be checked on a daily basis for infection, which will be evident as wetness or pus – gently squeezing around this area will help detect any pus.

Clinical examination and assessment

Rectal temperature

Routine body temperature

monitoring is not warranted if the puppies were born naturally and feel warm to the touch. If they are restless, feel cold or were born by Caesarean section, it is advisable to check their temperatures.

Gently insert only the very tip of a well-lubricated digital thermometer into the rectum. In a very small puppy, it may not be possible to do this and assessment can only be made by the 'feel' of the puppy in your hand.

At birth, the body temperature should be 35.5° to 36.1°C. After a few hours, the temperature should stabilise at around 36.5° to 37°C and increase slowly to 37.7°C by four weeks of age.

Heart rate and circulation

The heart rate of a newborn puppy is more than 200 beats per minute. It is not usually possible to detect heart defects at this young age. The best indicator of circulation in a newborn puppy is the colour of its tongue and gums, which should be a pale pink. If blue, the puppy is cyanosed which may indicate a heart or circulatory problem, but can also indicate a breathing or lung problem. If the tongue and gums are a dark 'cherry' red, this usually indicates sepsis or hyperthermia.

Breathing

It should be possible to count the breathing rate of a resting puppy. This will vary with age and size, but should be in the region of 15 to 35 breaths per minute.

It is important to become familiar with the character

"Body weight should double by 7 to 10 days if reared by the bitch, with an average increase of five to 10 per cent body weight each day"

Summary of key assessment points

- Identify, weigh and examine puppies soon after birth. Repeat at six and 12 hours, then every 24 hours once stable
- Keep good records of initial assessment and daily progress
- Body temperature should be 36.5° - 37°C rising to 37.7°C
- Heart rate – 200 beats per minute
- Breathing rate – 15 to 35 breaths per minute
- Attention to detail and constant distant monitoring is essential
- Intervene immediately if a problem is detected

of the breathing. A sleeping puppy should breathe smoothly at a constant rate with a little movement of the chest. The abdomen should not move with the breaths.

You should not be able to hear any breathing sounds with your ear near to the puppy, or with a stethoscope on the chest wall. Clicking noises and laboured breathing – with obvious rib and abdominal movement – are signs of serious breathing or lung problems.

Kidney function and hydration

If the puppy is not being nursed by the dam or is being presented for clinical examination, stimulate the puppy to pass urine by massaging the perineal area with a cotton wool ball. The urine should be almost clear to pale yellow in colour. Dark urine indicates dehydration or infection.

Gut function

If the puppy is not being nursed by the dam, then stimulate the perineal region with a cotton wool ball. Newborn puppies should pass faeces about four to six times a day. Stools should be of firm or paste consistency.

Faeces should be dark yellow to brown in colour. An increase in frequency and lightening in colour often precedes diarrhoea.

Monitoring

Constant monitoring from a distance is vital. Any puppy vocalising incessantly and moving away from the bitch should be investigated, as should any puppy obviously being rejected by the bitch.

Otherwise, a repeat full assessment (apart from body weight) should be undertaken at six and 12 hours after birth, then, if all is well, every 24 hours (including body weight). Encourage the breeder to keep written records of these assessments. ■



Constant monitoring from a distance is vital.

PPD Questions

1. By what age should puppies have opened their eyes?
2. By what age should puppies be able to void urine and faeces spontaneously?
3. Puppies lose a little body weight immediately after birth. When should they start to gain weight?
4. What might a bloated abdomen indicate?
5. What would you expect the core body temperature of a puppy to be at seven days of age?

Answers
 1. Around 10 days of age
 2. By three weeks of age
 3. During the next 48-72 hours
 4. Atresia and/or constipation
 5. 36.5°-37°C

“Any puppy vocalising incessantly and moving away from the bitch should be investigated, as should any puppy obviously being rejected by the bitch”



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Alice Allbrook
BSc(Hons) RVN ISFCertFN

Alice graduated from Hartpury College having gained a BSc(Hons) in Veterinary Nursing Science. She initially spent time working in a mixed first-opinion practice in Bristol. In April 2011, Alice moved to join the nursing team at Langford Veterinary Services. At first she worked in all areas of the hospital, but found her real passion lay with feline medicine; so she now works as a core feline nurse within the Feline Centre and has completed the 'ISFM Certificate in Feline Friendly Nursing', achieving a distinction.

'Cat-titude' – encouraging cat friendliness in your veterinary practice

Understanding the cat and its complex behaviour is an essential skill for all veterinary staff and can make a big difference as to how the cat copes within the veterinary practice environment. Ensuring that all staff members have a positive attitude to feline friendliness is key in promoting the best experience possible for our feline patients.

In order to create a cat-friendly practice we must consider the cat's natural behaviour and understand what physical changes are needed to promote a more relaxing environment [Veterinary Practice Today 3(1) Jan/Feb 2015]. It is important to try and visualise the practice through the eyes of the cat and adapt it to create a feeling of security rather than of unfamiliarity and fear.

Improve experience from outset

Transporting the feline patient to the veterinary practice can be a stressful experience for both owner and cat alike; however, many simple measures can be put in place to ease this situation, and in some cases it may be necessary to provide owners with useful tips prior to their cat's initial visit. If we are able to provide the cat with a safe experience from the outset then it's hoped it will cope better in the veterinary practice environment throughout its lifetime.

"Transporting the feline patient to the veterinary practice can be a stressful experience for both owner and cat alike"

Ensuring the owner has a suitable carrier in which to bring their cat to the practice is vital and owners should be advised never to travel with a cat loose in the car. Top-opening wire mesh baskets are generally the most sturdy and practical form of transport for the cat as they allow for easy access in and out.

Opening the basket at the top also provides a less daunting image for the cat as it is able to see what is happening and is not faced with the prospect of being slid or pulled out of a box where it is so desperately trying to hide. Equally, a top-opening carrier provides protection for the handler because the cat's location can be seen clearly so that, when necessary, the use of a blanket

or towel can be implemented to help pick the cat up.

Advising owners to place the intended basket open somewhere that the cat regularly frequents in the house will help promote a more positive image of the carrier and lessen its association with a potential stressful journey. In many cases, however, owners may not have time to acclimatise their cat to the basket and other methods may be used to increase its appeal.

Making the carrier smell familiar will give the cat a sense of reassurance when inside it; so placing some of its personal items in it – bedding, clothing from a person well-liked by the cat and toys – may help to reassure the cat during transportation. The direct transfer of scent from the cat onto the basket can also be achieved by wiping a soft cloth around the cat's face and then rubbing this on the basket.

The use of a synthetic feline facial pheromone (FFP) sprayed within the basket 30 minutes before the cat is to use it is likely to help promote a sense of security. A study carried out at the Ohio State University College of Veterinary Medicine found that exposing hospitalised

Figure 1. Features of a cat-friendly cat consulting room.



*Suggested Personal & Professional Development (PPD)

CAT-FRIENDLY



Figure 2. Hospital cages in which rubber grip matting is being used on the bottom of kennels to provide a slip-free surface on which to place bedding.

cats to a topical FFP produced significant well-being – manifested as head rubbing, grooming and eating – compared with those cats exposed to a placebo.

To further facilitate a smooth transit, owners should be advised to place their cat within the carrier calmly and carefully, working at floor level rather than having to pick the cat up past their face, just in case the cat panics and they risk being scratched accidentally. If the owner is concerned that he or she may not be able to put their cat into the carrier easily, it is advisable to suggest the use of a towel to gently wrap around the cat.

Covering the exterior of the basket with another towel during transit will also help keep the cat calm and avoid it being faced with any potential threats.

Feline-friendly environmental modifications

When considering the veterinary environment, it is important to understand what physical modifications should be made to reduce stress and threat to our feline patients. Addressing the main areas of the veterinary

practice will provide a great starting point. It is important, however, for individual veterinary staff to evaluate their own clinics to find practical solutions that will work within their own practice.

Waiting areas

Many feline behavioural changes stem from underlying anxiety or fear and it is paramount to reduce such stressors from the outset. Providing a ‘cat-only’ waiting room is most beneficial to the feline patient as it helps offer a sense of security.

Cats are creatures of habit and cope best within the realms of their own territory; removing them from their ‘safe zone’ and into ‘the unknown’ can cause marked distress for many patients.

Fear is an emotion that induces an adaptive response (stress response) which normally allows the animal to avoid situations and activities which they deem dangerous. Within the veterinary environment, the feline patient is physically unable to remove itself from a given situation and, in many cases, anxiety will be displayed as aggression. Providing feline patients with a quiet, calm

“It is also important to avoid direct contact between other waiting cats”

environment (free from barking dogs!) seems to help them relax and prevents anxious behaviour prior to veterinary examination.

It is also important to avoid direct visual contact between other waiting cats as this too can also cause unnecessary arousal and, for some, be more stressful than the veterinary environment itself. Within their home environment, cats enjoy roaming inconspicuously, using everyday objects as means of camouflage.

They will often seek refuge on the staircase or on top of a cupboard because they deem these high vantage points as safe. From here they can survey what is going on below them and assess whether they consider certain environments harmless. By providing shelving or raised areas within the waiting room, a sense of safety can be provided for our patients and, hopefully, will aid in relaxing the cat prior to its examination. It also means waiting patients can be raised at different heights to prevent their having face-to-face contact with one other.

Consultation rooms

Having at least one consultation room assigned to feline appointments is beneficial – ideally one that is situated furthest from the main waiting room to avoid noise transition. Providing a dedicated cat consulting room will mean a suitable cat-friendly environment can be maintained at all times, with appropriate equipment and without the smells of other animals.

The use of pheromone diffusers within the consulting rooms helps to impart a relaxing mood and provide a less threatening environment. Reducing novel scents can also be aided by consulting staff changing their scrub tops before entering a feline consultation, providing a feline-specific colour may help increase compliance.

The installation of a lock on the consulting room door means that it will be safe for cats to be let out during consultation. This allows the cat to explore the environment while a history is taken from the owner and it helps reassure the feline patient of the environment’s safety. Clinic examinations should

Figures 3 & 4. Cat-friendly ‘conversions’ of standard hospital cages.





Figure 5. Quiet, lightweight and, ideally, cordless clippers are most practical for use with the cat.



Figure 6. Doppler systems are considered most reliable for monitoring blood pressure in the conscious cat.

be tailored around the cat's location – whether this be on the client's lap, within the cat carrier or on a warm, non-slippery table (**Figure 1**).

Hospital wards

Providing separate ward areas for dogs and cats is, of course, the ideal situation; but with all wards it is important to ensure that direct visual contact with other animals is avoided at all times. Cages should not face one another and examination tables/areas should not be situated in front of the ward cages.

Cage size is very important and the duration of the patient's stay should determine which size cage is acceptable for its hospitalisation period. Placing cats within a restricted environment, full of new smells and unpredictability can be a distressing time for them and, therefore, it is important that the environment they are offered is made to feel as secure as possible.

Cages for cats should be adequately sized to facilitate separation between feeding, resting and elimination (litter tray) areas to allow

cats to express a natural range of behaviours.

Fibreglass laminate material cages are thought to give better visibility to the patient as well as being warmer and quieter than those constructed from other materials. However, the use of good bedding and hanging towels in stainless steel kennels can help reduce noise and reflections as well as increase warmth. The use of rubber grip matting on the bottom of kennels can also provide a slip-free surface on which to place bedding (**Figure 2**).

Equipment considerations

In conjunction with the physical environmental modifications, it is also important to consider the types of equipment used to promote feline friendliness. As a rule such equipment should be small, discrete, streamlined and quiet.

Appropriate furnishing of the patient's cage is vital and must take into account the needs of each individual. Hospitalised cats will often feel very vulnerable having

been removed from familiar surroundings and routine, and it is not uncommon for the feline patient to be found hiding in the litter tray or beneath its bedding.

Bedding

Bedding such as igloo beds, 'vet beds', lined cardboard boxes and 'doughnut' beds offer both warmth to the patient and prevent them from laying on the base of the cage by offering a safe, secluded place in which to rest. For those particularly nervous cats – that rarely exit their igloo bed or cardboard box to eat or use the litter tray – the use of a hanging towel or blanket over a proportion of the cage door provides increased privacy for the cat and aims to promote security and reduce threatening stimuli (**Figures 3 & 4**).

Bowls

The use of sturdy, wide/low feeding dishes is generally preferable for the feline patient; however, special considerations may need to be made for individuals, depending on their breed (Persian cats, for instance) and clinical condition ('Buster' collars that restrict eating).

Scales

Use of paediatric or cat scales is preferable to ensure accurate weight measurement of the feline patient.

Clippers

Quiet, lightweight and, ideally, cordless clippers are most practical for use with the cat (**Figure 5**).

Thermometers

These should be 'rapid-reading', flexible and small in size.

Blood pressure monitors

Doppler systems are considered most reliable in the conscious patient and should be used in conjunction with appropriate cuffs and headphones to prevent unnecessary noise (**Figure 6**).

'Buster' collars

The use of soft 'e-collars' over plastic collars can provide more comfort to the feline patient as it allows them to move more freely, as well as enabling them to rest in a more natural position.

Paediatric blood collection tubes

The availability of these tubes allows smaller quantities of blood to be collected without prejudicing the test results and can be extremely helpful when blood is needed from a 'difficult' cat, a very small cat or when multiple samples have already been obtained.

Glucometer

The glucometer is validated in cats and allows in-house

"Appropriate furnishing of the patient's cage is vital and must take into account the needs of each individual"

blood glucose readings to be assessed immediately.

Summary

Understanding our feline patients and accommodating their vital needs will undoubtedly help improve their stay within the veterinary practice environment. It is essential that alteration of both the physical environment and veterinary attitude are combined in order to promote feline friendliness and, ultimately, spread a feeling of 'cat-titude' throughout the practice team! ■

PPD Questions

1. Describe one way in which an owner can physically make their cat's basket appear more inviting to their cat.
2. Name two physical modifications that could be made to the waiting area and the consultation room.
3. Describe what cage furnishings and food/water bowls would be best used for a very timid Persian cat admitted to the hospital ward?
4. List three pieces of veterinary equipment appropriate for use in cats?

Answers

1. Advising owners to place the intended basket open somewhere the cat regularly frequents in the house will help promote a more positive image of the basket and lessen the association with it and a potential stressful journey.

In many cases owners may not have time to acclimatise their cat to the basket and other methods may be used to increase its appeal. Making the carrier smell familiar will give the cat a sense of reassurance when inside it and so placing personal items of the cat's within it – bedding, clothing from a person well-liked by the cat and toys – may help to reassure the cat during transportation.

The direct transfer of scent from the cat onto the basket can also be achieved by wiping a soft cloth around the cat's face and then rubbing this on the basket.

2. Waiting area. Providing a cat-only waiting room is most beneficial, but where this can't be achieved, providing a dedicated 'cat zone' away from other waiting animals will most definitely help. Providing raised areas – shelving will also enable cats to be placed off the ground within their baskets.

Consultation room. The use of pheromone diffusers within the consultation rooms will help promote a calm, relaxed environment. Where possible providing a cat-only dedicated consult room will prevent fear induced by the scent of other animals, especially dogs.

3. Use of a box or 'igloo' to provide a hiding area, alongside comfy bedding, will provide a secure area for the cat to rest. The use of wide flat dishes would be most appropriate because of the brachycephalic nature of the Persian cat.

4. Clippers. Quiet, lightweight and, ideally, cordless clippers are most practical for use with the cat.

'Buster' collars. The use of soft 'e-collars' over plastic collars can provide more comfort to the feline patient as it allows them to move more freely as well as enabling them to rest in a more natural position.

Paediatric blood collection tubes. The availability of these tubes allows smaller quantities of blood to be collected without resulting errors and can be extremely helpful when blood is needed from a 'difficult' cat, a very small cat, or when multiple samples have already been obtained.

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John Redbond
RVN

John is co-head nurse at Castle Vets in Reading, where he trained and qualified in 2004. Currently he is in charge of a fantastic team of 14 nurses.

During his 13 years working there, John has overseen an entire refit of the laboratory. His interest in this field has also taken him into dermatology, recently setting up skin clinics.

The essential practice laboratory

An efficient and effective laboratory is essential for any veterinary practice to be successful in diagnosing and treating its patients. Correct setup and management is critical to gaining the most benefit from your lab – ensuring accurate and reliable results. Whether setting up a lab for the first time, renovating an existing one or maintaining what you have, it is never the wrong time to consider aspects that can be improved.

Location. Location. Location.

Without doubt the best place for any practice lab is a dedicated room with a constant temperature, free from external contamination, such as dust, vibrations or cups of tea!

Laboratory equipment is sensitive, as well as expensive, and even when this is not possible it is essential to find a location to minimise such issues as well as optimise health and safety. So consider a quiet room or even just a corner when a specialised laboratory room is unavailable.

Equipment

The equipment you put in your lab will determine what you derive from it. If choosing new machines or considering replacing them, take time and discuss with your staff to see what they want; the results are only reliable if the vets interpreting them feel they can rely on them.

Biochemistry

Biochemistry analysis is a vital indicator for so many disease processes.

Machines can either be a wet analyser, which adds reagent to the plasma/serum before

“Every practice could – and should – have staff capable of performing a packed cell volume (PCV) and manual smear evaluation to assess a whole blood sample”

firing light through to measure the level of chemistries or a dry analyser that has the reagent ready on a slide or rotor (similar to a urine dipstick) and adds the sample before measuring the change for a result.

Different machines suit different practices, and having used both wet and dry techniques, I can stress that there are benefits and weaknesses with each approach. It is vital that the machine can be ‘trusted’, so select it carefully, considering the benefits and disadvantages of each method (Table 1).

Haematology

Every practice could – and should – have staff capable of performing a packed cell volume (PCV) and manual smear evaluation to assess a whole blood sample, however, having a machine that can quickly and accurately give you

detailed information on what is circulating in the patient at that moment is very useful.

Haematology machines vary greatly in cost – from simple impedance analysers that count cells by size alone, to the Idexx ProCyte, for instance, which will use this method, as well as analysing the cell details with a laser and staining the blood for optical fluorescence, to aid with a differential diagnosis. Ascertain your budget and choose the machine that will most help you.

Electrolytes

Knowing the patient’s acid-base and electrolyte balance can be vital, particularly in emergency situations, in order to identify the treatment needed. Analysis of these components can be part of the biochemistry machine or a separate, smaller machine and are relatively inexpensive.

Table 1. Advantages and disadvantages of ‘dry’ and ‘wet’ biochemistry analysers

‘Dry’ chemistry	‘Wet’ chemistry
Easy to use	Possible to run any single test
Low maintenance	Can customise panels to suit your surgery
Good result replication	Used by reference laboratories, so taken to be the most accurate
Limited choice of panels	Can be more complex to run samples on
Can be expensive if running a high number of samples	<ul style="list-style-type: none"> Harder to maintain, with greater risk of fluctuations in results More cost effective with a high throughput of samples



**Suggested Personal & Professional Development (PPD)*

LABORATORY

Choosing your 'panels'

It is possible to select different 'panels' of tests to suit the needs of your practice. Take a look at the test request 'history' in your practice and discuss the needs and wishes of those members of staff who use the service on a routine basis.

Keep it simple to avoid confusion – for instance, Full Profile, Pre-anaesthetic Screen and so on. Some may want haematology, electrolytes and comprehensive biochemistry for most patients, others may wish to have more specificity. The important thing is to ensure they know how to ask for what they want. A lab request form is useful in this respect.

Build your request form remembering to make it as easy to complete as possible. By all means have single tests available, but also list the tests as profiles so users can choose

what suits them. Whatever you do, remember that simplicity is the secret to success and that requests should be clear, such that the person processing them knows what they are doing – ambiguity can lead to wasted tests and samples.

Choosing people and protocols

Having somebody whose responsibility it is to maintain the lab equipment, oversee its upkeep and keep improving standards, where possible, is vital. Make sure this is someone who has an interest in this area of work and a desire to understand the principles of laboratory diagnosis.

Proper training for this person is important too; but unless you wish them to be the only staff member responsible for running the samples, appropriate training for the rest of your staff is essential.

"... remember that simplicity is the secret to success and that requests should be clear, such that the person processing them knows what they are doing.."

It is critical to have protocols for all of the equipment you have in the lab. These documents provide competency in the everyday user as well as guidance for the 'occasional' one. They are also important for safety and the Royal College of Veterinary Surgeons will look for them during any inspection visit.

Protocols should contain information on the basic use of the equipment, as well as its maintenance – calibration, cleaning and how to overcome any technical difficulties. They must also outline your quality control method – this is essential to ensure your machines are performing optimally and information is normally provided by the manufacturer.

External quality assurance (EQA) should also be performed at least six times a year. This involves running samples in-house before sending them to an external laboratory for comparison, and again proves the results your machine is providing are of suitable diagnostic consistency. There are EQA schemes available to make this even easier, so it is worth speaking to the provider of your equipment.

Other equipment

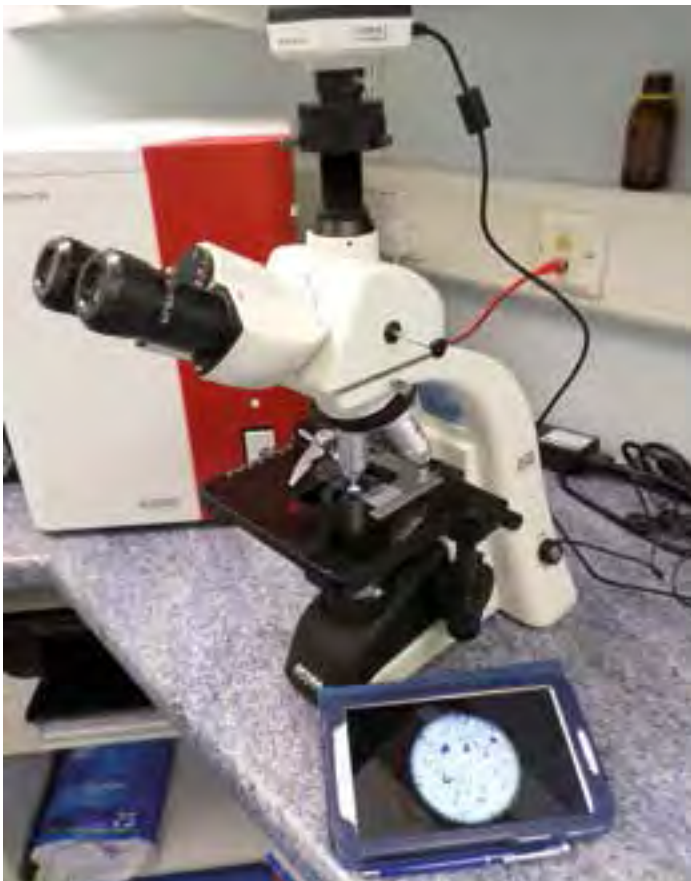
Osborne, Finco and Low (1975) state, 'From a clinical point of view, simple, rapid testing methods that provide consistently reproducible results are almost as valuable as accurate quantitative methods requiring specialised equipment and meticulous technique'; so it is important to remember that you don't need to spend a lot of money to have an effective practice lab.

In fact, overlooking simple tests, such as urinalysis, blood film examination and PCVs, could reduce your lab's clinical value considerably. So make sure you give careful thought to the other, more basic, equipment and ensure it is in good working order and that your staff are confident in its use.

The following provides a list of other important practice laboratory equipment:

- Fridge/freezer – for samples and reagents (wet or dry). You should make every effort to ensure a constant temperature according to the reagent requirements
- Centrifuge – to comply fully with health and safety regulations, a fast and simple machine is the most useful. Make sure it is cleaned to prevent damage and always use the correct setting
- Microscope – this doesn't need to be expensive, but must be looked after to gain the most from it; use lens tissue to clean immersion oil from the lens every time it is used and cover the microscope to prevent dust from contaminating the eye pieces. It may be worth considering a trinocular microscope to help train staff, and you can now purchase a wireless camera which is usable with any smartphone or tablet (**Figure 1**)
- Refractometer – simple but effective in assessing urine concentration and, occasionally, protein levels. Use buffered water to calibrate regularly
- Stains – at the very least for differential stains (such as Diff Quik), but consider other staining techniques, such as Gram staining. Protocols are again essential to ensure health and safety regulations are followed, but also to help

Figure 1. A trinocular microscope with wireless camera in use with a tablet.



replenish depleted stains to prevent contamination and stain precipitate

- Glucometer – a fast way of analysing blood glucose with a small sample; used in emergencies and glucose curves. Alpha Trak is designed for animal use

- Microhaematocrit – a PCV is an accurate but simple and cheap test that all staff must be able to perform. It should be used to confirm haematology results

In-house complete blood count and cytology

While having an in-house haematology analyser is a fast and effective way of assessing health in patients, it is important not to rely too heavily upon it; even the best analysers can provide anomalous results and manual smear examination is still considered the most effective way of obtaining an accurate differential.

So make sure at least one member of staff can perform this procedure accurately and is likely to be available if clarification is needed on erroneous results. It is rapid, cheap and shows information that the machine will not, such as red blood cell morphology and platelet clumping.

Whether you are a vet in need of a 'refresher' or a nurse starting out, performing cytology in-house on samples – such as impression smears or fine needle aspirates – is

perfectly possible. Do not be afraid to have a look at samples before sending them to a cytologist, then look at their results compared to your tentative diagnosis to see how well you did! As long as you are always prepared to recognise your limitations, this is the best way to improve.

Urinalysis

This is cheap, fast and reliable and can tell the clinician a great deal about systemic and local disease. Try to ensure that all staff are confident in both basic urinalysis – specific gravity with the refractometer and chemistry with reagent 'dipsticks' – as well as examination of the sediment. Although urine analysers can be purchased, you can achieve good results with basic equipment.

Irrespective of whether you are sampling by cystocentesis, catheterisation or 'free catch', try to analyse within half an hour of collection if possible and refrigerate when this option is not available. The use of 'urine test forms' makes it easy for receptionists when a client drops in the sample on their way to work, as well as for the nurse when she or he has to analyse it while in the middle of several other jobs.

Viral 'snap' tests

Commercial kits, such as enzyme-linked immunosorbent assay (ELISA) or polymerase chain reaction (PCR) tests are available to



Figure 2. Having the consumables easily accessible for in-house testing makes it easy for samples to be handled and run quickly, but correctly.

help diagnose viral conditions. Particularly useful are FeLV and FIV test kits for cats and parvovirus test kits for dogs. They have different methods of detecting the virus and varying levels of sensitivity (how many patients with the virus are detected) and specificity (how many positives are actually correct), so choose which suit your surgery's needs and rely on them appropriately.

Ensuring staff use them correctly – for example, having them out of the fridge a sufficient amount of time, applying the sample and conjugate appropriately and timing the result correctly – helps to improve the reliability of the result.

Filing results

Try and make this process as easy as possible – both for the person filing the results and also the one retrieving them. The simplest method is to ensure all results are entered directly on to the patient's card; time spent doing this may save time wasted looking for them later. Without doubt the most time economic and effective way for results to be secure is to go 'paperless'.

Many modern in-house analysers can be linked directly to the practice management system, allowing results to be filed electronically onto the

patient's record, without the need to even print them. In some cases, the patient details and tests requested automatically load onto the analyser at the time of invoicing, the results then returning to the record once the test is completed.

If you are purchasing new analysers, give serious consideration to going paperless. It dramatically saves staff time and improves the efficiency of the process – greater initial expenditure may prove worthwhile in the long run.

Reference ranges

When interpreting results, it is always important to remember that reference ranges are generated from figures taken from apparently healthy animals, with an average calculated plus room for variance. But this does mean that even if you run a screen of 15 tests, you may find one or more abnormal values in a healthy patient.

All results should be used alongside the clinical assessment of the pet – the laboratory is there to help the vet make a diagnosis, not to diagnose for them.

Knowing your limits

As quick and easy as in-house testing can be, it is important to recognise the limitations and never

Table 2. The 'pros' and 'cons' of in-house and external laboratory testing

In-house analysis	External analysis
Fast	More reliable results
Fewer tests available	Greater range of tests available
Less qualified/experienced staff	Advice available from pathologist
Cheaper/more profitable	Set prices
Less accurate results	Slower process
Equipment is expensive	Amortised in laboratory fee

"As quick and easy as in-house testing can be, it is important to recognise the limitations and never be afraid to send samples to an external lab..."

be afraid to send samples to an external lab; these have qualified pathologists who experience a great throughput of samples, with machines that are methodically maintained to give precise and reliable results. The golden rule is: 'if in doubt, send'.

Things to help

Books are an invaluable resource – from a simple reference booklet to a pathology manual, accessible guides will help staff interpret results and remember techniques. Posters can be especially helpful for identifying cells in microscopy and for quick reference.

Sample pots

Having the correct blood tubes available allows flexibility when considering tests; keep the most commonly used ones for in-house analysis around the surgery for ease of access, ensuring staff remember to fill them correctly and handle the sample appropriately.

Some procedures should not be left – such as spinning and separating heparin samples to avoid glucose drop off, or making a smear for accurate haematology. Try and set simple protocols to ensure this is done and keep reviewing them. Having the consumables (such as conical tubes and sample wells) easily accessible for in-house testing makes it easy for samples to be handled and run quickly, but correctly (**Figure 2**). Also keeping a range of container sizes for histology pots makes sure correct formalin volumes are used.

Courier and packing materials

Keep the Royal Mail guidelines clearly on display – along with the packing consumables, such as cotton wool and Jiffy bags needed to ensure the guidelines are followed. Many labs now offer a free courier service, which allows a later collection and earlier delivery, as well as fewer restrictions on the conditions for transport of samples.

Results

Many practices still receive external laboratory results by fax, which can be unreliable and requires more staff time. Consider receiving results by email for easy access as well as a database record – also allowing you to be paperless. It is also possible for external lab results to be sent electronically, directly onto the patient's record; so discuss the options with both your lab and your practice management company. Whatever method you decide to use for results, it is always

worth having a log book of every sample sent, to make missing samples or results easier to trace.

Health and safety

From needles and blood, to reagents and formalin, the laboratory is an area of the surgery where health and safety should be carefully regulated. Ensure your staff are aware of all the potential health issues associated with handling samples and any associated regulations – from disposal to personal protective equipment. Ensure there are written records of this.

Summary

Making the practice laboratory an uncomplicated, accessible place for properly trained staff who can work autonomously using intuitive equipment and simple protocols, is the best way to achieve a fast and accurate throughput of samples and tests. This must be the aim of all first-opinion diagnostics.

Consider your practice lab from top to bottom and decide what it is you want to get from it. Then recognise your limitations before deciding how to achieve your possibilities. ■

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PPD Questions

1. What are the two types of biochemistry analyser available?
2. What should every piece of equipment in the laboratory have?
3. What does EQA stand for?
4. Within what time should you, ideally, analyse urine?
5. Name two things which should be done immediately following the taking of a typical blood sample.

Answers
1. Wet and dry
2. A protocol
3. External quality assurance
4. 30 minutes
5. Spinning and separating heparin samples and making blood smears for haematology



Loni Loftus
BSc(Hons) Equine Science MSc
Applied Animal Welfare and Science

Loni is the veterinary behaviour programme leader for Central College of Animal Studies animal training and behaviour courses. She has over 10 years experience of working in equine training and behaviour and continues to practise as an animal behaviourist with a varied case-load of dogs, cats and horses.

Her interests are based around injury, disease, rehab, behaviour and welfare with current research in the areas of equine euthanasia and stress in animals at public events.



**Suggested Personal & Professional Development (PPD)*

BEHAVIOUR

Major causes of problem pet behaviour

Problem pet behaviour is a relatively commonly reported issue in veterinary practice and can directly affect the welfare of the animals concerned (Fatjo et al, 2006). The aetiology of behaviour problems is often multifaceted and many cases are the result of a long-standing issue that has increased in severity or frequency over time.

Prevalence of behaviour problems in companion animals

A recent study into dog behaviour problems revealed that, for the 17 dogs in the study, 172 reports of problem behaviours – food guarding, fear issues and aggression, for instance – across 18 categories were identified by owners (Roshier and McBride, 2014).

Many behaviour problems begin as fairly innocuous and inconsequential actions and may often go unnoticed or overlooked until they become a serious issue to the owner. Roshier and McBride (2014) report that only a small percentage of behaviour problems were mentioned during the veterinary consultation in their study when compared with problem behaviours identified via a post-consultation questionnaire; of the 172 reported behaviours 116 were not considered to be a problem by the owner at the time of the study (**Figure 1**).

Fatjo et al (2006) reported that 46.2 per cent of veterinary surgeons referred behaviour cases to veterinary behaviourists, 12.3 per cent referred to dog trainers and 34.7 per cent never referred behaviour cases. Roshier and McBride (2014) advocate timely and appropriate intervention for behaviour problems identified in practice and proactive discussion around pet behaviour issues during consultation in order to support existing issues and prevent new problems developing.

High prevalence of behaviour problems in dogs and cats is well documented and is one of the main causes for their relinquishment or

euthanasia. Wells and Hepper (2000) found that 68.3 per cent of rehomed shelter dogs in Northern Ireland were reported to have a behaviour problem and 89.7 per cent of respondents who relinquished their animal back to the shelter did so because of undesirable behaviours exhibited by the animal.

Euthanasia or relinquishment of cats as a consequence of behavioural problems is seen commonly, but prevalence can be markedly reduced through the provision of a home environment that considers the strong behavioural needs of cats – thereby reducing stress and anxiety which are the most common causes of feline behavioural issues.

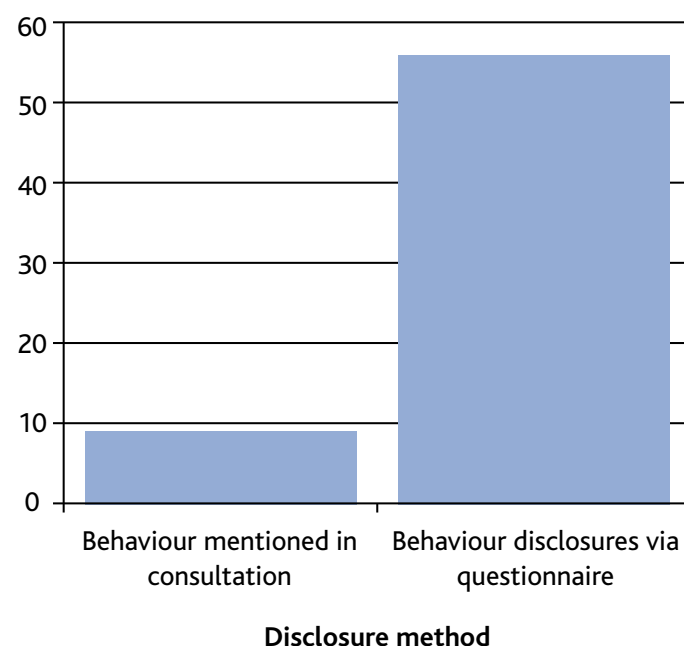
The ability and readiness of the veterinary surgeon or nurse to provide owner education surrounding the ethological

needs of domestic cats during the veterinary consultation can facilitate a reduction in the prevalence of behavioural problems seen in patients. A 2010 epidemiological study into feline behavioural problems reported that 48 per cent of the 87 cats in the study presented with house-soiling issues and 35 per cent showed aggression (Berteselli et al, 2010).

This high prevalence is reported in other literature describing house-soiling and aggression as the first and second most commonly reported feline behavioural issues (Overall, 1997).

Behavioural problems are also common in other species, for example, Normando and Gelli (2011) found that 29.3 per cent of rabbits, 52.5 per cent of mustelids and 20.3 per cent of rodents displayed undesirable behaviours, such

Figure 1. The percentage of behaviour problems mentioned during the veterinary consultation. (Roshier AL and McBride EA, 2014).



as house-soiling, biting/chewing and digging.

Similarly, horses are shown to have a wide behavioural repertoire with a high prevalence of both ridden and husbandry-related behavioural problems. Hockenhull and Creighton (2013) reported a 91 per cent prevalence of ridden behavioural problems indicating a potentially serious safety and welfare challenge for the leisure horses and owners within their survey.

Causes of commonly seen behavioural problems in pets

The aetiology of behaviour problems is often multifaceted and many cases are the result of a long-standing issue that has increased in severity or frequency over time (Loftus, in press). Many cases can be said to include multiple differentials that are usually a combination of the following issues.

Lack of exercise

Many species, especially dogs, are kept in a lifestyle that is very different from that which is considered natural and ethologically sound. Initially, dogs were domesticated for a range of guarding and hunting roles – they lived alongside humans while still remaining free to roam and continually exercise. Modern canine companions are frequently kept in small rooms or crates for hours at a time, unable to fulfil natural needs to roam and perform breed-specific functions while their owners are at work or occupied elsewhere.

As with dogs, our domestic cats are often housed indoors where they are seen to display an increased prevalence of behavioural problems when compared to their outdoor-going counterparts. Stress, boredom and weight gain are apparent in many domesticated animals kept in reduced exercise regimens and these factors can exacerbate – or even cause – a number of common behavioural issues, including stereotypical

behaviours, whether these be locomotor or oral in origin.

Horses are perhaps the case in point in terms of examples of inadequate exercise in relation to ethological need. As social herbivores depending on large areas of grassland for grazing and browsing, our domesticated horses are often left seriously lacking in their ability to fulfil their needs to roam and can become chronically frustrated as a result. Often stabled for a large percentage of the day, many horses develop a range of behavioural problems, including stereotypies and aggression (Mills and Redgate, 2009).

Fear/anxiety

A high proportion of the behaviour problems seen in companion animals are linked to fear or anxiety. As a primary cause of behavioural problems, they are more frequently seen in animals that have been poorly or inadequately habituated to frequently seen stimuli – such as road traffic or noisy equipment, including vacuum cleaners, clippers and so on (Overall, 1997).

When fear or anxiety is a secondary differential for a behavioural problem, it is often seen to be in cases where an animal has been sensitised to a particular stimulus, perhaps through an aversive occurrence such as an accident or when fear has been conditioned if the animal has been punished for an action. The punishment becomes associated with the primary stimulus and can heighten the response or provoke an additional response, such as aggression (Bowen and Heath, 2005).

Fear or anxiety related behavioural problems can be very difficult to address, especially when the physical posturing and behaviours indicative of fear being displayed by the

animal have been repeatedly misunderstood and thus incorrectly approached from a behaviour modification perspective.

Fear and anxiety can easily be generalised from a specific stimulus to a range of stimuli and are common causes for chronic stress syndromes in many species; cats are especially susceptible to stress and display many behavioural and medical indicators of this problem, for example feline idiopathic cystitis (Loftus, 2014a).

Lack of training/poor training

Some common behavioural issues are simply the result of inadequate training. Animals perform many attention-seeking behaviours because they have never been taught what is expected of them in certain scenarios. An example of this is the dog that constantly craves and pesters visitors for attention.

In many cases the reason for this may simply be that the dog has never been shown what the owner would like him to do when visitors arrive. A straightforward process of training the dog to settle in a specified place, with plenty of reinforcement in this situation, can make speedy improvements to this type of problem (Zulch and Mills, 2012).

Poor training can be a source of behavioural issues for a number of reasons. Poor training, especially poor timing of reinforcement or reprimand, can leave the animal very confused about what the trainer is asking of him. It may cause the animal to offer a wide range of behaviours in an attempt to stumble across what the trainer wants or, conversely, the animal may become frustrated and sometimes aggressive or 'shut-down' and uncooperative in the training process (Ingram et al, 2010).

The use of punishment in training is much less frequently used in modern practices because research into its detrimental effects – not only on training success but also on the welfare of the animal – has permeated the mainstream consciousness.

Research has shown that animals trained under punishment-based methods show higher levels of stress and do not learn as well as animals trained using positive reinforcement methods. There is also a much higher incidence of aggressive or unpredictable behaviours in animals trained under these methods (Blackwell et al, 2008; Blackwell et al, 2007; Hockenhull and Creighton, 2013b).

Overfeeding/incorrect feeding

Often combined with lack of exercise, inappropriate feeding of companion animals can have significant implications on their health, welfare and behaviour. **Table 1** provides examples of natural and domestic feeding arrangements in a range of species and highlights the – often extreme – differences in the way we, as human caretakers, provide for our dependent pets in relation to their natural feeding preferences.

Many domestic dogs are fed diets that are too high in protein, or fed imbalanced diets supplemented with human food treats. The current debate surrounding the feeding of raw food diets to dogs and their associated nutritional benefit – or not – is a case in point, with proponents highlighting increased bioavailability of nutrients when food is fed in this raw state. However, a critical review of published research shows that there is very little evidence for the nutritional benefits of home-prepared raw food diets as they are often over- or under-supplied with certain nutrients

according to the food fed. Conditions that may have behavioural side effects in addition to serious physiological effects, such as hypervitaminosis and nutritional osteodystrophy are reported, as is secondary nutritional hyperparathyroidism. There is also a real risk of infectious disease spread from shedding of *Salmonella* spp. and *Escherichia coli* (Schlesinger and Joffe, 2011).

While many pleasure horses enjoy a relatively natural lifestyle, most of their competitive counterparts are stabled for long periods of time and fed diets high in soluble carbohydrates and low in forage – potentially causing gastrointestinal disturbances and associated behavioural problems.

Lack of/inappropriate socialisation or exposure to important stimuli

Animals have a variety of species-specific sensitive periods for socialisation and development. For many species these sensitive periods occur very early in life – up to around 16 weeks for puppies and 12-14 weeks for kittens – and once the sensitive window is closed it can be much more complex or take longer to successfully socialise these animals (Overall, 1997).

Failure to ensure that animals are carefully and incrementally exposed to stimuli that will be salient in their everyday environment – as well as other stimuli that are less common but nonetheless important – can contribute to fears, phobias and an inability to interact

in a suitable manner with conspecifics and heterospecifics (including humans) (Bowen and Heath, 2005).

Lack of appropriate stimulation/social contact

Many domestic pets are kept in a relatively isolated environment compared with their natural social groupings. Dogs and horses are found in relatively stable social groups in their natural environment; however, in a domestic situation dogs are often typically kept alone in a one-pet household and horses are often stabled in isolation or turned out in constantly changing, unstable social pairings/groups.

In addition to a lack of social contact, these animals are often under-stimulated and become frustrated and bored, which can lead to a variety of

undesirable behaviours being performed. These may include stereotypical behaviour, destructive behaviour and aggression (Bowen and Heath, 2005).

By contrast cats – naturally quite unsociable and solitary creatures – are often kept in multi-cat households with limited access to (high competition for) resources which is one of the biggest sources of stress and consequent behaviour problems for these animals and their owners. These cats often perform unwanted behaviours, such as house-soiling and urine-marking, as well as destructive behaviours and displaying medical signs of stress, such as feline idiopathic cystitis as previously mentioned (Shaw and Martin, 2015).

Table 1. A comparison of natural and domesticated feeding regimens for various companion animal species

Species	Natural feeding regimen	Domesticated feeding regimen
Horse	<ul style="list-style-type: none"> Continual browsing and grazing for around 19 hours a day on average. Large areas covered (around 16km) during the day 	<ul style="list-style-type: none"> Some grazing for most, but not all, horses (usually 3-6 hours) Many competition horses receive no grazing and low forage ration (40% of daily feed intake) Large concentrate feeds fed usually twice a day – increased rate of gastric emptying can cause gastrointestinal imbalances and reduce nutrient uptake
Dog	<ul style="list-style-type: none"> Opportunistic scavengers eating a wide variety of animal and vegetable matter Hunting behaviours shown consistently and excess food is hoarded in caches 	<ul style="list-style-type: none"> Dry cereal-based pelleted feed or wet animal-based food (often a combination of both) fed from a bowl at set intervals, often once a day. Scavenging behaviour often prevented or reprimanded
Cat	<ul style="list-style-type: none"> Sole hunting behaviours for small prey, such as mice, birds and rabbits. Dangerous prey only attempted during periods of extreme hunger Hunting only occurs with hunger and prey selection is determined by appetite 	<ul style="list-style-type: none"> Often group feeding in small areas at times dictated by humans Many cats (especially indoor cats) lack the ability to perform hunting type behaviour or are reprimanded for performing them or returning from outside with prey
Mice and rats	<ul style="list-style-type: none"> Incorporate feeding into their movements around a relatively large territory. They eat around 20% of their body weight per day in around 200 small meals in over 30 different food sites. They exhibit predatory behaviour for insects and larvae in addition to eating grass, roots, grain and seeds Foraging and burrowing behaviours are often seen 	<ul style="list-style-type: none"> Many of the natural roaming and multi-site feeding requirements are suppressed by domestic feeding regimens Often no provision for predation and a fixed grain diet with much less variety than in feral animals

History of abuse and/or neglect

Abused or neglected animals often have a complex collage of stimuli that they associate with unwanted or fearful events. These animals may behave in a seemingly unpredictable manner, often because their human caretakers are unaware of specific stimuli which have conditioned associations with aversive events in their past (Bowen and Heath, 2005).

These animals often find themselves in rehoming centres with little or no background given to those who hope to rehabilitate and rehome them; and it is not until they have been rehomed that they are exposed to seemingly innocuous stimuli that they sadly associate with a past event. At this point the animals may appear to be behaving in an inexplicable or random manner; whereas, in context, they are actually reacting in a very normal manner through the process of conditioned association.

Many abused or neglected animals have also been insufficiently habituated or, the opposite, sensitised to certain situations and this can be a major issue during their rehabilitation (Overall, 1997).

Illness or injury

In all cases, it is vital that illness or injury are ruled out before any further investigation and treatment commences (Loftus, 2014b; Overall, 1978; Bowen and Heath, 2005). The physical health of an animal can have a significant impact upon its behaviour – both directly, in the form of changes to systems such as the musculoskeletal system, but also indirectly via changes in the animals perception of its fitness and thus responses to perceived threats or unwanted attention.

Many behavioural issues are extrinsic manifestations of pain and compromised welfare with aggressive

behaviour in response to pain often misinterpreted as a training issue or simple bad behaviour (Loftus, in press).

Reproductive status

The reproductive status of an animal can have a considerable effect on its behaviour.

This may be temporary and transient – for example, bitches in heat; or more permanent, a nervous dog may become more timid and defensive following castration (Warnes C, 2013).

Reproductive status can impact upon an animal's interactions with conand heterospecifics and careful consideration of appropriate social interactions during periods of altered reproductive state must be undertaken to safeguard both the animals and their human care givers.

Conclusions

Behavioural problems are highly prevalent in most species of companion animal and are seen in a variety of formats, including stereotypical behaviour, aggression, anxiety/stress, house-soiling, destructive behaviours. The reasons for onset and continuation of behavioural issues are usually complex and multifaceted requiring careful investigation, analysis and treatment.

Veterinary intervention for behavioural concerns is a prerequisite to behaviour modification; it is vital that illness or injury as a cause for behavioural problems is ruled out or treated before referral for behavioural investigation and treatment.

Owing to the complex and long-standing nature of many of these issues, referral to an experienced, well-qualified behaviourist is imperative for a successful, long-lasting outcome. ■

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Jane Ellison
BSc(Hons)

Jane is an information scientist who has worked for the Veterinary Poisons Information Service (VPIS) and the human poisons service at Guy's Hospital, on and off since 1984, and has also worked in the pharmaceutical industry.

Jane was a founder of the veterinary service in the 1980s and has recently returned to work for the service in the 24-hour rota team.

Anticoagulant rodenticides

The ingestion – normally by dogs – of the various anticoagulant rodenticides, represents one of the most common enquiries to the Veterinary Poisons Information Service (VPIS).

One common scenario is an owner who has recently put down a rodenticide, then witnesses the dog eating it, or notices bait passed in the faeces, or finds scattered bait.

An equally frequent enquiry is where a farm dog – or dog living in a rural environment – has potentially ingested rodenticide (including eating dead/dying rodents) either acutely or over a period of days, and presents with either absence of clinical signs but a concerned owner, or clinical signs indicative of exposure.

The key to both effective remedial action and avoiding unnecessary treatment is to know which anticoagulant is involved – because they differ widely in their toxic doses

– and the concentration of the agent in the implicated product. Products used by local authority pesticide departments or commercial contractors may differ from those that are available for purchase by the general public.

There are numerous presentations of these products, including blocks, gels, liquids, grains, pasta bait, seeds and powders, and the concentrations typically range from 0.005 per cent w/w to 0.25 per cent w/w.

Mechanism of action

Vitamin K is a co-factor in the activation of various clotting factors and without vitamin K these coagulation proteins remain in a non-functional state.

Anticoagulants act by inhibiting hepatic vitamin K₁ epoxide-reductase, the enzyme responsible for conversion of vitamin K₁ epoxide to vitamin K₁. This results in the depletion of the body stores of vitamin K₁. Factors II (prothrombin), VII, IX and X are reduced and there is inhibition of prothrombin synthesis within the liver. Once vitamin K₁ and the clotting factors have been depleted, bleeding occurs, hence the lag time of three to five days before onset of signs.

So called 'second generation' anticoagulants tend to have extremely long half-lives – days rather than hours in the case of brodifacoum and bromadiolone – which is why chronic/repeated exposure is potentially problematic. Ingestion of even small amounts over the course of a few days (including the regular ingestion of rodents that have ingested the bait) will lead to a cumulative effect, with the risk of bleeding; a situation which contrasts with the ingestion of large amounts of anticoagulants as an acute, one-off ingestion, where clinical signs, apart from those of a mild gastrointestinal nature, are less commonly seen.

Clinical signs

Where a chronic exposure has occurred or a substantial ingestion of a more potent anticoagulant, clinical effects are generally seen within three to five days of exposure. All clinical signs are the consequence of coagulopathy and any type of bleeding may occur. Initial signs may be non-specific

"The key to both effective remedial action and avoiding unnecessary treatment, is to know which anticoagulant is involved..."



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with lethargy, weakness, anorexia, depression and pale mucous membranes.

External bleeding is not always apparent, and internal bleeding, particularly into the lungs, is more common. As a result, signs are variable: there may be haemoptysis; epistaxis; dyspnoea and exercise intolerance (pulmonary haemorrhage); abdominal tenderness; haematemesis and melaena (gastrointestinal haemorrhage); lameness (bleeding into joints); acute upper airway obstruction (laryngeal or thymic haemorrhage) and seizures (cerebral haemorrhage). Extensive bruising of the skin may occur and sites of venepuncture may bleed excessively. Hypovolaemic shock may occur after rapid blood loss, leading to secondary organ ischaemia.

Treatment

If ingestion was recent, an emetic can be given, followed by activated charcoal.

Treatment would be required for any definite or suspected repeat ingestion or for larger ingestions of a one-off nature.

With respect to difenacoum (0.005 per cent) it is felt that animals would, acutely, have to ingest significantly large amounts (>200g/kg) to be at risk of clinical effects. In 1,000 cases of difenacoum ingestion in dogs reported to the VPIS, over 60 per cent remained asymptomatic, although about 44 per cent of dogs without signs were treated with vitamin K; a quarter received no treatment.

The VPIS is currently undertaking a thorough review to refine and assess the treatment doses for the different anticoagulant agents.

Monitoring and observation

Simple blood tests can be used to confirm diagnosis –

the prothrombin time (PT) is elevated significantly in anticoagulant poisoning. It is the first test to become elevated and the first to return to normal. It is usually elevated before the onset of clinical signs. Monitoring clotting while on vitamin K₁ therapy is not necessary because values should be normal, unless it is to check that the PT has normalised.

Management of asymptomatic animals

There are two main options for treatment of asymptomatic animals. They can be treated with vitamin K₁ with assessment of clotting parameters after the last dose, or they can be monitored for the onset of any signs with assessment of clotting 36 to 48 hours after ingestion and then treated with vitamin K if necessary.

The decision on which option to take should be assessed on a case-by-case basis depending on the history – factors including whether ingestion was acute or chronic, the dose ingested and the time elapsed since ingestion, for example.

In animals not receiving vitamin K₁, owners should be advised to look for any evidence of bleeding over the next few days and advised to return if necessary. It is extremely important to prevent any further exposure to any anticoagulant rodenticides.

Management of coagulopathy

Treatment is aimed at replacing inactivated clotting factors and vitamin K₁ therapy. The effect of vitamin K₁ is not immediate and it can take six to 12 hours to synthesise new clotting factors.

Therefore, in an emergency, a blood transfusion will be required. Animals with severe coagulopathy require careful handling to avoid unnecessary stress and risk of haemorrhage.

“So called ‘second generation’ anticoagulants tend to have extremely long half-lives – days rather than hours in the case of brodifacoum and bromadiolone – which is why chronic/repeated exposure is potentially problematic”



Vitamin K₁ can be given at the dose specified for the particular products. In animals with no or mild signs, oral vitamin K₁ can be given. Vitamin K₁ therapy must be maintained for as long as the anticoagulant is in the body and, in most cases, therapy is for three to four weeks. Clotting parameters should be measured at 36 to 48 hours after the last dose of vitamin K₁ to check these parameters have returned and remain normal. If the PT is prolonged, the vitamin K should be continued for another week and then checked again.

Summary

Although enquiries about anticoagulant rodenticides are common to VPIS, the outcomes are generally good. It is important that a risk assessment is made before potentially unnecessary treatment is instigated. ■

Time to take a leaf from someone else's book

Hardly a week goes past without some veterinary body or welfare organisation issuing a plea for better education of the pet-owning public, especially concerning their responsibilities under the 2006 Animal Welfare Act.

This subject has been brought into sharp relief of late by the publication of the PDSA's 2014 Animal Well-being (PAW) report, pdsa.org.uk/pet-health-advice. In the section headed 'Pet ownership – the Law', the report states:

'Many pet owners in the UK are still not aware of what they need to provide for their pets to ensure their physical and mental well-being. Worryingly, the number of owners who are familiar with the laws surrounding pet ownership continues to drop. The Animal Welfare Acts place a duty of care upon owners to meet five key welfare needs (in terms of environment, diet, behaviour, companionship and health). Yet the number of pet owners who are familiar with the Act has decreased from 38 per cent to 36 per cent since the last Report (in 2013).

'Eighty-nine per cent of pet owners believe that all pet owners should have a basic understanding of the five welfare needs, 97 per cent of veterinary professionals believe there is value in encouraging owners to understand the five welfare needs contained within the Animal Welfare Acts.'

The section in the report concludes: 'A lack of education and awareness of the basic health and welfare needs of pets, means that many owners can be misguided with their affection towards their companion animals. The five

welfare needs provide a really simple framework for owners. By finding out more about what their pets need, owners can make a huge change to their pets' lives.'

Despite the high proportion of vet professionals endorsing the need for client education, the constraints on time and resources, the busyness and *perceived* priorities in practice, mean that in many cases this ideal is not translated into reality. Client meetings and nurse clinics, practice open days, waiting room displays, promotional literature and websites all play their part; but overall, although the spirit is willing, the flesh is weak!

The last decade has seen the number of pet owners using the web for information increase exponentially. At least a third of your clients will 'consult' the internet before they see you – and quite a few will return to the internet after they see you to validate or clarify what you told them.

In a *Veterinary Times* article in 2013, Maggie Shilcock wrote: '... the profession is being hit by the internet in the same way as other "small" businesses. Internet sales are massive. Few reading this article will not be internet shoppers, therefore we are all contributing to the demise of the small shop or business.

'As a lover of reading, I plead guilty to buying most of my books online. I can often save up to 50 per cent, which impacts on the traditional bookshop. Yes, I do feel guilty; however, a few miles from where I live is the most wonderful independent old-fashioned bookshop – and it's thriving.

'I go to reading groups there, to hear authors speak and I buy books I would otherwise buy on the internet. The shop has pulled in book readers by marketing, invitations to book meetings, readings and talks by authors. We buy tickets, then get the cost redeemed if we buy a book. It is a wonderful place, staff are knowledgeable and friendly, plus tea and coffee is served throughout the day.

"It may be unpalatable and inconvenient for you, but the reality is that your clients (and potential clients) are looking for a service and sources of education that suit their lifestyle, not yours..."

It's open until 7pm and even opens its doors on Sundays.

'I'm sure you are getting the message. You will lose some business to internet pharmacies, but there can still be enclaves of loyalty to the small business, so long as that business can adapt. Veterinary practice is better suited than many businesses to do this.'

There is evidence that the sale of e-books is flattening and that physical book sales are recovering – those at Waterstones rose five per cent in December 2014 as the company 'reaped the benefits of its store refurbishment programme and a relinquishing of control to local store managers who could respond to the tastes of local communities'. And in some parts of the UK, small independent bookshops are either recovering or being opened.

It may be unpalatable and inconvenient for you, but the reality is that your clients (and potential clients) are looking for a service and sources of education that suit *their* lifestyle, not yours or that of your practice colleagues. Perhaps there is something to be learnt from the bookshops about accepting the internet rather than railing against it and looking for the added value that you can offer by providing what your clients are seeking elsewhere? ■

"Despite the high proportion of vet professionals endorsing the need for client education, the constraints on time and resources, the busyness and perceived priorities in practice, mean that in many cases this ideal is not translated into reality"

Be the
first to know...





Marie Rippingale
BSc(Hons) REVN clinical coach
G-SQP DipHE CVN DipAVN(Equine)

Marie is head equine nurse and a clinical coach at Scarsdale Vets in Derby. Marie is also a lecturer on the veterinary nursing diploma course at Bottle Green Training, Melbourne, Derbyshire.

Practical nurse's approach to the equine cardiovascular system

Horses are exceptional athletes and a healthy cardiovascular system enables them to achieve impressive athletic feats. Although death as a consequence of heart disease is rare in horses, the registered veterinary nurse (RVN) must have knowledge of the equine cardiovascular system, disorders that can occur, and the diagnostic techniques used.

The equine circulatory system consists of a four-chambered pump – known as the heart – and a system of tubular vessels that circulate the transport medium, the blood (Pilliner and Davies, 2004). As a general rule, the vessels that carry blood away from the heart are known as arteries, whereas the vessels that carry blood back to the heart are known as veins. In addition, there is a system of vessels that carry lymph or tissue fluid to the large veins and these are known as lymph vessels (Pilliner and Davies, 2004).

Intravenous injections in horses

In the horse the jugular vein is most commonly used for intravenous (IV) injections (**Figure 1**). Although the jugular vein is a large structure, care must be taken when administering IV medication in horses. The carotid artery sits directly behind the jugular vein

and lies closer to the jugular vein further down the neck. For this reason the best place to perform an IV injection in the horse is within the upper third of the neck.

It is also correct practice to insert the needle without a syringe attached. This way the blood that drips out of the end of the needle hub can be assessed. If the blood is dark red in colour and dripping (**Figure 2**) the syringe can be attached and the IV injection can commence. If the blood coming out of the needle hub is bright red and spurting out under pressure, it can be reasonably assumed that the carotid artery has been punctured.

In the latter case, the needle must be withdrawn immediately and pressure applied to reduce the formation of a haematoma. Medication must never be

injected into the carotid artery because this can induce collapse, a seizure and even death.

The equine heart

This is central to the circulatory system and is basically a large muscular pump that has the ability to contract and send blood through the network of vessels that supply the tissues in the body of the horse (Pilliner and Davies, 2004). The heart of a 16-hand horse weighs approximately 4kg. The heart is an organ which responds to exercise by getting bigger; therefore, as the horse becomes fitter, the heart size may increase up to about 5.5kg (Pilliner & Davies, 2004).

The size of the heart also varies with the breed of the horse. Thoroughbreds have markedly larger hearts than draft horses (Fraser and Girling, 2012).

Figure 1. The jugular vein is most commonly used for intravenous injections in horses.



Figure 2. Blood coming out of the end of the needle will be dark red and dripping if the jugular vein has been punctured.



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Figure 3. Auscultation of the heart is usually achieved on the left-hand side of the horse's chest, just behind the elbow.

At post mortem, very successful thoroughbred racehorses, such as *Eclipse* and *Pharlap*, were found to have unusually large hearts and this was thought to have contributed to their racing success.

The average equine heart rate is 32 beats per minute. However, horses can increase their heart rate to 220 beats per minute during intense exercise. This gives them a wide cardiovascular range with which to adapt to intense exercise, making them impressive athletes.

Position

The horse's heart lies in the ventral section of the mediastinum. In horses, the mediastinum is incomplete, allowing communication between the two sides of the chest (Fraser and Girling, 2012). The heart can be found between the second to sixth intercostal spaces; auscultation is usually achieved on the left-hand side of the horse's chest, just behind the elbow (**Figure 3**).

For the sake of completeness, the right side of the horse's chest should also be assessed during the first examination of the animal.

Structure and blood flow

The heart is divided into four hollow chambers – the right atrium, the right ventricle, the left atrium and the left ventricle.

The right side of the heart is separate from the left-hand side and this prevents blood mixing between the two. The right-hand side is responsible for moving deoxygenated or venous blood and the veins carry this deoxygenated blood via the body's largest vein, the vena cava, to the right atrium of the heart.

Once the full right atrium contracts, blood is pushed into the more muscular right ventricle. The tricuspid valve snaps shut to prevent any back-flow of blood and this creates the first noise or heart sound that can be heard when using a stethoscope – the 'lub' part of the characteristic 'lub-dup' sound of a heartbeat.

The right ventricle then contracts, pushing blood into the pulmonary artery which takes blood to the lungs. It is important to note that the pulmonary artery and the pulmonary vein are exceptions to the general rule that arteries carry

"The average equine heart rate is 32 beats per minute. However, horses can increase their heart rate to 220 beats per minute during intense exercise"

oxygenated blood and veins carry deoxygenated blood – the pulmonary artery carries deoxygenated blood to the lungs, while the pulmonary vein carries oxygenated blood from the lungs to the heart.

Once in the lungs, the blood comes into contact with the alveoli and gaseous exchange takes place.

In the left side of the heart, the now oxygenated blood returns via the pulmonary vein to the left atrium of the heart. Once this is full, blood is forced into the left ventricle and the bicuspid valves shut to prevent any back-flow of blood.

The left ventricle has the thickest muscular wall of any of the four chambers this is because blood from the left ventricle is forced out under great pressure into the aorta which is the largest artery in the body and blood from the left ventricle has to travel a greater distance to all parts of the horse's body and not just to the lungs, hence the need for the thicker muscular wall.

Valves at the entrance of the aorta – known as the 'semi-lunar' valves – prevent back flow and lead to the second sound of the heart beat the 'dup' part of the 'lub-dup' (Pilliner and Davies, 2004).

The heart beat

The heart beat has four phases involving the filling and contraction of each of the four chambers; but because the atria and ventricles empty almost simultaneously, often only two phases can be heard through an ordinary stethoscope (Pilliner and Davies, 2004).

Diastole is the period of relaxation when the heart fills with blood, and systole is the period of contraction, during which blood is ejected from the heart (Clegg et al, 2012). All four heart sounds may be heard when the resting heart rate is low.

These four sounds are (Pilliner & Davies, 2004):

- S4 – LUB systolic
- S1 – LUB systolic
- S2 – DUP diastolic
- S3 – DUP diastolic

Regulation of the heart beat

The heart is essentially a self-contained organ that can carry on working without the direct intervention of the voluntary or involuntary nervous system. The heart has its own in-built nervous system in the form of a pacemaker – otherwise known as the sino-atrial node (SAN). The SAN is situated in the right atrium of the heart.

An impulse originates at the SAN and spreads in all directions at a rapid rate, causing contraction of the atria. The muscle fibres of the atria are not continuous with those of the ventricles and so this impulse stops at the atrial-ventricular border. The mass of ventricular tissue is much larger than that of the atrial tissue and so a special conducting system is required. This system is situated at the base of the septum or wall between the left and the right atria.

A small area of tissue known as the atrio-ventricular node (AVN) conducts the impulse at a much slower rate, ensuring a pause between the contraction of the atria and the ventricles.

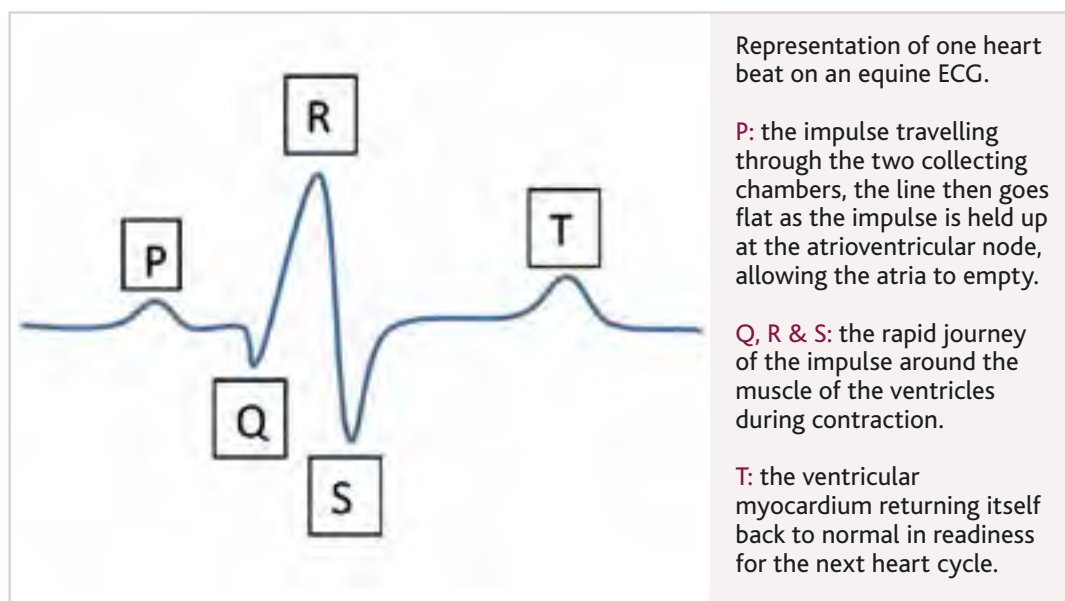


Figure 4. Diagrammatic representation of an equine heart beat on an ECG.

From the AVN, the impulse travels through a series of modified cardiac fibres, called Purkinje fibres, which are arranged into a special bundle known as the Bundle of His. These structures cause the contraction of the ventricles (Pilliner & Davies, 2004).

Circulatory system diseases

Heart 'murmurs' and changes in rhythm (arrhythmias) are common in horses. However, in contrast to small animals, the majority of these are not clinically significant (Pilliner and Davies, 2004).

The accurate assessment of cardiovascular status is an essential nursing task when monitoring the health of hospitalised horses, particularly critical cases (Slater and Knowles, 2012). RVNs must also be familiar with using electrocardiograms (ECG).

Electrocardiography

An ECG records on the surface of the horse the electrical activity of the heart (Figure 4).

The way in which the electrical impulses travel through the equine heart means that, in contrast with small animals, equine electrocardiography can be used only to determine the heart rate and rhythm and is restricted to the investigation of arrhythmias (Slater and Knowles, 2012).

The following are key practical points for veterinary nurses to bear in mind when using an ECG:

- There is no advantage in using complex lead arrangements in horses
- The horse should not be sedated because this affects the heart rate and rhythm
- The simple, practical lead position used is the base-apex lead, which requires three electrodes – a positive, a negative and an earth
- The negative electrode is positioned on the left neck, usually in the jugular groove
- The positive electrode is positioned over the cardiac apex region on the ventral thorax
- The earth electrode can be positioned anywhere, but is usually positioned behind the scapula to make a triangle

with the other two electrodes

- There is usually no need to clip the horse, unless it has a long winter coat
- Most recordings are made in the stable with a static machine, but exercising and 24 hour ECGs can be recorded with systems attached to halters (Slater and Knowles, 2012)

It is worth remembering that, unlike humans, horses seldom die from heart disease (Pilliner and Davies, 2004). The list of commonly occurring cardiovascular disorders is comparatively short for horses – the two very common cardiovascular disorders seen in equine practice are second-degree atrioventricular block and atrial fibrillation.

Second-degree atrioventricular block

Second-degree atrioventricular block is a normal phenomenon in fit horses or very large horses at rest. It is thought to occur because the heart is so large it simply does not need to beat regularly to maintain the required blood flow.

The heart rate is normal and has regular pauses consisting of missed or 'dropped' beats. Typically the rhythm consists

of one dropped beat every four to six beats, although this is variable. For this reason, second-degree atrioventricular block is known as a regularly irregular arrhythmia.

The phenomenon disappears with exercise or excitement once the heart rate increases over 60 beats per minute (Slater and Knowles, 2012).

Atrial fibrillation

Atrial fibrillation (AF) is the most common pathological arrhythmia in the horse (Slater and Knowles, 2012). It usually occurs spontaneously (without any underlying heart disease) mainly in large horses. It may cause poor performance and so is a significant concern within the equine sector.

AF results in an irregular heart beat and peripheral pulse because the atria beat out of sync with the ventricles, thereby limiting blood flow. For this reason, AF is known as an irregularly irregular arrhythmia.

Some spontaneous cases can be treated with quinidine sulphate given by stomach tube (Slater and Knowles, 2012). Also some clinics offer electrocardioversion as another treatment option, usually if medical treatment is unsuccessful.

Quinidine has a number of unwanted effects and can result in dangerous tachycardia, hypotension and even death (Slater and Knowles, 2012); so the veterinary nurse must monitor the horse for signs of toxicity including:

- Depression
- Tachycardia
- Hypotension
- Sweating
- Muscle tremors
- Diarrhoea
- Colic
- Nasal mucous membrane oedema
- Urticaria
- Ataxia
- Death

"Heart 'murmurs' and changes in rhythm (arrhythmias) are common in horses"

“As the horse is a ‘performance animal’, a healthy cardiovascular system is paramount in assisting it to achieve maximum functionality and potential”

Treatment should be stopped if six doses have been given and the horse is still in fibrillation, tachycardia over 100 beats per minute develops, or other ECG abnormalities develop.

If toxicity develops, then the horse requires urgent treatment, with which the RVN should assist:

- Keep the horse calm and do not take it out of the stable
- Give digoxin (1mg/450kg BW IV)
- Fit large-gauge IV catheters and give 40-50 litres of Hartmann’s solution as rapidly as possible
- Give bicarbonate (1mg/kg BW IV)
- The horse may require phenylephrine (2% solution IV to effect)
- Give activated charcoal or mineral oil by stomach

tube to reduce absorption of quinidine from the gut (Slater & Knowles, 2012)

Conclusion

The heart is an amazing organ in the horse with its ability to enlarge in response to exercise. As the horse is a ‘performance animal’, a healthy cardiovascular system is paramount in assisting it to achieve maximum functionality and potential.

For the veterinary nurse, practical knowledge of the equine cardiovascular system is very important to facilitate accurate assessment and identification of problems. The RVN can also be involved with the diagnosis of cardiovascular disorders in the horse by setting up appropriate diagnostic procedures and performing

an examination with an ECG machine. Intensive care nursing skills are also required for the management and treatment of certain arrhythmias, such as atrial fibrillation.

With a detailed knowledge of the equine cardiovascular system, the RVN can become an essential part of the veterinary team that is treating patients with cardiovascular disease and putting them back on the road to recovery. ■

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PPD Questions

1. Where is the best site to perform an IV injection in the horse?
2. What is the average weight of the heart of a horse measuring 16-hands?
3. What does ECG stand for?
4. What is electrocardiography primarily used to assess in the horse?
5. What is the name of the common arrhythmia that causes poor performance in the horse?

Answers

1. In the jugular vein within the upper third of the neck
2. 4kg
3. Electrocardiogram
4. Equine electrocardiography can be used only to determine the heart rate and rhythm and is restricted to the investigation of arrhythmias (Slater and Knowles, 2012)
5. Atrial fibrillation

Towards a better understanding of equine dentistry

Veterinary surgeon, Chris Pearce, one of the first holders of the new ECVS Diploma in Equine Dentistry, presented a lecture at the VPMA/SPVS Congress in January about the need to educate equine clients on the subject of dentistry and the need to use qualified people to carry out procedures on their horse's teeth.

In the past – and to a large extent still – there is confusion and misunderstanding regarding the carrying out of dental procedures involving equine teeth. Many of these procedures fall largely within the remit of the Veterinary Surgeons Act 1966; although some minor procedures have been deemed suitable to be performed by suitably trained technicians.

There has been a history of people setting themselves up as 'equine dentists' and impinging on the work of equine veterinary practices, claiming to be able to carry out procedures that – in truth – they are not qualified to do. At present all diagnostic and treatment procedures in the horse's mouth are considered to be acts of veterinary surgery under the Veterinary Surgeons Act 1966, which is regulated by the Royal College of Veterinary Surgeons (RCVS). The only exception is the manual removal of small dental overgrowths and sharp enamel points by using hand instruments.

In 1998, the British Equine Veterinary Association (BEVA) developed the lay 'dentist' legislative framework with the RCVS and in 1999 the British Association of Equine Dental Technicians (BAEDT) came into being. Currently the BAEDT is the only association for dental technicians that BEVA endorses and encourages its members to support.

A consensus on 'appropriate delegation' was agreed by the BEVA, BVDA, RCVS and BAEDT in 2009, listing three categories of procedures and who is permitted to carry them out.

Category 1 Procedures

Those procedures which an individual can perform after recognised training without

specific attainment of qualifications are:

- Examination of teeth
- Removal of sharp enamel points using manual rasps only
- Removal of small dental overgrowths using manual rasps only
- Rostral profiling of the first cheek teeth, previously termed 'bit seat shaping'
- Removal of loose deciduous caps
- Removal of supragingival calculus

Category 2 Procedures

Additional procedures suitable for delegation to an Equine Dental Technician who has trained and passed an examination approved by Defra are:

- Examination, evaluation and recording of dental abnormalities
- The removal of loose teeth or dental fragments with negligible periodontal attachments
- The removal of erupted, non-displaced wolf teeth in the upper or lower jaw under direct and continuous veterinary supervision
- Palliative rasping of fractured and adjacent teeth
- The use of motorised dental instruments where these are used to reduce overgrowths and remove sharp enamel points only. Horses should be sedated unless it is deemed safe to undertake any proposed procedure without sedation, with full informed consent of the owner

Category 3 Procedures

All other procedures and any new procedures, which arise as a result of scientific and technical development, would by default fall into Category 3, which are those procedures restricted to qualified veterinary surgeons and are not proposed for deregulation. It is, therefore,

not legal for these to be performed by non-veterinary surgeons.

Equine dentistry today has improved dramatically in terms of equipment, training and technique; but much damage has been done – and is still being done – by non-professionals seeking to carry out dental work that is really the province of the equine veterinary practice. Not only can this harm the health of the horse involved, it can also give equine dentistry/dentists a bad name, thereby making things that much more difficult for good equine practices to work well with their equine clients.

It is important that veterinary practices educate their clients so that they understand the difference between a qualified equine vet and a 'paraprofessional' or lay person advertising their services in 'equine dentistry'. Equally important is the need for them to understand what procedures the equine technicians are legally permitted to carry out.

In his talk, Mr Pearce also emphasised the need to provide better information and education for clients on equine dental problems – highlighting this with the example of how horses are very good at disguising dental pain, so that by the time the client takes action and calls the vet, it can often be too late. 'Educational evenings are a good way to help improve clients' understanding of their horses' dental needs and serve to help bond the clients to the practice.

Mr Pearce emphasised that there needs to be a practice approach to good dentistry and a realisation of its business potential. His suggestions were to take dentistry seriously, visit horses twice each year, educate all staff and invest in the best equipment to do the work. Also of vital importance is the role of the equine receptionist who needs to be much better trained in techniques for talking to clients, offering appointments and encouraging clients to seek dental help for their horses. ■





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Owen Atkinson
BVSc DCHP MRCVS

Owen has worked in farm animal practice since 1994, mainly with dairy cows. His interests in rumen health, cattle foot care and lameness reduction led him to do an increasing amount of training and advisory work.

In 2013, Owen left the practice to found Dairy Veterinary Consultancy Ltd, to better pursue his vision for preventive health management and strategy. Owen's goal is to help farmers make changes on their farms that benefit the cows, their quality of life and the bank balance.



**Suggested Personal & Professional Development (PPD)*

CATTLE

Housing dairy cows

Most UK dairy farms will house their cows for at least the winter months, and many now include all-year housing for their adult herd – particularly higher yielding herds.

The image of a cow housed in a 'concrete palace' clashes somewhat with the bucolic idyll of cows grazing lush pastures. For those in regular contact with dairy herds, however, it is easy to appreciate that the realities can be quite different from perceptions, and that all-year housing can occur hand-in-hand with excellent welfare.

Conversely, grave welfare infringements sometimes occur where cows are housed – perhaps only for relatively short periods – in out-dated accommodation which was built for a smaller-sized cow and without due consideration for a cow's needs.

Many dairy farms with old facilities have a decision to make: invest to upgrade the housing to suit the cow; or change the cow to better suit the housing (for example, to a smaller cross-bred cow, or smaller breed which has lower potential milk production).

The cow comes first...

But the economics are important too. Good facilities (buildings) are designed to meet the needs of the cow, so that the animals stay healthy and productive. Other aspects of good design include:

- A pleasant working environment (for the humans)
- A layout that is conducive to

efficient working

- Is 'future-resistant'
- Has ability to expand
- Is cost effective

Sound investments in housing bring benefits every day during the life of a building. Ensuring cow comfort does cost money, and we have to be able to demonstrate a return on this investment. The role of the vet in building design should be that of the 'cow advocate' – which is sometimes required to counter that of the person holding the purse-strings – while still having a full appreciation for the economics.

Does cow comfort pay?

Payback for investment comes from:

1. Extra milk production (better feed conversion efficiency)
2. Fewer health problems

The average sick cow takes the same amount of time and labour as 40 healthy cows.

Total wellbeing, however, comes from good housing and good management. Poor cow management can turn even the best housed environment into a disaster zone. **Table 1** shows some of the potential economic benefits of upgrading to good facilities for Holstein herds.

Often, a justification for investment in new housing can be made on production alone, and surprisingly little additional milk is required to make the investment attractive. A typical cubicle house 'new-build' costs between £1,000 and £2,800 per 'cow space'. Over 20 years, this equates to £50 – £140/cow/year.

An additional 500 litres per cow per year would yield approximately £140 extra milk sales (@28 pence per litre (ppl)). It is reasonable to describe extra milk produced as a result of better facilities as 'marginal litres'; meaning that, excepting the capital cost of the building, no additional costs are incurred in its production – it is produced with the same inputs.

Space

The number one rule of housing is to provide adequate overall space. Space is important for expression of natural behaviour, freedom of movement, reducing hierarchical stress, ensuring good feed intakes and reducing problems from excessive moisture, heat and slurry.

There are no clear net space allowance guidelines for cubicle-housed cows, although organic standards

Table 1. Some of the potential economic benefits of upgrading to good facilities for Holstein herds

Parameter	Before (UK averages)	After (realistic target)	Difference	Benefit	Benefit (£/cow/year)
Milk (kg/yr)	7,500	9,000	1,500	16 ppl margin	240
Mastitis rate (%)	70	25	45	£200/case	90
Lameness rate (%)	75	20	55	£170/case	93
Forced cull rate (%)	13	7	6	£750/case	45
Total benefit per year	-	-	-	-	£468

recommend a minimum of 6m² per cow, to include floor space and beds. A typical amount of space in UK housed herds is between 6m² and 8m² per cow, but 10m² per cow is a very reasonable aspiration for modern housing, of which approximately 3-3.5m² will be lying area.

How this space is configured will, to a large extent, govern how effectively the shed works and how good 'cow-flow' is. For example, there should

be no dead ends, no tight corners and no congestion points. Common congestion points include narrow cross-over passageways, areas around out-of-parlour feeders, and areas around water troughs.

Ideally the space is provided evenly through the shed, with wide passageways and cross-overs. Extra width should be given in the feed areas or around automatic milking stations ('milking robots') as these are high congestion

areas where dominance behaviour by certain cows has the greatest potential for damage (**Table 2**).

Most cubicle sheds are in some way a configuration of a 2-row or 3-row design. A 2-row design has two rows of cubicles per length of feed barrier, whereas a 3-row design has three rows of cubicles per length of feed barrier. Generally, 3-row designs are more restrictive in overall space, and feed barrier access per cow, although the number

and width of cross-overs will affect this greatly (**Figure 1**). For loose-housed cows (usually deep straw beds), there are several recommended minimum total space allowances published,

Loose housing space calculation

- The herd's 305-day milk yield is 8,500 litres. The space requirement is therefore 8.5m² bedded area plus 2.8m² loafing area per cow: 11.3m² total
- Total pen space (from above dimensions) = 20 x 12, 240m², sufficient for 240 ÷ 11.3 = 21 cows
- This pen is therefore okay for 21 cows. The configuration of the space is bedded area with good open access, and the bed is wide and shallow. More space per cow should be allowed if the layout and ventilation are poor
- The same space calculation should be used irrespective of whether cows are milking or dry – but it is only a rule of thumb. Bed management, ventilation, straw quality, and shape of the yard will all influence how loose housing performs in terms of hygiene and mastitis

Figure 1. Diagrams showing a 2-row and 3-row cubicle configuration, and the resulting impact on space available per cow.

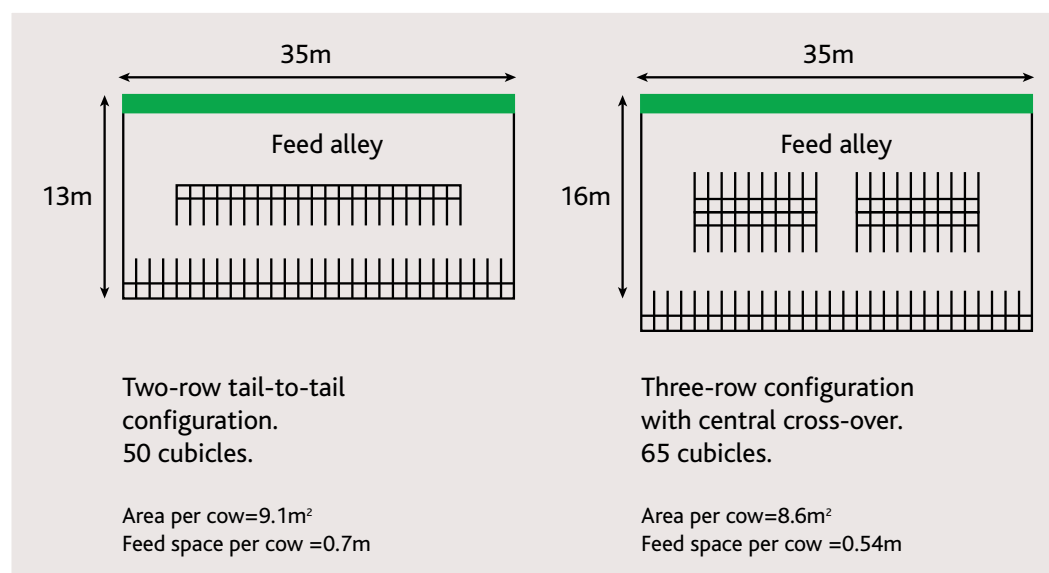


Table 2. Optimum key dimensions for housing Holstein cows

	Ideal requirement
Total floor space	≥10m ² per cow
Number of cross-overs	One per 20 cubicles plus at each end. No dead ends
Width of cross-overs	5m if water trough, 3.5m without
Feed passage width	4.5-5m
Passage between cubicles	4m if access for two rows or 3m if access to only one row
Feed space (per cow)	≥75cm per head
Water provision	≥10cm per cow or 1 rapid drinker per 10 cows
Space in front of out-of-parlour feeders	≥4m
Space in front of robots	≥5m
Head-to-head cubicles	5.5m curb to curb – shorter results in cows not lying straight
Cubicles against a wall	3m
Single cubicles open at front (e.g. towards a passageway)	2.5m
Cubicle width	115-137cm. Dry cows require the largest width
Curb heights	15cm



Figure 2. Loose housing (straw yards) potentially gives a more comfortable environment as there are fewer restrictions to lying compared with cubicles. However, careful management and design is needed to avoid the pitfalls of poor hygiene.

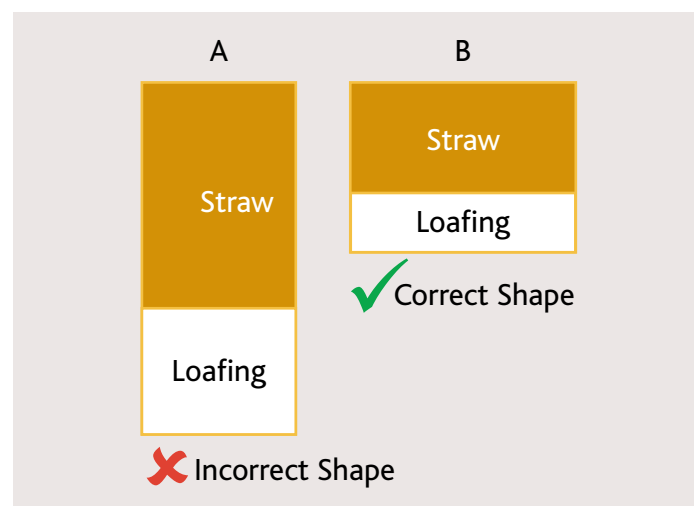


Figure 3. The shape of straw yards greatly influences the stocking density which should be used.

Moisture equation for cow producing 30 litres milk/day:

- Water intake from drinking \approx 90 litres
- Moisture from feed @ 45% dry matter (DM) \approx 25 litres
- **TOTAL intake: 115 litres**
- Moisture output in milk (88% DM) = 25 litres
- Moisture output (into shed) = $115 - 25 = 90$ litres per cow per day

ranging from 8.75m² (Red Tractor) to 12.4m² (DairyCo Mastitis Control Plan). A pragmatic approach is to use a simple equation of 1m² lying space per 1,000 litres of milk production, plus a third as much again as hard-floored loafing area.

This takes into account that higher yielding cows are not only larger and produce more urine and faeces, but are more likely to be at risk of infectious disease, such as mastitis, owing to their higher metabolic rate and physiological 'stress'. In essence, the total space requirement using loose housing compared with cubicle sheds is about 25 per cent greater.

Loose housing (straw yards) potentially gives a more comfortable environment as there are fewer restrictions to

lying compared with cubicles (Figure 2). However, careful management and design is needed to avoid the pitfalls of poor hygiene.

The yard with a deep, narrow bedded area (Figure 3) (A) will have a greater concentration of cow traffic closer to the loafing/feeding area, so the usable lying area is much reduced. The wider, shallower bedded area (B) is much better, as well as lending itself better to a front feed barrier with plenty of feeding space per cow.

Often, with a little imagination and some basic building skills, a wholly unsuitable straw yard can be converted to a very good one just by reconfiguring the basic shape and creating an outside feed barrier along one of the longer outer edges.

Adaptations to create extra space

Where space is a limiting factor,

the farmer has a few options to improve the situation without building a new shed:

1. Remove cows
2. Remove cubicles – particularly useful if additional cross-overs can be created, or dead ends eliminated
3. Create outside loafing area (sometimes, as simple as opening the doors)
4. Create outside feeding area (Figure 4)

Slurry management and floors

A typical milking cow produces about 25 litres of urine per day, and 45 kg of manure. In addition, she exhales several litres of moisture. All of this fluid goes into the immediate environment, and highlights why ventilation and slurry management systems are an integral part of housing design.

Feet that are constantly wetted in slurry and urine

become softer, and the skin becomes damaged. Digital dermatitis – and possibly claw horn diseases – are thus more likely and this contributes to why lameness control is more challenging in housed environments (the other big factor being cow comfort and lying times). Dirty feet also contribute to dirty beds and udders, and so are a risk for increased mastitis too.

Removing the slurry away from the cow as soon as possible is the ideal. Slatted floors are a very good solution, but are much less common on UK dairy farms compared with our European neighbours. Slatted floors and underground slurry storage have a high initial capital outlay, but for farms wishing to improve their housing and increase their slurry storage capacity, the capital expense can often be justified.

'Cow Flow'

- This describes the movement of individuals and the herd as a whole. It is now considered to be a vital part of cattle health – affecting lameness, nutrition and fertility, as well as overall farm efficiency
- Poor cow flow increases lameness owing to greater shearing forces on the feet, and cows not placing their feet carefully to avoid trauma
- Rumen health is affected by poor cow flow if cows do not choose to visit the feed area regularly throughout the day because of social conflict or other hindrances – fewer feeding bouts increase the risk of 'slug feeds' which lower rumen pH more markedly
- Fertility can be reduced by poor cow flow because natural bulling behaviour is reduced so heat detection rates are lower
- Cow flow is governed by space, shed configuration, floor surfaces, and stockmanship

In the past, slatted floors have raised some concerns regarding cow welfare and some studies have demonstrated cows have a greater nervousness walking on slatted floors compared with solid floors. Much of this is probably a consequence of the smooth surface of precast concrete slats not providing enough grip. Better designed slatted floors are now available that allow cows to walk confidently – they are either rubber coated, or designed with a slip-resistant surface.

Slatted slurry channels running the length of passages are an alternative way of ensuring floors remain drier, and these can also work well. They can be 'retro-fitted' into existing sheds and reduce the effects of 'slurry waves' caused by automatic scrapers.

Whatever the floor, cows like to have grip. Rubber floors have gained popularity, and rightly so – cows using them visibly walk with longer strides, are more likely to demonstrate good bulling activity, and possibly have reduced lameness. Fully rubber-coated floors can lead to long toes owing to insufficient hoof wear, but using rubber in high traffic areas is generally a very sound investment.

If not using rubber, concrete grooving can increase cows' confidence in moving. There are many different types of grooving, most of which work well. However, tamping new concrete in order to create a rough surface should not be done in any circumstances. New concrete in any case has a greater risk of causing over-wear in cows' feet: tamped concrete is too severe and uncomfortable and likely to increase the incidence of lameness. Preferably, new concrete is set smooth and then mechanically grooved.



Figure 4. An outside, covered feeding trough – used to create extra feeding space and also less congestion in the shed. The open end allows easier cleaning of waste food.

Summary

Taking a bird's eye view of the shed's layout and overall space, and spending some time observing the cows to learn what they are telling

you about their environment, can often lead to fruitful discussions with farm clients which then have a large overall impact on their herds' health and welfare. ■

Answers
1. B, 2. A, C & D, 3. C, 4. C, 5. B, C and D

PPD Questions

- What is the typical total floor space for cubicle-housed dairy cows in the UK?
 - 10m²/cow
 - 6-8m²/cow
 - 1m²/1000 litres milk production
 - 8.75m²/cow
- Slurry on feet is likely to increase the risk of:
 - Mastitis
 - Metritis
 - Digital dermatitis
 - White line disease
- Cow flow is best described as the:
 - Speed cows walk into the milking parlour
 - Speed cows walk along cow tracks
 - Overall movement of individual cows and the herd as a whole
 - Level of lameness and discomfort as cows move around
- Rubber flooring is:
 - Always a good idea – ideally should be used everywhere
 - Never a good idea
 - Best used in targeted high traffic areas
 - Good for improving hygiene
- Head-to-head cubicles should be 5.5m curb to curb because:
 - A shorter length means shorter lying areas
 - A shorter length means more head-to-head conflicts and diagonal lying
 - Diagonal lying results in more muck on backs of beds
 - Diagonal lying means more contact with dividers and skin lesions



Adelle Isaacs
BVSc GPCertFAP MRCVS

Adelle graduated from Bristol University in 2007. She has worked in large animal practice at Larkmead Vets in south east Oxfordshire since graduation. Adelle gained the GPCertFAP qualification in 2010 and in 2013 she joined the partnership at Larkmead Vets as a junior partner. She has a particular interest in small ruminant health planning and farmer education.

Flock health planning and improving engagement with sheep farmers

This article is designed for veterinary surgeons and farm animal veterinary support staff wishing to provide increased veterinary services to their existing – and potential – sheep clients. The author is based in a mixed practice in Oxfordshire, where sheep production is not the primary agricultural enterprise on many units. The author will outline areas of development that may be of interest to similar practices, where there is potential to “do more for our sheep producers”.

What is the current level of veterinary engagement on UK sheep farms?

It is very difficult to quantify the level of veterinary involvement on sheep enterprises across the UK. The veterinary industry perception (Personal communication, Lovatt, 2015) is that our level of involvement is low.

Potential parameters for measuring involvement include veterinary spend per ewe (mentioned below), veterinary spend per kg of lamb sold, minutes of veterinary time spent per ewe or per kg of lamb sold.

Most farm assurance schemes require a health plan of some description; however, the level of veterinary involvement in the plans can be extremely variable. At the time of writing, there are 24,741 ‘Red Tractor-assured’ beef and lamb producers in the UK (Red Tractor Assurance website, 2015).

A new recommendation of the Red Tractor scheme is to have in place a herd/flock health plan that specifically

Financial performance (£ per ewe to rear)		
	Average	Top Third
Number of flocks in sample	66	22
Average flock size (ewes to rear)	572	630
Lamb output	97.33	92.16
Other income	2.19	2.15
Gross Output	99.52	94.31
Replacement costs	13.43	11.24
Output less replacement costs	86.09	83.07
Variable Costs		
Purchased feed including minerals	12.77	8.43
Home-grown feed	1.87	1.50
Purchased forage	0.12	0.06
Home-grown forage variable costs	5.46	2.78
Total feed and forage	20.22	10.76
Vet and medicines	6.21	5.16
Bedding	1.29	0.54
Other livestock expenses	6.42	4.10
Total variable costs	34.15	20.56
Gross Margin	51.94	62.51
Fixed Costs		
Labour – paid	13.68	9.26
Labour – unpaid	17.63	12.97
Machinery repairs and spares	2.39	1.67
Contracting	2.89	2.01
Electricity	0.22	0.09
Fuel	3.29	2.65
Property maintenance and water	1.73	1.06
Depreciation	6.58	3.97
Land rent (imputed and actual)	14.78	14.79
Imputed finance costs	1.27	0.84
Overheads	3.99	2.88
Total fixed costs	68.46	52.10
Net Margin (including imputed costs)	-16.51	10.41

Figure 1. Costs of production for lowland flocks (Stocktake Report, 2014).

includes a veterinary review of key health and production parameters. The standards were reviewed in October 2014; so as 2015 progresses

and health plans for members are updated, this may standardise the level of veterinary involvement to some degree.

Table 1. Stocktake data for lowland flocks (£ per ewe put to tup)

	2013		2014	
	Average (£)	Top Third (£)	Average (£)	Top Third (£)
Net margin	-12.65	18.34	-16.51	10.41
Vet & medicines	6.96	5.83	6.21	5.16
Total feed & forage	17.06	16.70	20.23	10.76



*Suggested Personal & Professional Development (PPD)

SHEEP

"Feed and forage costs are consistently the greatest variable cost of production"

Is there a need for greater veterinary involvement?

The EBLEX Stocktake Report (2014) provides 'Business Pointers' that give production costs for flocks (**Figure 1**). The average lowland sheep producer made a net loss of £16.51 per ewe put to the tup in 2014.

These data can be useful in beginning to understand the key differences between average and top third producers for each flock type (**Table 1**).

In 2013, the difference in net margin between average lowland flocks and the top third of lowland flocks was approximately £30 per ewe put to the tup. Higher output accounted for 37 per cent of the net margin difference, and in this year, in these flocks, the identifiable key factors were more lambs born and reared, fewer empty ewes, higher daily live weight gain and higher sale weights (Stocktake Report, 2013).

All of these factors can be influenced by the uptake of accurate and targeted veterinary advice. In 2014 it is apparent that for lowland flocks profitability has declined. The key differences between the average and top third flocks were again higher output with fewer lamb losses.

Lamb mortality is inarguably a topic on which Veterinary surgeons can advise. With the average lowland producer making a loss in terms of net margin in both 2013 and 2014 and key factors in profitability, including output per ewe, there is an opportunity for clear veterinary guidance and involvement on many units.

The veterinary and medicines category in **Table 1** includes both prescription-only medicines and medicines

available from merchants, so it is not a true measure of veterinary involvement alone. However, it is clear that the top third of producers spend less on this category than the average. An explanation could be that these farmers are superior stockmen and, therefore, their animals require fewer treatments.

Another explanation could be that the top third of farmers are more likely to take veterinary advice to prevent disease – for example, biosecurity and quarantine advice – and as such, fewer treatments are required.

Feed and forage costs are consistently the greatest variable cost of production, and labour is the greatest fixed cost according to the Stocktake figures for all flock types. Therefore, in order to provide a relevant and understanding advice service to sheep producers, vets must have adequate knowledge of sheep nutrition, forage production and efficient farming systems.

Nutritional advisers and consultants may be used on many units and a team approach is beneficial. When reviewing production it is important to include the owner, manager, shepherd(s), nutritional adviser, consultant and veterinary surgeon.

Is there a demand for veterinary advice and flock health planning on sheep farms?

As has already been mentioned – although it is impossible to measure accurately – the perception is that veterinary service uptake on sheep units is low. In the author's experience, some of the limiting factors in using a veterinarian for advisory purposes (to establish a flock health plan,

for instance) have included a lack of understanding of the veterinary services available, trepidation of cost and, in some cases, resentment of farm assurance standards being imposed.

The latter is challenging to address, but effective marketing strategies can be used to tackle the former two points.

In the author's experience, it has been the sheep producers who have been the most responsive to preventive health and welfare advice once a connection has been established with a veterinary adviser. There was a strong theme of demand for veterinary involvement and advice at the Sheep Health and Welfare Group (SHAWG) Conference in November 2014, with several presentations from sheep farmers detailing the benefit of veterinary involvement in the area of biosecurity. There was a feeling, however, that this may not reflect the entire industry – but rather the 'top third' already described earlier.

Fostering a relationship

Initially it is vital to ensure that the practice has the veterinary resources and knowledge to be able to provide advice that is

relevant, accurate and cost effective. A sound understanding of sheep medicine is assumed and additionally knowledge of nutrition and industry economics is important. Marketing is vital in order to initiate a conversation with a sheep producer as, traditionally, contact between sheep farmer and vet has been limited.

Effective strategies include holding farmer meetings and discussion groups, optimising contact with office staff, and building trust by establishing a consistent, approachable presence in the local community.

Farmer meetings/discussion groups

These can be an opportunity to display detailed veterinary knowledge of a health and production topic (**Figure 2**):

- It is possible to utilise the meetings to build trust
- It can be useful to invite guest speakers from the wider industry in order to illustrate that a holistic approach to health advice is available from the veterinary service provider
- Further on-farm investigations may be funded by the rural development programme for England (RDPE), or subsidised diagnostic (for instance Barren

Figure 2. A sheep producer discussion group on biosecurity when purchasing replacement stock.





Figure 3. A television interview for local news on Schmallenberg virus and its impact on sheep production.

Figure 4. Photograph of a beef herd health calendar in use on farm.



ewe check supported by MSD) This should be communicated clearly – not only through meetings but also via newsletters, e-communications and in person when relevant

- Meetings should be planned to cater for different learning styles in order to achieve optimal engagement

Small discussion groups on key topics, such as sustainable parasite control, have been particularly successful in the author's experience, especially when held at the veterinary surgery. The benefits of these have included:

- Increased familiarity with the veterinary surgeons and support staff
- The initiation of an advisory conversation on parasite control which has developed into an established advisory relationship on key units
- Discussion amongst producers regarding the success of veterinary investigations leading to further, successful preventive measures and improved output

It is beneficial to schedule a clear follow up or summarising after such meetings in order to maintain the initial contact, for this newsletters, emails, SMS messaging, social media and telephoning the delegates have been successful.

Optimising contact with office staff

Often receptionists or office staff are the first physical point of contact with sheep producers. It is beneficial that they have some understanding of sheep production, particularly with respect to the annual production cycle. Internal CPD can be utilised to educate support staff so that they are equipped to have an engaging conversation with sheep farmers as they visit or telephone the practice. It has proved particularly useful to construct a 'sheep production year' calendar for reference.

If familiar with common sheep health topics, support staff play a vital role in initiating discussion or investigations which can be referred to a veterinary surgeon. This may not only provide an opportunity to visit the farm but also build trust between the producer and veterinary practice.

Community presence

Attendance at country shows and sheep-specific events can be an opportunity to increase awareness of veterinary services available and further build trust.

Opportunities to appear on local television or radio to advise on current affairs relating to sheep production can also be beneficial (**Figure 3**).

Flock health planning

Sheep producers must perceive value in the flock health planning process in order for compliance to advice to be strong and for engagement with the veterinary adviser to be sustainable. As such, important features of a flock health plan include:

- It must meet the requirements of the farm assurance scheme
- There should be the facility to review health and production records from year to year. This, of course, will rely on accurate record keeping on farm, but may allow for conclusions to be drawn regarding the success of health intervention that is extremely valuable
- Standard treatment protocols for common conditions should be specific to the farm and agreed
- The importance of biosecurity and quarantine procedure should be emphasised

Once a flock plan is in place, it should be a working document that can be used for reference frequently, rather than being 'kept safe' until the annual review. If the veterinary surgeon is seen to refer to it

"Sheep producers must perceive value in the flock health planning process"

when discussing flock health issues, this promotes the same practice on farm.

In the author's experience, the key to compliance has been to construct a sheep health calendar similar to that in **Figure 4**. This can include pre-scheduled flock health visits to the farm at strategic points in the production cycle – often pre-tupping and pre-lambing, as well as the flock health plan review. The calendar can be linked to electronic reminders for which the veterinarian or support staff take responsibility in order to contact the producer when vaccines or flock health visits are due.

Opportunities for veterinary service provision

There is a whole range of services that can be offered to sheep farmers, provided the correct training and knowledge is in place. Again this can be linked to the flock health plan and reminders set for individual farms. It can also be the basis for a practice marketing strategy.

Pre-lambing

- Metabolic profiling of ewes two to three weeks before lambing to assess nutrition (BHB, Albumin, Urea, Calcium, Magnesium +/- minerals and trace elements depending on farm history) see ed.ac.uk/schools-departments/vet/services/farm-animal-services/dairy/blood-testing/sheep-tests
- Body Condition Assessment
- Parasite control

During lambing

- 'Dystocia visits' can be used to initiate conversation regarding scanning percentage and lamb survival
- Post mortem examination of dead ewes to monitor for

'iceberg diseases' (Johnes, for instance)

- Post mortem examination of a sample of dead lambs to evaluate neonatal lamb care
- Discussion and review of tupping management – if lambing is spread over many weeks, did they use teasers? Were the ewes flushed before tupping?

Weaning/shearing time

- Ram preparation for tupping – discuss the use of semen evaluation versus farmer MOT (teeth, toes and testicles, for instance) – use excellent existing EBLEX Better Returns Programme Resources ateblex.org.uk/returns
- Parasite control – discuss the importance of faecal worm egg count examinations and the correct procedure for sampling (technical details at scops.org.uk)

Pre-tupping

- Blood sample ewes and tups to assess trace element and

mineral provision, see ed.ac.uk/schools-departments/vet/services/farm-animal-services/dairy/blood-testing/sheep-tests for further details

- Body condition assessment and discussion of pre-tupping feeding plan
- Evaluation of lameness and foot condition

Conclusion

Net margin is strongly influenced by output, which, in turn is influenced by a host of health and welfare factors upon which well-educated and interested veterinary surgeons can advise.

Accurate marketing of veterinary services is vital in initiating engagement of sheep producers with veterinary services. Robust planning and organisational systems, for example establishing calendars and electronic reminders, are extremely valuable in maintaining the momentum of the advisory relationship.

The challenge is to establish dynamic flock health planning as a cornerstone of sheep production. ■

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PPD questions

1. According to Stocktake 2014, what was the net margin per ewe put to the tup for?
A. An average lowland flock?
B. A lowland flock in the top third of producers?
2. What is the highest variable cost in UK sheep production?
3. According to Stocktake 2014, what is the average veterinary and medicines cost in lowland sheep production?
4. Within a veterinary practice, which members of staff are often the first point of contact for a sheep producer?
5. How soon before lambing should blood samples be taken from ewes for metabolic profiling?

- Answers
1. A. A loss of £16.51 B. A profit of £10.41
 2. Feed and forage
 3. £6.21 per ewe put to the tup
 4. Receptionists and office staff
 5. Two to three weeks

Time to tackle the red meat of the issue

In March this year, the Royal Cornwall Agricultural Association and Cornwall Food & Farming Group organised two 'Farm & Country' days. These events offered an interactive experience to over 1,500, seven- to nine-year-old schoolchildren; with the aim of educating them about the journey of various types of Cornish produce from field and farm to their dinner table.

The children learnt about a wide range of areas, including planting and harvesting native crops, as well as coming face-to-face with various farm animals – dairy and beef cows, sheep, pigs and poultry.

And importantly, they also had a chance to find out how locally farmed raw materials are processed and eventually arrive in our kitchens. Activities such as pasty crimping and sausage making, as well as tasting of locally produced food and drink were all used to highlight this.

This action, which is being mirrored by similar initiatives being run by food and agricultural organisations across the UK, reflects a pressing need for a re-engagement by the public at large with the source of its food and how its production shapes the countryside that we hold so dear.

In a poll of 2,000 people carried out for LEAF (Linking Environment and Farming) in 2012, more than a third of 16- to 23-year-olds (36%) did not know that bacon comes from pigs and four in 10 (40%) failed to link milk with an image of a dairy cow – with seven per cent linking it to wheat.

Some 41 per cent of respondents correctly linked butter to a dairy cow, with eight per cent linking it to beef cattle; while two-thirds of respondents were able to link eggs to an image of a hen, some 11 per cent thought they came from wheat or maize!

The success of farmer's markets is to some extent a reflection of the desire of many people to reconnect, quite literally, with their agrarian roots and to make informed decisions about the food they eat, and the way in which the animals they consume are treated during their lives. But there is a long way to go.

There have been many stories in the media highlighting issues affecting farm animals at the other end of their 'farm to fork' journey. In its February e-newsletter, the British Veterinary Association (BVA) triumphantly announced that there were over 100,000



signatures on its petition to demand compulsory stunning of all animals to be slaughtered for human consumption.

An additional petition for CCTV to be installed in abattoirs to monitor the behaviour and techniques being used for slaughter has reached a similar target. It was prompted by video footage taken in a slaughterhouse in Thirsk by Animal Aid, showing outright cruelty to animals on the premises. Several members of staff were sacked but the most telling aspect of the report was the statement that: 'Government-appointed vets are supposed to be on hand in all abattoirs the size of Bowood, but Animal Aid said none was seen during the three days of filming'.

It is difficult to make generalisations, but it was probably a retrograde step when EU regulations forced many small slaughterhouses to close. Most of these were attached to local butchers who sourced their meat from local farmers and they managed the whole process quietly with old-fashioned respect for the beasts involved. They took pride in their skills, the humaneness of the way they handled the creatures and the hygienic manner in which the meat and offal were presented for inspection, and subsequently, sale.

The elephant in the room in this whole debate is the matter of the transport of

livestock. Long distances, inadequate attention to the five freedoms and devolution of real responsibility are major contributors to the issue. Basically, animals arriving at abattoirs – having travelled long distances, with only token attention to the five freedoms – are frightened, confused and stressed.

The BVA's attention to the detail of how animals are actually slaughtered is all very laudable; but where is its effort to tackle the Government over the poor welfare of animals being transported totally unacceptable distances? Where were those vets in Thirsk?

The profession basks in the glory of wondrous advances in small animal and equine procedures developed in the name of advances in animal welfare, with its advocates becoming media stars and recipients of prestigious awards.

When the chips are down and where animal welfare really counts, we turn a blind eye and take the easy options, pander to vested interests or hide behind the regulations. It is time that we attributed equal status, kudos and resources to those veterinary surgeons – especially young vets – who wish to use their vocation to tackle the raw issues of animal welfare on the front line where it really can make a difference. ■



Bruce Maclean

BSc(VetSci) BVM&S MRCVS

Bruce graduated from the University of Edinburgh's Royal (Dick) School of Veterinary Studies in 1992. Following graduation, he spent time in the avian and exotic department at Utrecht University further studying the veterinary care of birds and exotic animals.

On return to the UK, Bruce spent six months in mixed practice and a short period in small animal/exotics practice, before setting up his own dedicated practice 20 years ago. He works exclusively with birds and exotic animals, on both first-opinion and referral bases, and has contributed chapters to BSAVA manuals and several articles in UK- and US-based veterinary publications.

Bruce has been keeping reptiles and amphibians for over 35 years and amphibian medicine is a particular clinical interest.

Considerations in amphibian welfare

Amphibians form only a minor part of the patient case-load of most veterinary practices, but their welfare must be considered to the same extent as with all patients. We must always try to minimise the stress – particularly inescapable stress – that we cause them, as well as give appropriate advice to the client keeping them.

The fact that amphibians can show a stress response, individual behaviour traits and remarkable cognitive abilities (reviewed in Burghardt, 2013) does, in this author's opinion, mandate consideration for their welfare. However, it can be difficult to evaluate welfare in amphibia.

Although much of the basic research has not been done, there is some progress on the potential causes of stress/immune depression/microbial flora disruption to captive amphibians, and such advances should be used to inform our treatment of our patients.

It should also be remembered that not all 'stress' is necessarily bad for the animal. Acute, temporary stress which the animal can take steps to avoid, or respond to, is generally considered less harmful than chronic and/or inescapable stress. Unfortunately in captivity most stress is likely to be the latter.

Factors that may affect pet amphibian welfare

In captivity, the animal is subject to a variety of factors, any of which may lead to stress. All factors should be considered when evaluating the husbandry of a pet amphibian, and when giving advice to the owner. Unfortunately many amphibia tend to be kept in relatively small containers in captivity, where a very limited range of micro-habitats can be provided (**Figures 1 & 2**). Advice should be given to try to improve the situation of these animals.

The microclimates (or micro-habitats) – areas such as specific temperature, humidity, cover, ultraviolet light, visible light – of the enclosure must be thoroughly evaluated. They must provide a suitable range of these parameters (one of the major reasons the commonly used smaller enclosures are generally poor).

Not only will the animal's preferences or requirements

vary to some extent with time of day, season and individual animal factors, recent work suggests that natural temperature variation may be better for amphibian immune status than a rigidly controlled environment (Terrell et al, 2013). The option to lower or raise body temperature in response to an infection may also be important to the animal.

The husbandry factors can be considered under the following headings:

- Enclosure
- Enclosure positioning
- Substrate
- Enclosure furnishings
- Water supply
- Temperature/heating
- Lighting
- Diet/supplementation
- Management regimen

Space precludes a detailed discussion, but essentially all these things must be safe, suitable for the species and they should contribute to environmental enrichment, where appropriate. A thermal and humidity

Figures 1 & 2. Amphibian enclosures run the gamut from naturalistic (1) to hygienic (2). In principle the naturalistic is almost certainly better for the animal's welfare, although the difficulty of monitoring and maintenance may be an issue. The hygienic example shown here is too small to provide much variation of micro-habitats and has insufficient hiding place options.



*Suggested Personal & Professional Development (PPD)



Figure 3. Fully aquatic amphibians, such as this axolotl, require water quality assessment similar to that for fish.

gradient or mosaic should be considered essential, and 'hides' (also essential) should be available throughout such a gradient (for instance, not just in the cool end). In general, naturalistic set-ups are better for animal welfare – they prefer them, and their microbial defences tend to be more normal.

The enclosure should have no toxic material used in its construction, no sharp edges, and no narrow gaps where animals could get trapped. It should be positioned where it won't overheat (or get too cold), and it is secure and not accessible to other pets.

Substrate bedding materials must be safe (think particularly about risk of ingestion) yet also provide suitable enrichment – particular colours and particle size/shape may be preferred by some species, and soil of different particle sizes can have different moisture-holding and oxygen-permeation characteristics. Provision of a substrate can contribute to the natural microbial defences of amphibians.

There are several studies showing that shelter reduces stress in captive amphibians, and animals may prefer specific types (shape and/or material) of hide.

The water source should be assessed (**Figure 3**). Chlorinated tap water is contraindicated absolutely – tap water must be treated appropriately (a wide variety of conditioners are available for fish), or bottled water may be used if the pH is suitable (this should be checked).

Amphibians tend to be more driven in micro-habitat choice by humidity rather than temperature as such, but it is still important that the temperature range is suitable (**Figure 4**).

Lighting of amphibians is often controversial – there is evidence for harmful effects of ultraviolet light on some amphibians – but some (easily escapable) access to low levels of UV-A and UV-B is probably advisable.

Diet/supplementation is important not just for health and its presentation may help enrichment.



Figure 4. While for most amphibians little supplemental heating is needed (cooling may be required, even in a British summer!) some species require heating, and will bask – knowing the species is important.

Animal factors will also affect stress. Individual and species level differences in stress to the same stressor are likely, and reproductive status of the animal may also alter the stress response.

Assessing stress in amphibians

This can be difficult. However, adopting the assumption that the animal in the clinic is under (probably significant) stress is the best default approach.

Behavioural signs associated with stress

Signs of stress are not well defined in amphibians. Behaviourally there is little known, and signs of stress will depend on the species, as well as the situation. It has been suggested that poor welfare may result more in lack of normal behaviours rather than unusual behaviours (Michaels et al, 2014c). The fairly inactive lifestyle (at least in daylight/bright light) adopted by most amphibians further complicates evaluation.

In the home environment, normal behaviour for the species should be considered – hiding at floor level is natural for most terrestrial amphibians, but if a tree frog spends all its time under a log at ground level then it is not happy. Similarly, while some exploring is normal, a crepuscular terrestrial species active

during the day suggests that something is not quite right.

In the clinic, reactions will often depend on the natural defence of the species. Those that rely on escape – many frogs, for instance – will tend to be hyperactive; while other frogs, along with most newts and salamanders (and probably caecilians) rely on hiding for defence, and will therefore tend towards immobility.

One easily observable factor is respiration; at rest this should be intermittent for most amphibians. If continuous, it almost certainly indicates some level of stress.

On manipulation, most will initially struggle/attempt to escape, although avoiding pressure on the body if possible will minimise this response. Urination – which will occur in most amphibians on manipulation – is a definite sign of stress; amphibians rely on bladder stores of water, so releasing it costs the animal in fitness terms.

Laboratory methods

Some laboratory measures can be used to assess amphibian stress, including leucocyte analysis (heterophil:lymphocyte ratio) and faecal or urinary corticosteroids. In the clinical situation, they are rarely employed, but may be useful in certain circumstances.

“Adopting the assumption that the animal in the clinic is under (probably significant) stress is the best default approach”



Figure 5. Restraint should be as gentle (and usually as loosely) as possible to minimise stress and trauma – obviously important in the smaller amphibian (NB. gloves would be preferable). Caudates can usually be held more loosely than anurans.

Minimising stress in the amphibian patient

In the home environment

With regard to what to advise the client, minimising stress in this context can essentially be summarised to ‘provide the most suitable husbandry’, as discussed above.

Transport to the veterinary practice

Ideally transport stress should be avoided altogether by implementing a home visit, which also has the major advantage of observing the animal in its home environment. Unfortunately, however, this is often impractical, and advice should be given to the client on appropriate transport.

Transport stress can be minimised by providing suitable transport – moisture, appropriate temperature

and protection from physical trauma are all necessities. Bubble wrap – as always with amphibians – is a good lining/padding agent for transport containers; although moss or thick, (preferably unbleached) paper towel layers may also be used.

For aquatic amphibia, transport in water in fish bags, supported inside a structure, such as a bucket, is recommended.

Where possible, transparent containers should be recommended – these can be covered during transport, but may allow observation before handling the animal.

In the consulting room

The consultation is going to be stressful for the amphibian patient. All we can do is try to minimise this. The first

“It is probably a reasonable assumption that most amphibia will *not* benefit from human contact”

consideration is the condition of the consulting room, and pointers include:

- Disinfectant residue on surfaces can be an irritant for amphibia that come into contact with it
- Amphibians can be very sensitive to temperature – depending on the species, a consulting room in the middle of summer (yes, even in the UK!) can be dangerously hot, and confinement in a hand will exacerbate this problem
- Transillumination, if used, may also be problematic

The clinical examination, while of course as thorough as possible, should also be undertaken with thought for the animal’s welfare:

- Carry out as much observation/assessment in ‘hands-off’ mode before proceeding to manual restraint. This means observing the animal in its transport container as far as possible before proceeding to any physical examination. Observe behaviour, movement, respiration and any obvious lesions
- Be ready to take samples before handling the animal, particularly bearing in mind that many amphibians will urinate and/or defaecate on handling – so have all

equipment ready to hand

- Ensure handling is minimised and gentle (**Figure 5**)

Handling

Despite recent research suggesting that some chelonians will choose some human contact, it is probably a reasonable assumption that most amphibia will *not* benefit from human contact. At best they may tolerate it; although, more likely, they will be stressed to a greater or lesser degree (**Figures 6 & 7**). Handling, therefore, should be minimised and carried out carefully.

Gloves should be worn – there is some suggestion that nylon may be preferable to latex, at least for aquatic species – because hands may have toxic/irritant residues on them, or damaging irregularities/wounds/sharp nails. They are also beneficial in preventing zoonoses. If bare hands are used, they must be clean – but without residue of soap or disinfectant – and moistened with non-chlorinated water.

Handling should be gentle. Unfortunately the slipperiness and agility of frogs, in particular, mean that some firmness may be necessary to maintain a grip; although you

Figures 6 & 7. Snout rub injury on two different frogs, indicating likely stress and poor welfare.



should always be aware of the potential for damaging these relatively small, delicate animals.

Handling them within a deep, padded box is a useful precaution to minimise damage (and limit range) in the event of escapes. Chasing a jumping frog around a consulting room, even if exposure to disinfectant on surfaces (or dust at the other extreme!) is ignored, is not good for the animal's stress levels. Or the vet's.

In the hospital environment

This is essentially similar to the home environment, but with additional constraints given the increased importance of hygiene, and impracticality of setting up a long-term, stable environment. In many cases, hygiene considerations may tend to overrule enrichment factors; although some effort should be made – bark or other ‘hides’ from the owner’s set-up may be useful.

Certainly a temperature gradient or mosaic should be present, with multiple hiding places spread throughout the gradient.

Temperature selection – either warmer or cooler than normal – may be important in fighting infection and it is wise to assume that the animal ‘knows’ better than we do, whether behavioural hypothermia or hyperthermia is an appropriate response to a given infection.

Proximity (visual and/or olfactory) to potential predators should also be avoided.

Treatments

Treatments must also take the animal’s welfare into consideration – whether a particular level of stressful treatment is justified, especially when set against the prognosis for the case and also for each individual treatment. Transcutaneous

dosing will generally involve minimal stress, so is invariably preferable.

‘Bath dosing’ should be carried out with consideration for minimising stress from the close confinement involved and also reducing any risk of trauma from escape attempts.

Euthanasia

Where possible the client should be strongly encouraged to bring their pet into the practice for euthanasia.

Home euthanasia can be carried out humanely with clove oil; but the veterinary surgeon is in a much better position to carry out humane euthanasia with an overdose of anaesthetic.

Freezing a conscious amphibian is never an acceptable method of euthanasia as it is considered to be painful. However, it is, unfortunately, still recommended on some hobbyist sites and should be strongly discouraged. Having

said that, following an overdose of anaesthetic, it is prudent to ensure non-recoverability by pithing or freezing.

Summary

As vets, the welfare of our patients should be paramount. The welfare of the amphibian patient should be considered at every stage of the veterinary consultation – from advising the client on husbandry through to clinical examination, treatment and hospitalisation, and euthanasia, if indicated. ■

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PPD Questions

1. Name five environmental categories which must be considered when assessing captive amphibian husbandry that might affect the animal’s welfare.

2. List a welfare advantage of naturalistic (as opposed to ‘hygiene-orientated’) enclosures.

3. What dosing technique is the best to minimise stress?

4. Why is urination on handling a sign of stress particularly in amphibians?

5. Which is preferred in case of infection – hyperthermia or hypothermia?

- Answers
1. Possible factors include: enclosure, enclosure positioning, substrate, enclosure furnishings, water supply, temperature/heating, lighting, diet/supplementation, management regimen

2. Possible answers include: the animals prefer it, improved antimicrobial defences

3. Transcutaneous

4. Because they use bladder-stored urine as a source of water, so eliminating it is more potentially damaging to their survival

5. There is no single answer; it will vary, depending on infection



Anne-Marie
Svendsen-Aylott
CandMedVet MRCVS

Anne-Marie is an inspirational leadership coach and trainer.

Her focus is on helping businesses create a culture of change where employee motivation and happiness is in focus. All her training is grounded in research and psychology and provides in-depth skills in communication.

Anne-Marie qualified as a veterinary surgeon, has worked for many years in sales, marketing and training and now runs the company, PurpleCat Coaching.

Change your reality

We all want to be happy – and happiness is one of the key drivers to success (Lyubomirsky S et al, 2005). When we are happy, we make more effective decisions, we work better with other people and we are better perceived (Staw BM & Barsade SG, 1993). Happiness also makes you better at selling (Sharme A & Levy M, 2003), increases client satisfaction (Barger P & Grandey A, 2006) and makes you more creative (Amabile TM et al, 2005). And the list goes on.

"But I am not happy," people say. So what do you do then?

The key thing to realise is that there are specific strategies, skills and ways of thinking that can effectively retrain your brain to be more happy. The brain is an extremely flexible organ that constantly rewires itself – selectively growing the areas that you focus on and reorganising and prioritising on a daily basis (**Figure 1**). That is why the way we think becomes a habit that takes time and effort to change; because we need to encourage the brain to shift things around, just like changing the way your furniture is placed in your house – moving it from one room to another or moving it to a different place in the same room.

The first thing to realise is that you can choose how you view your reality. The brain receives 11 million pieces of information every second from the environment, but can only process 40 bits per second (Zimmermann M, 1986). That means that there are filters in the brain that determine what is let through and by changing those filters you can choose your reality.

This doesn't change the fact that you may be busy or that one of the patients just died. What it does give you

is the option to change how you react to it and how you interpret it. Think of it as changing the lens through which you view your reality (**Figures 2 & 3**).

Changing the lens

Shawn Achor, in his book *Before Happiness* (Virgin Books, 2013) recommends three strategies to help you change your reality:

- Recognise that there are alternative realities to the one you may see right now
- Add vantage points – that is 'think out-of-the-box' and

Have you ever worked really hard before a vacation – only to fall ill once you settled down to relax? While you were busy, you might have been keeping illness at bay; then once you relaxed – things changed.

Figure 1. Functional MRI scanners have demonstrated that the brain is constantly growing and changing. What we focus on drives growth in specific areas. (Photo: Ping Chov)



Figure 2. We can change the lens through which we view the world similarly to using this Tilt-Shift lens that makes the brain think that things are closer than they really are. (Photo: Bengt-Re)



*Suggested Personal & Professional Development (PPD)



Figure 3. Things look different from different perspectives. Here is Hong Kong seen with a Tilt-Shift lens. How can you shift your reality? (Photo: Andy Mitchell)

see things from a different perspective

■ Pursue the most useful reality

Recognising alternative realities

Let's take stress as an example. People routinely hear about all of the damaging effects of stress – in the papers and in common conversation. What they don't hear about, are the beneficial effects – that stress can help you think better, remember things better (Cahill L et al, 2003) and even boost your immune system (Dhabhar FS, 2009).

Research has shown that simply by changing how you *perceive* stress, you can change the effect that stress has on your body (Crum AJ et al, 2013). In brief, if you think that stress will have a detrimental effect on your health, then it will. And if you recognise that stress is an important motivator that helps focus you and make you feel better – then that is what happens.

It is still highly advisable to learn the best possible ways to cope with stress and to get your work done – these are the coping mechanisms. The key thing here is that you can *choose* how you view your reality.

Is life full of interesting challenges, worth learning from? Do you meet people who teach you how to change the way you speak to them and deal with them? Does your job give you opportunities to practise how to assert yourself in a friendly, cooperative way – and still make your point?

Once you have chosen to view reality through a *positive* lens, you can focus on learning the specific skills that help you navigate through the day – even if it is just the skill of saying “no” in a nice way.

Add vantage points

Have you ever met someone who seems to be really good at solving problems? The likelihood is that they have trained their brain to look at problems from different angles in order to find a solution that is ‘out-of-the-box’. I routinely turn over practical problems to my husband and watch in amazement as he turns things on their heads and comes up with something that entirely bypasses the situation and lets things work the way they should. Hence, standard equipment in our suitcase for vacations – duct tape and string!

Your reality is determined by what you say to yourself – your ‘mind-chatter’. This is where you interpret the world around you. Do you routinely speak negatively to yourself? Or do you speak in a positive and encouraging way? Start noticing that internal monologue – and if you are being negative, stop yourself, now.

The key thing is to realise that there is always another vantage point – so instead of getting bogged down in ‘victim mentality’ (“It’s their fault”/“I can’t do anything”), take control. The things you can always change are your own thoughts and behaviour and it is surprising how the world around you changes when you change.

Pursue the most useful reality

As you look at different ways of interpreting the world around you, you may notice that some of the interpretations make you feel ‘down’, tired, angry or depressed; while some of them may help you feel upbeat and energised.

Once you start noticing how your realities affect you, you can choose to focus on the ones that serve you rather than the ones that hold you back (**Figure 4**). Instead of focusing on things that can go wrong, focus on how you can make them work – while still being aware of the downsides

– so you can plan for them. This is about useful optimism, not stupid optimism.

Think of a situation where someone has been bitten by a cat. The next time they approach a cat that looks to be a bit unhappy – let’s say to hold it for blood tests – they will naturally be cautious. They are aware that things can go wrong. If they focus excessively on the fear that things can go wrong, it is likely that the first time the cat vocalises or wriggles a bit, they will let go and jump back – potentially causing injury to the person who is trying to take bloods and possibly to the cat if the needle is deflected into an unintended site!

If instead, they focus the fear and ask someone knowledgeable to talk through with them what went wrong the last time and how they can learn from it – then they are using coping mechanisms to choose a different reality – one where it is possible to avoid injury by learning more skills.

Figure 4. Once you realise that you can change the way you view the world, everything becomes possible. (Photo: Yogendra Joshi)



Some people react to suggestions by automatically focusing on why it is *not* possible. This is the 'glass-is-half-empty' scenario. The underlying mechanism is often about fear and protection. If you are one of those people, you can change your focus by constantly reminding yourself that things are possible and you can stop the negative thoughts and worries that drive your response.

How do I get started?

Start by noticing that different people have different perspectives. Do you know someone who is always positive and takes things calmly? Have a conversation with them and explore their world view. What do they routinely say to themselves when they come across challenges? What is their internal 'mind-chatter' like? It is much easier to change things for yourself if you have someone around you from whom you can borrow techniques.

If you have a close friend or a partner who is good at seeing the positives and the possibilities, you may want to enlist their help. Ask them to point out to you when you become negative or despondent and suggest that they help you see things from different vantage points.

When things get busy, take the time to remind yourself that stress can be motivating and inspiring. Start identifying what it is that 'zaps' your energy; that is the first step potentially to re-focus and change things. Encourage yourself to think out-of-the-box, maybe in the form of answering questions such as:

- If I had all the resources in the world, what would I do differently?
- If I had more time, what could I do with it?
- How would (insert name of someone good at thinking out-of-the-box) solve this?

If you have time and privacy, you can use a very simple exercise:

- Think of someone who has learned to be very resourceful and good at solving problems while remaining calm under stress. Write their name on a piece of A4 paper
- Now write your own name on another piece of A4 paper
- And finally write 'Observer' on a third piece
- Put the three pieces of paper on the floor in a rough circle with space for you to stand in the middle. Start by standing on the piece of paper with your own name on it and describe the situation as seen from your own point of view
- Then change to the piece of paper with the resourceful person's name on and describe the situation from their point of view
- Finally, move to the observer and 'ask' the observer to give recommendations.

Ask yourself the question: "Is seeing things this way useful to me? Does it give me more energy? Does it motivate me to solve the challenges I come across?" And if the answer is "no", choose a different reality.

And finally...

Do yourself a favour, ask yourself: "What is the question that will allow me to choose differently when I answer it?" Listen to the

answer. Sleep on it and be open to what that answer might be. Remember that most out-of-the-box thinking comes when you are *not* focusing. That is why we all have fantastic ideas in the shower or the car! ■

PPD Questions

1. What are three strategies that can help you change the lens through which you view reality and thereby help you change your reality?
2. How can you change the way that stress affects your body?
3. What is 'mind-chatter' and what does it determine?
4. What might be a first step to learn how to change your reality?
5. How can you determine if you currently have the most useful reality?

- Answers**
1. Recognise that there are alternative realities to the one you may see right now. Add vantage points – think out-of-the-box and see things from a different perspective – Pursue the most useful reality
 2. Change how you perceive stress – realise that it is an important motivator
 3. 'Mind-chatter' is what you say to yourself and it determines your reality
 4. Speak with someone who is always positive and takes things calmly and explore their world view
 5. Ask yourself: "Is seeing things this way useful to me? Does it give me more energy? Does it motivate me to solve the challenges I come across?"

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Maggie Shilcock

Maggie, a zoology graduate and past president of the VPMA, was practice manager in a 12-vet mixed practice for 10 years and a similar length of time for Animus-4-Vets as a course provider and adviser on veterinary management and training. She now works for Vision Media as one of the editors of Veterinary Practice Today.

She has written two management books and is the co-author of Veterinary Practice Management – A Practical Guide.



**Suggested Personal & Professional Development (PPD)*

Nightmare or opportunity? The choice is yours...

Everything does not always go according to plan in veterinary practice and it is inevitable that there will be instances where a client feels strongly enough about an incident or procedure to make a formal complaint. This article reflects on these situations and offers some practical advice.

The veterinary 'business' is just the same as any other business in that however good the service may be, there will still be clients who end up dissatisfied. This is 'par for the course', and it's important for all of us in veterinary practice to understand this and not become unduly upset when a complaint is made.

The thing to remember is that most complaints – if handled correctly – can be resolved in a quick and reasonable way. The speed with which a dispute is resolved is vital and the key to client satisfaction. The resolution process should always aim at a win-win situation. The practice should not be trying to 'win' the argument; but rather to resolve the problem and leave the client feeling that his or her complaint has been dealt with in a speedy, efficient and fair manner.

On the whole complaints do not go away, they just increase in complexity and magnitude the longer they are ignored; so it really should be practice policy to deal with any client complaint within a fixed period of time. The widespread potential for 'bad-mouthing' via social media provides increased impetus to effective complaint handling.

The harmful effects of long disputes are bad news, both for the client and the practice. Whatever the reason, the client feels they have not received the service they expected. This is stressful and can obviously lead to their discussing their dissatisfaction with others. For the practice, ongoing disputes are disruptive and very upsetting for the staff concerned.

"The thing to remember is that most complaints – if handled correctly – can be resolved in a quick and reasonable way"

It is an accepted fact that the vast majority of client conflicts and complaints are the consequence of bad communication between the practice/veterinary professional and the client. If practices consistently had better communication systems in place to ensure that clients understood the procedures their pet would be undergoing and the possible outcomes and charges there might be, many of the current complaint issues and conflict could be avoided.

The two important areas for practices when it comes to avoiding conflict are to ensure good communication and to have an effective complaints procedure.

Good communication

Good communication between the practice and its clients can prevent the vast majority of conflicts and misunderstandings.

Good communication is important at all levels, but perhaps most importantly in the consulting room when a vet may often have to explain complex issues and procedures to clients. So creating a good rapport with clients sets the scene for a consultation that is all about gathering and imparting information in such a way that both parties are totally clear about what has been discussed and agreed.

It is just as important for the vet to fully understand what

the client has said as it is for the client to take in the vet's diagnosis or suggestions/recommendations. Most clients do not want to be overwhelmed with clinical jargon; they simply need to know what is wrong, what is to be done about it, and how this will happen. So the planning of patient care is a vital part of good communication.

The vet needs to be sure that the client fully understands what the next step in their pet's treatment will be and how it will be carried out – including the costs involved. It is up to the consulting vet to make sure that their client is fully informed and aware at this stage.

To this end, it is helpful at the conclusion of a consultation to summarise all that has gone on and ensure that the client is happy with any proposed plan and what will happen next.

Consent forms can provide huge potential for misunderstandings, so the design of a watertight, simple form – that includes *all* the relevant information to safeguard both practice and staff – is necessary. In addition, the consent form should always be explained to the client such that they fully understand what it is that they are agreeing to.

There is an excellent booklet, produced by the Veterinary Defence Society (VDS),

that provides clear and helpful advice to veterinary professionals on how best to conduct a consultation in such a way as to avoid the misunderstandings that can so often occur. The booklet is free to VDS members to download, or can be purchased by contacting mbaxter@vetddef.co.uk or telephoning the VDS on 01565 652737.

Complaints procedure

The most common areas for formal complaint include:

- Lack of apology – this does not mean admitting liability but it does mean saying something like, “I’m sorry that things have turned out this way” or “I’m sorry this has happened”
- Anaesthetic deaths – it is vital to have informed consent and to have made absolutely sure that the client is aware of the risks of anaesthesia
- Consent forms – a consent form should be signed for every clinical procedure and, if possible, include a financial estimate for the procedure
- Euthanasia – so much can go wrong here and euthanasia probably accounts for the single largest group of complaints
- Out-of-hours cover – making sure clients are aware of out-of-hours arrangements is vital
- Referrals – the practice needs to ensure that clients understand the range of experts available and the possibility that the initial referral may be referred a second time
- Home visits – there will always be instances where a home visit is requested and it is up to the veterinary surgeon to carry out the appropriate risk assessment, act accordingly and be prepared to defend his or her judgement to the client

Sometimes, even if there has been good communication, something goes wrong and the client resorts to making an ‘official’ complaint to the practice. This is bound to happen in all practices at some time or another, and early intervention is essential to move quickly towards a resolution of the problem. The longer the complaint is unresolved, the more difficult the resolution is likely to be and the more stress will be experienced by all concerned.

It is good practice for veterinary businesses to have a working complaints procedure, which is understood by both staff and clients. Increasingly, there are practices that publish their complaints policy and procedure on their website so that clients are made fully aware of what to do if they are dissatisfied.

Having a formal complaints procedure in the practice can save a great deal of anguish and bad feeling; indeed, if handled correctly, complaint resolution can leave clients closely bonded to the practice. It is important that this same procedure is seen and understood by staff – it is no use having a client complaints procedure stating what the practice will do if, when the time comes, the practice team fails to deliver what they have promised in terms of investigating a complaint.

There need to be guidelines for staff on complaint handling contained in any practice manual or staff literature, backed up by regular practical training on the subject.

Practice complaints policy

Practice complaints procedures vary, but the basic principles are clear; for example:

Provide a fair procedure for clients

- Make sure all complaints are treated promptly and consistently
- Have a time limit on how long the procedure will take

How to make a complaint

This is simply a guide for clients on how to make a complaint. It would include information on:

- Who deals with complaints in the first instance
- What information to provide
- Where and when the incident occurred
- Who was involved and the outcome the client is seeking

What the practice will do

It is important that the client understands the process once they have made a complaint. So the practice should explain in its policy: That it will acknowledge the complaint within a set period of time and state who will be dealing with it.

When a reply can be expected

When the practice looks into the complaint it will aim to:

- find out what happened and what went wrong
- if appropriate, ensure an apology is received by the client
- identify what it is going to do to ensure that the same problem does not arise again

Both clients *and* staff should be aware of this policy. However, the practice needs to have additional guidelines on:

What to do if the client is still unhappy

Hopefully, for most clients the complaint will be resolved; but if this is not the case, they need to have information on how to take their complaint further to the RCVS and they should be given full contact details.

Receiving and dealing with complaints on the front line

It is often the receptionists who receive verbal complaints and their guidelines should include information such as:

- Always stay calm and show

understanding of how the client feels

- Do not take the matter personally
- Take the name, address and contacts details of the client
- Write down all the facts of the complaint
- Explain and/or give the client a copy of the practice complaints procedure
- Explain what will happen next and agree a course of action
- Record the complaint on both the client’s record and in the complaints record book
- Ensure that the complaint reaches the appropriate named person in the practice and *make sure that something is done about it* as agreed with the client

It is for the appropriate person/s in the practice to deal with the complaint as quickly as possible and report back to the client.

Conclusions

Practices will have their own ‘take’ on how they wish to set out complaints procedures; but the basic essentials of communication and speed must be incorporated into any policy.

If practice staff are able to communicate effectively with clients – thereby avoiding many basic misunderstandings and irritations – and practices implement a good and effective complaints procedure, then when things do go wrong, there will be fewer damaging outcomes.

In addition, even when a complaint is made, it will be resolved within the practice, without alienating clients and causing stress among staff. Indeed, a complaint well handled can result in a lifelong client, bonded to the practice. ■

“On the whole complaints do not go away; they just increase in complexity and magnitude the longer they are ignored...”

Soft skills – vital for a caring profession

A new report released by Development Economics suggests that an estimated 500,000 workers will be held back by their lack of 'soft skills' and that the financial implications to British businesses could be dramatic.

"Soft skills need to be taken much more seriously as factors for business success"

Soft skills can be described as an individual's ability to listen well, communicate effectively, be positive, manage conflict, accept responsibility, show respect, build trust and work well with others. Managing time effectively, accepting criticism, working under pressure, being likeable, and demonstrating good manners are all also part of a soft skills portfolio. Most readers would recognise these as the skills required for all those who work in veterinary practice.

The Development Economics research group estimates that these skills are worth £88bn per year, particularly in businesses (such as the veterinary sector) that rely on 'face-to-face human interaction'. This economic impact is based on factors including increased workplace productivity and looking at what would be lost with a lack of soft skills – for example, losing business to competitors as a consequence of poor client communication.

The veterinary profession has long been aware of the importance of these 'soft skills' – usually simply referred to as 'communication skills' – and practice managers have always had the need for such abilities on their checklists at interviews.

In the 'Value of Soft Skills to the UK Economy' report prepared on behalf of McDonalds in January 2015, it was suggested that 'soft skills' need to be taken much more seriously as factors for business success. A recent YouGov study indicates that while 97 per cent of employers believe soft skills are important to business success, three-quarters feel there is a lack of these skills in the UK workforce.

More worrying is the implication that a growing number of younger recruits seem to lack the sort of soft skills required. There is a perception – real or otherwise – that too many young people



leave the education system at all levels insufficiently prepared for the workplace. The Association of Chief Executives and Voluntary Organisations (ACEVO) report on youth employment (2012) placed emphasis on the increasing emphasis of soft skills in the workplace, stating that while some young people have acquired these skills, there is evidence that many have not, and this is a barrier to employment (ACEVO, 2012).

The biennial UK national employer survey, in 2013, revealed that just over one quarter of establishments had recruited an education-leaver directly into their first job in the past two to three years, but the subsequent experience had been disappointing for some of these organisations (UKCES, 2013). For example, 18 per cent of establishments recruiting school leavers found that these recruits had poor attitudes to work and a lack of motivation – the equivalent figure for leavers from colleges of further education was 10 per cent and for university/higher education leavers, it was four per cent).

The trait of poor attitudes to work and poor motivation are linked to soft skills deficits among some school/college/university leavers. It is also possible that encountering these traits among some young people may contribute to decisions made by some employers not to recruit education leavers at all.

Soft skills are vital for veterinary practice employees, so if the current weaknesses in the UK's soft skills base

are not addressed, the effect for practice recruitment and the maintenance of good client care could be serious.

It is not yet known what initiatives business organisations, educational establishments and the Government might take to address this issue; but whatever these may turn out to be, veterinary practices need to be taking action now to ensure and retain the highest levels of competence in soft skills among the staff they recruit.

Practices will need to look carefully at their staff training programmes – placing even more emphasis on training in the soft skills areas. There are numerous staff training and client care courses available in the veterinary sector and many practices provide their own excellent in-house training programmes. However, if the employee market is to become even more restricted with regard to finding staff, suitably qualified in the soft skills area, the importance of on-the-job training will be even more vital and those practices that do not train will be at a serious disadvantage.

It is ironic that, as veterinary businesses struggle to find meaningful ways to remain competitive in a market which is seeing a significant increase in practice growth and where soft skills will become an even more important way to demarcate the 'excellent' from the merely 'good' practice, it is these skills that the new employee will fall short. ■

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"Practices will need to look carefully at their staff training programmes"

vetcommunity

• connect • contribute • converse

Recognising the significant drive to share veterinary knowledge and expertise worldwide, Vision Media has created an online platform to provide an opportunity for veterinary professionals to engage with one another in order to 'share knowledge and expertise without restriction'.

VetCommunity features in-depth clinical and management articles, covering all major veterinary disciplines – many of which originate from *Veterinary Practice Today* (VPT) – as well as streaming shorter, 'same-day packages' from MRCVOnline and VNetOnline to keep members up to date with current issues in the veterinary and associated professions.

This content is used as the starting point for 'professional conversation', enabling the exchange of views and expertise with colleagues, as well as providing an excellent way to enhance one's personal and professional development (PPD).

Joined up as equals

VPT is published by Vision Media six times a year and its content is geared towards PPD. VetCommunity offers members of the printed journal an additional communication medium, especially between successive issues of VPT.

Besides providing an invaluable up-to-date source of veterinary information, VetCommunity gives members the chance to comment on content and contribute their own thoughts, knowledge and expertise. Indeed, users can post 'articles' based on their specific fields or spheres of interest, or simply choose to comment constructively on existing material – to 'chatter' about cases, conundrums and conclusions.

Each article or news item posted in VetCommunity provides every member with the opportunity to post his or her own views online via the 'chatter' facility – the original piece being seen simply as a conversation starter. It is hoped that the sharing of knowledge in an open and unencumbered way will make this community inviting; especially to members of the profession who have things to say but feel vulnerable or intimidated by many other means of publication or social media interaction.

"VetCommunity gives members the chance to comment on content and contribute their own thoughts"

Unlike many other websites, the 'chatter' on VetCommunity is not buried away (**see home page**). It appears on the home page – alongside the day's current veterinary news – in order to stimulate professional debate on subjects as and when they become topical, and to share immediately in what others in the profession are doing and thinking.

It is these contributions that make VetCommunity a distinctive vehicle to bring people together from across the globe to converse on topics and subjects vital to the profession. All its members can enter into 'the debate' on an equal footing and have their say, irrespective of their status or weight of experience.

Bespoke browsing

To maximise their time online, members are able to create their own profile on VetCommunity by choosing a primary subject of interest, supplemented with any number of secondary subjects from the topics provided. This means that although members have access to all content, they are initially provided with specific articles and information in their field of interest (**see primary subject interest**).

As well as creating an 'interest' profile, VetCommunity members can also:

- Create their own biographical details on their profile page
- Browse content by author (**see community authors**) – every VetCommunity author is listed and their biography can be viewed, as well as all the articles they have contributed
- Search by article, refining the search by specifying the veterinary area in which they are interested

Simple and advanced searches of the website content can also be carried

Landing page. Apply here to join the community or login via your specific login zone.



out by using key words. **Subject search** shows some of the results of a search for epilepsy, for example.

As well as inviting 'chatter', VetCommunity is actively looking to increase its regular 'community authors' and welcomes contributions covering all aspects of large and small animal, equine, exotic and wildlife and veterinary management.

Don't miss out

VetCommunity is for everyone in the practising arm of the profession – veterinary surgeons, veterinary nurses and practice managers – and it is free to join. To become a member, veterinary professionals can register at vetcommunity.com

For further information, email comments@vetcommunity.com or telephone 01359 245310

Primary subject interest. Articles of primary interest to the subscriber appear first on the site.



Home page. The left-hand side of the home page displays current news items while the rest of the page displays the latest community 'chatter'. Click on the post to see more details of the article concerned and other comments made by the 'chatterer'.




Community authors. Details of all the VetCommunity authors can be accessed via the browse facility.



Subject search. Here are the results for a search using the key word 'epilepsy'. Both short and in-depth articles are shown.





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Industry Profile



Your name: Katie McConnell
MA VetMB CertVR CertSAM MRCVS
Position: President
Company: British Small Animal Veterinary Association

What attracted you to the veterinary profession?

For as long as I can remember I have always wanted to be a small animal vet – it truly was a vocation for me. At university I always loved clinical work and was immediately drawn to small animal medicine. I consider myself very fortunate to have been part of a profession at a time when the opportunities were endless.

In the past couple of years I have made friends and contacts in the profession throughout the world, and there have been as many stories of how people got to where they are as people I have met. It is a privilege to work with the people in this profession – in whatever capacity you find yourself in.

How did your career evolve after qualification as a vet?

I graduated from Cambridge in 1988 and became involved in organising clinical trials before spending a year working in the university farm practice. I then went into small animal practice before returning to Cambridge as a resident in small animal internal medicine. I soon discovered that what I really wanted was to continue learning and teaching.

For a while I flirted with the idea of being a full-time academic, and considered a PhD in immunology. By then, however, family commitments had come into play, which made working with John Grieve at Vetstream a very attractive proposition.

In practice or in university referral, I never really felt able to be fully off duty. I was always tempted to stay with my patients just a little longer, or spend more time with the owners. I imagine this will resonate with a lot of people in our profession – knowing how to create a healthy balance between your commitment to the animals in your care and your family at home. So writing and editing really appealed.

I could stay involved in the profession and close to the science that fascinates me; but instead of leaving a sick animal in the practice, I was leaving a document on a desk while I picked my daughter up from school. I was fortunate to spend five years as editor of the *Journal of Small Animal Practice*, which gave me a new challenge and a great insight into the world of journal publishing.

“The BSAVA is driven, not by profit, but by a desire for excellence and to offer genuine support to the people we work alongside day by day”

“What particularly concerns me is the lack of confidence in some areas of the profession”

Now I’m still involved in publishing and work for Vetstream – as well as other clients – on a freelance basis. I am also a director of a teleradiology company, AVDIS, with my husband, Fraser McConnell. All these roles allow me to manage my own time – which has been particularly important during my year as BSAVA president.

What are the most significant changes to the profession you have witnessed since qualification?

Well technological innovation has had an obvious impact and has driven huge changes in how we both diagnose clinical conditions and treat our clients – and how we run our practices. I’m very aware of this close to home because veterinary imaging is Fraser’s speciality and that has been an area transformed by the advances in technology. However, as advances in technology and research allow us to do more, we need to keep asking ourselves that tricky question: “Just because I can, does that mean I should... Is this in the best interest of my patient?”

The ethical and moral dilemmas we face every day in our profession are of great interest to me and so the theme of the Press Conference at the BSAVA Congress this year will be ethical decision-making. The Association can play an important role in this – offering vets accessible resources founded on evidence-based science that enables them to communicate effectively and confidently with their clients.

Of course, the rise of the corporate practice and ‘feminisation’ of the profession have been significant; although I think it is too early yet to see how these will affect the profession. There is no doubt that the profession will undergo change in the next five years and I defy anyone to predict the nature of that change with any accuracy. However, given the highly motivated and intelligent nature of the members of this profession, I know that we have a chance to embrace this change and seize the opportunities it presents.

What do you think are the most sensitive issues facing the profession today, and how should they be tackled?

I am sure that anyone who has witnessed a colleague struggle with their mental well-being – or indeed has suffered themselves – will appreciate that this is a dark cloud hovering over the profession. One that doesn’t appear to be getting any lighter.

There is, perhaps, an inevitability that stress comes with a job where you are responsible for the welfare of an animal – its quality of life, its death, and the understandably intense feelings of the owner. However, there are structures, resources, practices and processes we can put in place to help at least manage those stresses so they don’t become a tipping point. That has to be the responsibility of everyone – from our governing body, organisations such as the BSAVA, through to practice owners and the entire clinical team. What particularly concerns me is the lack of confidence in

"... as advances in technology and research allow us to do more, we need to keep asking ourselves that tricky question: 'Just because I can, does that mean I should...' Is this in the best interest of my patient?"

some areas of the profession. We have to speak up for ourselves and demonstrate our value to our clients and our bosses.

During your 30 years of association with the BSAVA, what are the most significant changes you have seen in the organisation?

Well, the BSAVA has grown in every way. More volunteers, more members, more staff, more publications, more education – you certainly couldn't accuse the volunteers who have steered the Association through the last three decades of lacking ambition.

However, in a smaller organisation it is much easier for everyone to know what others are doing and to make sure you are all pulling in the same direction. There is some danger in expansion that you lose that, so this year the BSAVA Officer team have been looking at how we make sure we avoid that danger – investing in looking at how we support our regional volunteers; because without their time and energy and talents there would be no BSAVA.

One thing that, thankfully, has not changed as far as I can tell is how well the BSAVA is trusted throughout the profession – in the UK, Europe and the US too.

What has been the highlight of your presidential year?

Without a doubt, it has been working with more of the volunteers in the regions – people who work hard in their 'day job' and then give up their free time to plan and run continuing education (CE) for others. I wish more of our members would use their region – not just for CPD which is, in my experience, incredible quality and value for money (sometimes entirely free for members – doesn't get better value than that!) – but also for the peer-to-peer support that this profession really needs.

The BSAVA is about community and the regional structure is the showcase for that. The regional volunteers appear to have boundless energy and enthusiasm and know how to have fun as well as work hard.

Tell us a bit about the 'Scooby' project you launched last April and its progress to date.

This is a really nice initiative that we started talking about last year. Scooby courses are specially designed for BSAVA members – to help new graduates gain valuable experience in neutering soon after qualifying, or for veterinary surgeons returning to practice after a career break who need to put some confidence and experience back under their belt. At the same time the delegates will be having an important impact on animal welfare.

Scooby started out in 1987 as a shelter to provide refuge for stray cats and dogs in the area of Medina del Campo, which is about 100 miles north of Madrid. The surgical facilities at the centre are basic but operating procedures are expected to be of the same standard you would find in the UK. On the Scooby courses, delegates are supervised by experienced English-speaking veterinary surgeons. We've been determined



to make sure this is run well and has the right people involved in supervising roles, so now the project is off the ground we hope to be taking the first full group out before the end of this year.

What are the latest Association initiatives?

Of course, quality, evidence-based education has always been the core remit for the BSAVA – we are best known for our courses, BSAVA Congress and our manuals. What has changed – and is changing – is how we deliver those resources. So one of the projects I am most keen to see become a reality is the digital delivery of BSAVA content – both the massive archive of material that's available, and new content.

As president, I've wished I had more time to become involved with this project because I think the richness of the resources deserves to be accessible in this way. As a member, that will be something I shall value greatly in future.

How is the rise in popularity of the London Vet Show/BVA Congress event affecting the plans for the next BSAVA Congress?

The landscape of CE has changed in so many ways since I first graduated. When I was attending BSAVA regional courses as a new graduate, there were very few other options for CPD. The BSAVA Congress was indeed unique; there was nothing else like it, which is why it grew so quickly. So now that there is plenty of alternative education available it is important that the BSAVA still offers something that is valued and needed.

'By the profession for the profession' can sound like a trite sound-bite – but that is why vets and vet nurses can rely on the BSAVA for quality, unbiased CPD via the manuals, and the courses, both at Congress and in their region.

The BSAVA is driven, not by profit, but by a desire for excellence and to offer genuine support to the people we work alongside day by day. The profession may have more choice of CPD but the BSAVA continues to show its ability to innovate and lead. Congress, in particular, has always done that and will always do so. ■



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New Veterinary Hospital - Exciting opportunities for experienced veterinary clinicians

Ipswich Veterinary Centre

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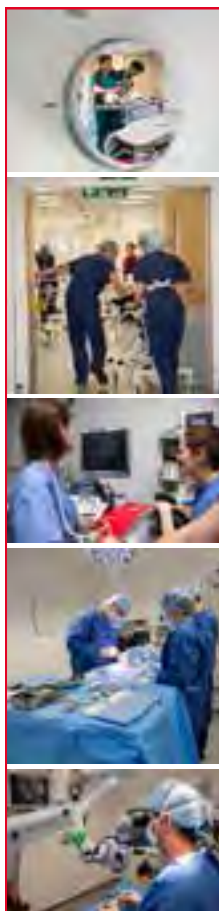
Veterinary Clinician Vacancies

- Small Animal Medicine
- Small Animal Surgery (soft tissue)
- Orthopaedic Surgery
- Small Animal Radiology and Ultrasound

The ideal candidates would be veterinary surgeons with significant experience in first opinion practice and have a keen interest in any of the specialisms listed above. Successful candidates will also be excellent communicators with an interest in tutoring and mentoring new and recent graduates. Holding a Certificate or Diploma would be an advantage but is not essential. We will be able to provide flexible working and accommodate a range of full, part-time and shared working arrangements.



For further information, or to apply, please email Denise Wright: enquiries@ipswichvetcentre.co.uk



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- | | |
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