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ANAESTHESIA EXPOSURE 'CRITICAL PROBLEM' – VET

THOUSANDS of vets could be putting their lives at risk and leaving themselves exposed to serious illnesses in later life due to poor anaesthetic protocols, a leading academic has warned.

While the dangers of anaesthetic gases are well known to the profession, Marc Raffae – a professor of anaesthesiology and critical care, and director of Veterinary Anesthesia and Critical Care Associates in the US – believes vets' failure to maintain and use anaesthetic equipment correctly is leaving them open to the risk of exposure to harmful gases.

It is estimated more than 200,000 health care professionals, including vets and their assistants, are exposed to waste anaesthetic gases and at risk of occupational illnesses¹. Chronic exposure can lead to CNS, hepatic, renal, neoplastic and reproductive issues.

Failure points and risks of exposure occur when, for example, the vaporiser and nitrous oxide are turned on before patient connection, Prof Raffae said.

Poorly fitting face masks, induction boxes being opened to remove a patient, scavenging systems not being connected to the correct machine or ventilator interface, using expired charcoal absorber canisters, and uncaptured exhaust from gas monitors are also potential problems.

During his lecture, "Anaesthetic drug

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toxicity for veterinary personnel", at Vets Now's Emergency and Critical Care Congress in Harrogate, Prof Raffae said: "The fact is you are putting yourself at risk with poor workplace practices and if you have any interest in having a family in the future, they are at risk as well."

"Why do you want to place yourself at risk? We have enough hazards and risks to deal with in veterinary medicine on a daily basis, in the form of teeth and claws. Why would we want to add to that burden if we don't need to?"

'Not trivial issue'

Prof Raffae also voiced concerns about female vets of childbearing years being potentially put at risk by lax procedures.

He said: "I candidly get really concerned about this because we have a workforce in veterinary medicine that is generally female of childbearing years and [potential exposure to waste gases] is, to me, a fairly critical problem."

"We have the tools and knowledge to mitigate or solve it, so it frustrates

me when I hear comments like 'staff joke about it' [potential exposure], but it's not a trivial issue at all and makes me ask: 'Why put yourself at risk if you don't need to?'"

"I cannot emphasise the seriousness of this enough. Thirty years from now you could wind up with some pretty serious diseases because of this. I know a lot of people don't think a lot about 30 years down the road, but trust me, it comes a lot faster than you think it should. There are simple ways you can minimise your exposure that take virtually no time to do, so why wouldn't you do them?"

Worries around the risk of pregnant women being exposed to leaked gases are reminiscent of an incident in 2016 – reported in *Veterinary Times*² – in which it was believed three members of staff from the same UK veterinary practice suffered miscarriages during a 12-month period after exposure to anaesthetics at work.

Equipment checking

Prof Raffae acknowledged busy schedules can sometimes mean equipment checks are overlooked, but said he believes the key to turning the tide lies in establishing and encouraging the use of equipment-checking guidelines to ensure anaesthesia machines are safe and operational.

He said: "Staff seem to be juggling a number of different activities simultaneously, meaning a checklist process prior to anaesthesia sometimes gets overlooked."

"However, checks do not necessarily have to be done on a case-by-case basis. A pre-use check carried out once a day, prior to the first case, should be adequate to sustain the quality control over the course of the day."

"At least, at some point during the work day, there should be some focus placed on doing an equipment checklist to make sure everything is in full operational mode."

Prof Raffae said this should include:

- making sure the vaporiser starts off full of anaesthetic agent
- checking the anaesthetic breathing circuit is correctly attached at the appropriate point of the anaesthesia machine
- if the anaesthesia breathing circuit requires chemical absorbent to be used, making sure the absorbent is replaced on a schedule basis, generally after six to seven hours of surgery

Staff should also make sure all fittings and connections are tight and fully operational – meaning no obvious signs exist of gas leak or loss of pressure – and generally check the machine. ➔ **page 2**

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Vet astonished at dog's recovery from broken neck

A VET has spoken of her astonishment at the apparent recovery of a dog with a broken neck subsequently treated with nothing more than a hexalite cast.

Bobo the lurcher presented at Edenbridge Veterinary Clinic in Edenbridge, Kent, having collapsed at home after chasing deer during a walk with her owner.

Clinic owner Sue Coales said: "Bobo, an uninsured rescue dog, walked into the surgery wagging her tail and managed to stand by herself, favouring her left forelimb. She had a lump on the back of her neck and I wondered if she had run into a tree or gone head over heels."

Bobo was given analgesia, anti-inflammatory drugs and fluids. She went home on Friday night with warnings that signs showed her condition was deteriorating, but came back on Monday morning because she wasn't eating.

Dr Coales said: "She had some pain and swelling in her neck, but I was astonished to discover the severity of her injury – a broken neck."

"It probably saved her life that, as an 'old-school' vet, I decided to x-ray her without sedation. The orthopaedic surgeon the x-ray was sent to suggested an anaesthetic or even deep sedation might cause her neck muscles to relax, which could be fatal."

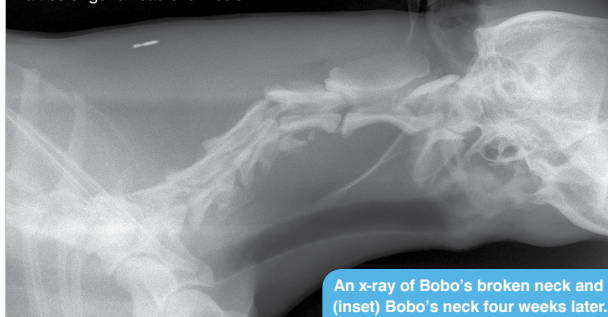
Dr Coales continued: "A two-part hexalite cast was made by my part-time vet and nurse, padded with vet bed and secured with vet wrap for the neck/upper body to attempt to immobilise the injury."

"We were all astonished when a repeat x-ray at four weeks showed the vertebrae was slowly straightening – which I wasn't expecting – and the luxation reduced."

"Bobo is continuing to make great progress – she is very bright, totally mobile and dying to go for a run."



Sue Coales with Bobo wearing the cast.



An x-ray of Bobo's broken neck and (inset) Bobo's neck four weeks later.



In brief

■ **GENERATION KIND:** The RSPCA is calling for animal welfare to be included on the education curriculum as it reveals an alarming number of youngsters have seen animal abuse online. The charity said nearly a quarter of schoolchildren aged 10 to 18 have witnessed animal cruelty and neglect on social media. In response, it is launching Generation Kind – its biggest education and prevention programme aimed at children – and has launched a petition calling for animal welfare to be taught in all schools. For more information, visit <https://bit.ly/2PthBmL>

■ **CONGRESS CRÊCHE:** BSAVA Congress will introduce a crèche at its 2019 event, ensuring vets and VNs can focus on accessing more than 450 hours of world-leading CPD. The association has chosen award-winning childcare expert Nipperbout to run the crèche facility for children aged zero to eight years, helping parents to explore a wide range of lectures, practical sessions and abstract presentations at the largest event in Europe dedicated to the provision of small animal veterinary CPD. For more information, visit www.bsavacongress.com

■ **BROCHURE:** The European Platform for the Responsible Use of Medicines in Animals (EPRUMA) has launched a publication entitled “EPRUMA best-practice framework on the use of anthelmintics in food-producing animals”. The brochure includes general information on helminths that cause infections in cattle, sheep, goats, poultry and horses. It also promotes best practices that help minimise the impact of infection and increase the response to treatment, and prevent development of resistance to anthelmintics.

■ **WORM WEBINAR:** The BVA has released a webinar entitled “Worm control: sifting through the shit”. The webinar – presented by equine internal medicine specialist David Rendle, from Rainbow Equine Hospital, and supported by Virbac – challenges some of the perceptions of worm control in horses and explains why vets need to engage more with horse owners on the topic to ensure a sustainable approach to parasite control. The webinar is free to BEVA members and available via <https://bit.ly/2TJ4Lpt>

■ **CANINE VIGIL:** A loyal dog that waited on a busy road for more than 80 days after its owner died there has captured the hearts of online communities in China. Footage of the animal in the middle of the road in Hohhot, Inner Mongolia, has been viewed 1.4 million times on the microblogging site Sina Weibo. China's Pear Video website said the dog has been seen in the road every day since its owner died. A taxi driver said people try to help, but the dog runs away.

Godfray bTB review findings welcomed by BVA and BCVA

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THE presence of infected badgers does pose a bTB threat to cattle, but the livestock industry must take greater responsibility for on-farm controls, biosecurity and safe trading practices to stop the disease spreading, a Government report has concluded.

The review of the Government's 25-year bTB strategy by Sir Charles Godfray, population biologist and fellow of the Royal Society, has found badger culling does play a part in controlling the disease.

He added: “Today, bovine TB incidences in England – definitely in cattle and possibly in badgers – are, at best, roughly stable. This cannot be allowed to continue.”

As well as urging farmers to “take more ownership of the disease”, the document “Bovine TB Strategy Review”¹ has recommended that while Defra retains high-level policymaking authority, it should devolve much of the disease control operations to a new body that would take over functions performed by the APHA, Natural England and local authorities.

The report said centralising functions in this way would be more efficient, avoid duplication, and allow greater coordination and agility.

The review notes the role of private vets providing bTB advice is particularly important and should be supported,

taking into account the true costs of its provision for veterinary businesses.

Reacting to the review, BVA senior vice-president John Fishwick said: “We are pleased this review recognises the major role vets play within TB control, and the importance of maintaining strong working relationships with farmers and wider industry.”

“Collaboration and mutual ownership of the task in hand are key to curbing the spread of TB and building on the progress made to date.”

Support

Mr Fishwick continued: “The recommendation for creating a new body to oversee disease control in conjunction with the Livestock Information Programme is one we would support, provided the Government taps into veterinary expertise to make this as effective and evidence-based as possible.

“It's also positive to see the report recommends new testing regimes and approaches to vaccination should be explored, supporting our view all the tools in the toolbox need to be considered in the fight against bovine TB.

“There is also a need to critically evaluate the economics behind the levels of cattle movements in England and farmers should be factoring these in as part of their overall farm biosecurity strategy.

“The BVA supports the principle of badger control where there is a demonstrated need, and where it is done safely, humanely and effectively. We will continue to emphasise the importance of a rigorous evidence base for informing decisions, but welcome this review's extensive scope and recognition that badger control is necessary as part of a comprehensive strategy, particularly in high-risk areas.”

Mr Fishwick added: “It is now down to Defra ministers to consider the options presented and weigh up how they take them forward.

“We would urge them to take early and decisive action, and ensure vets continue to be engaged in this process given the vital role they have to play in understanding and eradicating this devastating disease.”

BCVA TB lead James Russell said: “The BCVA welcomes the Godfray review, which emphasises the need to maintain the role for the private veterinary surgeon as integral to the disease control programme.

“As vets, we can continue to develop the understanding within the profession of the importance of the holistic

programme of control measures, as well as continuing to educate on how we might best share these measures with our farmers.

“We look forward to engaging fully with the Government to ensure the disease governance group receives excellent input from veterinary surgeons and stand ready to share the expertise in our profession as we work towards the united goal of controlling this most pernicious of disease threats.”

The RSPCA's chief scientific officer Julia Wrathall said: “We welcome the fact this review shifts the focus from badgers to cattle. However, we are concerned that, despite overwhelming epidemiological evidence to the contrary, it continues to maintain culling can be effective and leaves the door open for the Government to continue this ineffectual policy.”

Key findings

Key findings from the report include:

● The role of private veterinarians in providing bTB advice is particularly important and should be supported, taking into account the true costs of its provision for veterinary businesses.

● Industry must take greater responsibility for on-farm controls, biosecurity and safe trading practices to stop the disease spreading.

● More can be done to help farmers make purchasing decisions reflecting the risks of cattle being infected.

● Evidence shows badgers do transmit bTB to cattle and contribute to the persistence of the disease.

● An independent body on disease control would be helpful to take over disease control operations from the APHA, Natural England and local authorities (this recommendation will be considered by the Government in light of the wider Dame Glenys Stacey review into farm inspections).

● The bTB test is not sensitive enough and misses too many infected animals.

● Moving from lethal to non-lethal control of the disease in badgers is highly desirable. The injectable BCG vaccine is the only viable option available.

● The number of cattle movements in England is very high and will inevitably be a risk for disease spread. Analysis is needed to test whether the benefits of these movements outweigh risk of disease spread.

● Farmers are compensated for slaughtered cattle. A strong argument exists for disincentivising risky trading by reducing compensation.

Reference

1. GOV.UK (2018). *Bovine TB Strategy Review*, <https://bit.ly/2qLBPcu>

⇒ continued from page 1

Prof Raffae said: “These are all simple behaviours you can change tomorrow that can make a significant difference in the immediate environment surrounding you and your patient, to reduce exposure.”

In addition to daily checks, all equipment should be tested at least every six months to ensure it is in proper operating order, Prof Raffae advised.

Monitoring techniques

Staff looking to gauge the presence of escaped gases in their practice can employ one of two monitoring techniques: time integrated and real time.

Prof Raffae said: “Time integrated is much like a radiation badge. There are devices called dosimeters, which you put into the immediate work area for a specified time period, at the end of which they are analysed to see how much of the agent is captured.

“It is a simple, effective and workable tool, and there are guidelines available for each agent, as far as exposure limits are concerned.

“Another method is to use real time sampling, where you set up a portable infrared spectrophotometer. If agent is present, you can identify its presence and the source of the leak, and create an immediate plan of action to reduce risk.”

Prof Raffae said all practices should offer staff training information programmes to ensure everyone understands the risks of having anaesthetic drugs in the workplace, including the reproductive risks. Staff leaving the company should also participate in an exit interview to try to establish potential risks.

References

1. Raffae MR (2018). Anaesthetic drug toxicity for veterinary personnel, *Lecture notes from the 15th Vets Now Emergency and Critical Care UK Congress*: 65–68.
2. Woodmansey D (2016). Gas link to three miscarriages at single practice, *Veterinary Times* 46(8): 1–2.

Plea to help vet well-being research

THE WSAVA is urging companion animal vets globally to complete a multilingual online questionnaire from its newly formed Professional Wellness Group (PWG).

Data from the survey will help the PWG establish a benchmark for veterinary well-being in different regions of the world, and inform its work to create tools and resources to support the health of veterinary professionals.

Global perspective

The WSAVA PWG has embarked on a three-year project to review these issues and aims to provide a uniquely global perspective that recognises the regional, economic and cultural aspects that may affect the prevalence and

impact of veterinary well-being in all parts of the world.

As a first step, it is conducting a survey of global veterinary well-being using an online questionnaire. Based on the findings, it will collate and disseminate the most effective tools available to support veterinary well-being then develop new resources – including guidelines and toolkits – to address any shortfalls. It is also developing a WSAVA mentoring scheme.

Exploration

The PWG is led by Nienke Endenburg (pictured), a human psychologist working at the Utrecht University Faculty of Veterinary Medicine, and Derick Chibeu, a vet working in Kenya.

Dr Endenburg said: “Vets care for animals and owners, but who takes care of them?”

“We're working to explore the extent to which professional wellness is an issue in all parts of the world and increase our understanding of global attitudes towards it to provide appropriate solutions. We ask all veterinary professionals to help us by completing the online questionnaire. It's available in six languages and won't take long.

“The more information we receive from colleagues around the world, the better the support we'll be able to provide.”

To complete the questionnaire, visit www.wsava.org/committees/committees/professional-wellness-group

