

# Magic bullet no stopper for MRSA

VETERINARY professionals need earplugs, if the sound of alarm bells ringing and wake up calls isn't to induce permanent deafness in general practitioners. Speaking at the University of Liverpool's first international conference on MRSA in animals, Tim Nuttall told the audience, in quiet, sensible tones, to expect more alarms.

Rational policies to address infection control aren't a leap of faith, neither is careful use of antibiotics and disinfectants. Fear, though, is a great motivator, he said. So if you have a scary head nurse, then make her your head of infection control. Then stand back and watch them jump, presumably.

Liverpool's senior lecturer in veterinary dermatology, Dr Nuttall, made light work of a serious subject. Educating and motivating staff to deal with infections, including MRSA, in small animal practice needs a live and enforceable policy. To date, in human and veterinary medicine, hand hygiene has been one of the most effective.

"We now have alcohol gel pouches on every single kennel, and every single member of staff has one pinned to them," said Dr Nuttall. "These provide an effective visual reminder for a quick clean. It doesn't get rid of all organic debris so we encourage hand washing."

He added: "Having uniforms that are simple in design and easy to clean – and laundered on site – is another measure."

Barrier nursing is reinforced at Liverpool. As a tertiary referral practice, the university hospital has a high throughput of students and staff in contact with animals.

Sterile kit is single-use per patient, wounds and skin lesions on staff are covered. Gloves, hats, gowns, masks and eye

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reports once more from the first international conference on MRSA, where delegates were urged to develop a hygiene mindset

protection – where relevant – are standard.

"We are getting away from the idea that antibiotics and disinfectants are magic bullets and back to the old-fashioned idea of good cleansing. Soap goes a long way," he said. "We also identify 'in-use' kennels so animals are attached to a kennel until they are discharged, none are shared."

### Scientific panel

Dr Nuttall has worked on the BSAVA MRSA scientific panel since national media interest in MRSA began. The BSAVA worked hard to produce a set of practice guidelines and FAQs to help general practitioners, similar to those used in human healthcare.

"They were discussing things we were already doing in the tertiary care centres," he said. "A lot of which has not been subjected to rigorous analysis to see how effective it is. We've heard a lot about the risks that MRSA poses to animal health, and to humans from animal carriage."

"Traditionally, the veterinary profession has been complacent when it comes to infectious disease control. We've not regarded these as being serious problems and we've always thought there would be an antibiotic that would control it."

Data from a meeting of the Royal Society of Medicine in 2005 showed that old-fashioned cleaning styles relying on visual information are misleading. On surfaces thought to be 80-

90 per cent visually clean, less than 50 per cent were clear of organic debris or microbiologically clean.

In most veterinary practices, it's impractical to take a culture from every in-patient. Targeted surveillance of at-risk cases is more effective, he stated. Known MRSA-positive households, staff or owners who have contact with healthcare workers or premises and non-healing wounds or post-operative infections that respond poorly to antibiotics, need investigation.

### Tertiary care

"It's easier for us as a tertiary care facility," admitted Dr Nuttall. "We view the microbiology results before we see the case. For first opinion practices, it's not an option. But where we have open discharging wounds, we keep them covered with an impermeable dressing at all times."

It's not feasible to screen every animal at discharge, for hospital-acquired MRSA, either. It's a certainty that cases are going to be missed. For epidemiological reasons, the profession needs this data to give a clear picture of colonisation in practice, said Dr Nuttall.

Epidemiological considerations aside, cleanliness is still next to godliness, and will stop transient carriage of MRSA. Rooting out nooks and crannies where organic debris and micro-organisms can flourish offers common-sense protection. All staff should be trained to have a

microbiologically clean mindset to hygiene.

That extends to hand touch sites, such as computer terminals. Liverpool has been trialling a "virtually indestructible" keyboard system that can be washed. "If you look at a keyboard, we had one in our pharmacy with all sorts of debris on it – bits of hair and dirt," said Dr Nuttall, "These are important hand touch sites that are used frequently on a daily basis."

The small animal hospital also uses impervious, washable bedding bags, changed daily. The case note boxes were changed to detachable wire cage designs with stainless steel clipboards for case notes – easy to clean. All kennels are cleaned and disinfected before the next patient goes in.

"Isolation in the current hospital is hard to achieve, we can't isolate MRSA patients," admitted Dr Nuttall. "So we maximise distance between these animals and others, have red lines on the floor to delineate the cases and use disposable surgical equipment. We try to restrict other ancillary equipment to those patients and either disinfect or dispose of it after use."

### Persistent colonisation

Infected animals are discharged as soon as they are clinically fit and checked for persistent colonisation. This provides good epidemiological data for colonisation rates following infection and clearance of infection in patients. Potential risks must always be discussed with owners, said Dr Nuttall.

"Control over which antibiotics veterinary surgeons can legally prescribe and use is going to become a political problem," he said. "How to identify cases and how to implement strate-



Tim Nuttall, senior lecturer in veterinary dermatology at the University of Liverpool, flanked by conference co-organisers Susan Dawson (left) and Jill Moss (right). The profession did not see infectious disease as a serious problem because there was always an antibiotic to control it, said Dr Nuttall.

gies for monitoring infection and contamination, and infectious disease control audits, will become crucial in practice. Remember, it's easy to have a nil MRSA rate in your practice if you never look for it."

In future, practices will also need more data on the risk sites for environmental contamination in their premises. The Royal Veterinary College Queen Mother Hospital found MRSA on door handles and diagnostic imaging equipment. Contemporary reports of virulent community strains that survive for more than six months in the environment need further investigation.

Decolonisation of staff is a controversial area as far as Dr Nuttall is concerned.

"It can be done and it has a high success rate," he said. "But there is a recolonisation risk in humans, and consent, confidentiality and the potential for stigmatisation of MRSA-positive staff, must be addressed within the practice."

"Decolonisation of patients before surgery is an option in a known carrier," added Dr Nuttall. "In horses, colonisation is a known risk factor for post-operative surgical infection. Preventing an animal from licking a wound

helps to prevent transfer of mucosal organisms to a fresh wound site, so impermeable dressings and neck collars are good practice."

Liverpool's conference co-ordinator Susan Dawson, lecturer in small animals studies, said the event had focused the profession on the problems of MRSA.

Future events are planned, she said. "The intention is to continue every two years with the possibility the next meeting will operate as a satellite of the World Congress of Veterinary Dermatology."

"The papers from this meeting will be published in a special edition of *Veterinary Microbiology* next spring."

Speaking after the two-day conference, Bella Moss Foundation director Jill Moss gratefully acknowledged the help of DEFRA and Petplan in providing funding for the event.

Ms Moss, whose dog died due to an MRSA infection, said she organised the event with the University of Liverpool to address infection in practice, adding: "For me, this event was a fitting tribute to Bella and the other animals who have lost their lives unnecessarily to MRSA."