

# Prevent MRSA in horse hospitals

June 3 2013

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Bacteria that are resistant to antibiotics have become a serious threat to humans and animals. Methicillin-resistant *Staphylococcus aureus* (MRSA) is an example of such a bacterium. MRSA infections in horses are difficult to treat, as there are so few effective antibiotics. By improving hygiene in hospital care for animals, the spread of resistant bacteria can be reduced. This is shown by Karin Bergström, Swedish National Veterinary Institute (SVA in Swedish), who will publicly defend her doctoral thesis in the subject at the Swedish University of Agricultural Sciences (SLU in Swedish) on June 5.

The dissertation provides insights into MRSA in horses and emphasizes the importance of measures to prevent infections also in equine hospitals. The findings can be used to enhance measures to prevent the spread of MRSA in these hospitals.

"An infection-control program requires continuous work with audits, training, and monitoring. Hospital leaders need to give their support by allocating resources and by their active engagement. The introduction of infection-prevention and [-control measures](#) is a self-evident responsibility of horse hospitals, as MRSA involves both [patient safety](#) and the working environment," says Assistant State Veterinarian Karin Bergström.

In the summer of 2008, MRSA-infected horses were found at an equine hospital in Sweden. It was through the studies included in the dissertation that this outbreak could be established. A key observation was that infections of superficial wounds, which most of the horses were

suffering from, healed without treatment with antibiotics. This event led to increased interest in preventing MRSA in equine healthcare.

The bacteria in the outbreak turned out to belong to a type of MRSA called CC398. This type is associated with foodstuffs-producing animals, but it has also been found in horses in Europe. This was the first time this type of bacteria had caused infections in animals in Sweden. Of a total of nine horses that could be monitored after the infection, all but one evinced negative samples within two to seven months, and their nostrils proved to be the most reliable sampling site for revealing MRSA.

Collaboration between the hospital where the infection had spread, expertise healthcare hygiene in human medicine, and public authorities contributed to the development of a program for infection control. But the environment at a horse hospital presents challenges, and further studies are needed regarding how this environment can be adapted. For example, the development of surface materials that are suited to horses and at the same time easy to disinfect facilitated infection control in horse healthcare. The cost to the hospital was SEK 1.2 million.

Environmental sampling showed that MRSA was prevalent in places accessible only to humans, which means that hand hygiene can be improved. Moreover, [MRSA](#) was found on furnishings that are difficult to clean. Therefore, mangers and water cups were replaced by buckets that could be disinfected. Observations at three horse hospitals showed that routines regarding work clothing and the like were complied with in an exemplary manner. Compliance with routines for hand hygiene and disposable gloves was somewhat poorer. Reasons given for this were practical difficulties, insufficient knowledge, and high workloads.

The dissertation will be publicly defended at SLU, Clinical Centre in Ultuna, room 1, at 9.15 a.m. Third-cycle subject: Clinical science, specializing in animal care, Department of Domesticated Animal

Environment and Health, SLU Skara. The title of the dissertation is "Prevention and control of methicillin-resistant Staphylococcus aureus in equine hospitals in Sweden."

Provided by Expertsvar

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