An update: Antibiotic susceptibility profile of *Enterococcus* species isolated from cases of canine pyoderma in Australia

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Keywords: Enterococcus, Vancomycin-resistance, Zoonosis

Enterococci are Gram-positive bacteria that commonly inhabit the digestive and urogenital tracts of healthy humans and animals. These hardy organisms can survive in the environment for extended periods and resist host immune defences, making them capable of causing opportunistic and nosocomial infections such as bloodstream infections and endocarditis.

Enterococci exhibit intrinsic resistance to several antibiotics and can acquire and transfer resistance genes via plasmids or transposons. Of the more than 50 known species, *Enterococcus faecalis* and *Enterococcus faecium* are the most prevalent in both humans and animals. *E. faecalis* is most frequently associated with human nosocomial and community-acquired infections.

Vancomycin has been one of the few effective treatments for enterococcal infections, but vancomycin-resistant Enterococci (VRE) are increasingly reported worldwide. Dogs may serve as asymptomatic carriers or become infected, potentially acting as reservoirs for resistant strains. This poses a risk of zoonotic transmission, particularly to immunocompromised pet owners.

Currently, no published studies in Australia have investigated the antibiotic susceptibility of Enterococcus species in canine pyoderma. This proposed study aims to:

1. Characterise the antibiotic susceptibility profiles of Enterococcus isolates from canine pyoderma,
2. Identify the presence of VRE, and
3. Use genetic sequencing to determine whether *E. faecalis* and *E. faecium* strains isolated are closely related to those found in humans.

This ongoing study has been funded in part by the Dermatology Chapter of the Australian New Zealand College of Veterinary Scientists Research Grant.