

# Clostridium difficile on Dog Paws & Human Footwear

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## In the Literature

Janezic S, Mlakar S, Rupnik M. Dissemination of *Clostridium difficile* spores between environment and households: dog paws and shoes. *Zoonoses Public Health*. 2018;65(6):669-674.

## FROM THE PAGE ...

*Clostridium difficile* causes disease in humans and some animal species (eg, horses), but its role in disease in dogs is enigmatic. Regardless of its pathogenicity in dogs, there is interest in the potential for dogs to act as a *C difficile* reservoir or vector. Healthy dogs can shed the bacterium,<sup>1,2</sup> and the same strains can be found in dogs and humans,<sup>1,3</sup> raising concerns that dogs may be able to directly infect humans or contaminate human environments. As recognition of community-associated *C difficile* infection in humans (ie, disease acquired in the community vs at a healthcare facility) increases, there is more need to investigate potential novel sources of exposure, including pets. This is a daunting task, as *C difficile* is widely present in various animals, food, and environments.<sup>3-7</sup>

Although most of the focus on dogs and zoonotic enteropathogen risk has involved the study of feces, dogs can also carry pathogens on their body. In addition, dogs can act as sentinels for human exposure, as dogs tend to spend time in the same places as humans.

This study examined the isolation of *C difficile* from dog paws and human footwear in Slovenian households. *C difficile* was isolated from 14 of 20 (70%) households, including 19 of 44 (43.1%) shoes, 6 of 21 (28.6%) slippers, and 6 of 25 (24%) dog paws. When dog paws were positive, human footwear was usually positive also. The *C difficile* strains found were typical of strains found in humans, particularly ribotype 014/020.

These results provide more evidence that *C difficile* is relatively ubiquitous and that humans likely encounter it on a routine basis. Anything in the environment can contaminate footwear or dog paws. Neither the household environment nor outdoor sites were tested, so it is unclear whether contaminated paws and footwear reflect bacteria picked up inside or outside; however, presence of bacteria on slippers suggests that at least some were acquired inside the house.

## ... TO YOUR PATIENTS

Key pearls to put into practice:

**1** *C difficile* is one of many pathogens that can be found in the environment and, correspondingly, on dog paws. Whether and how dogs are involved in the transmission of *C difficile* to humans remains unknown, so owners should be educated to take routine prevention measures (eg, handwashing) after animal contact.

**2** These results show that contact with dogs means potential contact with pathogens from the dog and its environs.

## References

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