

# Weekend Doctor

By DR. THOMAS F. VAIL

How many times have you entered a home and were asked immediately to take your shoes off? Or perhaps you ask guests to remove their shoes.

More and more, when I visit someone's home, I am asked this, and I just assumed that it was to keep their floors clean. But a recent study by the University of Arizona may shed light on an even deeper reason to leave your shoes at the door.

The research found after collecting germs and microbes on footwear an astonishing 421,000 units of bacteria on the outside of a shoe. Among the culprits were *E. coli*, *Klebsiella pneumonia* and *Serratia ficaria*.

Sometimes, the symptoms of the infection will not occur immediately, so correlation to your shoes may not be obvious.

With an *E. coli* infection, typically symptoms begin three or four days after exposure to the bacteria, though you may become ill as soon as one day after to more than a week later. Signs and symptoms include:

- Diarrhea, which may range from mild and watery to severe and bloody.
- Abdominal cramping, pain or tenderness.
- Nausea and vomiting.

*Klebsiella* and *Serratia* are closely related gram-negative bacteria that occasionally infect people in hospitals or in long-term care facilities.

These bacteria may infect the urinary or respiratory tract, intravenous catheters used to give drugs or fluids, burns, wounds made during surgery, or the bloodstream. Identifying the bacteria in a sample taken from blood or from infected tissue confirms the diagnosis.

If the infection is acquired in the community, antibiotics given intravenously, usually a cephalosporin, such as ceftriaxone, or fluoroquinolone, such as levofloxacin, can cure it.

But, if it is acquired in a healthcare facility, it is difficult to treat because bacteria tend to be resistant to antibiotics.

In addition to the microbes found on the shoes, a federal study found that herbicide 2,4-D could be easily tracked via shoes for up to a week after application.

To most Americans, "2,4-D" is probably just a mish-mash of numbers and letters. But to farmers and gardeners, it is the most widely used herbicide in the world and the third most commonly used in North America.

This harsh pesticide can cause skin rashes and gastrointestinal problems, and you could be unknowingly tracking these microbes and harsh chemicals around your house with every step.

As a podiatrist, I am always concerned about the fit of a shoe and its effect on the feet and your body alignment. I didn't give much thought, though, as to how your shoes could be affecting your overall health.

If you feel uncomfortable not wearing a shoe around the house or if your podiatrist recommends a shoe inside for support, try dedicating a shoe just for in-home wear. Confining these microbes and toxins to the outside can help give you peace of mind and a healthier living environment.



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