

Study Finds Bacteria in Unused Paper Towels

Recycled Paper Towels Had the Highest Bacterial Count



December 28, 2011 — Grabbing a paper towel in a public restroom may leave more on your hands than you bargained for.

Researchers say they've found bacteria, including some that are known to make people sick, in unused paper towels. They also found that those bacteria could be transferred to hands after washing.

The study is published in the *American Journal of Infection Control*. It did not find any illnesses connected to paper towel use.

Experts say the findings are probably most important for people in hospital isolation units and those with weakened immune function who need to be extra cautious about contact with germs.

Germ Lurk in Paper Towels

Researchers at Laval University in Canada tested six brands of commercial paper towels — the kind doled out in many public bathrooms.

They found bacteria in all of them, but the towels made from recycled fibers were the most heavily contaminated.

"In our study, the concentration of bacteria in the recycled paper was between 100- to 1,000-fold higher than the virgin wood pulp brand," the researchers write.

Bacterial slime is known to be a problem at recycled paper mills, where it corrodes machines and may damage finished paper sheets.

Researchers say the new paper towel finding fits with other studies that have noted high bacterial counts in other kinds of recycled paper products.

Bacteria may thrive in recycled paper because it contains binding ingredients like starches and fillers that serve as food.

Most of the bacteria found in paper towels were *Bacillus* bacteria. Many *Bacillus* strains can produce toxins that cause food poisoning.

One brand of paper towel contained *Bacillus cereus* bacteria. In addition to food poisoning, *B. cereus* has been associated with infections of the eyes, lungs, blood, and central nervous system.

Although the found amounts of *B. cereus* probably wouldn't harm healthy people, researchers note it may be more dangerous for people who have weakened immune systems, like babies and the elderly, and for people who take medications that suppress their immune function.

Germ experts said the study was an eye-opener.

"These findings are interesting in that we do not think of paper towels as being contaminated," says Elizabeth Scott, PhD, who is co-director of the Center for Hygiene and Health in Home and Community at Simmons College in Boston

Scott says the study also made her curious about bacteria in other kinds of paper products.

"It makes me wonder about kitchen towels. These are put to all kinds of uses in direct contact with food, for example, covering and wrapping food," she says. "And what about facial tissues, which come into close contact with our eyes and noses?"

Advice for Consumers

Scott and other experts note that the study did not find paper towels caused anyone to get sick.

Until more is known, experts agree that this one study shouldn't be a reason for healthy people to avoid paper towels.

"People shouldn't think that it's better not to wash their hands if they only have paper towels available to dry them," says Angela Golden, DNP, who is president-elect of the American Academy of Nurse Practitioners.

She says 20 seconds with soap and water is still the rule, especially after activities that dramatically increase exposure to germs, like handling raw meat.

Golden says air dryers, if they're available, may be the healthiest and most environmentally responsible option of all.

SOURCES:

Gendron, L. *American Journal of Infection Control*. Published online Dec. 19, 2011.

Elizabeth Scott, PhD, assistant professor of biology and co-director of the Center for Hygiene and Health in Home and Community, Simmons College, Boston.

Angela Golden, DNP, president-elect, American Academy of Nurse Practitioners; assistant professor, Northern Arizona University, Flagstaff, Ariz.

...air dryers, if they're available, may be the HEALTHIEST and most ENVIRONMENTALLY responsible option of all.