

First In-Office Study Dishes the Dirt on Desks

Researchers Find Average Desk Harbors 400 Times More Bacteria Than Average Toilet Seat

OAKLAND, CA -- (MARKET WIRE) -- 04/15/2002 -- Working late again? You're not alone, according to a new study by University of Arizona germ guru Dr. Charles Gerba. You have plenty of bacteria keeping you company.

The study, the first of its kind to measure normal bacterial levels inside offices across America, found paper isn't all that's piling up on desks. In fact, the average desk harbors 400 times more bacteria than the average toilet seat.

"For bacteria, a desk is really the laptop of luxury," said Gerba. "They can feast all day from breakfast to lunch and even dinner." Gerba and his researchers found that unless desks were wiped clean with a disinfectant during the day, bacteria levels climbed higher and higher, peaking after lunch.

Office Rankings

The study found that surfaces in personal work areas such as offices and cubes had higher bacteria levels than surfaces in common areas. Telephones came in as the #1 home for office germs, followed by desks, water fountain handles, microwave door handles and computer keyboards.

Surprisingly, toilet seats consistently had the lowest bacteria levels of the 12 surfaces tested in the study.

"We don't think twice about eating at our desks, even though the average desk has 100 times more bacteria than a kitchen table and 400 times more bacteria than the average toilet," Gerba said. "Without cleaning, a small area on your desk or phone can sustain millions of bacteria that could potentially cause illness."

With more people spending more time at their desks – the average workweek has increased to 47.1 hours according to the Families and Work Institute – bacteria are finding plenty to snack on.

Study Highlights

For the study, Gerba and his team separated office workers into two groups. One group used disinfecting wipes to clean their desks, phones and computers; the other did not. Within two days, the wipes users were found to have a 99.9 percent reduction in bacteria levels.

The study team evaluated a variety of office locations, environments and surfaces. Study sites included private offices, cubicles and common work areas in offices located in New York, San Francisco, Tucson and Tampa. A total of 7,000 samples were collected nationwide and analyzed at the University of Arizona laboratories.

Other study highlights:

- Bacteria levels decreased drastically (99.9%) if surfaces were treated with disinfecting wipes once a day.
- Among people who did not use wipes, bacteria levels increased an average of 19-31% on their telephone, computer mouse, keyboard and desktop surfaces throughout a typical workday.
- The area where you rest your hand on your desk has – on average – 10 million bacteria.

Bacteria Busters

So how can workers control the spread of illness-causing bacteria? “One good way to kill bacteria and help stop the spread of germs is to regularly clean your personal workspace,” offered Dr. Gerba. “During the study, we found that using disinfecting wipes can dramatically reduce that number and therefore help reduce your chances of illness.”

WORKPLACE GERM STUDY FACT SHEET

Recently, University of Arizona microbiologist Dr. Charles P. Gerba undertook a first-of-its-kind study of germs in the workplace. The study was conducted over the course of a typical workweek in offices in four cities.

The purpose of the study was threefold:

- To quantify bacteria levels on workplace surface areas
- To determine the surfaces with the highest levels of contamination
- To measure the effectiveness of a “wipe-a-day” disinfecting routine in reducing illness-causing germs in the workplace

STUDY SITES

Typical offices in New York City, San Francisco, Tampa, FL, and Tucson, AZ.

Each office:

- Included a mix of cubicles, open spaces and private offices
- Experienced limited “street” traffic (deliveries, etc.)
- Did not include heavy usage of disinfectants in cleaning routines

METHODOLOGY

The study took place during June, July and August 2001. Participants at each location were divided into two groups: a study group (wipes users) and a control group (non-wipes users). Surfaces were measured three times a day to understand bacteria levels and the effect of a “wipe-a-day” cleaning routine.

- During the study, participants were asked to go about their work as usual. In fact, they were asked not to alter their regular workday routines, from eating at their desks to cleaning.
- Participants in the study group were provided with disinfecting wipes and were asked to use them in their working areas soon after lunch. Participants in the control group were not given any wipes or any instructions.
- Bacterial samples were collected from selected sites for both groups. The first samples were taken just before the start of the workday (usually at 8 a.m.); samples were collected again at noon and again, later in the afternoon.
- Twelve surfaces were sampled at each location for total microbial population, which may include *E. coli*, *Klebsiella pneumoniae*, *Streptococcus*, *Salmonella* and *Staphylococcus aureus* (staph).
- An average of 10 offices/cubicles were tested at each location. A total of 7,000 samples were collected nationwide and analyzed.

The surfaces tested were:

1. Desktop
2. Phone
3. Mouse
4. Keyboard
5. Microwave door handle
6. Elevator button
7. Photocopier start button
8. Photocopier surface
9. Toilet seat
10. Fax machine
11. Refrigerator handle
12. Water fountain handle

RESULTS

The top five most germ-contaminated spots were (in order):

1. Phone
2. Desktop
3. Water fountain handle
4. Microwave door handle
5. Keyboard

Throughout the day, levels of bacteria among non-wipes users increased by as much as 31 percent. **Among wipes users, illness-causing microorganisms were reduced 99 percent or more, even in the most contaminated areas.**

CONCLUSIONS

- In offices, common areas that are cleaned and disinfected every day have fewer germs and bacteria than most desks. (On average, the area where you rest your hand on the desk has 10,000,000 bacteria.)

- Using disinfecting wipes can reduce the number of germs and bacteria on office surfaces by up to 99.9 percent.

- The average desktop has more bacteria than any surface tested in the bathroom. Toilet seats and photocopier surfaces were the least contaminated sites sampled in all offices.