

**m**other always warned you—you never know what you can pick up in public bathrooms. You never know what germs other people may have left behind. But is there really reason for concern? Experts on infection control say yes. Studies show that viruses and several families of potentially harmful bacteria can indeed exist on public bathroom surfaces. And the toilet seat is not the only source of contamination—there are a number of other germ zones to be wary of as well. In this special report you'll find out what may be lurking where, and what steps to take to protect yourself and your family from disease-causing organisms.

### A Haven For Germs

Except for an operating room or other sterile environment, bacteria can be found almost everywhere. That's because they are very resilient organisms. Like us, they need food, water and shelter to live—but, unlike us, they have no problem drinking dirty water, eating organic waste material or living in such unlikely spots as the rim of a toilet bowl. And public bathrooms are the perfect places for bacteria to thrive because these facilities are designed to dispose of large volumes of human waste, which consists of up to 30 percent bacteria.

Your body gets used to dealing with some of the germs you come into contact with every day—including those found in your own bathroom at home. But in a public restroom you could encounter a more virulent virus or type of bacteria, one against which your body has not yet—or perhaps never could—build up defenses. And because disease-carrying organisms spread so easily, they may be present, unfortunately, on just about every surface in a public bathroom that you come in contact with: the toilet seat, faucets, flush and door handles, the floor, sink, towel, soap dish. However, just because viruses and bacteria are at home on these surfaces doesn't mean they're going to "get you" every time you use a public bathroom. For one thing, they must be present in sufficient numbers to cause disease. For another, they must have an entry point into the body, either through a cut, sore or other break in the skin, or through the eyes, nose or mouth. Your own susceptibility or resistance to disease at the time you come into contact with germs plays a part too. If you're healthy, you have much less to be concerned about.

And, of course, one disease you *don't* have to worry about catching from a public restroom is acquired immune deficiency syndrome (AIDS). It is virtually impossible for AIDS to be contracted from any public restroom surface, say experts from the Centers for Disease Control (CDC) in Atlanta. Not only is the AIDS virus relatively difficult to catch in the first place, but it is present only in bodily fluids (such as blood and semen) and is transmitted when these are exchanged through sexual contact, blood transfusions or contaminated needles.

Also, most of the bacteria or viruses responsible for other sexually transmitted diseases (STDs), such as gonorrhea, syphilis and chlamydia, cannot live outside the body long enough to be contracted from sitting on a toilet seat. The one possible exception is the herpes virus. Studies have shown that the secretions from an open herpes sore can survive outside the body for up to four hours. Theoretically, once they have contaminated a toilet seat, the herpes microorganisms could infect another toilet-user who has a sore or break in the skin (which allows the virus to enter the body). But because a sufficient amount of the virus is necessary to penetrate the body's defenses, infection is unlikely, according to Martin Favero, Ph.D., a microbiologist with the Hospital Infections Program of the CDC. Still, it's not impossible, he says.

The crab louse, a non-germ villain, could also possibly be contracted from sitting on contaminated toilet seats. But once again, it's unlikely, because these small creatures (also known as pubic lice) feed on human blood, lay their eggs on hair follicles, and would rather

# toilet training for adults

## Learn what you

jump from one warm body to another. They can survive 24 hours without feeding, however, so may live for a short time on a toilet seat until they find their next host.

What's much more of a threat than STDs are the diseases carried by fecal-borne bacteria, such as salmonella and shigella. These germs are excreted in the feces of an infected person and, through hand transmission, can be deposited on flush-, stall- and bathroom-door handles, towels and water faucets. If you touch these contaminated surfaces and put your hands in your mouth or touch and eat food before thoroughly washing your hands, you may contract the bacteria, which can cause diarrhea and other potentially severe intestinal disorders. This is why proper hand-washing is so important (see "Be sure





## can catch in public bathrooms

to wash your hands!”) and why many local boards of health require “Employees Must Wash Hands” signs in restaurant restrooms.

Cold and flu viruses can also be deposited on various bathroom surfaces through hand transmission. These germs tend to thrive on doorknobs and faucet handles. Unlike salmonella and shigella, which must usually be consumed to do damage, cold and flu viruses can infect you whenever you touch your contaminated hands to your eyes, nose or mouth.

Other bacteria families found in public bathrooms include members of the micrococcaceae family (which can cause boils, pimples and other symptoms of staph infections), streptococcae (strep throat and pneumonia), pseudomonadaceae

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**Are you aware of the germs that are lurking—and where? A quick course on how to handle toilet seats, towel dispensers, faucets, hot-air hand dryers and other unsanitary troublemakers**

BY ANNE CASSIDY



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(urinary-tract infections) and enterobacteriaceae (which are responsible for typhoid fever as well as salmonella and shigella). The virus that causes hepatitis A is another danger. Studies have shown all these organisms to be commonly present on public toilet seats; but, depending upon the general condition of the bathroom, they may also be found on surfaces within the stall, on the toilet paper (especially if it's wet, which makes it a better conduit for bacteria) and on the floor. "People are not likely to get sick from these germs if they're in good general health, but it's safest to take precautions nevertheless," says Lorraine M. Harkavy, president of the Association for Practitioners in Infection Control in Mundelein, Illinois.

Germs, especially fecal bacteria, can also be shot into the air when a toilet flushes. The resulting spray can land on the toilet seat and even as far away as the sink. One study, conducted at Baylor College of Medicine in Houston, showed that bacteria released into the air in this way can settle on surfaces throughout the bathroom and in great enough concentrations to spread disease.

Finally, such waterborne organisms as pseudomonas live in the soapy sludge that accumulates at the bottom of the soap dish. These bacteria generally pose no risk to healthy people, but they are a matter for concern if you're already susceptible to infec-

tions, says Julie Garner, a nurse and hand-washing expert with the Hospital Infections Program of the CDC. In addition, says Harkavy, these bacteria may pose a danger if you have open sores or cuts on your hands and there's a large enough number of organisms in the soapy sludge which are not removed by thorough hand-washing and rinsing.

## How To Protect Yourself

Here are precautions to take with the major germ zones in a public bathroom.

### TOILET

- Avoid using toilets that don't flush.
- Don't use a toilet that looks dirty or is wet. (Urine usually contains only harmless bacteria when it leaves the body but can become contaminated by external bacteria or by the germs that cause urinary-tract infections.)
- You might want to use a paper seat cover or one of the new plastic seat liners (which work automatically upon pressing a button), or cover the seat with toilet paper. "The paper and seat covers are good barriers, and certainly better than nothing," says Phyllis Hill Boyle, R.N., C.I.C., an infection control practitioner in Richmond, Virginia.
- If the toilet seat looks dirty and you must use it, *definitely* use some sort of seat liner (perhaps a double layer). The same advice applies if you have a cut or sore on your thighs or buttocks, or if you have genital herpes.
- Don't line a wet seat with paper seat covers or toilet paper; paper will absorb the moisture and transmit bacteria on the seat up to your skin, says Harkavy. Avoid using a toilet with a wet seat.
- You have the option, of course, to not sit down on a toilet seat. If this is your preference, you may be interested in Le Funelle, a

new product that enables women to urinate while standing up and facing the toilet. Le Funelle is a disposable paper funnel that has been successfully test-marketed in Boston, Chicago, Dallas and Los Angeles. Although it will soon be sold in drugstores and supermarkets, it is now available only by mail order. (Write APLEX Corp., Suite 217, 1720 South Amphlett Blvd., San Mateo, CA 94402. Or call toll-free 800-433-3553; in California, call 800-521-3553. Price for a box of 20 is \$4.98 plus \$1.50 for shipping; California residents add 6.5 percent sales tax.)

- To avoid germs on the toilet's flush handle, use a piece of toilet paper to flush.

### STALL AREA

- Touch as little as possible inside the stall, and avoid placing your purse or packages on top of the toilet tank. Instead, use a hook, if one is available, or hold things in your hands.
- Use toilet paper to open the stall door.
- Wash your hands thoroughly after you leave the stall area. Don't touch your eyes, nose or mouth until you do.

### TOILET PAPER

- Don't use paper that's wet or looks like it's been wet, says Boyle.
- Avoid using toilet paper that's been sitting on the floor. Also try not to use the rolls perched on a shelf or on top of the toilet—they may have been on the floor.
- The cleanest toilet paper is that which is almost totally encased in a plastic or metal container. This protects it from spray and splatter. If you use paper from less protected rolls, tear off the exposed parts or fold the paper up so that part is not touching you.
- Think ahead. If you will be out all day, tuck some tissues or toilet paper in your purse so you'll have an "emergency supply."

### THE FLOOR

- Avoid putting your belongings on the floor.
- Don't walk barefoot on a public bathroom floor in a health club or at a pool. The fungus that causes athlete's foot, among other things, breeds quickly in the warm, humid air. Wear sandals or thongs at all times.

### THE SINK

It's tempting to think of the sink and counter of a public restroom as the clean part. After all, this is where you wash your hands. But there's no magic shield that keeps bacteria out of these areas. People come to the sink with dirty hands, they turn on the water with dirty hands and, after they wash, they touch the dirty faucet handle again. "The hot-water faucet is one of the most contaminated places in the restroom," says Richard Crane, president of Lien Infection Control Systems in Elmhurst, Illinois. Not only is it constantly touched by dirty hands, but the warmth and moisture provide two of the elements bacteria need to survive. Solutions:

- After your hands are clean, use a paper towel to turn off the water faucet, recommend Crane, Boyle and other experts.
- Keep the spray from the sink or faucet out of your makeup.

### SOAP

- You don't need to disinfect your hands, just thoroughly (continued on page 200)

## Be sure to wash your hands!

According to some studies, almost one-third of infectious illnesses could be eliminated by proper hand-washing. And experts agree: One of the best ways to protect yourself in a public bathroom—or from cold and flu viruses no matter where you are—is to wash your hands very thoroughly. Hand-washing works because the friction of rubbing your hands together loosens bacteria from your skin and traps them in the lather. When you rinse away the lather, you're rinsing away the bacteria.

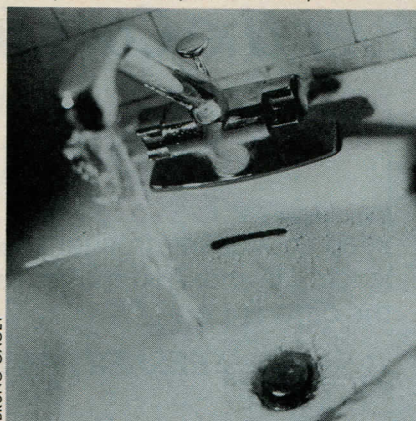
Be sure to wash your hands after using the toilet or helping your child do so, before eating meals or preparing food, after touching pets, after emptying the garbage or doing other dirty household chores and whenever else you think it's necessary. Wash your hands more often if someone in your household or office is sick, and during cold and flu season. It's better to wash too often than not enough. Also, it's never too early to teach your children to wash their hands. (A good time might be when you're toilet-training them.)

How to wash your hands properly:

- Wet hands and lather well with soap. Work the lather evenly from one hand to the other.
- Hot or warm water is preferable to cold because it's more comfortable to use and the soap lathers better with it—not because it kills bacteria.

(Water hot enough to do that would scald your skin.)

- You should spend at least ten seconds (more conservative experts recommend 15) rubbing your hands together after they're wet and lathered—more if your hands are especially dirty.
- Next, rinse your hands with a stream of clear, running water until all the lather is washed away.
- Dry thoroughly by the best available method (see "Drying Methods"). Turn off the water faucets and, if possible, open the door with a paper towel. Then you can throw your towel away! —A.C.



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cleanse them, Garner explains. For normal daily use, the best soap is liquid soap stored in a clean, closed dispenser. Granulated soap doesn't lather (hence clean) as well.

- Avoid touching soapy sludge that accumulates in a soap dish or on the sink. But don't let bar soap itself discourage you from washing. One of the biggest problems with bar soap, Garner says, is that people are less likely to use it. But it's definitely better to wash with bar soap than not to wash at all. Lather longer than you would with liquid soaps—or even rinse off the bar before using it. The friction of hand-washing will remove transient bacteria from bar soap.

- If there's no soap, rinse hands in hot water and rub together briskly as you do it. This helps rinse away contamination.

### DRYING METHODS

- Use paper towels when available. They allow you to dry your hands thoroughly and, as long as there's proper waste disposal in the bathroom, they pose no health risk.

- When you use a rolling cloth towel be sure that the area you dry your hands on has not

been used before. When these towels get stuck or are not changed frequently enough, it's easy to end up touching the same portion someone else has already used.

- Avoid using a common towel, which is touched by countless hands. Dry your hands with your emergency supply of tissues.

- Be wary of those fancy restrooms where cloth towels are handed to you by bathroom attendants. Some attendants tidy up the bathroom and then hand you a towel without washing their hands first.

- Finally, avoid using hot-air dryers, which receive uniformly bad marks from most experts for several reasons: First, most hot-air dryers pull their air not from outside but from the bathroom floor—not exactly the

most sanitary place even in a relatively clean facility. Second, many people don't dry their hands thoroughly with the dryer, which can cause chapping, cracking and, hence, more chance of picking up an infection. "You won't find those air dryers in most hospitals," Boyle concludes. Bottom-line advice: Use a hot-air dryer only if you have no alternative and be sure to dry hands thoroughly. Or use your emergency supply of tissues.

### BATHROOM DOOR

By the time you leave the bathroom, your hands are clean and sanitation may not be topmost in your mind. But consider this: A recent study from Brigham Young University in Provo, Utah, found that only 15 percent of the people who used a public facility washed their hands when they thought they weren't being observed. With that in mind, you might want to consider opening the door with a paper towel, then tossing it.

Most of all, you can protect yourself in public restrooms by simply being aware of where bacteria live, how they thrive and the ways to lessen your contact with harmful ones. And by calmly taking matters—but not germs—into your own hands. ●

*Anne Cassidy is a freelance writer who frequently covers topics of concern to women.*

### FIGHT INFECTION

If you have questions on infection control, write to Lorraine M. Harkavy, President, Association for Practitioners in Infection Control, 505 East Hawley, Mundelein, IL 60060. APIC's members are mostly hospital professionals. However, the organization is trying to alert the public about the importance of hand-washing and other sanitation issues. The APIC has also helped to get the week of October 18, 1987, proclaimed "National Infection Control Week."

The Scrubby Bear Foundation is working to promote hand-washing among children in day-care centers. If you're interested in setting up a hand-washing program in your child's school or day-care center, contact the Scrubby Bear Foundation, 1155 15th Street, N.W., Suite 500, Washington, D.C. 20005; telephone 202-728-1063. —A.C.

### ACTION FOR CLEANER RESTROOMS

If you regularly use a public bathroom that's dirty, is always out of soap or paper towels, has water on the floor, or has some other problem, you may want to complain—to your employer, office manager or building owner if it's a restroom in your workplace, or to your local board of health if it's a restaurant, store or other public place. But not all public institutions are required to have restrooms: Retail stores and service stations often are not, for example, and so are not governed by local laws. Bathroom regulations are basically the

province of state and local health departments. The Food and Drug Administration does supply regulations that states and local communities can adapt, but these are only for facilities used by food-service workers. This code requires such restrooms to have toilets with tight-fitting, self-closing doors, an adequate supply of toilet tissue, waste receptacles, sinks adjacent to the toilet, hot and cold water, plenty of soap, and paper towels or an air dryer.

If a bathroom violates these standards, let the authorities know about it. —A.C.