



September 15, 2009

WELL

With Soap and Water or Sanitizer, a Cleaning That Can Stave Off the Flu

By [TARA PARKER-POPE](#)

It sounds so simple as to be innocuous, a throwaway line in public-health warnings about [swine flu](#). But one of the most powerful weapons against the new H1N1 virus is summed up in a three-word phrase you first heard from your mother: wash your hands.

A host of recent studies have highlighted the importance and the scientific underpinning of this most basic hygiene measure. [One of the most graphic](#) was done at the [University of California, Berkeley](#), where researchers focused video cameras on 10 college students as they read and typed on their laptops.

The scientists counted the times the students touched their faces, documenting every lip scratch, eye rub and nose pick. On average, the students touched their eyes, noses and lips 47 times during a three-hour period, once every four minutes.

Hand-to-face contact has a surprising impact on health. Germs can enter the body through breaks in the skin or through the membranes of the eyes, mouth and nose.

The eyes appear to be a particularly vulnerable port of entry for viral infections, said Mark Nicas, a professor of environmental health sciences at Berkeley. Using mathematical models, Dr. Nicas and colleagues estimated that in homes, schools and dorms, hand-to-face contact appears to account for about one-third of the risk of [flu](#) infection, [according to a report](#) this month in the journal Risk Analysis.

[In one study](#) of four residence halls at the [University of Colorado](#), two of the dorms had hand sanitizer dispensers installed in every dorm room, bathroom and dining area, and students were given educational materials about the importance of hand hygiene. The remaining two dorms were used as controls, and researchers simply monitored illness rates.

During the eight-week study period, students in the dorms with ready access to hand sanitizers had a third fewer complaints of coughs, chest [congestion](#) and [fever](#). Over all, the risk of getting sick was 20 percent lower in the dorms where hand hygiene was emphasized, and those students missed 43 percent fewer days of school.

Young children benefit, too. [In a study](#) of 6,000 elementary school students in California, Delaware, Ohio and Tennessee, students in classrooms with hand sanitizers had 20 percent fewer absences due to illness. Teacher absenteeism in those schools dropped 10 percent.

Better hand hygiene also appears to make a difference in the home, lowering the risk to other family members when one child is sick. [Harvard researchers studied](#) nearly 300 families who had children 5 or younger in day care. Half the families were given a supply of hand sanitizer and educational materials; the other half were left to practice their normal hand washing habits.

In homes with hand sanitizers, the risk of catching a gastrointestinal illness from a sick child dropped 60 percent compared with the control families. The two groups did not differ in rates of respiratory illness rates,

but families with the highest rates of sanitizer use had a 20 percent lower risk of catching such an illness from a sick child.

Regular soap and water and alcohol-based hand sanitizers are both effective in eliminating the H1N1 virus from the hands. In February, [researchers in Australia](#) coated the hands of 20 volunteers with copious amounts of a seasonal H1N1 flu virus. The concentration of virus was equivalent to the amount that would occur when an infected person used a hand to wipe a [runny nose](#).

When the subjects did not wash their hands, large amounts of live virus remained even after an hour, said the lead author, Dr. M. Lindsay Grayson, a professor of medicine at the University of Melbourne. But using soap and water or a sanitizer virtually eliminated the presence of the virus.

Frequent hand washing will not eliminate risk. When an infected person coughs or sneezes, a bystander might be splattered by large droplets or may inhale airborne particles. In a [recent Harvard study](#) of hand sanitizer use in schools, hand hygiene practices lowered risk for gastrointestinal illness but not upper respiratory infections.

Still, it is a good idea to wash your hands regularly even if you're not in contact people who are obviously ill. In a troubling finding, [a recent study of 404 British commuters](#) found that 28 percent had fecal bacteria on their hands. In one city, 57 percent of the men sampled had contaminated hands, according to the study, which was published this month in the journal *Epidemiology and Infection*.

"We were surprised by the high level of contamination," said Gaby Judah, a researcher at the London School of Hygiene and Tropical Medicine. Ms. Judah added that many of the contaminated commuters reported that they had washed their hands that morning. They may have been embarrassed to admit they hadn't washed, or they may have picked up the bacteria on their hands during their commute.

For all those reasons, the [Centers for Disease Control and Prevention](#), with other health organizations around the world, urge frequent hand washing with soap and water or alcohol-based hand sanitizers. (They also repeat some advice you may not have heard from your mother: [cough](#) or sneeze into the crook of your elbow, not your bare hands.)

And as [hospitals](#) put stricter hand hygiene programs in place, absentee rates during cold and flu season also drop.

"Statistically, you can't determine a causal relationship, but it's very suggestive," said Dr. Neil O. Fishman, infectious disease specialist at the [University of Pennsylvania](#). "Our vaccination rates remained relatively stable, so what else changed? The only thing different was that hand hygiene rates increased."

Join the discussion at nytimes.com/well.

Copyright 2009 The New York Times Company

[Privacy Policy](#) | [Terms of Service](#) | [Search](#) | [Corrections](#) | [RSS](#) | [First Look](#) | [Help](#) | [Contact Us](#) | [Work for Us](#) | [Site Map](#)
