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UF technology puts hands to sniff test

The system could help cut down on the infections acquired in hospitals.

By [Diane Chun](#)
Staff writer

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As a kid, how many times did you report for dinner, only to have your mother send you back to wash your hands?

Hand washing is the simplest of duties, but all too often it gets skipped.

At best, you may try to get by with "a lick and a promise."

That may get you through inspection at the dinner table, but if you are a nurse working in a hospital, slighting your hands can make patients sick.

More than 250 people die each day in the United States from a hospital-acquired infection, according to the Centers for Disease Control and Prevention.

University of Florida researchers believe a new technology developed at UF can help reduce hospital-acquired infections and the millions of dollars spent treating them.

A foursome of professors have developed a sensor system that can sniff your hands to detect the telltale fumes of soap or hand sanitizer. They say their trademarked system, called HyGreen, is even more effective than Mom, who is said to have eyes in the back of her head.

Call it a Breathalyzer for your hands.

It will log, down to the second, the frequency of hand cleaning and contact with hospital patients, and serves as a reminder to all health care workers to remove disease-causing organisms such as the bacteria MRSA.

If, as several studies show, hospital workers only wash their hands following fewer than



Photo courtesy of the University of Florida

Nurse Carrie McGirr holds her hands, containing sanitizer gel, under a sensor before cleaning them, activating a green light on the badge she is wearing.

half their direct encounters with patients, the HyGreen system is overdue.

"This isn't Big Brother. It's just another tool," said Dr. Richard Melker, the UF College of Medicine anesthesiologist who developed the technology, along with Dr. Donn Dennis, Dr. Nikolaus Gravenstein and materials science professor Christopher Batich.

Here's how it works: The hospital workers squirt sanitizer gel or wash with soap before passing their hands under a wall-mounted sensor. A wireless signal from a badge the worker is wearing activates a green light on the hand-washing sensor.

When the worker approaches the patient's bedside, a monitor detects the status of the badge. Clean hands get a green light.

If the person has not washed, or if too much time has passed since washing, the badge will vibrate as a reminder to wash hands again.

Nurse Carrie McGirr, who volunteered to help test the system, said it's a fairly simple process to learn. "I do wash my hands more often," McGirr said.

The HyGreen system logs, down to the second, the frequency of hand cleaning and patient contact in a database that clinical supervisors can review at any time. Xhale Inc. will market HyGreen.

The system is being tested in the Neuro Intensive Care Unit at Shands at UF, and its developers are demonstrating it at the meeting of the Association for Professionals in Infection Control and Epidemiology, which concludes today.
