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HEALTH

In Hospitals, Pneumonia Is a Lethal Enemy

Pneumonia is the No. 1 hospital-acquired infection in America and hospitals aren't doing enough to fight it. The best weapon: a toothbrush

By Lucette Lagnado

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At a time when the public is concerned with drug-resistant superbugs, researchers have identified another danger of going to the hospital: contracting pneumonia.

Hospital-acquired pneumonia is more pervasive and urgent than most people realize, a new study warns, and hospitals in America aren't adequately addressing prevention. "Given the mortality, hospitals should be doing a lot more," says Dian Baker, lead author of the study, which was published in January in the American Journal of Infection Control.

Pneumonia, which typically comes from germs that enter the body through the mouth, is the No. 1 hospital-acquired infection in America, according to the Centers for Disease Control and Prevention. That includes both pneumonia infections that some patients on ventilators catch from bacteria in their breathing tubes as well as the more common non-ventilator variety, the CDC says.

To battle germs and superbugs, hospitals are cleaning rooms and equipment thoroughly, controlling the use of antibiotics and dispensing hand sanitizer to patients, visitors and staff. But Dr. Baker and her co-author Barbara Quinn contend that hospitals could prevent many pneumonia cases if they stepped up basic, hands-on nursing care.



Patricia Rosati spoke with a nurse about brushing her teeth before having surgery this month at NYU Langone Health. PHOTO: ANNIE TRITT FOR THE WALL STREET JOURNAL

Experts recommend a combination of techniques, such as making sure patients are elevated in their beds and getting them to move and walk about, so air moves through their lungs and germs don't settle in. Deep breathing exercises can help keep respiratory tracts clear. Toothbrushing also is seen as a strong defense against pneumonia.

At NYU Langone Health in New York City, patients—whether having complex surgery or an outpatient procedure—brush their teeth and gargle before going under anesthesia and throughout their hospital stay. Before Emanuel J. Braxton had vascular surgery there this month, he was given a toothbrush kit and told to brush. Mr. Braxton, a 76-year-old retired

postal worker from Staten Island, N.Y., was surprised but agreed. “I thought, what the hell, I will do it,” he says.

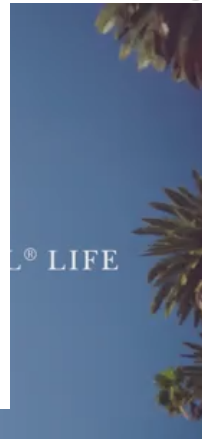


Emanuel J. Braxton, a patient at NYU Langone Health, received instructions from a nurse on brushing his teeth before he had vascular surgery on his left leg this month. PHOTO: ANNIE TRITT FOR THE WALL STREET JOURNAL

NYU Langone’s pre-surgery tooth-brushing program has been in place for two years. “They go to the operating room within 20 minutes of getting it done,” says Dora Castillo, the nurse administrator who launched the effort.

About 15% to 20% of patients with hospital-acquired pneumonia die, researchers have found. “Unfortunately too often when someone goes into the hospital the accepted pathway is let them lie in bed—and that is the problem,” says Marin Kollef, Director of Respiratory Care Services at Barnes-Jewish Hospital in St. Louis, Mo.

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Patients with hospital-acquired pneumonia had “8.4 times greater odds of death” than equally sick patients, according to a Barnes-Jewish study Dr. Kollef co-authored. Such pneumonia cases, the authors wrote, were “associated with significant increases in mortality.” But experts noted that the cause of death for pneumonia patients wasn’t necessarily pneumonia.



At NYU Langone Health, Dora Castillo, center, a nurse administrator, launched the campaign to have patients brush their teeth before surgery. PHOTO: ANNIE TRITT FOR THE WALL STREET JOURNAL

In a separate study, investigators from the CDC and the Pennsylvania Department of Health found that about 31% of adult patients with hospital-acquired pneumonia died. The CDC said

the cause of the deaths wasn't known.

The recent study in the American Journal of Infection Control was conducted by Dr. Baker, a nurse-researcher and professor at the School of Nursing at Sacramento State University, and Ms. Quinn, a clinical nurse specialist at Sutter Health, a 24-hospital system based in Sacramento, Calif. The authors focused on common pneumonia infections, not ones contracted from ventilators. Hospital patients in their 40s and 50s are vulnerable, not simply the elderly, the authors said.



Dian Baker, left, of the School of Nursing at Sacramento State University, co-authored a paper on hospital-acquired pneumonia with Barbara Quinn, of Sutter Health, a hospital system based in Sacramento, Calif. PHOTO: RYAN ANGEL MEZA FOR THE WALL STREET JOURNAL

At Sutter Medical Center, Sacramento, Ms. Quinn initiated a program—involving 50,000 toothbrushes—where every patient in the hospital was told to brush several times a day. Using 2010-2011 as a baseline, researchers found that from May 2012 through December, 2014, hospital-acquired pneumonia cases were down by 70%, she said. Sutter Health hopes to order 200,000 toothbrushes and roll out the program in its Northern California hospitals. Treating one case of pneumonia can cost \$40,000. “You can buy a lot of toothbrushes” for that, Ms. Quinn says.

Carol Hendrickson, a Sacramento retiree, recently had knee surgery at Sutter. She was handed a toothbrush before her operation—and kept brushing, as instructed, she says: four times a day and once at night while in hospital. “You want to get well, you want to go home,” she says.

Even brushing's boosters acknowledge that more studies and clinical trials are needed to prove that oral care prevents pneumonia. Researchers who question whether more brushing means less pneumonia point out that the malady is difficult to diagnose and treat, let alone prevent. Dr. Baker agrees that more research is needed, but the worst case is “allowing patients to die without trying.”

Shannon Munro, a nurse researcher at the Department of Veterans Affairs Medical Center in Salem, Va., launched a campaign in which nurses in two units with a total of 50 beds had patients brush their teeth twice a day. According to Dr. Munro, between October 2016 and December 2017, the number of non-ventilator, hospital-acquired pneumonia cases fell 92%—a decline she attributes to oral care. She expanded the program in her facility and to other VA hospitals, including in Houston, North Carolina and Virginia, and hopes to have it in every VA hospital.

Brian Koll, an infectious-disease specialist, says oral-care initiatives make perfect sense, just like efforts to get patients to wash their hands. “You want to reduce the amount of bacteria in your mouth,” said Dr. Koll, a professor of medicine and infectious diseases at the Icahn School of Medicine at Mount Sinai. Still, he believes more data are needed to come up with “evidence-based guidelines.”

NYU Langone's Chief Hospital Epidemiologist Michael Phillips, says, “I am all about evidence-based intervention, but this idea of brushing your teeth with a plain old brush fits with what we do.” Brushing, Dr. Phillips adds, is a “low-cost, low-morbidity intervention to prevent a high-risk complication.”

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Shannon Munro ran a tooth-brushing initiative in one VA hospital and wants to expand the campaign to all VA hospitals.
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