

There's a life-saving medical device sitting on your sink

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Hospital-borne infections are a serious risk of a long-term hospital stay, and ventilator-associated pneumonia (VAP), a lung infection that develops in about 15% of all people who are ventilated, is among the most dangerous. With weakened immune systems and a higher resistance to antibiotics, patients who rely on a mechanical ventilator can easily develop serious infections — as 26,000 Americans do every year.

Thanks to a proven new clinical approach developed by Tel Aviv University nurses, though, there is a new tool for stopping the onset of VAP in hospitals.

This new high-tech tool? An ordinary toothbrush.

Three Times a Day Keeps Pneumonia Away

"Pneumonia is a big problem in hospitals everywhere, even in the developed world," says Nurse Ofra Raanan, the chief researcher in the new study and a lecturer at Tel Aviv University's Department of Nursing. "Patients who are intubated can be contaminated with pneumonia only 2 or 3 days after the tube is put in place. But pneumonia can be effectively prevented if the right measures are taken."

Raanan, who works at the Sheba Academic School of Nursing at The Chaim Sheba Medical Center, collaborated with a team of nurses at major medical centers around Israel. The nurses found that if patients — even unconscious ones — have their teeth brushed three times a day, the

onset of pneumonia can be reduced by as much as 50%.

A Pioneering Study with Measurable Effects

It's difficult to quantify the effects precisely, the researchers say. "While the research shows a definite improvement in reducing the incidence of hospital-borne pneumonia, it's hard to say by exactly how much toothbrushing prevents VAP," says Raanan, but the published evidence shows a direct correlation for intubated patients.

"Sometimes, however, doctors and nurses do everything right and the patient still gets pneumonia. But this approach will certainly improve the odds for survival."

Normally, the teeth and oral cavity in a healthy mouth maintain a colony of otherwise harmless bacteria. Infection takes root when a breathing tube allows free passage of the "good" bacteria into the lower parts of the lung. The bacteria travel in small water droplets through the tube and colonize the lung. Once there, the bacteria take advantage of a patient's weakened immune system and multiply. A regular toothbrushing kills the growth and subsequent spread of the bacterium that leads to VAP.

Augmenting the Preventative Routine

There are additional steps for preventing the onset of VAP. Today, nurses typically use a mechanical suction device to remove secretions from the mouth and throat. They also put patients in a seated position and change the position every few hours. Toothbrushing, say Tel Aviv University nurses, should be added to the routine.

Although nurses in some American hospitals already practice toothbrushing on ventilated patients, these new results may convince medical centers around the world to invest more resources in this routine

practice, thereby saving lives.

Source: American Friends of Tel Aviv University

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