

University Of Buffalo Pill Crusher Makes Medicine Easier To Swallow

University of Buffalo



Have you ever had to manually crush a pill for a child, an elderly person or one of the millions of Americans with documented swallowing difficulties (dysphagia)? Perhaps you have had to crush medication for yourself because the large pill size would lead to discomfort during swallowing. Now, imagine having to perform this tedious task several times a day while suffering from arthritis, multiple sclerosis, cerebral palsy, carpal tunnel syndrome or post-stroke difficulties that severely limit your ability to crush the medication. Sounds incredibly challenging, doesn't it?

To address this challenge, James Peron, James Leahy, Jonathan Leahy and Robyn Washousky of the University of Buffalo have created First Crush, a battery-operated and easy-to-use machine that quietly and automatically crushes pills. First Wave Products Group has commercialized the technology whose initial development was funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education and supported by the

Rehabilitation Engineering Research Center of Technology Transfer and the University at Buffalo. The result is a machine that generates medication in the form of a powder that can be mixed with food or liquid for easy ingestion.

The primary beneficiaries of this technology are the elderly and people with disabilities. Interestingly, statistics from the U.S. Census Bureau indicate that adults age 65 or older consume more than 30 percent of all prescription medication and purchase more than 40 percent of all nonprescription medication. This elderly population continues to grow due to improvements in health care and the aging of the baby boomer generation, with the number of elderly expected to increase from 39.4 million in 2010 to 53.2 million in 2020. In addition, as the elderly population increases there is an inherent increase in the number of people who develop various disabilities, who could benefit from assistive-technology devices such as First Crush.

“*Notably, some health care professionals in nursing homes and hospitals, for example, are known to crush hundreds of pills a day and would thus greatly benefit by using First Crush.*”

But the elderly and those with disabilities are not the only ones to significantly benefit from this new technology. A survey of 540 nurses indicated that more than 80 percent of nursing homes either crush pills or open medication at least once a week. The same survey indicated that 58 percent of these nurses reported receiving instructions from the prescriber to crush or open the medication. Notably, some health care professionals in nursing homes and hospitals, for example, are known to crush hundreds of pills a day and would thus greatly benefit by using First Crush.

So whether it is people with disabilities who rely on assistive-technology devices, health care providers who crush thousands of pills in a year or patients of any age who have difficulty swallowing their medication, there is a significant segment of the population that would benefit from a reliable and durable device such as First Crush.

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