



HEALTH

THESE ELECTRIC SHOCK CHOPSTICKS CAN MAKE FOOD TASTIER WITHOUT THE HEALTH RISKS, SCIENTISTS SAY

BY **KASHMIRA GANDER** ON 8/13/18 AT 8:09 AM



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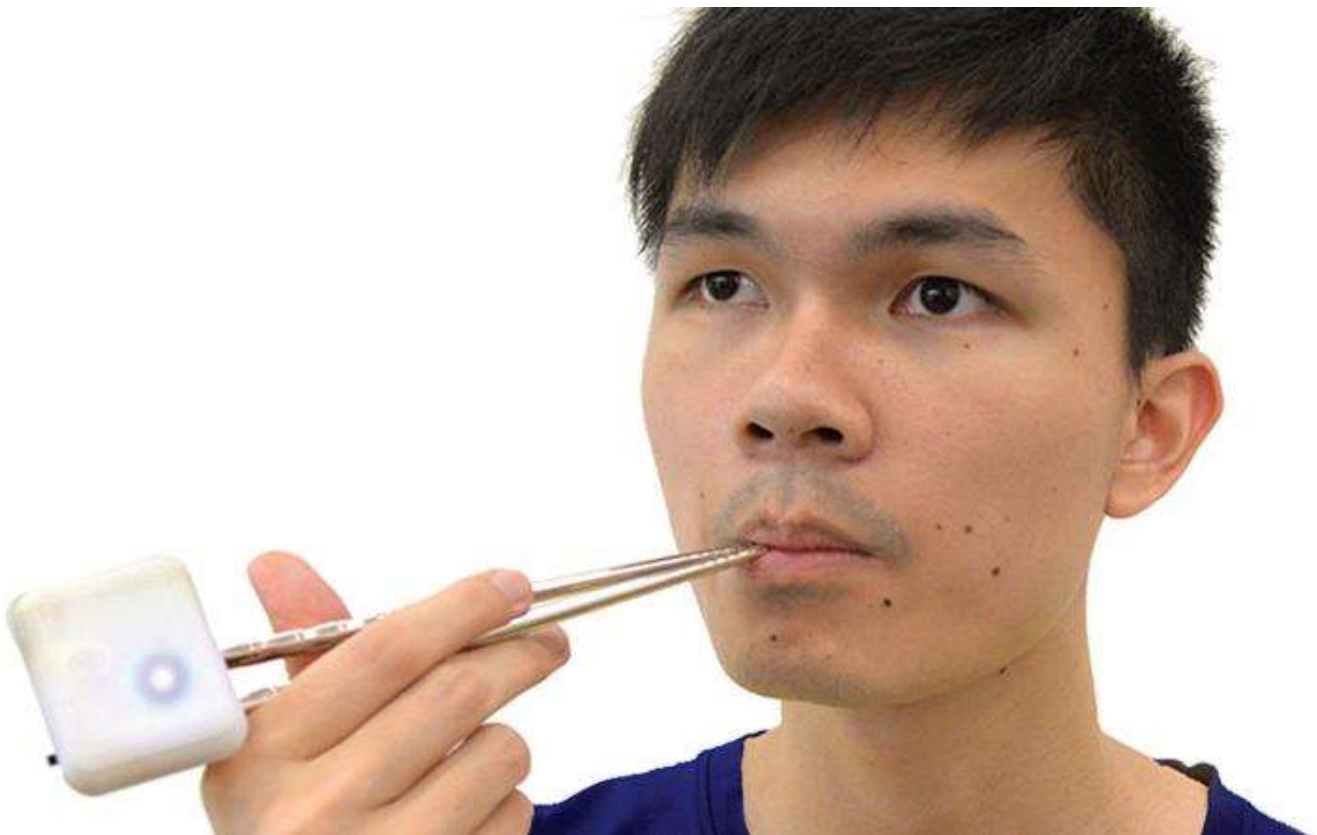
DIET AND NUTRITION

Eating too much salt can seriously harm our health, and yet almost all Americans do it. But scientists think they might have a high-tech answer to cutting down our intake: electric chopsticks which shock the tongue.

salt according to the Centers for Disease Control and Prevention.

This can make our blood pressure climb, which can in turn raise the risk of heart disease and stroke, two of the nation's biggest killers. Worldwide, as many as 2.5million deaths could be prevented if we ate the recommended 5 grams or less of salt per day, according to the World Health Organization. Currently most people consume almost double that at between 9-12 grams.

Nimesha Ranasinghe, assistant professor and director of the Multisensory Interactive Media Lab, University of Maine, investigated if the utensils we used to eat could help to cut salt consumption. He carried out his research as a Ph.D. student at the National University of Singapore's CUTE Center, IEEE Spectrum reported.



A study participant uses electrified chopsticks. The utensils are said to make food taste salty by emitting electrical pulses into the tongue.

NIMESHA RANASINGHE

A team at the National University of Singapore created a pair of chopsticks and a soup bowl that send electrical pulses to the tip of the tongue, which they claim changes the flavor of food without the need for seasoning.

Ranasinghe explained to *Newsweek* that "electric taste" involves using weak electrical pulses to the tongue to simulate taste sensations.

"By controlling the attributes of electric current (amplitude, frequency, etc.) this technology can simulate sourness, saltiness, and bitterness up to approximately 70 percent accuracy," he



Participants in the study, published in the journal [Food Research International](#), used the chopsticks and bowl to eat mashed potato and miso soup. Stimulating the tongue with electrical pulses made the unsalted mash potato taste salty, while the bowl made the soup appear sour, the study showed.

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But we're still a long way from the chopsticks popping up at your local Chinese takeout, as two of the electrodes must touch the tongue at the same time to create the flavor.

"Also participants commented that sometimes they could feel the metallic sensation due to the silver electrodes," said Ranasinghe. "There should be more experiments to understand the effects of electrical stimulation of taste sensations."

For now, this is more of a pioneer project, Ranasinghe said in a statement. "It's like TV in the 1950s," he said.

Ranasinghe told [The Telegraph](#): "This technology is aimed at overlaying a virtual taste sensation. Depending on the food or beverage, it will augment the flavor. For example, when we eat mashed potato by applying an additional layer of electric salt, the overall flavor is enhanced."

Ranasinghe and his team aren't stopping at electric chopsticks. A vocktail, or virtual cocktail, and virtual lemonade are also under development.

This article has been updated with comment from Nimesha Ranasinghe.

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