SCIENTISTS HAVE DEVELOPED A MORE COMFORTABLE WAY TO TAKE DAILY DRUGS THROUGH THE SKIN

By Akhil Katam August 5, 2020

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*Pprototype patent-pending temporal pressure device developed by the NTU and A*STAR scientists, which can put pressure on the skin, thus creating micropores that allow the drugs to pass through the skin easier.* | *Image: Nanyang Technological University*

Only the people who have taking injections daily, know, and understand that pain. There are several life-long illnesses requiring patients to take shots daily, a general example being diabetic patients having to take insulin every day. These set of people have been waiting for a simpler way to take their injections for their whole life now. New research by scientists from Nanyang Technological University, Singapore (NTU Singapore), and Agency for Science, Technology, and Research (A*STAR) could finally have solved this issue.

In a paper published in *Science Advances*, the researchers showed that bringing together two magnets so that they pinch and apply pressure to a fold of skin, led to short term changes in the skin barrier and specifically the formation of “micropores” underneath its surface. These micropores were then used to inject drugs directly into our bloodstream.

According to MedicalXpress, with this new method, drugs like insulin could be injected more slowly into the bloodstream, and it would reduce the risk of hypoglycemia effect (when the injected insulin acts too fast, and the patient gets dizzy).

Currently, they are experimenting on animals, and scientists estimate that small doses can be injected through the skin in 1 minute, and the time can go up to 5 minutes for higher doses.

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Micropores would disappear within a day, meaning that skin cells would have filled up all the gaps with no side effects.

“Our research project was first inspired by the traditional Chinese medicine ‘tuina’ therapy where physicians rub and apply pressure on skin and muscle tissue and apply a topical ointment,” explained Dr. Lio, who is now working at A*STAR’s Enterprise Group.

“Patients who have to inject drugs daily, such as insulin, are constantly asking whether there is another way to deliver their medicines that doesn’t involve hurting or penetrating the skin. Our new findings hold promise for them, and we hope that we can refine this method so that one day it may be possible to deliver enough drugs through the skin via a patch and to rid them of their daily injections,” Prof Becker whose research expertise is in tissue repair and regeneration told MedicalXpress.