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Singapore develops pain-free solution for drug delivery

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Cost-effective adhesive film placed on the inner cheek delivers drugs into the bloodstream effectively



Conventional ways of administering medication – by swallowing tablets, consuming bitter syrups, injections or rectal insertions – could be distressing and unpleasant for some patients, especially young children or the elderly. A team of researchers at the National University of Singapore (NUS) has recently developed easy-to-use oral films that enable painless, efficient, and discreet drug administration.

This patient-friendly drug delivery method is now being commercialised through an NUS startup PharLyfe+.

The novel oral film releases drugs into the bloodstream via the mucosal membrane – the moist, inner lining of the mouth. Each oral film can be easily placed onto the inner cheek of the patient's mouth, and medication will be released into the bloodstream over a pre-determined period of time.

This method of medication administration reduces the risk of choking, aspiration, and rejection. Moreover, the manufacturing method of the films eliminates dosing errors commonly associated with multi-dose bottles of liquid medicine.

The NUS team has filed a provisional patent for this innovative approach. Currently, the researchers are developing and evaluating their film products for different medications, such as for antidotes, general medication, and medication for pets, to prepare for regulatory filing in Singapore and the United States of America.

They plan to supply the premix of the oral film to healthcare institutions for pharmacists and clinic staff to prepare oral film medications when doctors prescribe them to patients. HCA Hospice Care is one of the healthcare institutions whom they partnered for the initial launch of their ready-to-market package comprising facilities set-up and staff training for preparing film medicines using PharLyfe+ premix.

The team also aims to work with investors, regulatory experts, contract manufacturers, and pharmaceutical marketers to commercialise their technology.