

New kit uses saliva drops to identify HFMD

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Scientists from the National University of Singapore (NUS) have found a way to identify children with hand, foot and mouth disease (HFMD) from just a few drops of saliva, even before symptoms show.

They hope to eventually make HFMD test kits commonplace in pre-schools and childcare centres so cases can be picked up early to prevent the disease from spreading.

They will first have to test the kits on a larger group of children and get approval from the Health Sciences Authority for their use here.

Associate Professor Justin Chu, who is one of the lead researchers, said yesterday that most doctors diagnose HFMD by checking to see if a child has symptoms such as mouth ulcers, rashes or a fever.

At the same time, many childcare centres and pre-schools try to pre-

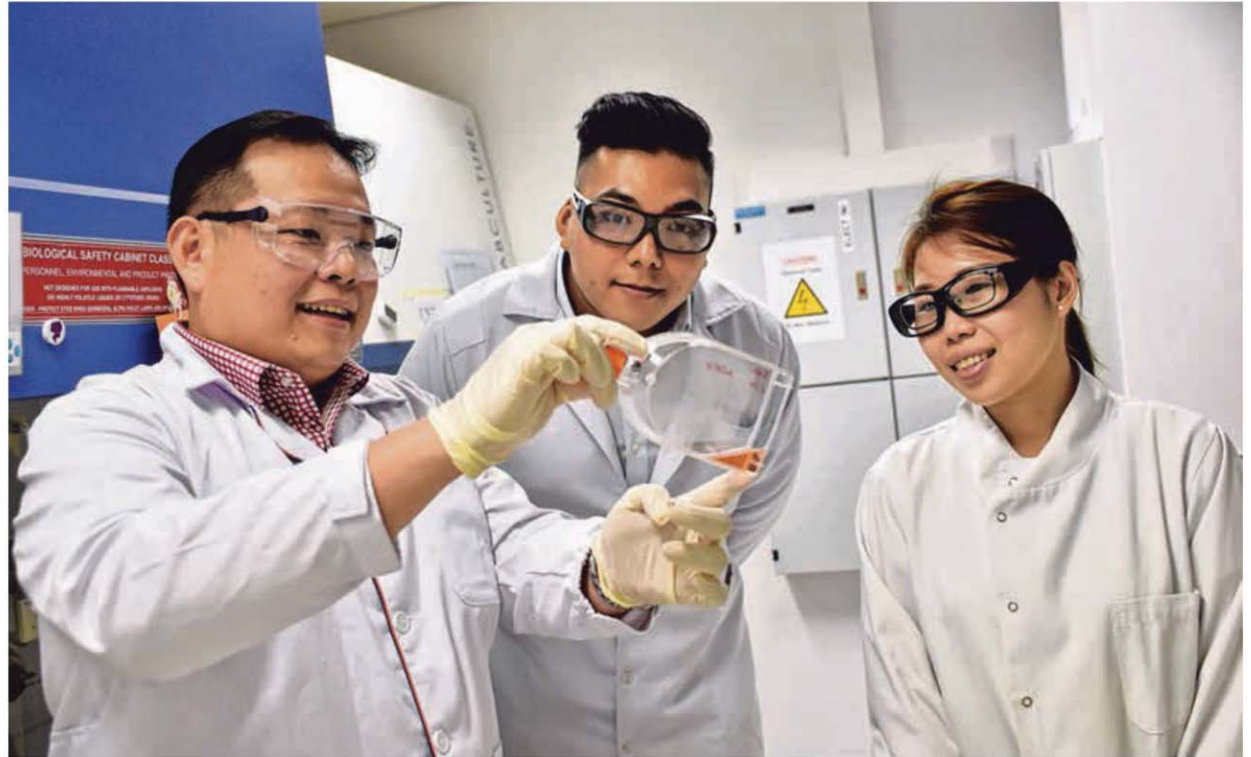
vent the disease from spreading by conducting regular temperature checks and getting children to clean their hands properly.

"But it seems that this is not highly efficient, because we still see 20,000 to 30,000 cases each year," said Dr Chu, from the NUS Yong Loo Lin School of Medicine's microbiology and immunology department.

He added that some children may be infectious even if they have no symptoms, or after symptoms have subsided. "One way to do more is to strengthen diagnosis."

The test was developed by NUS as part of a collaboration with the Institute of Molecular and Cell Biology at the Agency for Science, Technology and Research, KK Women's and Children's Hospital and Taiwan's Chang Gung University.

Earlier this month, the number of HFMD cases hit a weekly high, with 1,249 infections reported between July 29 and Aug 4. There have been around 28,000 HFMD cases this year, more than for all of last year.



Three members of the NUS research team holding their new test kit that prevents the hand, foot and mouth disease from spreading by detecting it early: (From left) Associate Professor Justin Chu and research assistants Nyo Min and Regina Lee. PHOTO: COURTESY OF YONG LOO LIN SCHOOL OF MEDICINE

The new test works by picking up on the body's reaction to being infected with HFMD. This reaction remains the same even if the virus

strain changes, said Dr Chu. It delivers results within two hours.

The test was tried on 82 children here and picked up HFMD cases with around 90 per cent accuracy. It was around 80 per cent accurate at identifying Taiwanese cases.

The difference could be due to genetic differences or slightly different methods of processing the saliva samples, Dr Chu said.

To refine the test, his team is now using the kit to test 1,000 children in Vietnam and China.

The eventual goal, added Dr Chu, is to develop a simple test strip that will change colour in minutes

if a child has HFMD.

Secretary June Goh, whose four-year-old son contracted HFMD recently, believes that a highly accurate test could help stop the spread of the disease.

Mrs Goh, 44, thinks her son caught the virus from classmates who had stopped showing symptoms but were still infectious.

"It is frustrating to hear from my general practitioner that they base it on just physical checks at this juncture, and no further tests are implemented," she added.

Ms Foo Wann Yun, the principal of Pat's Schoolhouse Katong, said

that it can be very difficult for schools to pick up HFMD cases early. Sometimes, a child may show mild symptoms that disappear quickly, only to return with full force a few days later, she added.

Her staff have also had to ask parents to take their children out of school after they developed symptoms such as ulcers, only for doctors to give them the all-clear.

"We are not doctors, so it is not easy for us to tell," said Ms Foo yesterday. "Having a test would help us make that judgment call."

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