

# QLD DEVICE COULD END ALLERGY JABS

WORLD-FIRST ADRENALINE INHALER TO REVOLUTIONISE FIRST-AID FOR SUFFERERS



De Motu Cordis device project lead Ben Trout and (right) founder Professor John Fraser. Picture: Liam Kidston

**EXCLUSIVE**  
Rachel Riley

People with deadly allergies could receive life-saving treatment without a needle from a groundbreaking medical device developed in Brisbane that could work up to eight times faster than injectors.

It is hoped clinical trials with allergy sufferers could begin within months. But the team behind the inhaler, designed to treat anaphylaxis, need a further \$10m in funding, or Australia could lose the device to overseas investors.

A shot of adrenaline used to treat anaphylaxis is now delivered by painful needles like EpiPens or Anapens.

De Motu Cordis (DMC) has been developing a single-use inhaler, about the size of a pencil sharpener, that is designed to deliver adrenaline in a fine dry powder form.

Pulling the red cap off activates the device containing the drug, which reaches deep into the lungs by inhaling.

Phase 1 clinical studies have shown the unique powder formula reached peak absorption in healthy volunteers up to eight times faster than a liquid adrenaline auto-injector.

Early data also suggests the inhaler may have a longer shelf life than some auto-injectors when stored at room temperature.

For project lead Ben Trout, his work over the past five years has been personal. His daughter is anaphylactic and first required an auto-injector at just eight months old.

"As a parent, you never want to cause your child pain, you know what you've got to do, but it doesn't stop the thought 'I've got to inject a needle into my child's thigh'. Seeing a child in distress is something no parent should have to see," he said.

## COUNTDOWN TO BREAKTHROUGH

**November 2019:** DMC Board formed

**May 2020:** Queensland Business Development Fund funding secured

**July 2020:** Active pharmaceutical ingredient particles engineered for inhalation

**November 2020:** DMC's first US patent granted

**January 2022:** First human clinical trial, dosed with DMC's formulation

**October 2023:** Completion of second human factors study

**December 2023:** Second human clinical trial completed dosing

**November 2024:** US-based Food Allergy Research and Education provides DMC with letter of support

**2025:** Proof of concept clinical trial challenge study planned to start soon, seeking \$10m in funding



Professor John Fraser AO, St Andrew's War Memorial Hospital's Intensive Care Unit director, is DMC's founder and chief medical officer.

The company also has two high-profile backers in former Wallabies captain John Eales AM as chair and Greencross Vets founder and Shark Tank investor Dr Glen Richards as non-executive director.

Prof Fraser said he was inspired to create a device that could administer adrenaline faster after seeing heart attack survivors left with brain injuries from a lack of oxygen during cardiac arrest.

"I thought if we can use the fact that the lungs are the perfect drug delivery system, if I could get the drug particles small enough to get it down there, then an inhaler is the way," he said.

Chief scientific officer Dr Sean Dalziel said the formulation of the drug into an encapsulated crystalline powder took months, with the process so innovative DMC has secured a US patent for it.

Dr Dalziel said prototype testing of the powder had

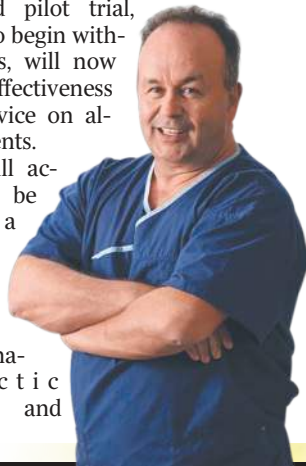
shown it lasted up to three years without degrading or losing potency and he thinks that could be extended.

"In our stability results, we've already more than doubled the period of time of which some auto-injectors would typically lose their shelf life and go off and we're continuing," he said

Drug project leader John Fredatovich, who oversees DMC's clinical programs, said about 50 healthy Australian patients without allergies had used the product over two clinical trials to test the safety and tolerability of the drug.

A third pilot trial, planned to begin within months, will now test the effectiveness of the device on allergy patients.

"We will actually be using it in a clinic with patients that may experience anaphylactic reactions, and



## Police staffer 'licked colleague's glasses'

Nicola McNamara

A Queensland Police protective services officer has faced court for a "violating" act in which he licked his female co-worker's glasses - thinking it was "funny".

Michael Leonard Hong, 59, pleaded guilty on Friday morning to one count of common assault. The court heard the assault related to an incident involving a female co-



Michael Leonard Hong leaving court

worker last October at Police Headquarters on Roma St.

The two had both been working in the same area when Hong had leaned in towards the woman's face and

licked her glasses, the court was told.

The woman first asked if he had "kissed" her glasses, and Hong responded "no, I licked them". When asked why, the court heard he had responded that "it was funny".

Defence barrister Ruth O'Gorman said Hong, the woman and other officers had been joking around with "physical banter" prior to the incident.

The woman's victim impact statement outlined how she had felt "violated, betrayed and unsafe" after the incident.

The court heard she and Hong had been friends for some years and she had trusted him.

Magistrate Julian Noud ultimately ordered Hong to be of good behaviour for nine months, with a \$650 recognisance.

No conviction was recorded.

## Dogs what doc ordered

Therapy dogs can help children who are hospitalised feel less anxious in the emergency department.

Hospitals already use a variety of tools to try to reduce the anxiety children feel in the emergency department, and Indiana University School of Medicine researchers in the US looked at whether hanging out with a trained therapy dog for about 10 minutes could also help.

Eighty children of an average age of 11 participated in the study, with half given the usual care to help keep them calm, while the rest received that same care as well as time with a therapy dog.

The researchers say there was a modest reduction in both child and parent-reported anxiety for the children who had access to the therapy dogs.