

Herald Sun Melbourne

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THE Australian scientist who won a Nobel Prize for discovering the bacteria responsible for stomach ulcers is working on a way to make edible vaccines.

Dr Barry Marshall identified helicobacter pylori, a breakthrough that helped develop a cure for the ulcers, and he says the same bacteria is the key to needle-free vaccinations.

It promises to make your annual flu shot as painless as a mouthful of yoghurt.

"I don't really think people can imagine what it would be like to walk into a chemist shop, and buy something that vaccinates you against the flu . . . that is like toothpaste," Dr Marshall said.

Scientists at his Sydney-based company Ondek have spent three years developing a way to add a vaccine particle to the genetic code of the bacteria, which is relatively harmless but adept at sticking itself to the stomach wall.

It is estimated that up to 20 per cent of the Australian population have the bug living in their stomach without knowing it.

It is this ability that Dr Marshall hopes will clear the hurdle that has always faced edible vaccines.

"Your immune system sees the helicobacter, which irritates it a little bit, and at the same time it will see the flu vaccine particle and reacts against that," he said.

"People have always dreamed of having oral vaccines but usually the immune system just regards it as food."

Vaccines work by pre-exposing the immune system to an inert version of, for example, the flu virus so that when the real version invades, the body already has its defences in place.

Dr Marshall said his bacteria delivery method has been successfully tried in mice and a study on humans will begin this year.

If successful, it could also revolutionise the way vaccines are made.

New doses could be created at the same pace at which the bacteria could reproduce -- generating within weeks what conventional methods can require months to achieve.

"It removes a \$300 million biotech factory out of the equation and you could make millions of doses with relatively simple technology anywhere you wanted to," Dr Marshall said.

"If you had a useful vaccine for Africa . . . you'd need electricity, but the whole production plant could come in a box of about one square metre."

Dr Marshall was awarded the 2005 Nobel Prize in Physiology or Medicine with his research partner Dr Robin Warren.

ABC Radio Australia Breakfast Show

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