

News

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New Zealand company innovates testing for blood vitamin C levels

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Knowing your blood vitamin C level may be just a finger-prick away, with Kiwi company Feedback Research developing what is believed to be a patented world-first test.

Feedback Research chief executive Jackson Perry says the Auckland-based company has spent five years developing its Feedback C-Meter, an accessible, easy, point-of-care test for determining vitamin C levels.

University of Otago Christchurch Professor Margreet Vissers, whose research lies mostly with vitamin C, says this development is most interesting and will be very useful.



The Feedback C Meter, a finger-prick test for vitamin C level, believed to be a world first.

As far as Professor Vissers knows, there is nothing available anywhere that measures vitamin C levels using a finger-prick test. Usually a full blood test is needed.

Results from a recent [Otago study](#) show more than two-thirds of Kiwis aged over 50 are low in vitamin C, with more than one in 10 severely so. Vitamin C deficiency can lead to scurvy and other illnesses.

Thirteen per cent of the 400 study participants had very low vitamin C levels showing preclinical signs of scurvy. It is time for blood to be routinely checked for vitamin C level, as it is now for cholesterol and iron levels, the study authors say.

"If this meter becomes available, it will make it so much easier to monitor vitamin C status in vulnerable populations and to take corrective action if there is a problem," says Professor Vissers, who is also principal investigator and associate dean in the university's Centre for Free Radical Research.

"It is very common in New Zealand to test for vitamin B12 and D, but, for reasons unknown to us, vitamin C is not routinely tested," says Mr Perry.



According to Professor Vissers, the main reason vitamin C testing is rarely done by doctors in hospitals or in general practice is because it is currently quite a challenging thing to measure in people.

Vitamin C has many biological functions in the body, which depend on optimal levels. Mr Perry believes low vitamin C levels are largely due to our modern diet and lifestyle.

According to the US National Institutes of Health, overcooking or processing of foods can greatly reduce their vitamin C

content. Among other factors, stress, illness and smoking increase the need for vitamin C, which can only be replaced by eating enough foods rich in vitamin C, or by supplementation.

An improvement in diet can overcome most basic deficiencies, with fruit and vegetables being the best sources, and there are dietary supplements available.

Mr Perry is confident the finger-prick test will lead to vitamin C testing being as common as blood glucose or cholesterol finger-prick tests. "The last piece of the puzzle is finding a local company that can help with vacuum packing the electrodes in foil," he says.

His company's goal is to keep the design and manufacturing of the meter in New Zealand, but if they can't find a local partner for the test strip, it would have to be shipped offshore.

All going to plan, the meters will be marketed locally next year and worldwide within two years.