



Breakthrough blood test reveals colour of chronic pain

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A revolutionary on the spot blood test that identifies chronic pain by colour “biomarkers” will be revealed at a pain medicine conference in Sydney today. (Sunday May 6). Australian neuroscientist Professor Mark Hutchinson who developed the world-first test with an Australian-based team believes the breakthrough has the potential to revolutionise the diagnosis and treatment for the one in five Australians who suffer chronic pain.

Professor Hutchinson will tell a meeting of the Faculty of Pain Medicine of the Australian and New Zealand College of Anaesthetists that the test would also benefit the diagnosis of pain in babies and dementia sufferers who are unable to communicate the extent or source of their pain.

“This gives us a brand new window into patients’ pain because we have created a new tool that not only allows for greater certainty of diagnosis but also can guide better drug treatment options,” he explained.

Professor Hutchinson, who has played a leading role in the development of blood tests for chronic pain, is the Director of the Australian Research Council Centre of Excellence for Nanoscale BioPhotonics at the University of Adelaide.

He believes the “painHS” test could be ready for broader use by pain medicine physicians and GPs within 18 months as a cost effective test to determine the severity of chronic pain in patients with lower back pain, fibromyalgia, pelvic pain, cancer pain and migraine.

Professor Hutchinson said while the earlier “painSEQ” and “painCELL” blood tests developed by his team to identify pain were accurate, it took one to two days to get the “bench to bookshelf” results.

However, the simple colour biomarker “bench to bedside” blood test meant clinicians could get the results instantly. The test uses light measurement tools (hyperspectral imaging analysis) to identify the molecular structures of what pain actually looks like in blood cells.

“We are literally quantifying the colour of pain,” Professor Hutchinson explained.

“We’ve now discovered that we can use the natural colour of biology to predict the severity of pain. What we’ve found is that persistent chronic pain has a different natural colour in immune cells than in a situation where there isn’t persistent pain.”

Professor Hutchinson stressed that the test could never replace the importance of having patients describe and discuss their pain with their doctor.

“Self-reporting (by patients) is still going to be key but what this does mean is that those ‘forgotten people’ who are unable to communicate their pain conditions such as babies or people with dementia can now have their condition diagnosed and treated.”

The test could eventually lead to the development of a new generation of drugs that would better target chronic pain conditions and also eliminate the need for clinical trials to use placebos to determine the effectiveness of a particular drug.

“We now know there is a peripheral cell signal so we could start designing new types of drugs for new types of cellular therapies that target the peripheral immune system to tackle central nervous system pain.”

Professor Hutchinson said the test also had the potential to revolutionise the treatment of animals.

“This has a profound impact not only for human health but also animals. Animals can’t tell us if they’re in pain but here we have a Dr Doolittle type test that enables us to ‘talk’ to the animals so we can find out if they are experiencing pain and then we can help them.”

More than 300 local and international pain medicine specialists have gathered for the FPM meeting at the International Convention Centre in Sydney.