



Naturopath
Tania Flack
talks to Dr
Margaret
Smith,
pioneer of the
Wellness
Genomic test
that allows
people to
tailor their
diet
according to
their genes.



Case study: Matty Clarke

Athlete Matty Clarke

has forged a successful career on the Australian Ironman circuit. He was looking for something to give him an edge in competition, and decided to get DNA testing done. "The test showed I needed to change certain aspects of my diet and training, and support glutathione production for muscle recovery," he says. "I worked with my practitioner to fine-tune my nutrition and drop some supplements I had been taking and, since then, I have increased my weightlifting ability by 12 percent."

What's in your *health future?*

DNA testing has become common since the release of the findings of the human genome project in 2003. While DNA testing performed in a hospital is used to diagnose and prevent disease, second-generation genomic and nutrigenomic testing, available from naturopaths, nutritionists and GPs, is designed specifically for use in personalised healthcare. Meet Dr Margaret Smith, molecular geneticist and scientific director of smartDNA, a provider of nutritional and genetic testing in Australia.

Can genetic testing improve health?

DNA testing gives people comprehensive information about their unique genetic profile. Genomic Wellness testing investigates genes that influence biological pathways and how they impact a person's health. It's the ultimate in personalised, predictive, preventive healthcare.

What about weight management?

A range of genes impact body composition and variations of any of these influence how easily weight is gained or lost. For example, the FTO gene can affect a person's ability to sense when they are full, so variations in this gene can lead to poor leptin signalling and overeating. Other gene variations increase the risk of carrying weight around the middle, snacking or addictive food behaviours. Designing a diet that takes individual genetic variations into account helps people manage their weight effectively.

What about the Mediterranean diet?

This diet is known to reduce cholesterol and overall cardiovascular risk. However, studies show it may actually increase cholesterol and contribute to cardiovascular risk for people

with certain genetic variations. For example, some people are more sensitive to saturated fats than others and some have genetic variations that predispose them to elevated low-density lipoproteins ('bad' cholesterol).

Do genes impact detoxification?

The body's ability to detoxify chemicals and pesticides and to safely metabolise hormones relies on genes controlling the detoxification pathways. For example, variations in genes associated with oestrogen metabolism may increase the likelihood of oestrogen-dependent conditions, like fibroids and fibrocystic breast disease. If a woman has variations of these genes, then further testing can measure her ability to safely metabolise oestrogen.

Can testing help us make better dietary choices?

There is a range of genes that control our ability to effectively metabolise nutrients from food. Variations of these genes may explain why some people become nutritionally depleted more easily than others, despite having a healthy diet. Understanding how genes affect your ability to utilise certain nutrients lets you tailor your diet to your individual needs.

Can genetic testing improve sports performance?

Genetic variations associated with oxygen delivery, fast and slow twitch muscle fibres, and lactic acid removal have an impact. Other genes, such as those associated with cortisol and inflammation, are also important in exercise recovery. Knowing your individual expression of these genes lets you tailor your training to reduce your risk of injury, promote faster recovery, and optimise performance.

To find a practitioner near you,
visit www.smartdna.com.au