



# Take the guesswork out of your health regime

**Did you know that there are safe – yet extremely under-utilised – tests that can give you valuable feedback about what is going on in your cells, and help you establish which diet and lifestyle will be optimal for you? Nutritional therapist Niki Gratrix reports.**

I am excited to be sharing information in this article which is literally at the cutting edge of nutrition and really gives the reader a glimpse into the future direction of this field. This information is very timely and appropriate for those interested in optimum health and raw food. While disagreement continues to rage within the field about what is the “best” diet, in this article I’ll run through the tests which can help you to discover whether or not a particular diet and lifestyle is right for you.

I’ll be covering two categories of tests in this article. First, some basic “functional” tests which you can use to get information about your level of health *before* a diagnosable disease state occurs. They can also help you establish if your diet and lifestyle are leading to any deficiencies or imbalances.

At the moment, functional testing is greatly under-utilised by those interested in optimum health and well-being. This is partly because some of the tests that can be really useful have to be paid for, and – in the UK anyway – we’re all used to getting healthcare for free on the NHS. In addition, increased regulation means that these tests can only be ordered by qualified practitioners. There is no direct advertising about them to the public, so they are little known about.

Yet there are some fantastic tests out there which can give you valuable objective feedback as to how well balanced you are biochemically, and take the guesswork out of your diet and lifestyle choices. Sometimes, having a result in black and white can really motivate you to complete the regime or make the changes you need to.

Other times it can confirm you really have cleared that parasite or candida now, or the other goal you were trying to achieve, so there’s no need for the strict diet or supplements any longer.

The second set of tests covers genetic profiling, which you can use to discover whether you are following the right diet and lifestyle for your personal genetic make-up. These tests are truly cutting edge.

A scientific revolution has been taking place in university and industrial molecular biology laboratories around the world, and it will irreversibly change the way medicine is practised. The revolution is the Human Genome Project. The medicine of the future will be personalised, and preventative medicine and genetic profiling will play a key role. This testing requires an understanding of “polymorphisms” – small variations in the human gene pool which explain why there is no one ideal diet for everyone.

In brief, research from the Human Genome Project has shown that the most common type of polymorphism is known as a “single nucleotide polymorphism” (SNP, pronounced “snip”), where only one letter changes in the DNA sequence. SNPs are fairly common, and the average person has about 3 million of them. What this means is that there are 3 million reasons you are *not* like everyone else!

The fact that genetic profiling is now available, based on research from the Human Genome Project, from fully accredited commercial medical laboratories in the US and the UK, throws up a significant challenge to anyone touting a “one-size-fits-all” approach to nutrition. In fact, I would personally say it ought to put an end to the myth that there is one diet that is right for “everyone”, and that anyone not thriving on that diet is just detoxing, not trying hard enough or hasn’t given it enough time.

As Groucho Marx said, “Be open minded, but not so open minded that your brains fall out.” In other words, be willing to consider new information, but always ask yourself what evidence there is to back it up. Biochemical individuality is a fact and everyone interested in optimal health should be aware of this.

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### Functional testing

Since you are reading this magazine, it is safe to assume that you’ve grasped the importance of “preventative medicine”. It is also safe to assume you understand that conventional medicine – while its strengths are brilliant surgery and fantastic crisis management – faces significant challenges. It pays scant heed to the role of prevention as it is too busy treating symptoms to be concerned with underlying causes.

Conventional medicine treats the disease, rather than builds health – hence we have “anti-medicine”: antibiotics, anti-inflammatories, antidepressants, and so on. Diet and nutrition – as well as other environmental factors such as pollution, electromagnetic stress and psycho-emotional issues – tend to fall into the “holistic” or “functional” medical model at present.

A key principle of functional medicine is that physiological imbalances occur long before a conventionally diagnosable disease state occurs. Another key principle is that there is a difference between optimum health and the absence of disease. So it is good to understand that the orthodox medical model only covers tests for diagnosable disease states – and essentially this is a very late stage in the game.

Chronic illness doesn’t suddenly appear overnight, so it makes sense to start looking for subtler imbalances *before* they manifest into diagnosable disease states. That is what we are going to cover in this first category.

I often say to my patients, “If I tell you, ‘You have high blood sugar,’ your boat has gone out to sea too far and we need to turn it around now with diet and lifestyle changes. If a medically qualified

doctor tells you ‘You have high blood sugar,’ your boat has gone out to sea and sunk already.” At this stage you’ll very likely be prescribed medication and be given a title for your disease state – i.e. diabetes.

Not only are there observable biochemical changes which can be picked up early through functional testing, so that chronic diseases can be prevented, but these early biochemical imbalances often present with a whole range of sometimes very debilitating or at least irritating symptoms.

In the UK and the US, we are in the midst of a massive health crisis (based on numbers now being diagnosed with diabetes, heart disease, cancer, obesity and an increasing number of children with a shorter life expectancy than their parents, and more). It should not be surprising therefore that the precursor to these disease states – people in the zone I call the “walking wounded” – are suffering at epidemic proportions.

These are people who are not yet in hospital with diagnosable disease states, but who suffer from unpleasant and often debilitating symptoms. But present to your GP with any of these and you’ll generally be told – based on orthodox medical tests – that, “There’s nothing wrong with you”. Such people are commonly suffering from some of the below symptoms, for which functional testing is ideal:

- Sleep issues
- Tension/anxiety
- Irritable Bowel Syndrome (IBS)
- Headaches
- Variable daily energy levels
- Feeling dizzy and/or faintness
- Cravings
- Hungry all the time
- Tired all the time
- Post-exertional fatigue
- Chronic fatigue
- Stomach cramps/pain/indigestion
- Reflux/heartburn
- Sinus problems
- Migraines
- Nausea and feeling “toxic”
- PMS
- Hormone imbalances
- Muscle and joint pain
- Poor or variable memory and concentration
- Low mood and/or libido
- Food allergies and intolerances
- Just feeling under par
- And many more....

People, of course, are always more than just a test result. Results are most helpfully interpreted when a qualified practitioner considers them alongside your entire health picture. A truly holistic approach means we draw conclusions about a patient’s imbalances based on a whole range of data – not just test results. To get a truly accurate picture we want to look at test results alongside a patient’s medical and personal history, presentation of any current symptoms, life circumstances, diet, psychology, environment, and so on.

## The basics

An increasingly popular set of tests that complementary and alternative (CAM) practitioners look at with their patients is a standard set of around 10 blood tests that are available from your GP. The list is below. However, CAM practitioners don’t look at the results in the same way GPs are trained to. We narrow down the reference ranges a GP would use to enable us to identify functional imbalances, so don’t expect your GP to pick up what a CAM practitioner might find. These basic tests are a great and cheap starting point and many patients bring these results with them to their first consultation with me.

- Full Blood Count
- Blood Glucose
- Electrolytes
- Uric Acid
- Liver function
- Lipid profile
- Serum ferritin
- Serum B12 and folate
- ESR
- Blood pressure
- Thyroid, including TSH and T4

These tests can identify several deficiencies common in those not eating animal products or fortified foods – which obviously includes anyone on a raw vegan diet. For example serum ferritin can detect low iron levels, and is a more sensitive test than standard checks for haemoglobin.

In addition, these tests can pick up other deficiencies which are more common among those on vegan and vegetarian diets. Low levels of stomach acid is one. The reason this is more common among those on plant-based diets is that protein and the mineral zinc are required by the body’s parietal cells in the stomach lining to make stomach acid. Zinc is a nutrient which people on animal-free diets often become deficient in. A catch-22 then occurs because even if foods containing protein and zinc are increased in the diet, there is a lack of stomach acid available to break these foods down properly and absorb the zinc and protein to replenish stomach acid levels!

Low stomach acid then leads on to a multitude of other problems – one is B12 deficiency, which can lead to methylation crashes (a detoxification pathway in the body), gut dysbiosis, malabsorption, leaky gut, food intolerances, increased vulnerability to enteroviruses and other stomach bugs, persistent chronic candida overgrowth, and more.

Signs of protein deficiency, low stomach acid and mineral deficiencies can be inferred from parts of the liver function tests via checking albumin, and total protein and calcium levels. If the liver enzyme ALT is low, it is associated with zinc deficiency. Electrolytes, including low urea, can reflect and confirm low protein levels.

The full blood count can provide further useful indicators – for example a low red blood cell or white blood cell count indicates general malabsorption and malnutrition. High levels of MCH, MCV and MCHC (which measure the size and haemoglobin content of red blood cells) can identify low levels of vitamin B12 or folic acid, and a low reading can suggest iron deficiency. Other imbalances can be identified, such as sodium deficiency through low sodium levels in the electrolytes test, and low blood pressure.

Another key aspect of GP results that is especially useful for people on animal-free diets is assessing for carbohydrate imbalances. In particular, a diet too high in sugar and starch (for the

individual) can show up as high or low levels of blood sugar, and also as high triglycerides (part of the lipid profile). Excess sugar gets converted to fat and can therefore be picked up as high triglycerides in the blood serum.

World-leading fatty acid researchers including Dr Patricia Kane regularly use the lipid profile to assess for problems in breaking down and absorbing fats. Generally, Dr Kane's research confirms that high levels of cholesterol and other fats tend to be due either to poor metabolism or a diet too high in sugar rather than to a diet too high in fat.

Importantly, Dr Kane checks for low as well as high cholesterol and fat levels. Low cholesterol and fat levels can be as bad for health as high cholesterol and fat levels. Raw fooders and vegans on very low-fat diets can be at risk of toxin back-up in the system. The majority of toxins in the body (such as heavy metals and chemicals) are fat-soluble, so a good supply of clean fats is essential for transporting these toxins out.

Dr Kane specialises in treating diseases associated with heavy metal toxicity and her regime includes "fat flushing" treatments with phosphatidyl choline and other fats – i.e. treatments which focus on flooding the body with all the good fats it needs in order to detoxify the heavy metals. For more information see [patriciakane.net](http://patriciakane.net).

Incidentally, GP results can also be used to profile signs of heavy metal toxicity, methylation cycle problems, adrenal and thyroid imbalances, inflammation and more.

It is beyond the scope of this article to cover everything that GP results can show a practitioner and patient, but for those sophisticated readers who want to know more for themselves, I recommend *Blood Chemistry and CBC Analysis* by Dicken Wetherby and Scott Ferguson, available on Amazon. This book teaches you how to analyse standard GP tests from a functional perspective.

Please note that GPs are not obliged to do these tests simply on your request, but many will be cooperative if you discuss any ailments you are suffering from and request a range of tests just as a general health check (especially as you may never have had any testing before). For patients with Chronic Fatigue Syndrome and other chronic illnesses, I suggest checking in for full testing annually.

If your GP proves uncooperative, most of these tests can be completed privately (through a practitioner) for less than £60. Details of labs and practitioners are listed at the end of this article.

### **Other vitamin, mineral and macronutrient testing**

Some important minerals and vitamins for raw fooders to test are not available via GP testing. For example, it is possible to get serum magnesium levels checked with your GP, but these results are not a good indicator of true magnesium status because the body tends to maintain serum magnesium levels even when deficient in magnesium. A truer estimation of your magnesium levels is checking red cell magnesium, and this costs £15 through Biolab.

Generally, the best way of assessing mineral status in the body is either via red cell checks or hair mineral analysis. A blood test for a range of red cell minerals including potassium, magnesium, zinc, calcium, copper and selenium costs £58 from Biolab.

Mineral Check is the best lab offering hair mineral testing ([mineralcheck.com](http://mineralcheck.com)). Hair mineral testing can be excellent as it actually gives a snapshot of status over a three-month period (as this is how long minerals take to build up in the hair). The cost is £55 for a test with full analysis or £39 for just the result and no analysis.

Another advantage of hair mineral tests is that they are so easy. You simply post a lock of hair, whereas red cell mineral testing requires blood to be taken by a qualified phlebotomist such as a doctor or nurse. Hair mineral checks also include a snapshot of your levels of toxic metals including lead, cadmium, arsenic, aluminium and mercury. >>



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### Direct quotations from the Gene-Environment Interaction Fact Sheet Centres for Disease Control, – August 2000

- **Virtually all human diseases result from the interaction of genetic susceptibility and modifiable environmental factors.**
- **Variations in genetic makeup are associated with almost all diseases.**
- **Genetic variations do not cause disease but rather influence a person's susceptibility to specific environmental factors.**
- **Genetic information can be used to target interventions to eliminate trial-and-error therapies.**

Individual vitamin tests, or tests for groups of vitamins, are available via Biolab fairly cheaply, including vitamin A, carotene, vitamin C, vitamins B1, B2 and B6, vitamin B3, Biotin and vitamins D and E. The cost of the tests ranges between £17 and £79. Biolab offers phlebotomy services at its lab in central London for a small fee. The alternative, for those who can't get to London, is to find a local nurse or doctor to take your blood sample for you.

A key vitamin those on vegan diets should consider checking is vitamin D. Food sources of vitamin D include oily fish and some fortified dairy products, but the best source is sunlight. The recent case of "the lowest levels of vitamin D" ever seen by doctors treating actress Gwyneth Paltrow highlights the risk of vitamin D deficiency in people on restricted diets. Paltrow is well known for following the macrobiotic diet, and in addition she is probably sponsored by the cosmetics industry to wear sun protection creams all the time.

Even if you do aim to get sunshine every day, in the Northern

Hemisphere for six months of the year the sunlight is not strong enough to trigger adequate vitamin D production in the body. Given that vitamin D deficiency is now associated with heart disease, numerous cancers, diabetes, autoimmune disorders, depression, osteoporosis, fibromyalgia and more, it is certainly not a nutrient to be neglected.

Other vitamins may be important for individuals, depending on their specific diets. For example, those following diets that are both grain-free and meat-free could be at higher risk of not getting adequate B vitamins, so these are worth testing for.

Having said this, it is also worth testing a range of vitamins and minerals that you would expect to be at *good* levels given your diet. Patients are often shocked to find they are deficient in nutrients they have been loading up on. This is obviously due to factors other than inadequate intake – for example, low stomach acid can result in vitamin and mineral deficiencies. Stress can cause stomach acid and pancreatic enzyme levels to drop. Additionally, stress, tension and emotional trauma all cause the sympathetic nervous system to burn through certain vitamins – for example, B vitamins – or minerals – for example, magnesium.

One other option for the individual committed to optimal health is to go for the "Rolls-Royce" of private vitamin and mineral testing. Genova Diagnostics is a major laboratory based in the US and the UK and it offers the ONE test (Optimum Nutrition Evaluation) for £300.

This is a urine test which can be done from home and by post. This panel includes testing key organic acids in the urine to evaluate gastrointestinal function, and functional need for vitamins, minerals and co-factors. In addition, amino acids are measured to assess digestion, absorption, metabolic impairments and nutritional deficits. Antioxidant reserves and the presence of oxidative injury are also analysed.

For even more comprehensive testing, NutrEval is a comprehensive nutritional evaluation which includes all of the above as well as a more comprehensive look at minerals and toxic heavy metals, plus an additional section checking fatty acid health in the cell membranes. This is by far the most comprehensive and the cost is £550. As it is more comprehensive, both blood and urine samples are required.

For sample results of Genova Diagnostics' ONE and NutrEval tests – which give you a good idea of exactly what they cover, and the depth of analysis – see the links under "Labs offering testing" at the end of the article.

If you are not sure about which tests to go for, I recommend booking in with myself or the other practitioner I recommend at the end of this article for some expert advice about which tests will be most helpful given your particular circumstances.

### Genetic testing

One of the ongoing challenges in both orthodox and holistic medicine is that there is a lack of personalisation of treatment recommendations made by practitioners. Conventional medicine treats the disease, not the whole person.

Holistic medicine has improved on conventional medicine, as it at least treats the whole person – but still, in most cases, with a "one-size-fits-all" approach. Holistic medicine still relies on therapies shown to be effective for the "average person." Where there is research for a certain nutritional therapy, it tends to apply, epidemiologically and statistically, to the "average person" – but there is no "average person." The "Medicine of the Mean" tells us everything we need to know about a person that does not exist!

We are all biochemically different. An early pioneer of this concept was Roger J. Williams, PhD who wrote the book *Biochemical Individuality* in 1956. Also worthy of mention are Peter D'Adamo and his book *The Blood Type Diet*, *Metabolic Typing* by William Walcott,

and lastly the work of Dr William Kelley and Dr Nicholas Gonzalez in pioneering personalised diet therapy for cancer.

## Genetics 101

Genetics involves the study of DNA: Deoxyribonucleic Acid. DNA is the assembly and operational guide for all living creatures on the planet. Chromosomes carry genes which contain the DNA, and there are 3 billion letters of code in the human genome. If the DNA of a single cell were unravelled, it would be two metres long. If the DNA in all of your cells were unravelled into a straight line it would reach to the sun and back – *a thousand times*.

Genes do more than carry information. Genes literally respond to specific environments and to individual experience. Because genes respond to the environment we subject them to, the environment itself can be proactively manipulated in order to alter gene expression.

Your genes are like the owner's manual to your car; a biological instruction book written specifically for your "make and model". Choosing the environment you subject your genes to is like choosing how you actually use your car: city driving, highway driving, off-road adventures, and so on. A "car" well suited to one environment may not be well-suited to another.

## Getting to individuality

There are two equally important factors that cause disease:

- 1 Environmental factors (nurture) – toxins (microbes and chemicals), physical trauma, psycho-emotional factors, diet and lifestyle.
- 2 Your genes (nature).

As molecular biologist Dr Bruce Lipton, PhD states in his important book, *The Biology of Belief*, your genes do *not* determine your health. Gene *expression* determines your health, and this is influenced by the environmental factors mentioned above. We all know that some people can smoke their entire adult lives and live to a ripe old age, while others die much sooner from diseases such as lung cancer in that specific environment.

But disease is *not* caused by the fact that you have certain genes which make you susceptible to that illness. It is caused by a poor match between your unique genetic profile and your diet and lifestyle choices.

To understand how our genes make us all individual, we need to understand the concept of "polymorphisms". Polymorphisms are small variations in the genetic code that have been passed through generations. Polymorphisms (along with our environment) are largely responsible for our biochemical individuality.

As mentioned earlier, the most common type of polymorphism is known as a single nucleotide polymorphism, or SNP, where only one letter of the code changes, and the average person has about 3 million SNPs.

## Why do polymorphisms exist?

Polymorphisms occur randomly, but they survive and are passed on to offspring because they confer some advantage in a given environment (natural selection). But by the same token, the same polymorphism may confer some disadvantages in other environments.

If you buy 10,000 lottery tickets, each with different numbers, you have a much higher chance of hitting the jackpot than if you had 10,000 tickets with the same number. Similarly, diversity among offspring is the best strategy to ensure survival of at least some of

## Genetic profiling: the four criteria

Some critics of genetic profiling suggest there is not yet enough scientific research to really confirm the usefulness of such testing. The labs have addressed this through using these four criteria for clinical utility of polymorphisms:

- 1 Relevant – SNPs must make significant changes in biochemistry and physiology.
- 2 Prevalent – a SNP must be present in a significant percentage of the population in order to see its effects in studies.
- 3 Modifiable – the functional effects of a SNP must be modifiable using diet and clinical nutrition, lifestyle and behaviour, nutritional supplements and pharmaceuticals.
- 4 Measurable – we must be able to measure the change in function when we modify the effects of a SNP.

**“Biochemical individuality is a fact and everyone interested in optimal health should be aware of this.”**

your offspring, regardless of the future threats and hazards they may face. Most evolutionary biologists believe that the biggest driving force behind diversity is the pressure exerted by countless microbial epidemics. Only about 3% of your DNA actually codes for "you"; by contrast more than 30% of your DNA is of viral origin. In other words, viral infections can cause DNA mutations.

## Good genes, bad genes?

A genetic polymorphism is neither "good" nor "bad." A polymorphism will be advantageous in some environments and detrimental in other environments.

Polymorphisms make us more or less susceptible to specific environmental factors. The very fact a polymorphism exists means it was definitely advantageous somewhere.

The "Preventative Genomic Testing" offered by Genova Diagnostics allows a practitioner to personalise their treatment recommendations for patients and clients. The lab now provides genetic profiling for major common diseases – please note this testing can only be ordered by a qualified practitioner who has also attended specific training with Genova Diagnostics (see end of article for more details). >>

Genovations – genetic profiling offered by genova diagnostics		
Name	Details	Price
<b>CardioGenomic Plus Profile</b>	Identifies genomic risk in areas such as blood pressure regulation, lipid balance, nutrient metabolism, inflammation and oxidative stress.	£500
<b>OsteoGenomic Profile</b>	Identifies genomic risk for rapid bone loss and hormone dysfunction.	£175
<b>Estrogenomic Profile</b>	Identifies genomic risk in genes that modulate oestrogen metabolism, coagulation, cardiovascular disease and osteoporosis.	£550
<b>ImmunoGenomic Profile</b>	Identifies genomic risk for arthritis, asthma and allergies.	£215
<b>DetoxiGenomic Profile</b>	Identifies genomic risk for chemical sensitivities, oxidative stress and ability to handle various medications.	£327
<b>NeuroGenomic Profile</b>	Identifies genomic indicators of weak detoxification capacity and possible adverse drug reactions. This test can determine if susceptibility to heavy metals or high oxidative stress might be contributing to learning or behavioural disorders.	£335

Genetic Profiling tests are good for the following types of people:

- 1** Proactive people who want to minimise their risk of disease and optimise their health.
- 2** People who have a family history of disease like heart disease, colon cancer, osteoporosis, etc.
- 3** People with chronic illnesses who have not responded to normal treatment and are finding their case difficult and challenging to treat.

### Early findings

In the table above you can see the six profiles which have been created as a result of this work and here are just a few of the amazing discoveries that have come out of them so far. Information gleaned from work on the CardioGenomic Plus profile has found that, in fact, just 5% of the population are hyper-sensitive to salt and respond with high blood pressure and therefore need to severely restrict their salt intake.

The test also includes looking for the gene APO E4. Having this gene increases your risk of high fat and cholesterol levels – thus a lower fat diet is appropriate. APO E4 is called the “Thrifty Gene” because it enables a person to utilise *all* the fat and *all* the cholesterol from their diet. In other words, this gene would have helped to enable a human to survive in a hostile environment where

food was scarce. But in our era of 24-hour supermarkets, this gene is less advantageous. Only those with this gene really need to reduce fat intake *per se* for heart health (and some people even have genes which mean that when you put them on a low fat diet their cholesterol goes *up!*)

But of course, we should *all* avoid *all* processed and refined fats. These are like adding plastic to your cell membranes. However, organic and unprocessed, and better still raw, sources of natural fats – even saturated fats – are not something you need to avoid. *Unless* you have the thrifty gene.

The work on the OsteoGenomic panel has shown that just 50% of the population benefit from taking calcium to prevent osteoporosis; to the rest it makes no difference. In addition, 70% of the population have genes which increase the risk of inflammation which can lead onto osteoporosis. Why would that much of the population have selected such a gene? Because it also provides increased immune system vigilance against microbial attack.

The work on the DetoxiGenomic panel has provided a hugely important finding at a time when toxins from chemicals and pollution are at an all-time high. Some 15% of the population do not detoxify as well as the rest. Someone in this category may be at risk of developing CFS/ME, fibromyalgia, Multiple Chemical Sensitivity and a range of other chronic illnesses if they have amalgam fillings, eat non-organic food, have a job which exposes them to dangerous chemicals, or are exposed via any other means.

# “People who do not know their genetic polymorphisms are not likely ever to know their true health potential.”

Further work on genes in this profile has shown that 50% of people do not have glutathione S-Transferase M1 allele (GSTM1). A study showed that regular servings of brassica vegetables cut the risk of colorectal cancer by 53%, and lung cancer by 70%, but further research showed this was *only* beneficial in those people who did not have the GSTM1 gene.

## Limitations of preventative genomic testing

Genomic profiles cannot tell you if you are sick, and they cannot identify functional imbalances or diagnose disease. For therapeutic effectiveness, profiles must be combined with functional assessments, even when being used for primary prevention.

Some critics of genetic profiling raise an ethical issue: that genetic information may be used to deny individuals access to health and life insurance, employment and education. However, this is based on two incorrect assumptions:

- 1 Genetic polymorphisms are always “bad”.
- 2 There’s nothing you can do about a genetic polymorphism.

The answers to complex chronic diseases are not to be found exclusively either in nature or in nurture but in the interactive symphony of the two. Key to understanding polymorphisms is to understand that every significant polymorphism exists because, at some point in human history, it provided advantages for survival by enabling those with the polymorphism to adapt better to a specific environment.

Nearly all polymorphisms are beneficial given the right environment. Yet people still tend to see genetic information as “fate”. It’s true that you can’t change your genes, but you *can* change the way your genes function by changing your environment.

The philosophy behind the preventative genomic approach is to help individuals select the environment (diet, lifestyle, supplements and so on) for which their unique set of polymorphisms are best suited. It is only when we know our genetic polymorphisms that we

are able to choose our optimal environment. People often think that polymorphisms reveal our limitations. But it is more correct to say that polymorphisms reveal not our limitations but our *potential*.

People who do not know their genetic polymorphisms are not likely ever to know their true health potential. Preventative genomic testing allows people to be at choice. It empowers people to make informed decisions about their health through dietary, lifestyle and supplement choices.

Of the 3 billion letters of the epic human DNA, we are able to understand only a few simple words and phrases at this time. But soon we will be able to move beyond simple words and phrases and begin to understand the interconnected decision-making networks and hierarchies. Personalised healthcare, optimal disease prevention, and minimisation of trial and error in therapeutic recommendations are the right of every patient and the duty of every health care practitioner. ■

In future articles we’ll look at other areas of health testing: gut, hormones, mitochondrial function, toxicity testing and more. Plus non-laboratory methods of testing, including “energy” methods such as muscle testing, EAV and bioresonance.

### Recommended reading

*Biochemical Individuality*, Roger J. Williams, PhD  
*The Blood Type Diet*, Peter D’Adamo  
*Metabolic Typing*, William Walcott  
*Genetic Nutritioneering*, Jeffrey S. Bland PhD  
*The Biology of Belief*, Bruce H. Lipton, PhD

### Practitioners

For further information, consultations and test orders for any of the tests mentioned in this article contact:  
Niki Gratrix – [CFSMEEExpert.com](http://CFSMEEExpert.com)  
Rebecca Wilson – [RebeccaWilsonHealth.com](http://RebeccaWilsonHealth.com)

### Labs offering testing

Mineral Check – [MineralCheck.com](http://MineralCheck.com)  
Biolab – [Biolab.co.uk](http://Biolab.co.uk)  
Genova Diagnostics – [GenovaDiagnostics.com](http://GenovaDiagnostics.com)

For a sample test result of Genova Diagnostics’ ONE test visit [genovadiagnostics.com/files/profile\\_assets/sample\\_report/ONE\\_FMV\\_report.pdf](http://genovadiagnostics.com/files/profile_assets/sample_report/ONE_FMV_report.pdf).

For a sample result of its NutrEval test visit [genovadiagnostics.com/files/profile\\_assets/sample\\_report/NutrEval\\_FMV\\_Report.pdf](http://genovadiagnostics.com/files/profile_assets/sample_report/NutrEval_FMV_Report.pdf).



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