

An innovative approach to gut health and beyond...

G.E.M.M. could be the *Missing Link* in Restoring Your Health

Humans have existed on this planet for thousands of years without the benefit of any of today's technology. This tells us that every cell of our bodies is naturally equipped with all the processes it needs to remain healthy.

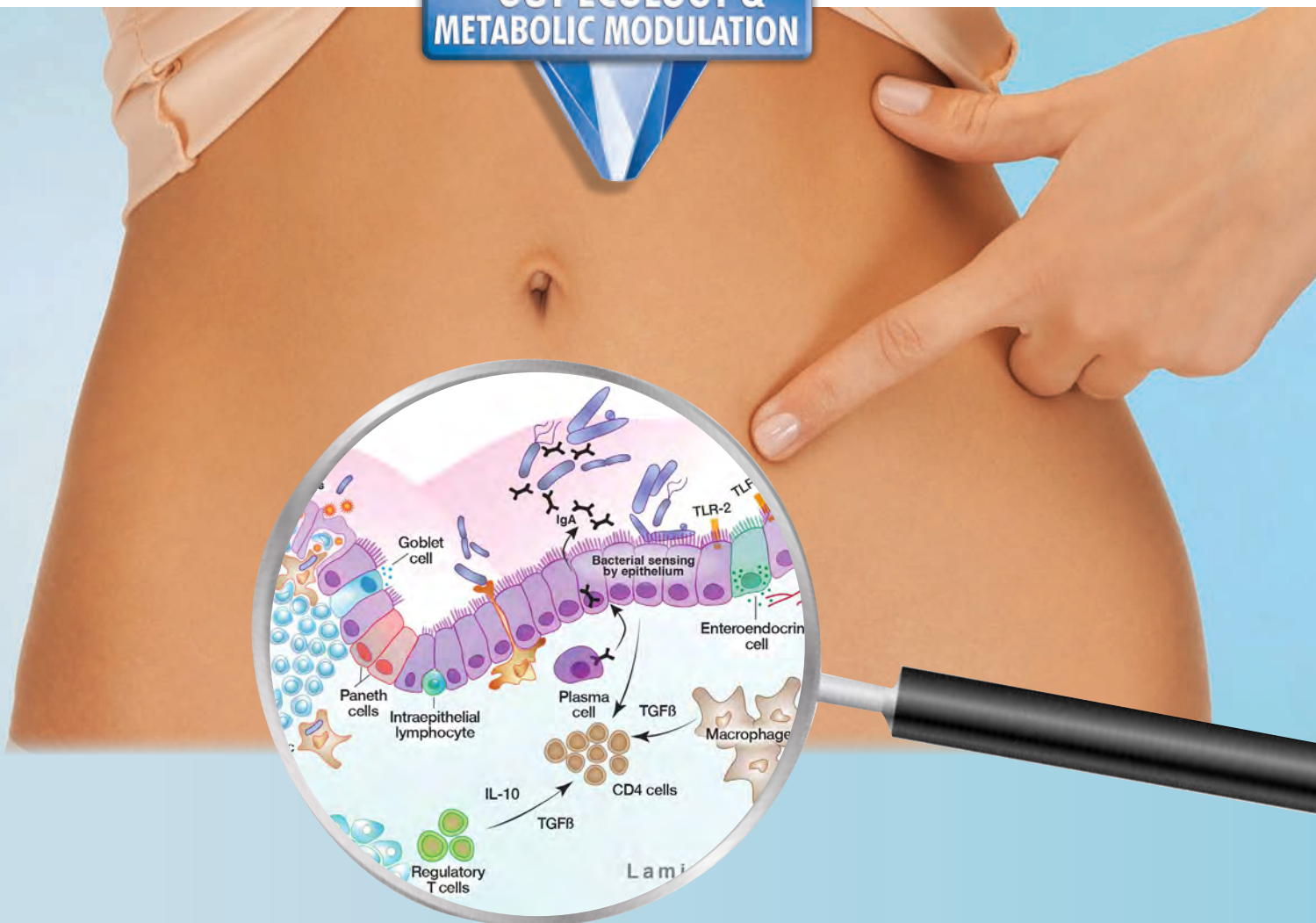
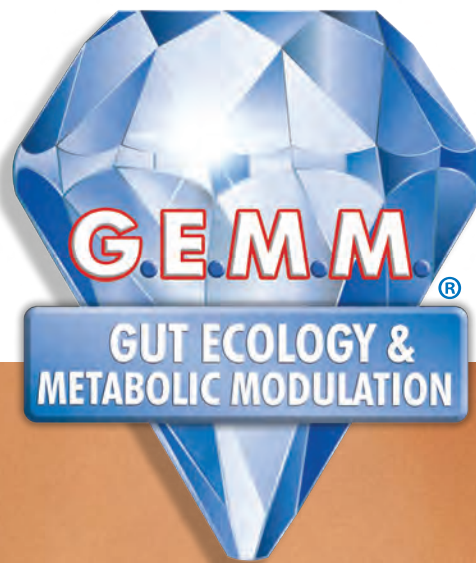
Gut Ecology & Metabolic Modulation (G.E.M.M.) is scientifically anchored in the principles of Nature and cast in the context of a 21st century lifestyle.

When balanced function has been restored to the digestive system and its underlying immune network, chemical signals travel throughout the entire body to rebalance the metabolism and prevent disease.

Developed by Nature - Validated by Science

Gut Ecology & Metabolic Modulation

.... *Your Gateway to Health*



G.E.M.M. is much more than an approach for normalising gut health.

By overlaying the principles of nutrition science on those of Nature herself, G.E.M.M. is a gentle and effective system for maintaining and repairing human physiology.

The result? An evidence-based strategy to target a broad range of health abnormalities.

How could G.E.M.M. help me?

The Gut-Disease Link

Targeting the cause of disease

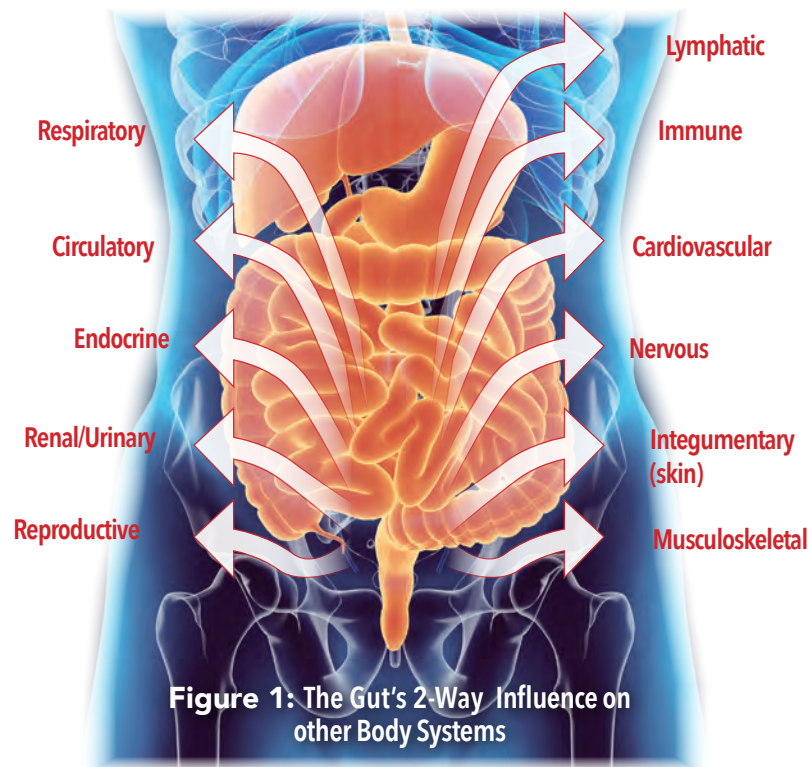
Even when digestive symptoms are not apparent, scientific research over the last decade has reinforced the fact that most common diseases begin in the gut – or more particularly at the Gut-Immune Interface. The programme described in this brochure provides an innovative approach to preventing and treating a range of the common conditions that rob us of our health.

How was G.E.M.M. developed?

The G.E.M.M. Protocol (*Gut Ecology & Metabolic Modulation*) is the brainchild of Australian Nutritional Biochemist, Dr Christine Houghton PhD who, after several decades in clinical practice, realised that existing therapies for addressing gut health, metabolic and other chronic diseases were not properly getting to the causes of much of the ill health she was seeing in her patients.

It was the combination of her scientific knowledge and her extensive clinical experience that led her to the realisation that any truly effective gut health approach needed to closely mimic the principles of Nature.

No longer in clinical practice and having confirmed the very real clinical benefits of this approach, Dr Houghton now continues her research while teaching this evidence-based programme to other clinicians.



LISTENING TO MOTHER NATURE

Realising that human cells already carry all the inbuilt repair processes they need, she concluded that her new system must 'unlock' those processes in order to restore their normal function.

In Dr Houghton's own words, *"the science of G.E.M.M. is complex – but the implementation is simple and when we understand how healthy cells work, we can assist Mother Nature in restoring the necessary balance – and typically without resorting to synthetic molecules."*

WORKING WITH A G.E.M.M. ACCREDITED CLINICIAN

If you have received this brochure from a G.E.M.M-trained clinician, he or she is likely to explain how this effective but gentle approach can help restore the necessary balance to your system.

If it seems that you need additional treatment for specific conditions, G.E.M.M. provides the foundation for reducing unwanted inflammation and for initiating the cellular repair processes that are common to all human cells.



The Conversation between your Gut and your Immune System

Where is the Immune System?

Around 80% of your immune system is located directly below the cells lining the digestive tract. This means that the Gut-Immune interface plays an important role in managing inflammation and many other disease-causing-processes that can affect our health. Although an essential process, inflammation when uncontrolled, leads to all sorts of seemingly- unrelated conditions.

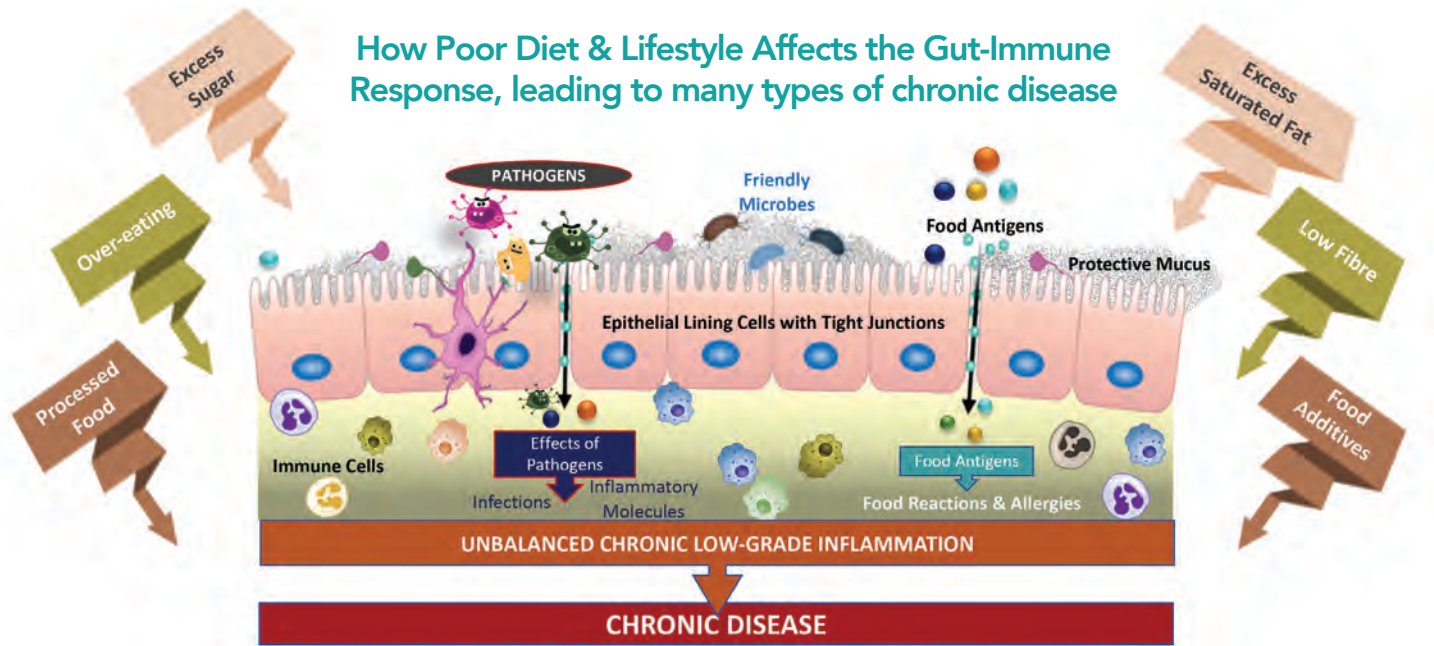


Figure 2: The healthy gut epithelial cells must digest food and then allow these nutrients to be absorbed. At the same time, they must keep out harmful microbes and potentially-reactive food antigens. When threatened, the Gut-Immune interface activates specialised immune cells to protect it against harm from pathogenic microbes, food antigens or toxic chemicals. Imbalances here set the scene for disease throughout the body.

NATURE'S INBUILT DEFENCES A single layer of cells lines the entire digestive system starting in the mouth.

Known as 'gut epithelial cells', these remarkable cells play a critical role in the ways our bodies defend themselves from a range of outside threats. (Figure 2) Rebalancing the function of these cells is the key to restoring the Gut-Immune interface and is essential in restoring the health-promoting chemical signals that travel to all our other organs and systems.

THE TIGHT JUNCTIONS Epithelial cells sit side-by-side forming tight junctions that make up the gut barrier. A healthy gut barrier 'decides' what molecules are allowed in and which ones must be kept out. It must especially keep out harmful microbes, reactive food chemicals and toxins. (Figure 3)

When the gut barrier and its tight junctions become weakened, unwanted microbes and molecules 'sneak through' to the underlying immune cells. It is here that they can cause infections, food intolerances, allergies, toxic overload and uncontrolled inflammation. This contributes to the downhill slide into poor health.

'CLEVER' GUT MECHANISMS Within this layer of epithelial cells are highly specialised cells that give the gut its extraordinary ability to maintain its many functions. Some of these cells produce protective mucous, others act like antennae to detect 'unwanted invaders', yet others produce antimicrobial molecules that behave like antibiotics to destroy the harmful microbes.

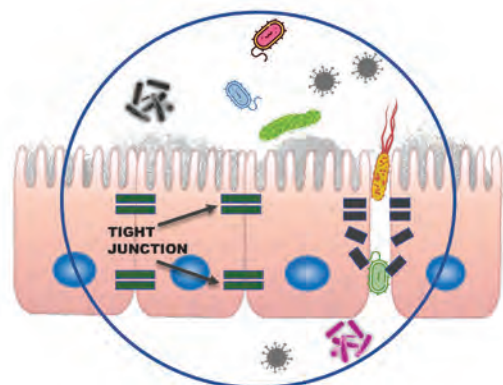


Figure 3: The Tight Junctions, an essential barrier separating the gut and its underlying immune network.

Eating for YOU and your 'friendly' microbes



The power of food choice

The foods we choose every day have profound effects on our health – now and into the future. Each mouthful is rich in thousands of food chemicals that tend to promote either health – or disease. Not only do our food choices impact the health of our own cells but also affect the billions of 'friendly' microbes with which we co-exist. Neither can function properly on nutritionally-deficient over-processed foods.

Food is a key focus of G.E.M.M. in nourishing the trillions of 'friendly' microbial companions that are so necessary for us to be healthy. When we feed our microbes the right foods (prebiotics), they multiply rapidly. When we poison them with 'junk' food and starve them of prebiotics, they die!

THE POWER OF FOOD VARIETY

The larger the variety of foods we eat, the greater the diversity of 'friendly' microbes – and the healthier we are.

G.E.M.M. focuses on avoiding over-processed nutritionally-deficient foods such as refined sugars and starches and the wrong types of fats, all of which create havoc for our own cells as well as for the many tiny 'creatures' making up our microbiome.

Let your clinician guide you on food selection so that you can enjoy a wide variety of delicious and health-promoting foods, ideal for your individual needs.

The separate flyer entitled 'What to Eat - Embracing the G.E.M.M. Principles' provides an at-a-glance overview of how to plan your meals.

Embracing G.E.M.M. Principles

EXCLUSION AND INCLUSION DIETS

Because G.E.M.M. recommends a wide range of minimally-processed unrefined foods from the key food groups, it is based on **inclusion** of a wide variety of nutrient-dense foods - and the more types and the more colourful they are, the better!

By contrast, the popular *Exclusion Diets* recommend avoidance of many wholesome foods. Such 'diets' ask you to avoid numerous plant foods that naturally contain molecules like histamines, oxalates, lectins, salicylates, nightshades, FODMAPS and others.

In patients with dysbiosis and other immune-related imbalances, avoiding these foods may temporarily relieve symptoms – but in the long term, this just makes things worse, as the resulting nutritional deficiencies can compound the problem.

HOW G.E.M.M. CORRECTS FOOD INTOLERANCES

In the early stages, you will probably need to avoid any food known to cause reactions. By targeting the immune-related causes of food intolerance, your clinician will guide you through the process so that in time, you can look forward to gradually reintroducing most, if not all, of these foods.

MIMICKING NATURE Where other approaches may focus on eradicating the pathogens and replacing missing microbes, G.E.M.M. mimics the processes of Nature in restoring the function of the Gut-Immune interface, simultaneously nourishing the microbiota.



G.E.M.M. - the Gateway to Restoring your Health

WHAT CONDITIONS RESPOND TO G.E.M.M.?

The Core Principle of G.E.M.M. is that correcting fundamental imbalances in the Gut-Immune Interface will beneficially impact other systems of the body.

Scientists have recently discovered the intricate 2-way communication networks which connect the gut to all other systems. Our newer understanding of these communication networks means that there is likely to be some form of gut imbalance, regardless of the symptoms or the condition.

THE LIVER AS A KEY ORGAN

Much of the blood flowing through the gut passes first to the liver, an important organ that can become readily overloaded. Such an overload leads to a host of other conditions that can start with fatty liver disease and lead to Type 2 diabetes, cardiovascular disease and other chronic illnesses, (Figure 2) that include arthritis, asthma,

eczema, inflammatory bowel disorders, heart disease, acne, premature aging, hormonal imbalances, mood disorders and many more.

MAKING G.E.M.M. SIMPLE

The G.E.M.M. Protocol encompasses elements of different scientific disciplines, including Cell Biology, Biochemistry, Immunology, Microbiology, Nutrigenomics and more. Indeed, the science is very complex but the implementation is simple.

Becoming familiar with what is in this brochure will help you to work effectively with your clinician to implement the steps in the correct sequence and with the appropriate timing.

G.E.M.M. is made up of 3 levels and although most patients will need to work through the complete sequence from Level A to Level C, this may vary depending on your individual situation; your clinician will guide you accordingly.

WHAT'S IN THE G.E.M.M. 'Toolbox'?

A key research component in the development of the G.E.M.M. Protocol included the identification of functional food molecules with highly beneficial effects on human health.

Although vitamins and minerals are essential for health, what has been overlooked until recently is that food contains thousands of other molecules that play key roles in our health. These molecules send chemical signals to our cells and although most of these molecules are found in plants, there are others found in animal foods and in fermented foods. Several of these form part of the G.E.M.M. 'tool box'.

Remarkably, these food-derived molecules activate 'switches' in our cells and these molecules 'talk to' the DNA within our genes to 'switch on' protective processes. This branch of science known as 'nutrigenomics' plays such a critical role in G.E.M.M. that your clinician is likely to recommend that you take one or more nutrigenomically-active supplements.

G.E.M.M. focuses on fine-tuning all of our inbuilt cellular processes, using Nature's 'tool box' to promote repair. By restoring balance to the ecology of the gut, its underlying immune network and beyond, G.E.M.M. mimics the principles of Nature gently and effectively.



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This brochure has been developed as background information for patients who are under the guidance of a suitably-qualified healthcare professional. The information contained herein may not be appropriate for everyone in its current form. Your clinician will assess you to determine if any part of this programme may need to be modified in accordance with your individual requirements.

Provided in the interests of patient education by Cell-Logic Pty Ltd and Integra Nutritionals, www.cell-logic.com.au
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