“Let food by thy medicine and medicine be thy food”....

....said the father of modern medicine, Hippocrates, over two and a half thousand years ago. Yet today we tend you use food as ‘taste bud entertainment’ rather than the foundations for our well-being. In my mind we can actually do both. It is possible to enjoy our food whilst providing the fundamental building blocks for good nutrition to allow us to live a healthy and happy life, we just need to know what foods we need. I like to call them ‘functional’ food.

Today’s workshop focuses on two epic ‘functional foods’ that will assist you regain your health and wellbeing by altering your gut health dramatically....for the better. Not only will you leave here confident in creating your own probiotic rich foods of fermented sauerkraut and pickled vegetables, you will also get a basic ‘gut health 101’ lesson so you appreciate the importance of establishing, harbouring and maintaining good gut flora, developing an appreciation for how important a role our gut flora plays in our overall health and well-being. We will then work through some simple additions you can make to your diet on a daily basis to really improve your gut health as well as identifying what foods may actually be impeding you achieving optimal gut health, and subsequently your overall wellbeing.

This booklet is designed to be used as a handy ‘starting point’ for your wellbeing journey. It will provide you with basic information regarding your gut health and help steer you in the right direction to improving your gut and hence your overall health and wellbeing for a better life. Feel free to scribble on the pages throughout the workshop to ensure you get as much out of the workshop as you can as I am bound to address additional things that aren’t listed on the following pages as I go through.....it happens every time! And don’t stop there. Start doing your own research on the topic of gut health. Trawl reputable sites on the internet using key words such as ‘probiotics’, ‘prebiotics’, ‘gut microbiota’, ‘gut flora’ and you will be amazed at the research findings that are being presented at the moment.

If reading and trawling the internet is not your thing, feel free to contact us at Life Wellness Co. and joins loads of others that we have assisted on their individual health journey. Along with monthly wholefood (wellness) workshops run on various different topics demonstrating how to incorporate healthy food options into your daily diet, Life Wellness Co. also provide individual wellness coaching, nutritional guidance, on-line support and family meal planning and budgeting. Or simply follow us on Facebook for daily wellness tips and inspiring recipes.
First let's talk about 'gut health' and how it impacts on overall wellbeing.

**GUT HEALTH AND DISEASE...**

In Hippocrates words...

*All disease begins in the gut. Heal the gut – prevent disease....*

Ponder this thought.....

Right now, as you're sitting there, there's a battle raging in your belly. Some 1,000 species of bacteria are duking it out, trying to establish dominance. Why should you care? Because whether the good bacteria in your gut or the bad triumph doesn't just decide how well you digest your dinner, respond to allergens and fend off diseases, it also helps determine how much weight you're likely to gain, or lose, your mental health and your lifespan.

Simply put, if you get the microbiome—that collection of bacteria inside you—healthy, you will lose weight, fend off disease and start living a life full of zest and energy you couldn’t imagine. Doesn’t that sound amazing?

It’s pretty simple, the key to healthy eating and wellness, is less about counting calories or achieving a set percentage of carbohydrates, protein and fat than about correcting the overgrowth of unhealthy bacteria, which is making you crave the wrong foods, impede your nutrient absorption resulting in malnutrition and triggering inflammation leading to disease in your body.

A flurry of ground-breaking findings are helping to connect the dots about how our gut bacteria is affecting our health and our weight, which is why we are being bombarded by news stories everyday about gut health. These studies are drawing links between us having less than optimal gut flora due to the rise of processed foods containing high levels of sugars and fats that feed the bad bacteria, environmental toxins and stress from our busy lifestyles with the increased incidence of many debilitating conditions including mental health conditions such as depression, anxiety and even dementia (have you heard of the gut-brain axis? If not, google it!), a variety of cancers, heightened incidence of food intolerances and allergies in children and adults and even obesity. In fact, I have even seen it reported that up to 80% of all disease can be attributed in part to poor or compromised gut health.

But the news isn’t all doom and gloom. There are equally as many studies that have been completed demonstrating the positive effects we can have on our gut flora by simply tweaking our diets to include more probiotic and prebiotic rich foods to feed and nurture the ‘good’ bacteria, and by avoiding foods that fuel the bad bacteria, aka ‘non-functional foods’. By making some small changes
to our eating choices, we can make huge changes to our health and wellbeing. No prescription medication required! Just good, old fashioned food as thy medicine.

Interested in some of the studies findings.....read on......

**Gut Health and Obesity**

More and more studies are looking at the association between the gut microbiome and weight gain, with some scientists suggesting the makeup of bacteria in the gut may influence an individual's susceptibility to weight gain.

Unhealthy gut bacteria produce food cravings: A study published in BioEssays suggests that some microbes may drive us to eat fatty and sugary foods such as doughnuts or lollies. These gut bugs send chemical messages to the brain that sway our appetite and mood—perhaps making us feel anxious until we gobble a square of dark chocolate or a T-bone steak. Excess amounts of these bad bugs can make it very difficult for us to make healthy food choices, until we starve them out by eliminating the said food source, or crowd them out with the injection of good bacteria through probiotic rich foods.

In a study in the British Journal of Nutrition, obese women who took a probiotic supplement (of the bacteria Lactobacillus rhamnosus) lost twice as much weight and fat over about six months—and were better at keeping it off—as those who took a placebo. Probiotics helped by controlling the women's appetites, which seem to have waned as their microbiomes changed.

This is big news: In summary there are trillions of microbes in your belly that will—if you feed them well — help you fight flab and win. So let's start feeding them each and everyday to help regulate our weight.

**Gut Health and Digestion**

Most of us are aware that the bacteria in our gut play an important role in digestion. When the stomach and small intestine are unable to digest certain foods we eat, gut microbes jump in to offer a helping hand, ensuring we get the nutrients we need. When the good bacteria is not available, or is outnumbered by the bad guys this process is compromised leading to us being unable to take the goodness from the food, leaving us malnourished. Have you heard of the phrase ‘overfed and undernourished’? Unfortunately this can be said for a vast number of the population at the current time. We are eating more and more as a population, however the number of nutrient deficient conditions we are seeing is on the rise.

**Gut Health and Food Allergies**

Past research has suggested that a broader diversity of bacteria in gut is better for human health. A recent study reported by MNT, for example, found that infants with less diverse gut bacteria at the age of 3 months were more likely to be sensitive to specific foods - including egg, milk and peanut - by the age of 1 year, indicating that lack of gut bacteria diversity in early life may be a driver for food allergies.

We have gone to extremes in eliminating exposure to bacteria of all types for our babies and children that we aren’t allowing them to develop crucial diversity of bacteria essential for lifelong gut health.
Gut Health and Cancer

In recent years, scientists have increasingly investigated the link between gut bacteria and cancer.

In a 2013 study published in *The Journal of Cancer Research*, US researchers claimed to discover a specific bacteria in the intestines - *Lactobacillus johnsonii* - that may play a role in the development of lymphoma, a cancer of the white blood cells.

Another 2013 study conducted by UK researchers found that a common gut bacteria called *Helicobacter pylori* may cause stomach cancer and duodenal ulcers by deactivating a part of the immune system involved in regulating inflammation.

And in 2014, *MNT* reported on research from the Icahn School of Medicine at Mount Sinai, New York, NY, in which investigators associated a specific combination of gut bacteria with the development of colorectal cancer.

For this study, the team gave antibiotics to mice that possessed gene mutations known to cause colorectal polyps, which can develop into cancer. The antibiotics were administered to interfere with the gut bacteria of the mice. The researchers found that these mice did not develop polyps, suggesting that gut microbes may be involved in their development.

But as well as being linked to cancer development, research has found that gut bacteria may be important for improving the effectiveness of cancer treatment.

In 2013, a study by researchers from the National Cancer Institute found that immunotherapy and chemotherapy were less effective in mice lacking gut bacteria, with such treatments working significantly better in mice with a normal gut microbiome.

Similar results were found in another 2013 study by French researchers. An antitumor drug - cyclophosphamide - was found to be much less effective in mice with limited gut bacteria, compared with mice with normal gut bacteria.

Promising results....

Gut Health and Mental Health

Not many of us are likely to think about how gut bacteria affect the mental state, but they actually play a very important role.

According to the American Psychological Association (APA), gut bacteria produce an array of neurochemicals that the brain uses for the regulation of physiological and mental processes, including memory, learning and mood. In fact, 95% of the body's supply of serotonin is produced by gut bacteria, according to the APA.

Since gut bacteria produce many of the neurochemicals responsible for regulating mental processes, it is no surprise that researchers have linked gut bacteria to mental health.

With this in mind, it is perhaps unsurprising that gut bacteria has been associated with a number of mental health problems, including anxiety disorders and depression.
In 2014, for example, a study published in the journal Psychopharmacology found that prebiotics - carbohydrates that boost healthy bacteria in the gut - may be effective for reducing stress and anxiety.

For the study, 45 healthy adults were randomized to receive the prebiotic or a placebo once a day for 3 weeks. All participants were then exposed to both negative and positive stimuli.

The team found that the participants who received the prebiotic were less likely to pay attention to the negative stimuli than those who received the placebo - suggesting lower anxiety in negative situations. They also had lower levels of the "stress hormone" cortisol.

"Time and time again, we hear from patients that they never felt depressed or anxious until they started experiencing problems with their gut," said lead study author Dr. Kirsten Tillisch, the study's lead author. "Our study shows that the gut-brain connection is a two-way street."

SO WHY DO WE WANT MORE GOOD BACTERIA?

So you need more convincing.... Beneficial bacteria or flora do much more than counter pathogenic or unfriendly bacteria. They also provide us with other, powerful benefits such as:

- Manufacture vitamins B1, B2, B3, B5, B6, B12, A, D and K
- Aid in the digestive process by helping to digest lactose (milk sugar) and protein
- Clean the intestinal tract, purify the colon and promote regular bowel motions
- Produce natural antibiotics and antifungals that prevent the growth of harmful bacteria and fungi – providing a passive mechanism to prevent infection
- Contribute to the distraction of moulds, viruses and parasites
- Increase the number of immune cells
- Create lactic acid, which balances intestinal Ph
- Protects us from environmental toxins such as pesticides and pollutants, reduce toxic waste at a cellular level and stimulates repair mechanism of cells
- Helps maintain healthy cholesterol and triglyceride levels and break down and rebuild hormones.

SIGNS OF GUT BACTERIA IMBALANCE

The most common signs of a gut bacterial imbalance are digestive problems such as bloating, constipation or diarrhoea, food allergies and sensitivities, sugar and carbohydrate cravings. Often the person is fatigued with poor concentration and irritability and may be more prone to colds and flu with poor immune systems. Acne, eczema, fungal infections and inflammatory disorders are also common signs. Do you have any of these symptoms at the moment?

Since introducing fermented vegetables and kefir into my family's diet we have been illness free for a period of over 18 months. This is no mean feat considering my boys spend 3 days per week at a day care centre riddled with kids sharing all sorts of illness bugs, and I had previously endured regular hospital admissions for gastro bugs of one form or another. This is my own testament, but start talking to other who have included prebiotic and probiotic foods into their daily diets and hear the difference it has made to their overall health and wellbeing. I see it time and time again in my clients.

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WHAT KILLS OFF OUR GOOD BACTERIA?

So what kills off our life force and the gut bacteria in our gut and in our food chain? We can start the list with pesticides and herbicides (used in most foods we consume every day), drugs, birth control pills, stress, alcohol, and of course antibiotics. Exhaust fumes, toxins from various pollutants in the air, chemicals we use to clean our homes and cosmetics we use daily on our hair and skin.

Add to this we are now ingesting so many more processed foods which have had additional chemicals added to them that our gut bacteria doesn’t recognise, are high in refined sugars which feed the pathogenic (bad) bacteria and even the ‘seemingly healthy’ packaged options are often heated to a level that renders them void of prebiotic sources to nurture the probiotic (good) bacteria.

CAN WE ALTER OUR GUT BACTERIA?

ABSOLUTELY!!!

Fortunately, we can begin to take control by feeding our microbiome the right foods. What we eat dictates the kind of bacteria we grow in our gut garden. Since the gut microbiome is influenced by the food we eat and the environment around us, it makes sense that there are ways to make it healthier.

According to the Mayo Clinic, a healthy diet can encourage the presence of good gut bacteria. They note that consuming fermented foods - such as miso and sauerkraut - increases the level of fermenting bacteria in the gut. In addition, fruits and vegetables contain fibres and natural sugars that can boost the health of gut bacteria.

There is growing evidence that the high-fat, high-sugar diet, known to us as the Western diet, has had detrimental effects on our microbiota. Researchers now believe that these detrimental effects may have contributed to the growing epidemics of chronic diseases such as obesity, allergic disorders, irritable bowel disease, and harmful infections, due to their effects on our gut bacteria.

So, until there is a magic elixir for healthy living, try these things to help promote a happy and healthy gut.

FEEDING THE GOOD GUYS...

Start with the 2 P’s: Prebiotics and Probiotics

Basically, it all begins with probiotics and prebiotics, components of food believed to play an important role in improving gut health. When pre- and probiotics are combined, they become an intestinal power couple (or, in blunter terms, they kick nutritional butt).

Probiotics are a type of good bacteria, similar to the ones that already reside in your gut. Probiotics are found in fermented foods. The word probiotic comes from the Greek words meaning “promoting life.” Ingesting these organisms aids digestion and helps change and repopulate intestinal bacteria to balance our gut flora. Excellent probiotic sources include fermented vegetables and miso, fermented dairy products such as kefir, yoghurt and cultured butter, and fermenting drinks such as kombucha and water kefir products.
Prebiotics are plant-fiber compounds, found in food, that pass undigested through the upper part of the gastrointestinal tract and help stimulate the growth of good bacteria. Without prebiotics our friendly gut bacteria would starve.

I like to explain it like this:

If the gut was a garden bed, the addition of good quality soil into the garden bed is like the addition of probiotic foods into our guts, we are dumping good quality matter into the foundations of our guts. Whilst prebiotics act more like the fertiliser would on a garden bed, not altering the volume of the soil, but instead boosting the health of the soil by providing the right environment for the soil to become highly fertile.

Examples of PREBIOTIC foods:

- **Vegetables**: Jerusalem artichokes, chicory, garlic, onion, leek, shallots, spring onion, asparagus, beetroot, fennel bulb, green peas, snow peas, sweetcorn, savoy cabbage, cruciferous vegetables (brussel sprouts, broccoli, brocolini, cauliflower, kale)
- **Legumes**: Chickpeas, lentils, red kidney beans, baked beans, soybeans
- **Fruit**: Banana

The more prebiotic foods you can incorporate into your daily diet the more your good gut bacteria will thrive. Kale chips anyone?

Examples of PROBIOTIC foods:

- **Fermented Vegetables**: Sauerkraut, KimChi, Pickled vegetables
- **Dairy**: Kefir, Whey, Yoghurt, Cultured Butter
- **Drinks**: Kombucha and water kefir
- **Soy**: Tempeh and miso

Fermented foods deliver probiotics directly to the gut. A cup of yogurt a day? It’s a nice start. Look for products that say "live and active cultures" on the label, and be careful when it comes to fruit-infused flavors: Some are loaded with sugar, which can feed bad bugs, so be sure to check the ingredients and aim for fewer than 15 grams per serving.

**Down Some Fibre**

It does more than fill you up: Research shows that foods that are high in fibre helped promote the growth of friendly bacteria. Case in point: In a University of Illinois study, people who ate high-fibre snack bars experienced a growth of anti-inflammatory bacteria in their bellies.

There is a fabulous colon cleanse you can incorporate in your daily diet to speed up the process of improving your gut bacteria which involves drinking kefir mixed with ground flaxseed (aka fibre) to provide a ‘broom sweep’ of your intestines to shift the bad guys out, making room for more of the good guys. Ask me if you are interested in finding out more.
**Mix Up Your Menu – Variety in your daily diet**

Eat an assortment of foods to encourage a more varied metropolis in your belly. The amount and type of probiotics in food vary, so include more than just one type of probiotic containing food into your diet.

Recent studies suggest that the intestines of lean people look more like bustling cities than sleepy towns. (Translation: They're densely populated and diverse.) One study showed that individuals who had a healthy weight, body mass index, waist circumference and blood sugar level were more apt to have high levels of three different types of bacteria—Firmicutes, Bifidobacteria and Clostridium leptum. What's more, in a pair of French studies, people with diverse gut microbiomes were less likely to be obese or at risk of diabetes. Plus, their intestinal ecosystems were home to fewer pro-inflammatory bacteria. It's easy to change up your meals: If you had salad with grilled chicken yesterday, for example, go with a fish taco or a tofu stir-fry today.

**STARVING THE BAD GUYS...**

What you don't eat is every bit as crucial as what you do add to your diet. Keep your gut flora fit by cutting back on these offenders.

- Processed and packaged foods which include additives and preservatives
- Foods high in refined sugar and trans fats
- Carbonated, sugary drinks
- Alcohol

Fatty and sugary foods not only tend to lack fibre but can also cause bad bacteria to thrive. And let's face it: If you’re pounding that bag of potato chips, chances are you’re not munching on celery sticks, blueberries and other gut-friendly eats.

Put simply: Eating a diet predominantly consisting of loads of fresh produce and lean protein with loads of fibre will help starve out the bad guys and fuel the good guys.

Don’t continue to feed them by ingesting high sugar foods or carbonated drinks. Don’t give in to those cravings. Instead, crowd the cravings out by filling up on ‘functional foods’ that will nurture the good guys.

**IN SUMMARY... Here in lies the common message I share with all of my wellness clients....**

The main steps towards sustainable weight loss and good health is to include probiotic and prebiotic foods into your daily life to improve your gut flora, avoid the bad news foods that can cause havoc in our guts and mess with our minds, and up the hydration factor (that is, drink more water). This will allow you to regain a clear mind and more stable energy levels helping you focus on achieving your wellness goals.

*It really is that simple. Use your food as medicine for a healthy body and mind.*

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