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GUT HEALTH  
&  
SUPPORTING YOUR IMMUNE SYSTEM

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# WELCOME TO MODULE 7

## GUT HEALTH & SUPPORTING YOUR IMMUNE SYSTEM



*Good gut health is often thought to be the foundation of good health overall. When we look at this a bit deeper it's easy to see why. Our gut although within our body is actually a barrier between the outside world (food, drink, poisons, bacteria, parasites, etc) and the inner workings of our body. Our gut is not only our first line of defence against external pathogens, it's also where we absorb key macro-nutrients for physiological functioning. In other words it is crucial to our daily functioning and pivotal in recovering from any diseased state.*

*It's important to keep in mind that gut health is more than just what we put into our mouths. There are many other things that can impact the health of our gut outside of our diets. Certain medications, external pathogens and infections, toxins and stress can all have a huge impact. Stress can affect us in several ways: from influencing our food choices, rushing, eating on the run, less chewing/presence with our meals, to raised cortisol levels interfering with our digestion.*

***Our digestive system is fascinating, it is an intricate ecosystem and in the clinic we often refer to it as our own personal Great Barrier Reef. We hope that you fall in love with your gut as much as we love everything to do with the digestive system.***

*xx Sandi and Rebecca*

# Understanding *your* Digestive System

Our digestive health is largely understood as being responsible for digesting our food, absorbing nutrients, and the building blocks we need and then eliminating the waste. However, our gut health is linked to so much more than digestion, including our mental health and immunity.

It is easy to assume that your digestion is all about your stomach, however there's so much more to the process of digestion than your belly!

--> Digestion begins with your state of being.

--> We digest better in a relaxed state when our enteric nervous system isn't getting fed alarm responses.

--> When we're relaxed, we're more likely to secrete adequate amounts of digestive enzymes.

--> By slowing down, being present, and enjoying our food, we end up chewing more effectively and we've begun the process of digestion in the best possible way.

The process of chewing your food effectively is often underestimated. Not only does it manually begin to break up your food into smaller pieces, by chewing, we mix our food with **amylase** (in saliva), which starts the breakdown of starchy foods (e.g. potatoes, bread, pasta and rice). When we eat/chew, our stomach is triggered to make **hydrochloric acid** (stomach acid) which is crucial for protein breakdown. Having healthy amounts of hydrochloric acid is also important for protecting us from infection via destroying ingested bacteria and viruses in the stomach.

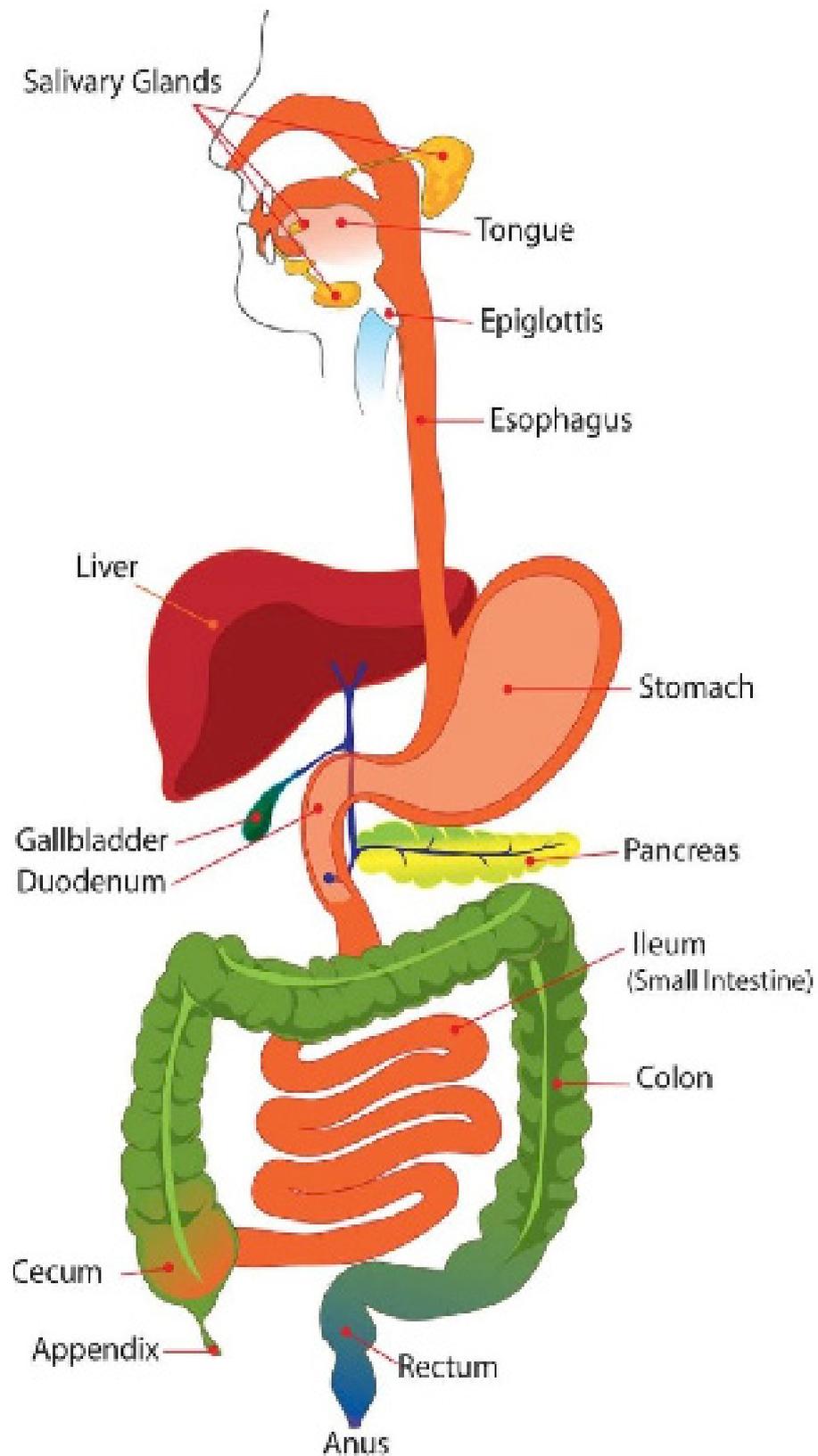
**Without enough of hydrochloric acid we can struggle to digest and absorb nutrients properly and develop symptoms like the list below.**

**Tick any of the following symptoms that you are currently experiencing:**

- Bloating**
- Burping**
- Gas**
- Anaemia**
- Candida Overgrowth**
- Bacteria Overgrowth**
- Infections**
- Heart burn (yes from low stomach acid)**
- And more**

**NOTE:** To make adequate amounts of hydrochloric acid we also need adequate amounts of zinc along with sodium, B1, B6 and B3.

# The DIGESTIVE SYSTEM



# STRESS & YOUR DIGESTIVE System

*Stress* (via high cortisol) switches off physiological functions not essential to acute survival and diverts more blood flow and energy into the bodily activities involved in preparing us to fight or escape danger. When we sense danger, stress helps us stay focused, hyper alert, our muscles tighten, our heart races and our breathing quickens. Digestion is one of these processes that takes a beating from stress because it is not considered a priority when stress (perceived danger) is around.

**Have you ever heard the phrase digesting your worries? Ever noticed butterflies in your stomach when you're nervous about something? Ever experienced a loss of appetite or change in your bowels when you're worried about something or in response to stress?**

*Our Mental Health* can greatly improve when we support our gut health. The link with our digestion and mental health, including anxiety is well determined. Our gut is often referred to as our "second brain" due to the enteric nervous system (ENS), which is located throughout our gastrointestinal tract. On top of its jobs of regulating motility (digestive system movements) and secretions (release of our digestive juices), the ENS can be influenced by signals from the brain and communicates back to the brain as well. This is referred to as the **gut-brain axis**. It's this understanding of a gut-brain axis that helps explain why our digestion can be so affected by stress or anxiety, and vice versa, that persistent gut problems can heighten anxiety or stress.

When it comes to optimising your gut health, we're sure you can now appreciate it's so much more than just your diet. To restore your gut to a place of true balance you need to consider all the potential contributors for you.

## POOR GUT HEALTH & BROADER *Impacts*

*The effect of our digestive health extends well beyond the belly, playing a significant role in many other disease processes and affecting many systems in our body.*

*It's also vital to remember that an absence of gut symptoms also does not mean that everything's perfectly OK! Your gut can still be a major contributor to many health conditions without overt gut symptoms. Just because you don't suffer from bloating, or excessive wind, or alternating stools does not mean your gut is not playing a role in your health conditions.*

### *Conditions* POOR GUT HEALTH CAN CONTRIBUTE TO

- Autoimmunity
- Osteoporosis
- Mood disorders such as anxiety and depression
- Osteoarthritis and rheumatoid arthritis
- Eczema, acne, psoriasis, and other skin conditions
- Obesity, Type 1 and Type 2 diabetes
- Hormonal imbalances
- Chronic fatigue syndrome and more

# UNDERSTANDING YOUR *Microbiome*

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*Our gut microbiome plays many crucial roles in our body.  
They include...*

1. Regulate immune function and prevent the development of atopic (allergic) diseases
2. Produce certain vitamins (B group and Vitamin K) and amino acids
3. Improve digestion and the absorption of minerals (such as calcium, magnesium, zinc and iron).
4. Make short chain fatty acids (essential to our health)
5. Metabolise cholesterol and hormones
6. Digest fibres
7. Prevent pathogenic bacteria taking up residence and making us ill
8. Regulate serotonin levels (90% produced in gut) – used to regulate glucose and fat metabolism, gut inflammation, and gut motility

## GETTING TO KNOW YOUR *Microbiome*

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*When we are first getting a sense of our microbiome, it can help to think of it like a coral reef. We think of the reef as a thriving ecosystem- full of life in various forms from plankton, fish, coral, shellfish etc. The health of the reef is dependent on the health and temperature of the water, on moon cycles for spawning, adequate food supplies and a lack of toxicity. Each aspect feeds off and into each other, a symbiotic relationship, and if one aspect of the ecosystem starts to falter it can have major implications for the rest of it.*

*The gut microbiome is our own ecosystem with 100 trillion microscopic bugs on board. It's a real mix of bacteria, viruses, fungi etc. all living harmoniously together. The right amount of one species keeps other species in check. Like the reef, our microbiome is influenced by the surrounding environment - the pH of the gut, the food availability (prebiotics), chemicals and more.*



*“Whilst we’re focusing on gut microbiome here, it’s important to know we have many different microbiomes such as a skin microbiome, oral microbiome, esophageal microbiome, vaginal microbiome in women and more. This is a rapidly expanding area of understanding in science and really, we’re only just beginning to touch the surface of what there is to discover!”*

# Dysbiosis

## Definition:

“An unhealthy change in the normal bacterial ecology of a part of body, e.g., of the intestines or the oral cavity”.

*We have differing microbiomes in many parts of our body- oral, skin, gut, vaginal, esophageal and more. When the balance of microbes gets disrupted, it's known as dysbiosis. It may not be that you have a pathogen per se, or a bacteria that doesn't ever live there, but that the balance of them is off. Some species are known as pathogenic, others are what we call opportunistic. **Pathogenic species** are species that cause disease whereas **opportunistic ones** are normal microbes but they can become problematic when they increase in numbers and are not balanced sufficiently with the beneficial species.*

## DYSBIOSIS CAN BE CAUSED BY A NUMBER OF THINGS.

### Some of these include:

- Stress
- Medications- Chemotherapy, Radiotherapy, Antibiotics, PPI's, NSAIDS, oral contraceptives
- Sulphates and Sulphites
- Baby / Childhood gut health
- Undealt with food sensitivities
- Diet – excess/high protein, high refined carbohydrates, high fat, artificial sweeteners (sucralose)

# DYSBIOSIS

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*We can't change our early life exposures, how we were born, how we were fed, what medications we were given, our mother's immunity or what gut infections etc we had, but we can change how we support our gut now.*

*What we eat is clearly going to be a big contributor to dysbiosis or an unhealthy balance of bacteria. Our good bacteria need prebiotics and fibre to feed on, so diets lacking in plant foods and fresh produce will be a big contributing factor. However, processed diets, especially if full of preservative and artificial sweeteners have additional negative effects on good bacteria outside of just displacing fresh foods.*

*Periods of chronic stress as well as certain medications can also have a negative impact on our gut microbiome. At times stress is unavoidable, and certain medications have likely been medically necessary at the time. We're not trying to pass judgement on our previous choices or exposures but to offer an understanding of the broader impact on our health. When we are aware of them, and know the additional load our body has faced, or perhaps continues to face, it means we can do more to counter it.*

**Question 1: Thinking about the contributing factors to dysbiosis over the years, what exposures do you think your microbiome has had?**

**Question 2: Do you know much about your birth? Whether you were breastfed or not? Did you require formula regularly, even as a top up? What was your exposure to antibiotics as a baby and a child growing up? Have you ever had any gut infections?**

Question 3: What was your diet like as a child? An adolescent? And through adulthood to now? Do you think you ate a diet (majority of the time) that supported your microbiome or not? Explore this a little.

Question 4: What about exposure to medications as a teen and adult that may have, or still are, having an impact on your microbiome?



# LEAKY Gut

Leaky gut is the common term for what is known as Intestinal permeability. It's exactly how it sounds, instead of the gut wall being a lovely strong barrier between what is within your intestines and your bloodstream, things are leaking across that shouldn't be. This can include different toxins or by-products of digestion, partly broken-down bacteria, the chemicals these bacteria secrete (called Lipopolysaccharides), all getting across that leaky gut wall and into the bloodstream where they're not supposed to be.

When these things make it to the bloodstream, the immune system detects them as substances that aren't supposed to be there and mounts an attack, triggering inflammation. This is largely how the link with food intolerances, allergies and gut health is formed - when the wrong things get across into the bloodstream, it triggers immune reactions and inflammation.

## COMMON FACTORS WHICH DAMAGE THE GUT WALL:

- Changes in gut microbiota (dysbiosis)
- Poor diet
- Gluten
- Alcohol
- Medications (antibiotics, NSAIDS, steroids, antacids)
- Infection (including parasites, bacteria, viruses)
- Chemicals (arsenic, BPA)
- Stress
- Hormone imbalances
- Alterations to the mucus layer in the gut

### Definition:

**“A Gastro-intestinal (GI) tract dysfunction caused by permeability of the intestinal wall, which allows absorption of toxic material—bacteria, fungi, parasites, etc; Leaky Gut Syndrome (LGS) may be linked to allergy and various autoimmune conditions”**

# LEAKY Gut

Question 5: Based on your current understanding do you think leaky gut may be a factor in your current health status? If so, what areas of your health or symptoms make you feel it's involved?

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Question 6: After the presentation, has your understanding of your gut's impact on your broader health changed? Did you learn anything new you didn't know before?

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Question 7: What do you, or can you now, appreciate about your gut health?

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# Gut HEALTH & IMMUNITY

Most of us have no trouble understanding that our ability to absorb and assimilate the nutrients from our food will be reliant on the health and function of our digestive system. So too the ability to adequately eliminate waste. However, it is not as often well known that our digestive system is a huge contributor to the health of our immune system.

Our immune system plays a crucial role in our susceptibility to infections, but also whether those infections are going to be persistent or cleared effectively from our body. Our gut is our first line of defence against external pathogens (ingested “bad guys”). Good stomach acid levels and healthy barrier function, as well as competition for binding sites along the gut wall (blocking entry) are key ways our gut plays a role in our immunity.

70-80% of our immune cells are actually present within our gut. Let’s just stop here for a minute and really think about this as it’s huge. Over two thirds of our immune cells are concentrated in our digestive system.

## OUR MICROBIOME IMPACT OUR IMMUNE SYSTEM IN A VARIETY OF WAYS:

- *We have billions of micro-organisms within our gut living in what could be called cities of micro communities. They communicate with the immune cells lining our intestines and this communication determines the type and amount of our immune responses.*
- *Our microbiome produces short chain fatty acids, (SCFA) which help to regulate inflammation and support and boost immunity.*

Our gut health also impacts our immunity through the absorption of nutrients needed to produce adequate and healthy white blood cells (immune cells). Our white blood cells are made in our bone marrow and need adequate amounts of vitamin B12, B6 and folate, copper, sulphur-containing amino acids (SCAA), selenium, vitamin D, zinc, magnesium and iron. If our digestive health is compromised, and the absorption and assimilation of these nutrients compromised, the building blocks needed to make them will be lacking.

So while it’s common to think of taking nutrients such as zinc, vitamin C or D when we are sick, we often discount the role of our gut health or microbiome in this process, particularly in prevention and susceptibility to infection.

# Checklist

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CHECK OFF THE LIFESTYLE & ENVIRONMENT FACTORS BELOW THAT MAY BE AFFECTING YOUR IMMUNITY

- Inadequate sunlight
- Sedentary lifestyle or excessive exercise
- Inadequate rest
- Inadequate sleep or quality sleep
- Excessive stress (cortisol switches off immunity, depletes nutrients)
- Diet low in nutrient-dense wholefoods, protein and prebiotics for gut health
- Diet high in refined sugar and flours (inflammatory)
- Increased Burden – heavy metals/toxins, chronic infections, inflammation, certain medications

Question 8: How do you feel about your immune system? Do you feel you have a good immune system or that you seem to pick up infections easily?

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Question 9: When you consider taking care of your immune system, have you considered the role of your gut before?

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Question 10: Looking at the lifestyle and environmental factors affecting immunity, are there areas you need to focus on more to support yourself? Which areas in particular? What do you feel you could change/do to add more support?

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Question 11: What have you learnt about your immune system you didn't know before?

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# THE ART OF *Convalescence*

## THE *Complete* RECOVERY OF HEALTH & STRENGTH AFTER ILLNESS OR INJURY

*In our fast-paced world convalescence is often a forgotten phase of illness. It's the fuzzy grey area between being acutely ill and being 100% again. This is the stage of illness where tissues are repaired, healing takes place, and the body regains strength and recovers. Too often we are rushed to get back to our usual activities or worse, to "soldier on" even if you aren't feeling well.*

*In most cases for healthy individuals with an acute illness, this phase will be short. After spending a few days in bed with a flu, for example, you might feel a bit weak or shaky for a while. Not exactly sick anymore, but not yet full vitality. Other illnesses may require a longer period of nurturing after the acute phase of sickness is over. The important thing is to be aware of your body's needs and to support your body to recover in full. . . and not just recover to a functional state to be able to get on with it.*

*Some people recommend that however long you were sick, allow 3x that to convalesce. So if you were sick with a cold for 5 days, allow another 15 to fully recover. We don't recommend this as a strict guideline but it is helpful to ponder on your body's healing requirements. This doesn't mean you can't go back to work, or get back into life, it just means for a period of time after being unwell your body may be continuing to rebuild and this is important to recognise and allow it the space and extra support it needs to do so fully.*



Question 12: How have you approached illness previously? Have you been known to push through when feeling unwell, or to rush back to doing as soon as you weren't completely wiped out? Can you share a time you have done this?

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Question 13: Have you previously had a relationship with the concept of convalescence? Is it something you have considered at all before? What do you feel about it now?

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Question 14: How has learning about this changed your perception of how you have treated your body previously when unwell?

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Question 15: Has learning about the importance of convalescence changed how you may approach illness in the future? If so, what do you think you will do differently and why?

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# FEEDING YOUR *Microbiome*

When it comes to taking care of our gut microbiome, the first thing many think of is taking a probiotic. Whilst this can be a vital piece of the puzzle, it's rarely as simple as that. We need to consider all the things that damage or negatively impact our microbiome, as well as considering whether we are feeding our microbiome sufficiently (with prebiotics) through the foods we choose.

## So what is the difference between probiotics and prebiotics?

**Probiotics:** Are live microorganisms (i.e. good bacteria), when administered in adequate amounts, can support the correct balance of microorganisms our body needs. (restocking our bacteria)

**Prebiotics:** Are non-digestible food ingredient (certain types of fibre) that microorganisms feed off. By selecting certain types of prebiotics we can stimulate the growth and/or activity of specific beneficial species of microorganisms. (feeding the bacteria we have and supporting them to multiply)

We like to think of **prebiotics** as the dynamic lifter for your microbiome. They act like a fertiliser, feeding up the good microbes and improving the health of the soil (your microbiome). Prebiotics do this selectively, which means they feed good species, and don't feed up the bad guys nor do they feed parasites etc. Different microorganisms have different prebiotics that they like to feed on and we can select what is best for our body. Something like sugar is a super fertiliser for "bad bacteria" which not only contributes to lots of our digestive symptoms but also crowds out the good bacteria that help regulate our immune system.

**Probiotics** are selected species of good bacteria. They're not the food sources for good bugs in your body but are more of the good bugs themselves. Rarely do they colonise, which means when we take a probiotic we're not actually replacing missing bacteria as we used to think. In actual fact these probiotics tend to have a beneficial effect through changing pH within the gut, modulating immune responses, reducing inflammation etc. In most cases these shifts are attributable to the health benefit, as well as encouraging a change within the gut that helps the beneficial species to rebalance. Kind of like temporary reinforcements.

**Prebiotics** can be added to the diet in supplemental form, but one of the most valuable and long lasting ways we can support it is through ensuring plenty of prebiotics are available via our diet. Prebiotics are non-digestible fibers in most plant foods, with differing ones in different plants. Some species of bacteria are easy going, and will feed off multiple fuel sources. Some are picky eaters, and only like a specific type of prebiotic. The best way we can encourage a healthy, diverse microbiome is by having a diverse diet, with a range of different fibres and prebiotics.

# MICROBIOME *Enhancing* FOODS

Below is a wide range of prebiotic foods, fibre and prebiotic-like foods. As always, you will need to tailor your food choices to what suits your digestion best. Listen to your own body's feedback: we don't all tolerate the same foods the same way.

## FOS AND INULIN

|                           |                 |
|---------------------------|-----------------|
| Chicory root              | Banana          |
| Garlic                    | Barley          |
| Jerusalem artichoke       | Wheat           |
| Leek                      | Sugar beet      |
| Onion                     | Honey           |
| Yacon Tubers              | Tomato          |
| Dandelion greens and root | Rye             |
| Asparagus                 | Globe artichoke |

## RESISTANT STARCH

|                            |
|----------------------------|
| Potato, roasted, cooled    |
| Bananas                    |
| Green banana Flour (raw)   |
| Cashew nuts                |
| Rolled oats, uncooked      |
| Potato, steamed and cooled |
| White beans                |
| Lentils cooked             |

## FIBRE

Flax seeds  
Vegetables  
Fruit  
Whole grains

## POLYPHENOLS

|                    |                      |
|--------------------|----------------------|
| Blueberries        | Resveratrol          |
| Strawberries       | Green Tea            |
| Peach              | Pure Cocoa           |
| Plum               | Dark Chocolate       |
| Grape seed extract | Almonds (with skins) |
| Cranberry extract  | Black turtle beans   |

## OTHER PREBIOTIC-LIKE FOODS

|                  |   |
|------------------|---|
| Kiwi fruit       | Cashews   |
| Beetroot         | Pistachio nuts                                    |
| Fennel bulb      | Peaches   |
| Green peas       | Watermelon  |
| Snow peas        | Grapefruit  |
| Sweetcorn        | Pomegranate                                       |
| Savoy cabbage    | Dried fruit (e.g. dates, figs. Sulphur free only) |
| Chickpeas        | Carrots   |
| Red kidney beans | Brown rice  |
| Soybeans         |   |



# BITTERS *for* BETTER GUT HEALTH

We can add to our growing gut health toolbox a type of herb known as Bitter tonics. Bitter tonics are used to fire up the digestive process at multiple stages of the gastrointestinal tract to improve the ability to break down and absorb nutrients from food. Gut health is a strong determinant of health and because of this herbalists consider bitters to have a strengthening effect on the entire body.

## So how do bitters work?

Stimulating the receptors in the taste buds at the back of the tongue, bitters trigger a cascade effect that strengthens upper digestive function, particularly in the stomach, liver and pancreas. It's the bitter taste that sets this pathway off.



We could say that bitters prepare the body for digestion. They stimulate the secretion of saliva and prepare the stomach for digestion by increasing production of hydrochloric acid and gastrin. These substances improve the breakdown of foods and aid motility (the movement of partially digested food through the gut). Bitters also increase production of bile by the liver and pancreatic enzymes, supporting fat and protein digestion. All very key components in optimal digestion and as a result, better nutrient availability, and absorption.

## Beyond digestion

Even outside of digestion, bitters have a positive role to play. Bitter taste receptors (also known as T2Rs) are located along the digestive system as mentioned, but also in other parts of the body such as the lungs, kidneys, thyroid, white blood cells, and even the heart and ovaries. This shows bitters affect more than just digestion. Research in this area is still limited but growing all the time.

For example, a study showed that vegetables rich in bitter-tasting phytochemicals may exert enhanced beneficial effects against key factors associated with type two diabetes (T2D). These included improved insulin sensitivity, fasting glucose levels, body fat mass, blood pressure and glycemic control.

## EXAMPLES OF BITTER FOODS

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### **Leafy Greens:**

*Rocket, endive, dandelion greens, frisee, kale, mizuna, mustard greens, nettles, radicchio, tatsoi, turnip greens, watercress, witlof, silverbeet*

### **Herbs/spices:**

*Mint, dill, fenugreek seeds, ginger, turmeric, Peppermint*

### **Others:**

*Eggplant, brussel sprouts, broccoli, artichoke, broccoli rabe, Chicory root, cocoa, coffee, cranberries, grapefruit and citrus (especially the peel), green tea, apple cider vinegar*

*Sometimes these foods aren't so easy to come by. As their bitterness means many people avoid them, the major supermarkets don't tend to stock a great variety of them, especially the leafy greens. However, a morning out at your local farmers market, or venturing to smaller independent greengrocers or specialty stores will mean the variety of vegetables on offer to you is so much greater.*

## WAYS YOU CAN INCORPORATE BITTERS INTO YOUR DIET

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- ***Start your meal with a small salad of bitter greens. Feel free to dress for taste with a squeeze of lemon and olive oil etc. Perhaps things like massaged kale, silverbeet, rocket or chard.***
- ***Add more bitter greens into your salads - this is a milder way to introduce them, mixed up with your usual salad ingredients it can be a gentle way to adjust to the bitter taste***
- ***Add some bitter spices to your meals - sauté a teaspoon of fenugreek seeds and toss through a salad or use as a base to sauté your vegetables gently. Add turmeric, dill and mint into your cooking, dressings, or salads.***
- ***Consuming Dandelion root tea is also a way to add bitters to your diet***
- ***If you're really struggling to incorporate more bitter leafy greens try them gently sautéed, stir fried or steamed to start. Yes, cooking will reduce a lot of the bitterness, and the bitter taste is what sets off a lot of the benefits of them, however you won't lose all of the benefits. This can be an easier way to start introducing them while you adjust to the taste a bit more.***

# THE AFFECTS OF BITTERS ON YOUR GUT HEALTH

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Question 19: Which bitter foods have you already been including in your diet, if any?

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Question 20: Which ones do you feel you could work to integrate more of?

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Question 21: What obstacles, if any, might prevent you from including more bitters into your diet? How do you think you could overcome them?

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Question 22: What have you learnt around bitter foods you didn't already know? Has it changed your perception of them and their value in your diet?

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# BETER GUT *Habits*

*When it comes to optimising our digestive health, it's important not to underestimate the basics. Sometimes we can get so caught up considering more complicated causes, or trying to pick our symptoms apart that we forget to make sure we have the simple stuff covered. There are many simple things we can do daily to foster food digestion, and the plethora of benefits that comes from having a healthy gut!*

**Which of these are a natural part of your rhythm? And which ones might need a little more work?**

- Be present when you eat and chew your food more completely
- Sit to eat - take your time, be present when you eat. Ideally share meals with others and enjoy good conversation over a meal
- Try to avoid eating on the run, when acutely stressed, or watching TV
- Allow space for toileting. Try not to rush when you need to go
- Allow space for reflection and listening to your body (gut)
- Stay hydrated
- Finish eating well before bedtime, ideally 3-4 hours for most people
- Include bitter foods regularly
- Diet for microbiome support and gut health – fibre and prebiotics, avoid allergens/inflammatory foods, diversity
- Manage your stress – we've learnt now that stress switches off digestive enzyme production, compromising your digestion
- Include Exercise - movement affects your gut motility, or how things move through our gut. Movement has a beneficial impact on the microbiome (independent of diet and other factors)

# Gut CHECK TIME

Question 23: Reflecting on these basic good gut tips, what are some things you already do well?

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Question 24: Which areas, if any, need the most support?

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Question 25: Have you previously considered or known of these to be factors in your gut health? Since the webinar, how has your understanding of the impact of your lifestyle choices on your gut health changed or grown?

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## MODULE 7 - CHECKLIST

- Watch the Module 7 Video
- Complete the Module 7 workbook