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# THE GUTBRAIN CONNECTION

5 STEPS TO IMPROVING
YOUR BRAIN BY HEALING
YOUR GUT

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# Did you know that our gut is actually our 2nd brain? It plays a massive role in the way we think and FEEL!

In actual fact, around 90% of our serotonin (the feel good hormones) is actually produced in our small intestines!

Our gut is a big foundation for the way our brain functions and if our digestion isn't working properly and not in balance it will have a direct effect on how we FEEL and the way our brain can function.

When you are struggling with depression or anxiety it can be totally consuming. On top of that, there are usually other health issues like poor digestion and low energy and poor sleep that can actually make getting through the day really hard. We are just surviving and often putting up with it and not sharing, asking for help or we just don't know that we could actually feel better!

Here is the truth.....

Going and doing therapy and other treatments will only work to a certain point if our brain isn't healthy. We actually need to look at mental health and brain function from a functional and holistic way.

So here is the good news....

We weren't designed to always have low mood, mental health issues and poor memory and concentration.





Whilst going through feelings and emotions is a totally normal part of life. We must have challenges and highs and lows throughout our life to keep us balanced. Our brains are designed to be able to function at a high level and our mood to be stable. Just because you are struggling with this does not mean you're broken and there is plenty you can do to heal your gut and improve your mood, memory and concentration.

In this Ebook you are going to learn about and what simple steps you can take to start healing your gut so your mood and brain improves. How does that sound for a plan?

'It always seems impossible until it's done' - Nelson Mandela







INCREASE YOUR STOMACH ACID

Step 3

CHANGE THE ENVIRONMENT

Step 4

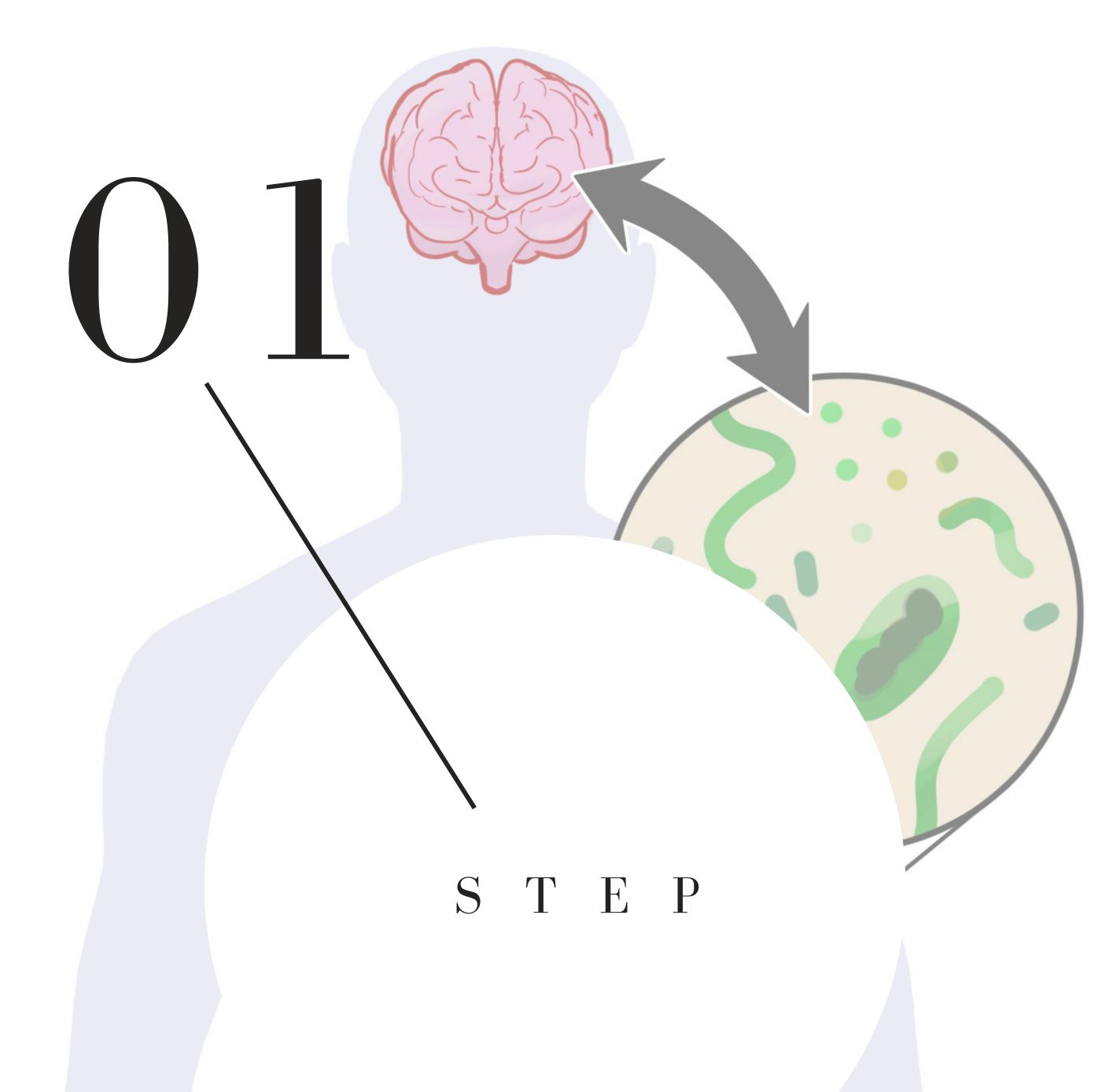
REMOVE THE BAD STUFF

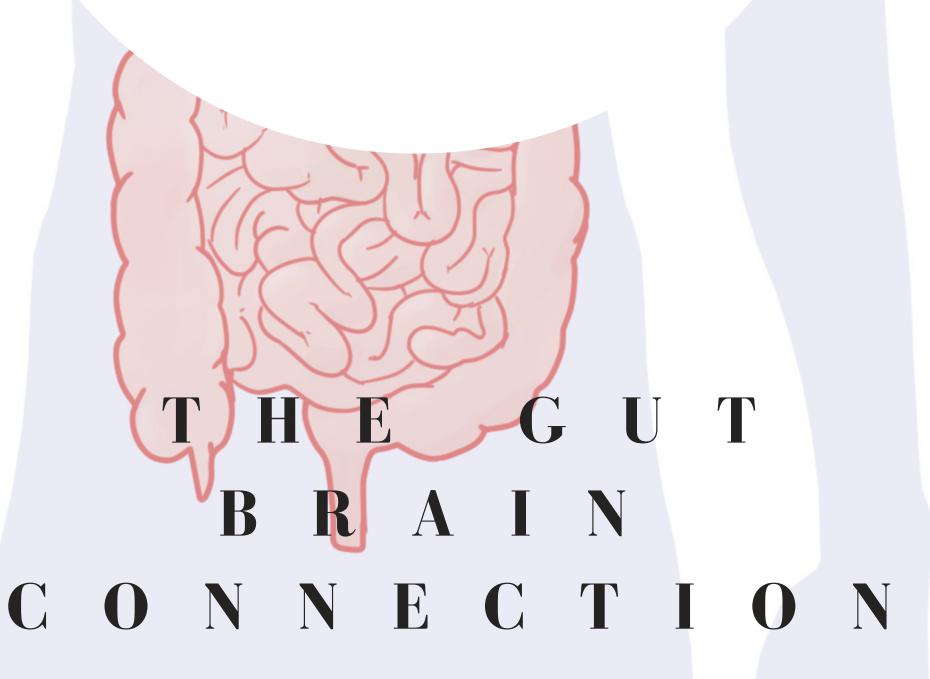
Step 5

ADD IN HEALING FOODS











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#### WE ARE A MINI ECO SYSTEM

We are actually more bacteria than human by approximately by 10:1. Meaning we are technically only 10% human. A huge proportion of these bacteria reside in our gut. These bacteria actually then communicate to our brain by producing an astounding array of metabolites that send messages to the brain, ultimately modulating, emotions, and behavior and cognition.

So, for this reason, we must feed this mini-ecosystem with the right food so it can thrive.

We have beneficial bacteria in out gut and not so beneficial bacteria. I don't like to use the words GOOD or BAD because it's far too simplistic. This area of research in really new and science has really only scratched the surface in how these guys play such an important role in our health. However, what we do currently know is that there are particular types of bacteria that in the right amounts are beneficial to our health. Likewise, there particular species that if we have too much of can cause negative health effects including digestive symptoms such as reflux, gas, bloating, IBS symptoms and constipation along with all types of health conditions including anxiety, depression and autoimmune conditions. If there is a health problem there is always going to be a gut problem

Think of it as a forest. We need balance with all the creatures and plants for that ecosystem to be in balance. Take one away and others overpower and take over and it becomes out of balance.

'All disease begins in the gut'
- Hippocrates



#### A HEALTHY GUT LINING

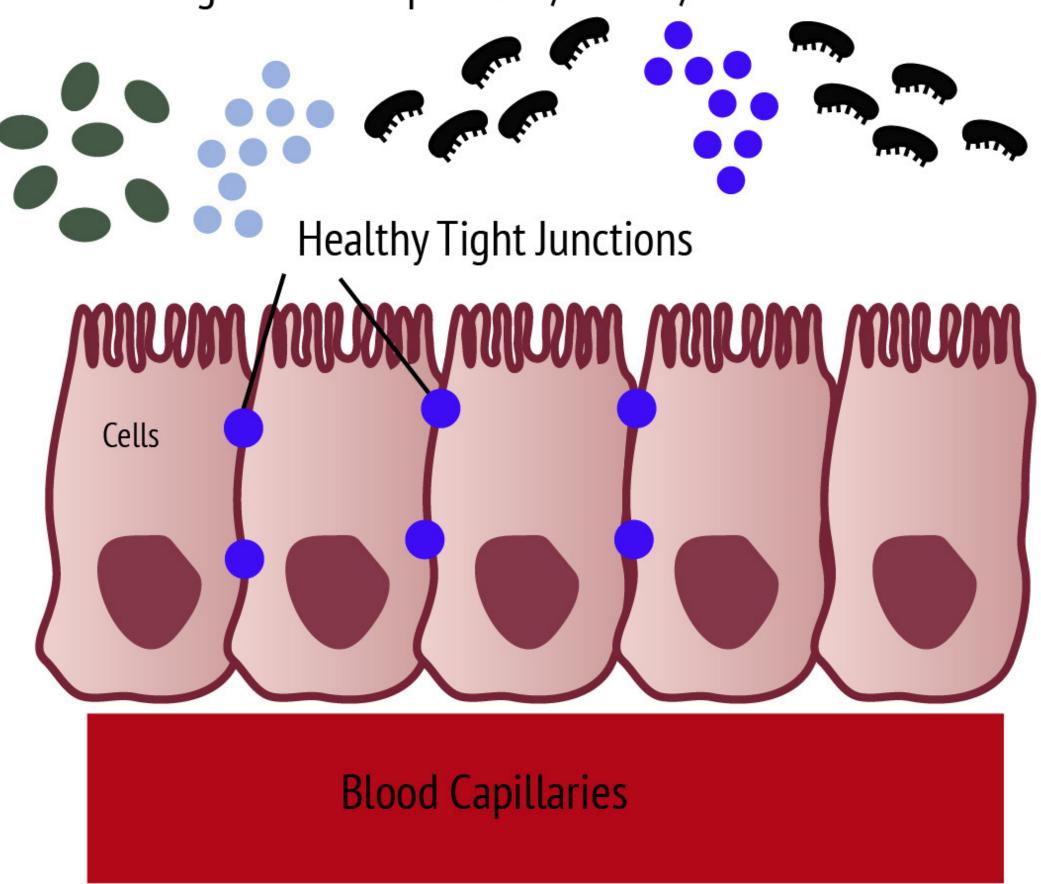


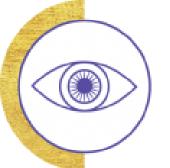
The cells that line the intestine are a single row of cells. Only properly broken down nutrients that are small enough are allowed to travel through to the blood stream. Other things that enter such as bacteria, toxins etc can not enter our blood stream.

A healthy gut lining can be demonstrated like below:

## Inside the small intestine

Undigested food particals/ toxins/bacteria etc





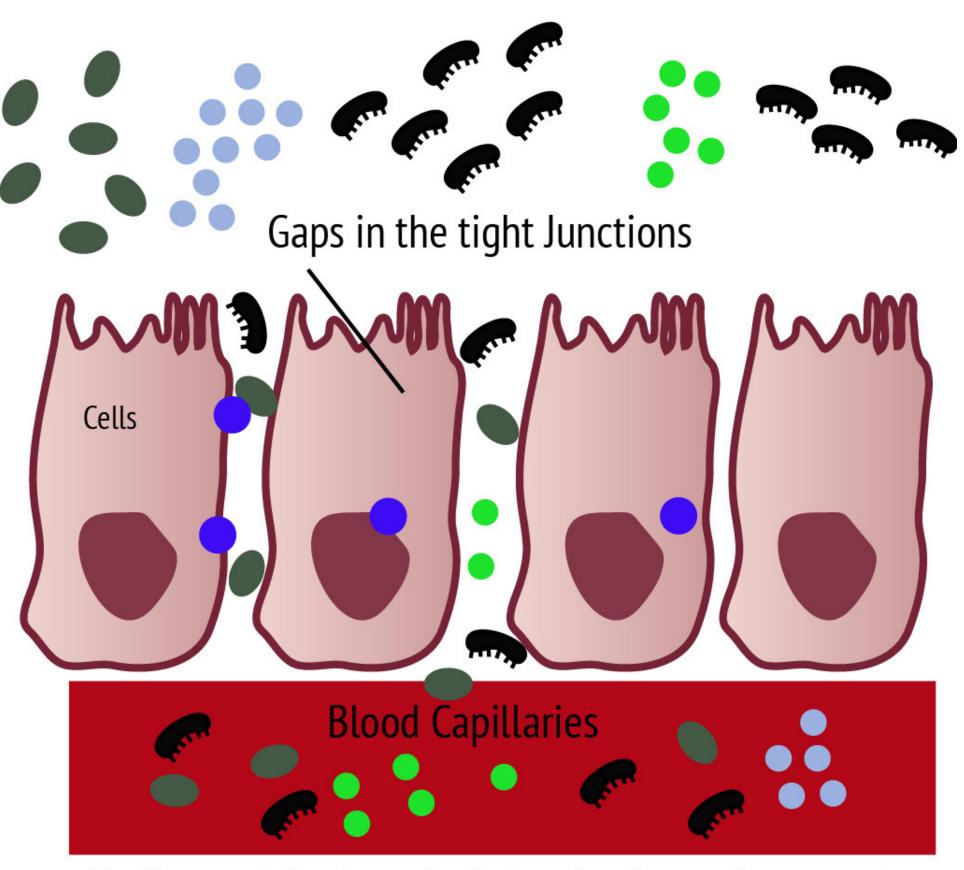
#### LEAKY GUT



When we have digestive issues we have a condition that is known as Intestinal permeability, also more commonly expressed as 'Leaky Gut'.

Leaky gut can be demonstrated like below. The cells (villi) form a row of bricks with gaps in it.

### Inside the small intestine



Undigested food particals/ toxins/bacteria enter the blood stream = immune response = inflammation

If the intestinal lining is more permeable than they should be, larger fragments of food are allowed to pass through this 'GATE' into the blood stream. The immune system then detects these fragments – particularly undigested proteins and pathogens, into the blood stream and your body doesn't recognise them, so your immune system then strikes an attack.



These metabolites also directly interact with the brain. The constant bombardment of these undigested proteins in the blood sends the immune system into overdrive and creates extra stress on the body through the constant ongoing inflammatory response.

This is how inflammation often starts. Mental health conditions, as well as Alzheimer all, have an underlying driver of inflammation. Leaky Gut is also directly associated with depression and anxiety

This is also how food intolerances and allergies can start because of the overactive immune response.

The incorrect balance of undesirable gut bacteria has a direct relationship with the leaky gut as well as mental illness.

The other thing that leaky gut will affect is our ability to remove toxins effectively.

So now you understand the basics lets look at ways you can improve both of these factors.



S T E P

INCREASE YOUR
STOMACH ACID

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#### THE IMPORTANCE OF STOMACH ACID

If we don't product adequate stomach acid we will have digestion problems. Working on this part of our digestion is one of the core elements you MUST improve to work on your gut.

Our stomach acid has a PH of around 2 – which is about the same acidity as a car battery acid. One of the biggest issues with people who have skin and gut issues is that they don't produce enough stomach acid. The role of stomach acid is to moosh our food up and break down proteins so it can then be broken down even more in the small intestine and absorbed into the blood stream. Stomach acid will be stimulated before we even start to eat, by smells and the sight of food. Then as we chew our food our brain signals our stomach to produce more stomach acid.

#### LOW STOMACH ACID + MALDIGESTED CARBOHYDRATES = GAS & REFLUX

One of the things that low stomach acid can cause is a condition known as SIBO. This lovely acronym stands for **Small Intestinal bacterial overgrowth**.

#### This can happen 2 ways:

- 1. Pathogens and bacteria that would normally be killed off by adequate stomach acid has come into the small intestine.
- 2. Bacteria from the large intestine or lower end of the small intestine have travelled back up the small intestine and are living where they shouldn't be.

So basically when you eat food and you don't have enough stomach acid to stimulate other digestive enzymes and bile, you then have maldigested carbohydrates. The bacteria in the small intestine then have a little party and feed on these carbohydrates. They then produce a gas which will either cause bloating OR travel back up through the stomach and the result in reflux.

These bacteria can then also contribute to leaky gut and release a whole heap of toxins and overwhelm the body.

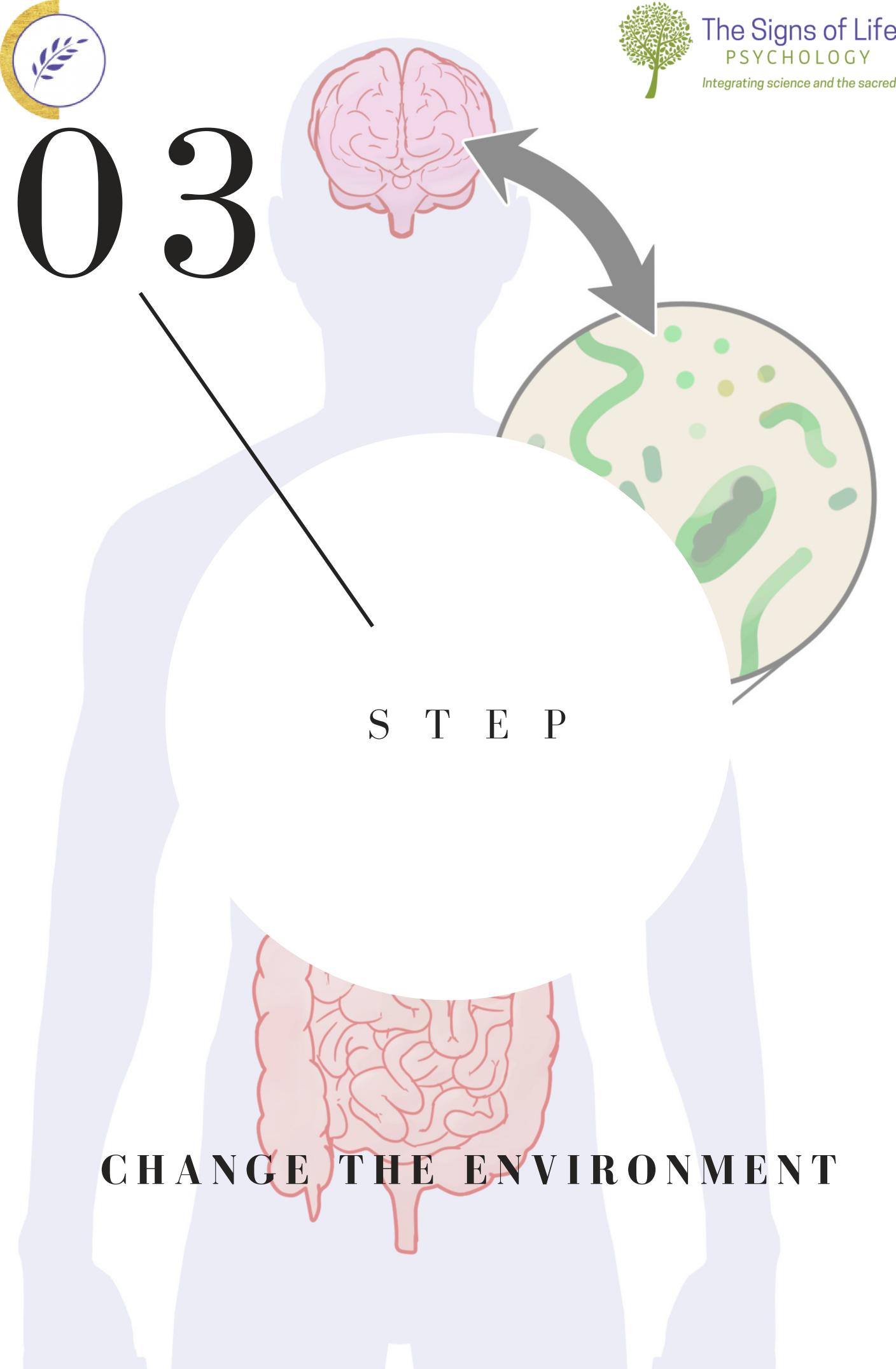


#### HOW TO INCREASE STOMACH ACID

- 1. Have 1 tablespoon of raw apple cider vinegar or lemon with 1/2 cup of warm water 15-20 mins before eating. This will naturally increase your stomach acid production.
- 2. Eat in a relaxed state. This may mean taking a few deeps breaths and being present with your meal. No electronics.
- 3. Chew chew chew your food.
- 4. You may benefit from taking a digestive enzyme. It needs to have betaine Hydrochloride (HCL) in it. This will help increase your natural production of stomach acid. Many digestive enzymes also have gentian root and ginger in them that also help with this. If you take a HCL supplement and you feel a burning sensation you will know that you have TOO much stomach acid.







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#### FEED YOUR ECO SYSTEM

When you eat you are not just feeding you but your mini-ecosystem.

Beneficial bacteria LOVE plants and real foods and the not so beneficial bacteria LOVE processed foods and refined carbohydrates. In other words, they love the CRAP. Any type of refined sugar or grain (particularly wheat, and corn and rice flours). Basically, anything that comes in a pack or is white

These CRAP foods also will have a direct effect on your blood sugar levels and there is a direct relationship between this and mood as well as diseases such as Alzheimer's disease.

#### **CROWDING OUT**

So one of the easiest ways that you can start healing your gut is by shifting your focus to adding in MORE of the good stuff to change the environment in your gut.

This basically means ADDING in more of the good stuff so that the bad stuff starts to drop away

It can take as little as 48hrs to change the environment in your gut so eating lots of plants, particularly vegetables is going to crowd the other guys out!

Using this principle will also be great to stabilise blood sugar levels and will get more vitamins and minerals into your body. There are often lots of nutrient deficiencies with acne and this will start to shift.



#### HOW TO PLATE UP

## Follow this principle with each meal and you will start to see your skin clear up

- 1. A palm size serving of protein fish, chicken, legumes, eggs etc (make sure it is of a good quality and try to have organic as much as possible)
- 2. Add the rest of the plate with vegetables or salad (2 large handfuls min)
- 3. Flavour with herbs and spices
- 4. Add in 2-3 tablespoons of good fats e.g.: Olive oil, home made mayonnaise, etc (steer clear of vegetable oils, margarines, and other processed oils such as rice bran oil etc)

If you follow this principle with every meal including when you eat out there naturally won't be room for the other stuff. If you are changing your diet dramatically then I would suggest you leave an option of something you enjoy until after the meal. See how you feel and then if you have done the above correctly you wont have room to do it.

'Don't eat anything your grandmother wouldn't recognise as food'
-Michael pollan





#### THINGS THAT DAMAGE THE GUT.

#### **Foods**

- Gluten containing foods. All wheat products, barley, rye and oats (due to cross contamination)
- Dairy . Especially diary that isn't organic. Most people seem to be ok with Ghee and butter but best to cut it out for a few months and then add back in slowly to see how you react to it.
- Refined and processed sugars such as cane sugar, brown and white sugar, glucose syrup, etc. Other natural sugars should only be consumed in very small quantities.
- Foods that contain additives, preservatives and colourings

#### **Environmental**

- Antibiotics
- Pesticides
- Plastics
- Chemicals in skincare products
- Cosmetics
- Household cleaning products
- Heavy metals lead, aluminium, copper, mercury, arsenic etc
- Stress phycological stress as well as environmental stressors
- Pathogens from in foreign countries
- Chemicals in water such as chlorine which kills off the gut bacteria.

\*check out the Environmental working groups website where you can check your products \* http://www.ewg.org/skindeep/



#### WHY IS GLUTEN SUCH A PROBLEM?

Gluten is one of the biggest issues when it comes to digestion problems.

#### Celiac Disease

This is an autoimmune condition where the body reacts to gluten once consumed and then attacks it.

#### **Non-Celiac Gluten Sensitivity**

Is an immune response to gluten that can cause the small intestine to become more permeable or 'leaky'. People can experience a range of different conditions, which are not just digestive complaints.

#### **Wheat Production**

Has been changed over the last 50yrs. The wheat crop now has 50% more gluten. There are chemicals used on wheat during the production process. A line of thought it is these chemicals that are also causing a reaction. Wheat also use to be correctly prepared, for example bread use to be fermented for many days prior to baking. This fermentation process would reduce the gluten content, as the bacteria in the yeast would eat the gluten. Now commercial baking production sees's bread rising in less than 2 hrs. Extra gluten is also added to make food 'fluffy'.

#### Zonulin

Gluten has recently been found to influence a chemical called the zonulin, which regulates the 'gate' in the intestinal track to open. Due to the change in the wheat crop along with the high use of wheat products in western society can cause the gut's gate to constantly by open. This then results in the 'leaky gut' which you learnt about in chapter 1. The leaky guy will cause a heightened immune reaction and inflammation. Wheat also seems to cause dramatic blood sugar rises which will de stabilise your mood



#### HOW DO I THESE THINGS FROM MY DIET?

I totally understand that this list can be totally overwhelming. I recommend you start with gluten as this is one of the biggest things that can affect the brain.

Make sure you start by crowding out first as explained in the previous chapter as then this process becomes a lot easier.

Commit to removing one thing. Nail it and then move onto the next.

Just a note on cravings..... often when removing the wheat and sugar from out diet you will get cravings to begin with. Don't worry it will get easier and focus on adding in more living foods is the way to do it.

'The gut isn't like Las Vegas. What happens in the gut doesn't necessarily stay in the gut'
- Dr Alessio Fasano.





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S T E P

## ADD IN HEALING FOODS

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#### ADD THESE FOODS IN TO HEAL

#### **Turmeric**

It has been shown to reduced the inflammation in the gut. Supplementing with a good quality curcumin can also be beneficial as it will also help the liver detoxification, which will have a direct effect on your gut health. You can also add this into cooking, smoothies and drinks. You are however going to get the most benefit from supplementation.

#### **Fermented foods**

Getting fermented foods into your diet on a daily basis will regulate the balance of bacteria in your gut. These include kombucha, sauerkraut, yogurt, keffir and fermented vegetables. It also gives the bacteria a good food source to feed off. Just remember to start slow and see how you react. More is not always better.

#### **Bone Broth**

Bone broth is extremely healing for repairing the gut as it contains certain nutrients that assist in the healing. Make sure it is made from organic bones. Use it as your base in cooking and drink a cup a day.

#### **Slippery Elm Bark Powder**

Is a digestive aid that provides fibre and soothes an inflamed intestinal wall. It is particularly helpful for constipation or diarrhoea. Mix with water and add into smoothies. Be sure to drink plenty of water with it.

#### Aloe Vera

Is anti-inflammatory and can also sooth the intestinal tract which will assist in healing.

#### Collagen

This is is actually a component of bone broth. It's also excellent to add this to your diet for assisted intestinal healing as well as for our skin.





#### ADD THESE FOODS IN TO HEAL

#### **Maca Powder**

This is a ancient south American root that is very good for our adrenal glands and balancing out our hormones. Add in a tsp a day to smoothies, raw cacao drinks etc.

#### **Organic Produce**

Pesticides and insecticides cause damage the the lining of the gut wall and also mess with our hormones. Adding in more of these foods is reducing your toxins but also getting in more minerals as our soil in conventional produce is very mineral defecient.

#### Cacao

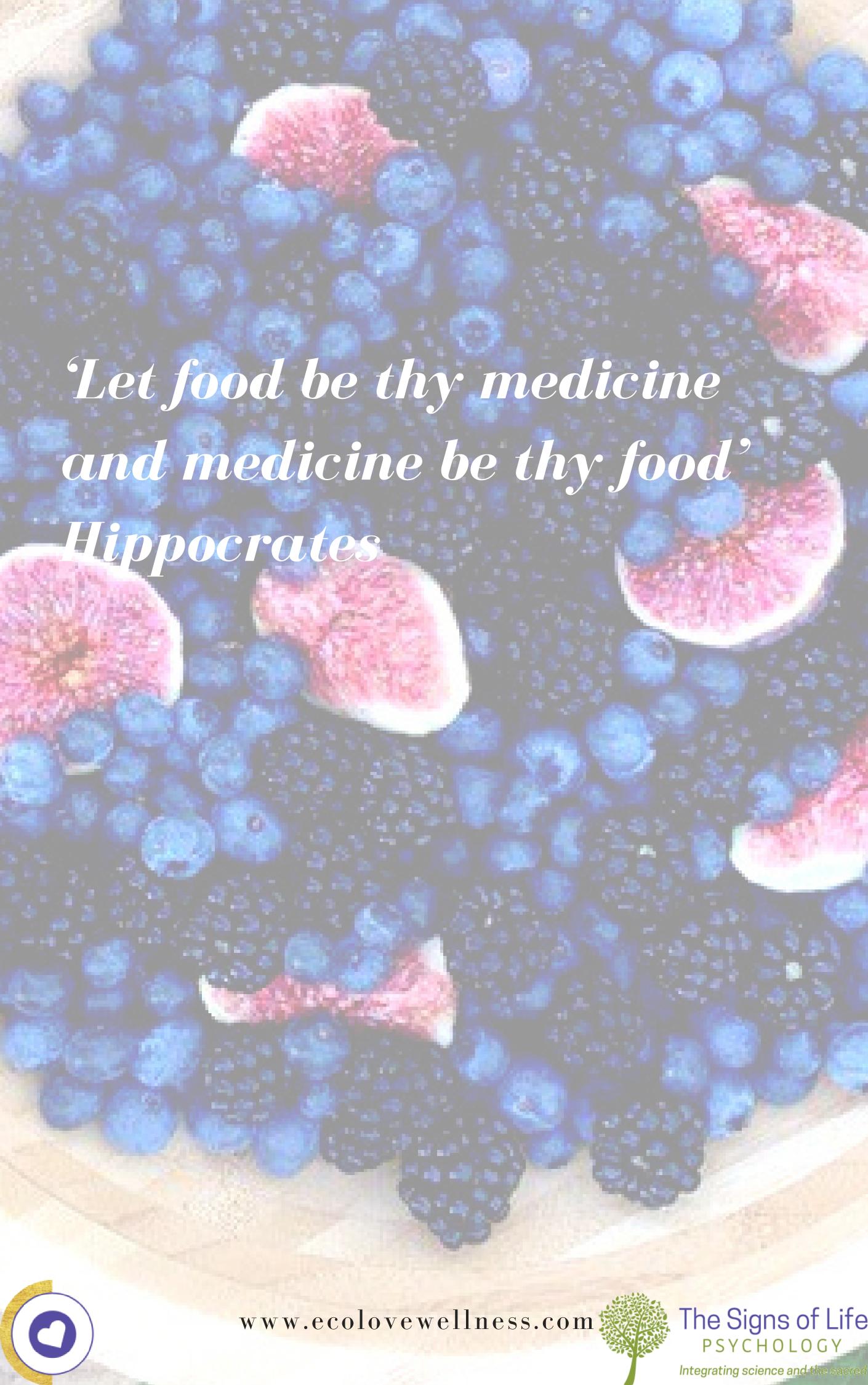
Adding in raw cacao in moderate amount to your diet can also be extrememly benificail to your healing. Cacao is full of antioxidants which is particually helpful for reducing inflammation. It is also very rich in magnesium and chronium which are two important minerals for regulating blood sugar levels and cravings.

#### Eat the rainbow

Even if you don't manage to get in all these gut healing extras just remember if you can get as much colour onto your place with each meal you will be doing yourself a massive favour. These colours are full of therapautic componants such as antioxidants which basically mop up the damage in our body.







## WANT MORE HELP WITH YOUR GUT-BRAIN CONNECTION?

Janet Testaz ( aka JT) is a Holistic Nutritionist & Mindset Coach and runs personalised programs to help people improve there overwell health and vitality,

She has had her own health struggles with kidney cancer back in 2010 as well as dealing with hormonal and skin issues on her journey. She is super passionate about helping others become their best version of themselves so they can shine bright in the world.

If you would like more help with working on your mood and brain by working on your nutrition <u>Click here</u> to book in with JT for a free 20min health consult to learn more about working with her.





