



# IN DEFENCE OF *germs*

**The microbiota residing in one's gut plays a crucial role in an individual's health and wellness. So before you reach for the hand sanitiser or fill that antibiotic prescription, consider whether it's really in your best interests. TARA THORNE investigates this new trending topic.**

**L**eading health researchers and authorities in functional medicine are all aflutter about our microbiota, aka the germs that reside in our gut. As a pioneering area of research, the state of our gut bacteria has now been linked to autism, mood disorders, adrenal health issues, thyroid function, our palate likes and dislikes, obesity and more. But these tiny bacteria desperately need our attention. Our increasingly over-sanitised society and fear of germs and disease has caused us to destroy a significant portion of our gut bacteria, leaving us susceptible to autoimmune disease, depression and other serious health consequences.

## **How our microbes support us, and what happens when we don't support them**

We are under siege by microbes, which is actually a really good thing. These microbes essentially control us and play a very important role in how we function. From modulating our immune system to helping out with digestion, the germs that inhabit our gut are vitally important to our overall health. They are basically our 'control centre', acting systemically throughout our body in some of the following ways:

- Microbes impact our digestive health and play a huge role in gut health. Their presence can greatly benefit those who suffer from gas, bloating and any type of inflammatory bowel disease.
- Microbes can turn on or off certain genes in our body.
- Microbes secrete chemical signals into our bloodstream that impact our brain chemistry, thus mood disorders, anxiety and depression can all be affected by the type and amount of bacteria in our gut.

- Gut-associated lymphoid tissue (GALT) lines our gut and forms a large part of our immune system. Because of this, our immune function is largely dependent on the state of our gut bacteria. In fact, the hygiene hypothesis states that we need exposure to infectious agents – dirt and germs – to develop our immune system.
- Respiratory infections, autoimmune diseases and how we respond to vaccinations can all be impacted by the microbes in our gut.
- Inflammation is impacted by our microbiota, and inflammation drives many chronic diseases of Western civilisation.
- Recently it's been discovered that our gut microbes are connected to obesity and metabolic diseases. Studies have shown that if you take the gut bacteria of an obese mouse and transplant it into a lean mouse, the lean mouse – eating the same diet as it was previously – will start to gain weight and develop similar metabolic disorders that the donor mouse has.

Unfortunately, our modern-day society is not conducive to a healthy microbiota. In fact, traditional populations such as the Hadza of Tanzania and the Yanomami in the Amazon have a much more diverse microbiota than Western populations and far less, or even unheard of, diseases that Westerners develop regularly. Many researchers attribute microbiota diversity to these indigenous populations' lack of disease and conversely, Western society's poorer health. Western populations are missing up to 40 per cent of the microbe species that these indigenous tribes have.

### **Modern-day society's advances have imparted collateral damage to our microbiota**

Modern-day society is easier in many ways. We've been provided amazing technological advances in medicine that keep us alive longer and reduce medical tragedies. However, many of these things that have been great for society have also produced collateral damage:

- There's no denying that C-sections can play an important role in the safety of both mother and baby. However, baby's first exposure to bacteria, and hence colonisation of their microbiota, is supposed to be from the mother's birth canal during a vaginal birth. C-section babies miss out on this vitally important part of being born and some health professionals are now suggesting that swabbing C-section babies down with the mother's vaginal secretions is an important way to positively influence baby's gut bacteria colonisation.
- Antibiotics have been a lifesaving invention; however, the overuse of antibiotics is creating a very real and looming threat to our gut bacteria. Prescribing antibiotics for viral infections, such as most ear infections, annihilate microbes in the gut for no good reason. Furthermore, antibiotic use has been shown to be a main risk factor for developing colitis and other gastrointestinal problems, and just five days of a broad-spectrum antibiotic will remove up to a third of your gut



problems, and just five days of a broad-spectrum antibiotic will remove up to a third of your gut bacteria, which can take years to rebuild and often never fully recover. Don't make the mistake of thinking that taking probiotics after a course of antibiotics will completely repopulate your gut bacteria; many experts believe there is no probiotic that can reverse the damage antibiotics do.

- Specific oligosaccharides found in human breast milk help to populate a baby's gut bacteria. So as much as formula is a fabulous invention that's sometimes a mandatory and lifesaving requirement, it doesn't come loaded with the millions of amazing probiotics that Mum would otherwise pass on to baby to help populate baby's gut, setting them up right for optimal health.



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### **How you can protect and enhance your microbiota**

The good news is there are many things we can do to protect and enhance our gut bacteria. Diet is of huge importance here and can make a very real and quick impact. It's been shown we can change our microbes within just hours, depending on our diet, which is incredibly inspiring when we consider how connected our health is to the state of our gut bacteria. Some of the things we should be concentrating on, on a regular basis, in order to repopulate our microbiota include:

- Eat more plants. Microbes feed off indigestible plant fibre, or 'complex carbohydrates'. It's this food that escapes digestion in our small intestine that makes its way to our large intestine to feed our microbes. These are also called 'prebiotics' and some of the best sources are: onions, garlic, leeks,



blueberries, bananas, lentils, celery and artichokes. Eating more plant foods is the most important thing you can do to enhance your microbiota. Taking a probiotic pill is simply not good enough because probiotics only hang around in your gut for about 20 to 30 minutes before they're passed out in your stool. In order to maintain a healthy and flourishing microbiota you must be constantly repopulating it with plant foods.

- Don't use hand sanitisers.
- Don't be afraid of dirt. Don't go overboard in creating a sterile house environment.
- Get a pet. Households with dogs have children who have fewer respiratory tract infections and ear infections and take fewer antibiotics than those households that don't have a pet. This is contributed to the dirt and germs that pets bring into the home, strengthening children's immune systems.
- Eat fermented foods. Sauerkraut and kimchi are great choices. Fermented foods give you the indigestible plant fibre as well as instant bacteria generated from the fermentation process.
- Filter the microbe-killing chlorine out of your drinking and bathing water.

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- Don't use antibacterial cleaning or personal care products.
- Don't use antibiotics unless absolutely necessary.
- Get into the garden in order to gain contact with soil microbes.
- Eat only organic meat and dairy.

The antibiotics fed to animals – often prophylactically – are ingested by us when we eat these animals.

For far too long now our desire for pristine environments and our reckless use of antibiotics has led to the demise of our gut bacteria, which is having devastating consequences on our health. If we don't start to do those things required to increase and protect our microbiota, then chronic, non-communicable diseases will continue to infiltrate our lives, essentially – and somewhat ironically – swapping out one disaster for another, sometimes more serious. It's time to get down and dirty with the germs that reside in our gut and help them to thrive so that we can thrive too. [ANH](#)

