

## The importance of your microbiome (friendly gut bacteria)

**What is your microbiome?** It is the microbes - bacteria, fungi, protozoa and viruses - that live on and inside the human body. In fact, 90% of the cells within your body are not human but are bacteria living in your digestive tract. For the purposes of this article, when I refer to 'microbiome' I am referring to the bacterial element, particularly those living with your digestive tract.

You have an entire ecology within your body that you are not aware of although it has a profound effect on both your physical and mental health and wellbeing. The more diverse your microbiome the healthier you are likely to be. There are about ten thousand species of bacteria that potentially make up the microbiome. Every individual person has a unique combination as our microbes vary with gender, diet, climate, age, occupation, and hygiene. Even differences in our genes influence our microbial populations. These trillions of organisms weigh about three pounds (1.35 kg).

**What does the bacteria in the microbiome do?** They digest your food, control your appetite, control your metabolism and weight, organise your immune system and influence your mood. They have a major impact on whether your heart is healthy, your bones develop properly and whether your brain feels sharp and clear or unfocussed. They keep the gastrointestinal tract in a healthy state so that your food is properly digested and you get all the nutrients you need. They protect you against pathogens. They even produce some vitamins (such as B12, thiamine, riboflavin and K), other nutrients and neurotransmitters (such as serotonin). They perform so many vital functions that without them we could not survive.

**Where do we get our microbiome from?** A baby's gut is sterile when it is born but the first bacterial encounter is in the birth canal. The diversity is further enhanced by breast milk. Interestingly, breast milk contains oligosaccharides, a type of prebiotic that feeds our microbiome. Babies and children further pick up microbes not only from their mothers, but also from every person and thing they touch. This continues throughout life.

**What are the results of an unbalanced microbiome?** This list is not exhaustive but covers many of the main signs and symptoms of dysbiosis.

- Aggressive behaviour, anxiety, brain fog and fuzzy thinking, depression, mood swings, poor memory, bloating, constipation, diarrhoea, gas, intestinal pain, IBS, decreased immune function, autoimmune disorders, hypothyroidism, diabetes, insulin resistance, acne, eczema, psoriasis, joint pain, loss of bone density, cardiovascular disorders, muscle pain and hair loss.

Please note that the any of the above can be manifested for many other reasons. This is not intended to be a source for self-diagnosis. If you have any concerns please see your doctor.

### **What can adversely affect the microbiome?**

An imbalance in the colonies of the bowel flora is known as dysbiosis. The major causes are:

- Poor diet and nutrition
- Stress
- Antibiotic and other drug therapy
- Decreased immune health
- Decreased gut motility
- Maldigestion
- Intestinal Infection
- Substances that are foreign to the body or to an ecological system (Xenobiotics)
- Some diseases such as diabetes
- Increased intestinal pH
- Gastrointestinal tract surgery

### **What can positively affect the microbiome?**

*Prebiotics* are the foods and supplements that help friendly bacteria to flourish. Some prebiotic foods that are rich in a type of plant fibre known as inulin are asparagus, garlic, Jerusalem artichoke, leeks and onions. Some prebiotic foods that are rich in a microbiome superfood known as Arabinogalactans are carrots, onions, radishes, tomatoes, turmeric, pears and kiwi. In fact the microbiome loves most fruits, vegetables and salads so eat as diverse a selection of these foods as possible (eat a rainbow of plant based foods each day).

*Probiotics* is another name for the friendly bacteria that populates the gut which you can take in capsule form or by eating cultured or fermented foods that contain live bacteria; raw sauerkraut, kimchee, fermented vegetables, kefir and yoghurt. Fermented foods are the best probiotics.

In addition, avoid:

- Additives and preservatives
- Antibiotics – unless vital for your health. Take a probiotic if you are on antibiotics.
- Chlorine and environmental toxins
- Excessive and continuous stress
- GMOs
- Hand sanitizers (except when absolutely necessary) as your body needs to be exposed to more bacteria
- Meat from animals fed on GMOs, antibiotics and those that have been raised in a stressful environment
- NSAIDS (nonsteroidal anti-inflammatory drugs) such as ibuprofen, unless absolutely necessary. They damage the sensitive mucosal lining of the gut.
- Processed foods, sugar and refined carbohydrates
- Trans fats and hydrogenated fats.