

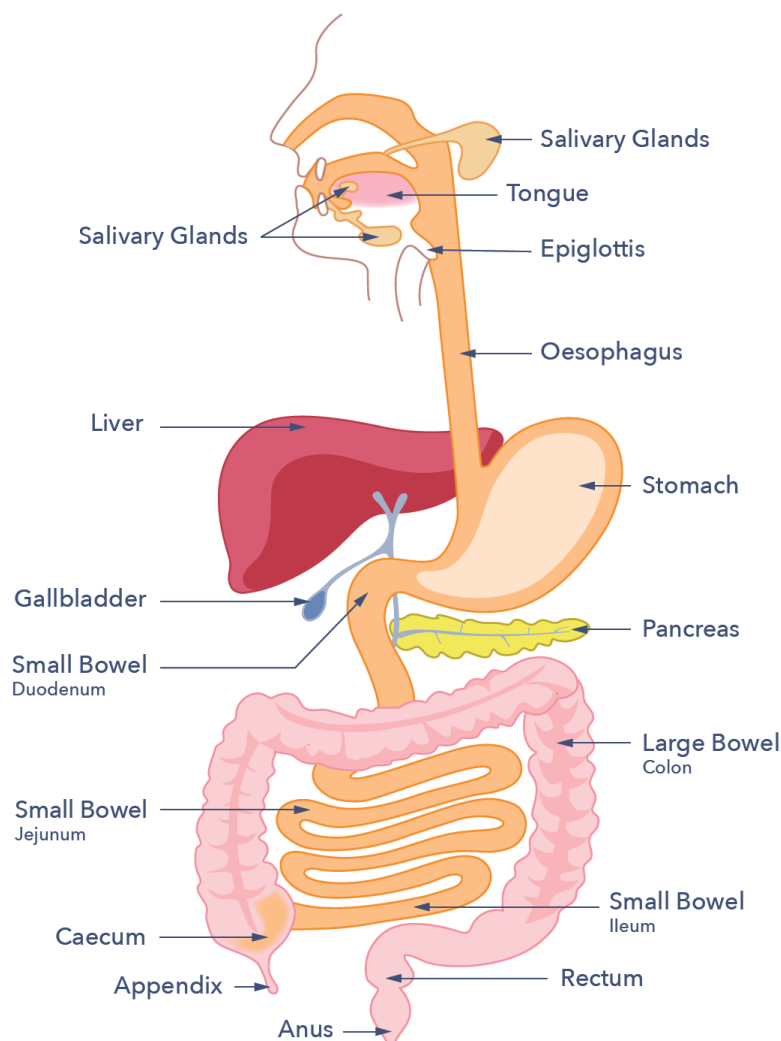
A short introduction to your gut microbiome.



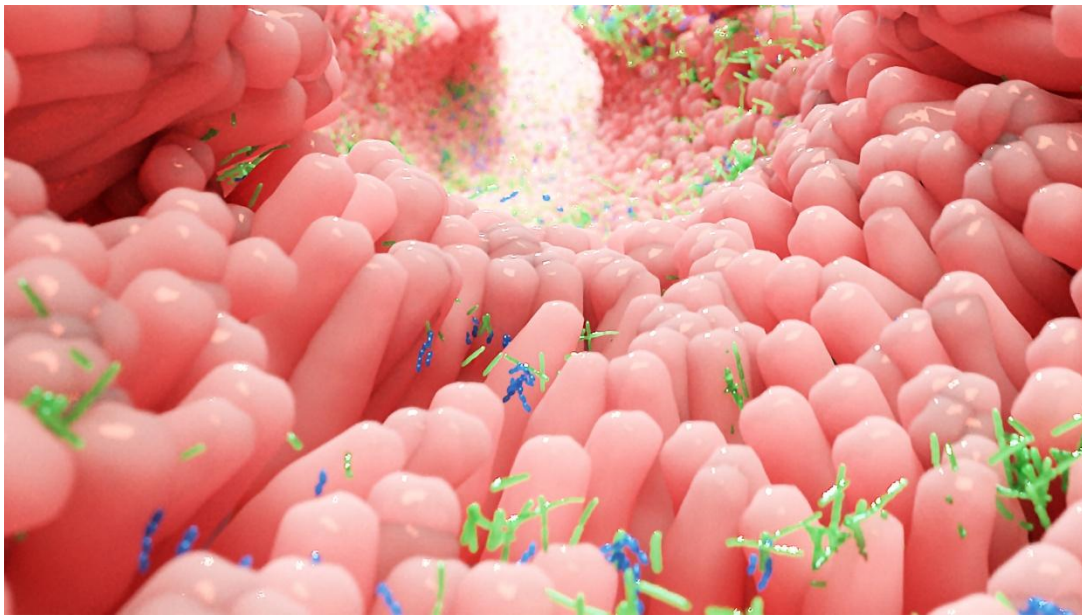
Guts UK is the charity for the digestive system. Funding research to fight diseases of the gut, liver and pancreas.

THE DIGESTIVE SYSTEM

The Digestive System, the gut, runs from the mouth to the anus. It includes the food pipe (oesophagus), stomach, the small and large bowel (intestines) and several accessory organs. The role of the digestive system is to turn food and liquid into the building blocks that the body needs to function effectively. See the image of the digestive system below.



A Short Introduction to Your Gut Microbiome



What is the gut microbiota?

Your gut microbiota refers to all the microorganisms (e.g. bacteria, viruses and yeasts) that live within your gut. In fact, the largest population of microorganisms within the body live within the bowel.

The combination of micro-organisms that live within your gut are completely unique to each individual. The human gut microbiota consists of over 100 trillion microorganisms, and weighs around 200g, around the same as an adult hamster!

Why is it so important?

Your microbiota has many functions, including defending against harmful microorganisms and digesting dietary fibre that humans are unable to digest. Your microbiota also ease the absorption of some essential vitamins and could even affect your mental health.

Early research suggests that Parkinsons disease may initially start in the gut. But we do not know this as a fact yet - much more research is needed. This recent discovery only highlights just how much we're yet to discover about the microorganisms that occupy our gut, and the connection to our brain.

What influences your gut microbiota?

We can influence our gut microbiota, but only to an extent. There are many factors at play, and some begin before you even leave the womb. See the next section to read of how you can ensure your gut bacteria thrive.

Some factors we can influence:

- For babies, where possible, feeding methods, such as breast milk, artificial milk and introduction of solid food.
- Any medicines such as antibiotics, acid suppressants and more*

- Dietary habits and the way food is cooked. The key to a healthy varied microbiome is to eat a varied balanced diet containing different fibre sources.
- Environment and lifestyle factors e.g. rural vs urban and exercise
- Weight gain.

Some factors we can't influence:

- Genetics
- Gestational age; whether you were born preterm vs. full-term
- Delivery mode; vaginal delivery vs. C-section
- Ageing

***Do not stop taking any medicine without discussing this with your doctor.**

What can I do to help my gut microbiota thrive?

The food you eat is the main fuel for your gut microbes. A review of the research literature indicates that diet can modify your microbes. This in turn has a profound impact on your overall health. Moreover, early studies indicate that gut microbiota composition is different in conditions such as type 2 diabetes, obesity, and inflammatory bowel diseases. But again, much more research is needed to understand the reasons why this happens and whether changes in lifestyle could help.

Some of the food that you eat, such as fibre, does not absorb inside your body but feeds the trillions of microorganisms that live in your gut. The type of fibre that feeds your gut microbes is called prebiotic. Prebiotics are substances that are used by the microbes for a health benefit. If we consider our microbes as our gut garden, then the prebiotic is the fertiliser that helps to nourish our gut microbes.

Food sources of these prebiotics are plant foods. Some foods containing larger amounts of prebiotics include artichokes, asparagus, chicory, bananas, berries, tomatoes, garlic, onions, legumes, green vegetables and wholegrain cereals.

Probiotics, which are beneficial strains of bacteria or yeasts, may be added to yoghurts (and some other foods) or are available as food supplements. Probiotics are not harmful for most people with a healthy immune system. There is some scientific evidence for specific health benefits associated with certain probiotic strains. If you have a digestive disease, you should talk to your doctor or dietitian before trying them. Their cost should be borne in mind. More information about the research into probiotics and specific conditions is available here:

https://aeprobio.com/AEP_Home.html

We also have more information pages on gut microbiome (Poo) testing and gut microbes in health and disease. Please contact Info@gutscharity.org.uk or call 0207 4860341 to receive copies of the information.

References available on request

www.gutscharity.org.uk

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