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neovos
BETTER YOU. BETTER TOMORROW

ADVANCED GUT TEST

Hello, Eric,

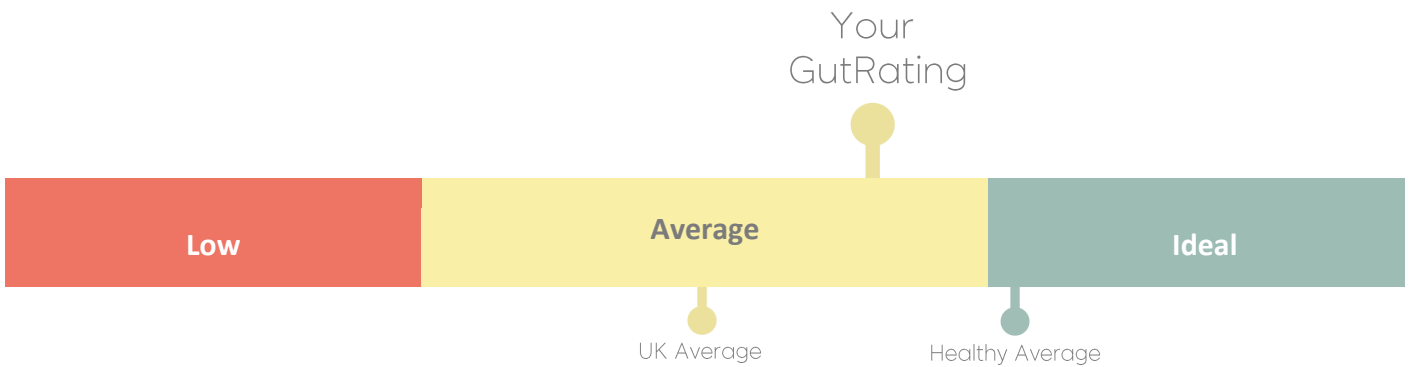
Congratulations on taking this important step to improving your gut health!

Information is power after all. And by seeing where you currently are, you can see exactly where you need to focus your energy for best results.

YOU & YOUR GUT

The bacteria in your gut have been looking out for you since day 1! Maybe they could be doing more for you, but in fairness you could be doing more for them. Each day we should be nurturing the bacteria in our gut to create an environment for them to thrive and in doing so will bring many many health benefits.

But, you already know that, that's why you're here... Let's take a look at your GutRating.



Your GutRating is based on how successful the bacteria in your gut are at producing key chemicals and how many good and bad bacteria you have at this moment in time. Remember: gut health is not fixed and can change from time to time.

Join our mission
& spread
gut health awareness

Share your results

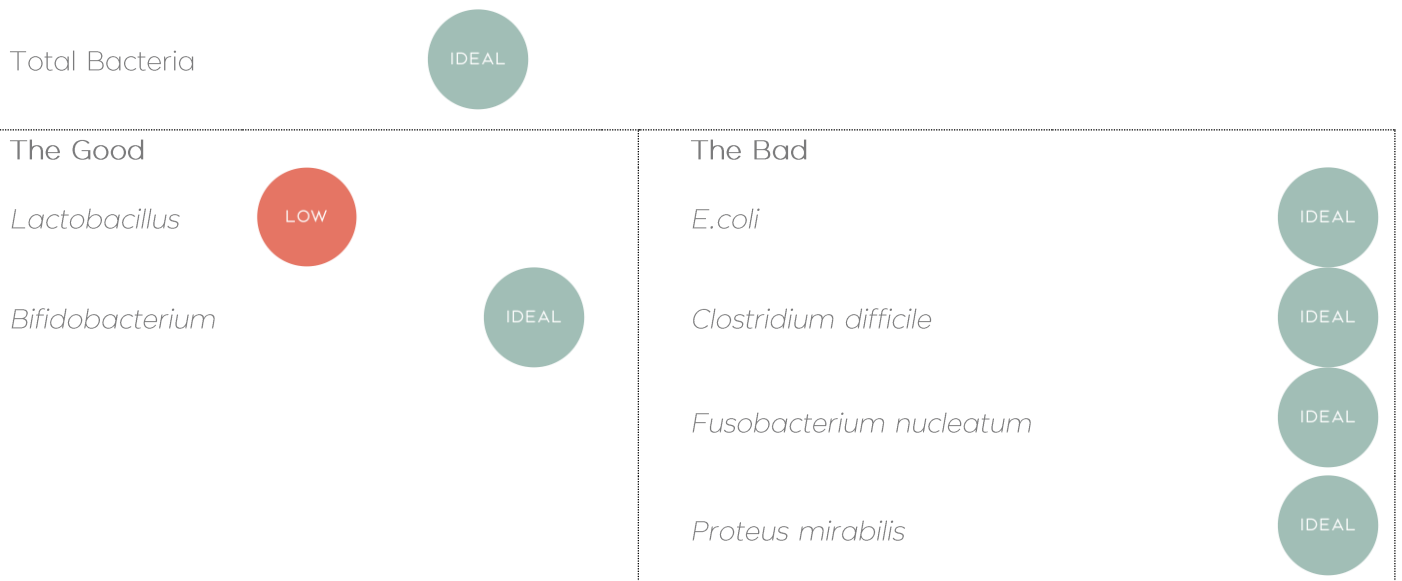


RESULTS SUMMARY

FUNCTIONAL GUT



COMPOSITIONAL GUT



DIET & LIFESTYLE



YOUR RECOMMENDATIONS

Your GutRating is **average**. Well done, but you have room for improvement.

Your levels of SCFAs are average but your ratio is **ideal**, this means that the bacteria in your gut are well balance but they are simply not producing many SCFAs.

Your higher levels of iso-valerate could be having an impact on your mental health, particularly in your mood and by addressing this imbalance will likely have a positive effect on how you feel.

Lactobacillus needs your help.

Your GutRating is a snapshot in time and based on your diet and lifestyle over the last two weeks. Your risk of developing further gut-related issues is average. But don't panic, you may have found the solution: by focusing on your gut health you are addressing the underlying issue and evidence shows that you are likely to remove or lessen your discomfort in time. You need to create an environment for your gut bacteria to flourish.

We recommend you make your gut health a priority, follow as many of your recommendations below as you can and retest yourself in six months to check your new GutRating and to see if the changes you have made work for you

DIET

1. Increase diet diversity
2. Increase prebiotics
3. Increase probiotics

LIFESTYLE

1. Increase exercise
2. Increase daily fasting time

A combination of improvements will be most beneficial.

The elimination of an unhealthy choice is just as important as the introduction of a healthy choice.

YOUR RESULTS

SHORT-CHAIN FATTY ACIDS

Short-Chain Fatty Acids or SCFAs are vital for physical and mental health. SCFAs are also the main products of the bacteria in the gut, and so by measuring their concentration, you are able to see how well your gut is performing.

Acetate

50.2 μ mol/g



Function: Acetate is the most abundant SCFA and should make up more than half of the total SCFAs detected. Acetate regulates gut pH, protects against pathogens, boosts the immune system, controls insulin sensitivity to combat type 2 diabetes and nourishes butyrate-producing bacteria.

Propionate

20.7 μ mol/g



Function: Propionate has wide-reaching effects including controlling weight loss and appetite and is anti-inflammatory which relieves and prevents irritable bowel syndrome and Crohn's disease.

Butyrate

15.5 μ mol/g



Function: Butyrate has several functions. These include providing up to 70% of the energy needed for the cells in the colon, which helps the colon to repair preventing illnesses such as leaky gut and ulcerative colitis. Butyrate also maintains the gut-brain axis and supports mental health. For example, butyrate increases the synthesis of the "happy hormone" serotonin, which diminishes anxiety and improves mood.

To improve butyrate levels: Diets high in resistant starch change SCFAs profile towards increased butyrate production. Resistant starch is a natural ingredient in many fruits and vegetables, such as plantains, green bananas, lentils, whole grains (wheat bran), rice and potatoes. Cooling cooked food increases the content of resistant starch. Try probiotics containing *Bifidobacteria* or *Lactobacillus* bacteria. Consider including iron-rich food or supplements as important butyrate-producing bacteria *Roseburia* are sensitive to iron availability.

SCFA Ratio

Your Ratio: 58 : 24 : 18

Your Rating:

IDEAL

Your gut bacteria are well balanced at the moment.

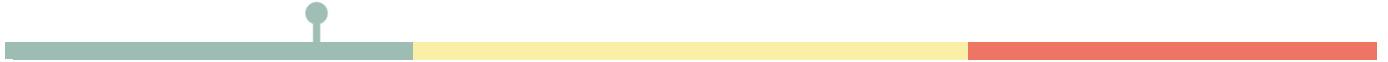
The acetate : propionate : butyrate ratio for healthy individuals is approximately 60% : 20% : 20% and is just as important as the amount of SCFAs produced. Veering too far from this ratio is an indicator that your gut microbes are out of balance and is an indicator for some inflammatory conditions such as IBS, obesity and heart disease.

BRANCHED-CHAIN FATTY ACIDS

Branched-Chain Fatty Acids or BCFAs are a type of metabolite produced by bacteria in the gut. Unlike Short-Chain Fatty Acids, it is best to minimise the amount of BCFAs produced.

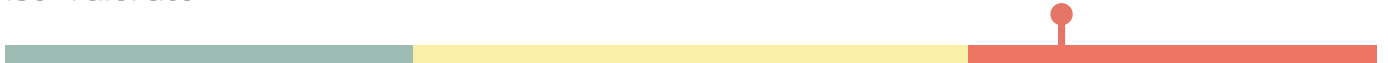
Iso-butyrate

1.1 μ mol/g. 0.9%



Iso-valerate

3.9 μ mol/g. 3.6%



BCFAs are linked to protein fermentation, which can produce other compounds including ammonia, phenol and p-cresol that can cause cell damage, inflammation and cancer. Excessive protein consumption or the lack of fibre in the diet can cause a shift in the microbiota towards an unhealthy state where the levels of BCFAs are increased.

Recent break-throughs in research have highlighted a strong link between our mental health and our gut health called the gut-brain axis. Increased levels of Iso-valerate is a marker for depression. Your higher levels of iso-valerate could be having an impact on your mental health, addressing this imbalance will likely have a positive effect on how you feel.

To decrease BCFAs: the importance of diet is critical. Try to reduce your consumption of protein particularly from meat sources. The recommended dietary allowance for protein is 0.75g per kg of body weight, which calculates to be approximately 75g of protein per day for you. Consider complimenting protein intake with dietary fiber (vegetables, wholemeal bread, brown rice), which stimulates the production of SCFAs and has a rebalancing effect.

TOTAL BACTERIA

1x10¹⁰/g. 100%



Your *Total Bacteria* rating is Ideal.

There are up to 2,000 species of bacteria in the large intestine and their total number of cells is an important indicator of your gut health. Abundance of bacteria tells you that they are happy and thrive.

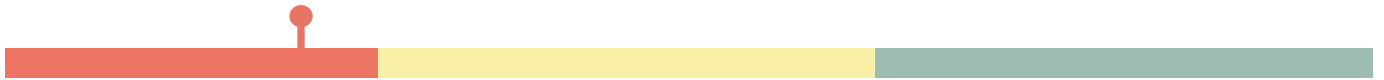
Nice work, the total number of bacterial cells in your gut is ideal. Unfortunately this is not fixed, as you age this number naturally decreases so you need to do all you can to curb or even reverse this decline. Also events such as illnesses, medicines and antibiotics can shake things up too.

THE GOOD

Species with known beneficial effects on health are referred to as probiotics or 'good' bacteria.

Lactobacillus

1x10⁷/g, 1.0%



Your *Lactobacillus* rating is Low.

Lactobacillus together with *Bifidobacterium* are the most abundant and well-researched probiotics. *Lactobacillus* consists of approximately 44 species and have been part of our diet for thousands of years. Lactobacilli start colonising us from very early days from birth. They are transferred from our mother at birth and by breastfeeding.

Lactobacilli have been shown to:

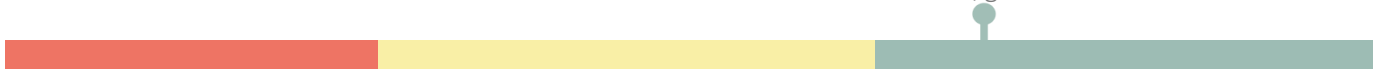
- Inhibit the growth of bad bacteria by producing anti-microbial compounds - bacteriocins and lactic acid
- Create a physical protective layer in the gut preventing bad bacteria from entering the body. Scientific evidence also suggests that probiotics including lactobacilli can protect us from the effects of heavy metals and some pesticides by preventing the absorption of these toxic chemicals by our body
- Help to maintain a healthy immune system
- Digest prebiotic fiber to produce beneficial compounds including lactic acid and acetate
- Produce B-group vitamins
- Break down lactose to improve lactose maldigestion
- Lower cholesterol
- Used to treat IBS, gastritis, sinus issues/hay fever, allergies, *Candida*, *C. difficile*, arthritis, UTIS, vaginal yeast, liver disease, gallbladder problems and many more

If ideal: Excellent news, your number of lactobacilli is ideal. Important to note that as we age or develop illnesses the number of lactobacilli decreases. Therefore, maintaining healthy levels as well as doing what we can to promote these bacteria each day is important.

If low/average: To improve lactobacilli: consume fermented foods (yoghurt, kefir, kombucha, kimchi, sauerkraut) or probiotic supplements. It is also possible to increase their number by including more plant-based foods in a diet.

Bifidobacterium

4x10¹⁰/g, 40%



Your *Bifidobacterium* rating is Ideal.

Bifidobacterium consists of approximately 47 species and is a group of health-promoting bacteria normally found in the intestines and stomach. Similar to lactobacilli, *Bifidobacterium* colonise us during infancy by a transfer from our mother through breastfeeding, establishing a healthy microbiota. *Bifidobacterium* is especially abundant in newborn children representing up to 95% of total bacteria, however their number is gradually decreasing over time dropping considerably as we age.

Bifidobacteria functions include:

- provide nutrients by breaking down dietary fibers promoting the production of healthy molecules such as short-chain fatty acids (acetate, propionate and butyrate)
- Producing vitamins such as K2 and group B
- Moving bad bacteria/pathogens off the epithelial barrier preventing their attachment and infections
- Produces lactic acid as a product of fermentation, benefiting pH in the gut
- Together with lactobacilli produce or mediate the production of neurochemicals improving mental health, reducing stress and improving memory
- Improve gastrointestinal symptoms like bloating, abdominal pain and bowel movements
- Influences the immune system and help against inflammation
- Has anti-tumour effects on the development of cancer

Brilliant, your number of bifidobacteria is ideal. Some bifidobacteria species are reduced by environmental stressors such as antibiotics, pesticides in food, unhealthy diet and lack of dietary fiber. Therefore, it is important to make sure you are regularly getting bifidobacteria through your diet along with feeding these bacteria all the right foods to help fuel and maintain their abundance.

THE BAD

Species with known harmful effects are referred to as pathogenic or 'bad' species

E. coli groups B2 and D

1x10⁵/g. 0.5%



Your *E. coli* rating is X.

Escherichia coli (or *E. coli*) is a typical inhabitant of our gut flora, with more than 90% of people carrying this bacterium. *E. coli* is one of the first bacterial species to colonise the infant's intestines and in most cases the presence of this bacteria is harmless. Moreover, recent evidence indicates that our body benefits from *E. coli* as this bacterium helps our cells to absorb iron, an essential nutrient. It produces vitamins K2 and B12. *E. coli* consumes oxygen in the gut and therefore creates a comfortable anaerobic (without oxygen) environment for beneficial bacteria, including butyrate-producers (SCFAs). *E. coli* physically shields the gut creating a physical barrier against unfriendly pathogenic bacteria.

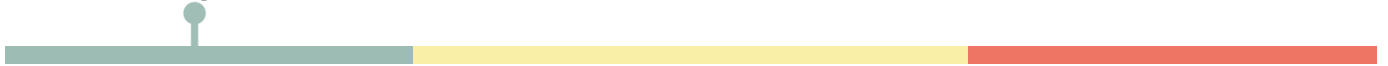
The relationships with *E. coli* are not always peaceful. It is a diverse community of bacteria and some groups are harmful to humans. Among the harmful *E. coli*, two groups B2 and D, have been associated with inflammation, DNA-damaging properties, IBD and urinary tract infections. This test picks out these harmful strains and quantifies only them. Therefore we hope to see them in smaller numbers or absent at all.

If ideal: Nice one, your levels of harmful *E. coli* bacteria are low. This bacteria is spread from animals to people and is caused by eating or drinking contaminated food/water. To avoid *E. coli* infection practice good hygiene including hand washing before and after toilet use and with touching animals.

If low/average: To reduce *E. coli* levels: the best tactic is by increasing beneficial bacteria such as *Lactobacillus* and *Bifidobacterium*, lowering pH and to increase the production of Short-Chain Fatty Acids.

Clostridium difficile

5x10²/g. 0.1%



Your *Clostridium difficile* rating is Ideal.

Clostridium difficile (or *C. difficile*) is a contagious bacterium that can affect your bowel. Although not normally considered to be part of a normal gut microbiome, *C. difficile*, may comprise a small percentage 1–3% of commensal microbiota in adult humans. A healthy gut provides a protection against *C. difficile* and other pathogens expansion. However, dysbiosis can weaken the protective property of the microbiota and pathogens can proliferate extensively and harm us. *C. difficile* increases toxin production (toxins A and B) attacking the lining of the intestine causing inflammation of the gut lining and cell damage that can lead to many health problems.

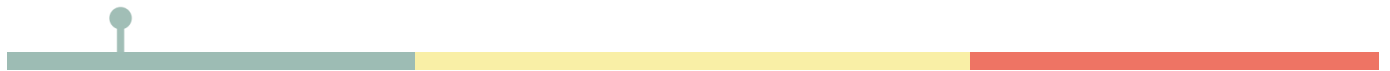
Reasons that make you more vulnerable to getting a *C. difficile* infection:

- Post antibiotic use (up to 2 months post treatment)
- Recurrent *C. difficile* i.e. If you have had it before you are more likely to get it again
- If you have an underlying health condition such as irritable bowel syndrome, liver disease, cancer or a weakened immune system
- If you are over the age of 65

Nice one, your levels of *C. difficile* bacteria are low.

Fusobacterium nucleatum

1x10²/g. 0.2%



Your *Fusobacterium nucleatum* rating is Ideal.

Fusobacterium nucleatum (or *F. nucleatum*) lives within the digestive system and mouth. It is part of the commensal gut microbiome therefore is normal to be present in small amounts however an increase in its abundance can be highly invasive and has been linked to a number of health conditions, including periodontitis (gum disease), angina, appendicitis, Alzheimer's, cardiovascular disease and cancer.

Nice one, your levels of *F. nucleatum* bacteria are low.

F. nucleatum is an inhabitant of our mouth bacterial community and migrates from the oral cavity to other organs of the body where it can trigger numerous diseases. Therefore, it's important to follow a good dental hygiene to stop the infection of tissues by *F. nucleatum* or by other pathogens such as *Porphyromonas gingivalis*. For the prevention, brush your teeth at least twice a day, don't smoke and eat a healthy diet. *F. nucleatum* is sensitive to a number of antibiotics, however most of them target other beneficial bacteria and hence do not represent an optimal therapy. Certain compounds found in tea (green and black) called polyphenols display antibacterial activity against *F. nucleatum*. One more reason to have a regular cup of tea.

Proteus mirabilis



0/g. 0.0%

Your *Proteus mirabilis* rating is Ideal.

Proteus mirabilis (or *P. mirabilis*) is a bacterium that we do not want to detect at all.

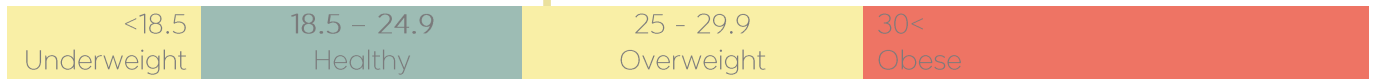
P. mirabilis is responsible for dysbiosis in the gut, which reduces the diversity of bacteria. Moreover, the high presence of *P. mirabilis* correlates with the increase of other species associated with inflammation - *Fusobacterium* and the reduction of beneficial microbes - *Faecalibacterium*. Therefore, not surprisingly some gut conditions have been associated with *P. mirabilis* such as IBD and rheumatoid arthritis.

Nice one, your levels of *P. mirabilis* bacteria are low.

OTHER GUT HEALTH FACTORS

BMI

Your BMI = 25.9



Body Mass Index (BMI) is a useful test which uses your height and weight to work out if you're a healthy weight, or whether you should increase or lose weight. A healthy BMI is between 18.5 and 25 but does not take into account age, sex, pregnancy, fat content or muscular build. Approximately 75% of the UK population are overweight.

AGE

Your Age = 55



As you age, the abundance of beneficial bacteria in your gut naturally decreases, particularly bacteria such as *Bifidobacteria*, on the other hand the abundance of opportunistic pathogenic bacteria such as *C.difficile* goes up. The higher your age, the higher your risk of digestive inflammation and gut related issues. This means you need to be constantly working on your gut health through life to curb this decline.

Stool Consistency

Your Stool Consistency



The Bristol Stool Scale (BSS) categorises stools from a range of 1 to 7 depending on shape and consistency. It is a basic snapshot in time, to help identify issues with diet, the digestive system and gut microbes. Type 3 and 4 are considered healthy with good diversity and abundance of bacteria. Type 1 and 2 indicate constipation (low water content) and types 5, 6 and 7 indicate diarrhoea (high water content).

YOUR KNOWN GUT-RELATED ISSUES

IBS



Anxiety



Your diet score is:

2
5

You are doing 40% of the things you can at the moment to improve your GutRating.

You
Scored**Food diversity**

A diet consisting of a wide variety of whole foods, such as:

- Fruits (apples, avocados, bananas, blueberries)
- Vegetables (asparagus, broccoli, carrots, garlic, onion)
- nuts and seeds (almonds, chia seeds, coconuts)
- legumes (kidney, lentils, peanuts)
- meats (lean beef, chicken, lamb)
- seafood (salmon, sardines, tuna)
- whole grains (oats, bulgur wheat, brown rice, quinoa)
- dairy (cheese, whole milk, yoghurt)
- fats and oils (butter, coconut oil, extra virgin olive oil)

can lead to more variety of bacteria in the gut, which brings wide reaching health benefits.

AVERAGE

Challenge: There's always more you can do here. For the next two weeks, make a special effort and eat as many different whole foods you can each day.

Prebiotics

Prebiotics are a type of fibre that passes through the body undigested, promoting the growth and activity of friendly gut bacteria. Good sources include:

- whole grains (oats, bulgur wheat, brown rice, quinoa)
- fruits (apples with skin, pears with skin, bananas)
- vegetables (carrots, beetroots, broccoli)
- legumes (kidney beans, lentils, peanuts)
- nuts and seeds (chia seeds, almonds)

Approximately 90% of people in the UK do not eat the required 30g of fibre per day. Many believe this to be the major contributor to the rise in modern illnesses such as IBS and type II diabetes.

LOW

Challenge: Be the 10% that eats enough fiber for the next two weeks. Or for an easier way to ensure you are topped up, start taking a prebiotic supplement.

Fuel for bad bacteria

There are up to 2,000 strains of bacteria in your gut, all competing for the food that you eat. Certain foods promote the growth of 'good' or probiotic bacteria and certain foods promote the growth of 'bad' or pathogenic bacteria. Reduce consumption of:

- refined carbohydrates (white rice, white bread, cereals, fizzy drinks, sweets, snacks)
- Artificial trans fats (fries, doughnuts; margarine, crisps, popcorn, cakes, pastries)

on a daily basis to re-balance the gut bacteria scales and to give the 'good' ones a boost.

IDEAL

Probiotics

Probiotics are cultures of beneficial bacteria like those found in fermented foods. These living microorganisms directly increase the number of good bacteria in the gut. Good natural sources include yoghurt, kefir, kombucha, sauerkraut and kimchi. Getting enough probiotics naturally can be difficult and a daily probiotic supplement can provide a necessary boost.

AVERAGE

Challenge: Next time you do your shopping, put a probiotic item in your basket. Or try a probiotic supplement. They may not be cheap, but 'three-month from now you' is going to thank you!

Hydration

Sipping water throughout the day is often overlooked but has many health benefits. A hydrated gut has a beneficial effect on the mucosal lining of the intestines, helps the balance of bacteria and relieves constipation.

IDEAL

LIFESTYLE

Your lifestyle score is:

3
5

You are doing 60% of the things you can at the moment to improve your GutRating.

You Scored

Smoking

Smoking has detrimental effects on nearly every organ in the body including your gut.

IDEAL

Alcohol

Alcohol is considered a toxin, reducing alcohol consumption will have a positive effect on your gut health. However, drinking in moderation as part of a healthy diet and lifestyle isn't considered to have a significant effect on gut health. In fact, some types of alcohol have gut health benefits, particularly those high in polyphenols such as red wine.

IDEAL

Exercise

As well as many other health benefits, physical activity increases blood flow to the muscles in the digestive system that supports peristalsis, which massages our food along the digestive tract. Regular exercise will aid in supporting good gut bacteria diversity.

AVERAGE

Challenge: For the next two weeks, do some kind of exercise each day, even if it is a brisk 30 minute walk, a cycle to work or a 30 minute stretching session. Activity fuels activity and you will feel better for it.

Sleep

Sleep deprivation or poor-quality sleep can disrupt the circadian rhythm and have harmful effects on gut bacteria. Sleep problems can cause subtle changes to the gut flora and increase bacteria associated with weight gain, obesity and type 2 diabetes.

IDEAL

Challenge: Whether you are getting between 6 and 9 hours or not, you can probably improve the quality of your sleep. Try a sleep supplement, some lavender oil on your pillow or simply try avoid looking at your phone the hour before bed.

Daily fast

We are what we eat and when we eat. Studies have shown that avoiding food for at least 12 hours a night has wide-reaching health benefits. Eating a large meal late in the evening, late-night snacking and jet lag all throw our gut bacteria out of their circadian rhythm, which is harmful to our gut diversity and therefore to our gut health.

LOW

Challenge: For the next week consider avoiding food or drink (water is ok) for at least 12 hours a day and see if you notice a difference.

