

Should I test my gut microbes to improve my health?

16 March 2020, by Amy Loughman



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People are paying [hundreds of dollars](#) to have their gut microbes analyzed, hoping the insights will allow them to adjust their diet and improve their health.

But these testing services are based on science that's still in its infancy, as we explain in our [recent paper](#).

So while there may be great promise for analyzing our [gut microbiome](#) to help diagnose and treat people in the future, for the moment knowing what's in your gut is mostly a curiosity.

But aren't these tests based on science?

The idea of your gut microbiome—the whole community of gut microbes and their products—influencing your [health](#) is gaining momentum.

Over about the past two decades, the gut microbiome has been linked to everything from [inflammatory bowel disease to depression](#).

So it's been appealing to think if you just knew what was in your gut microbiome, you could tweak your diet and create a "designer microbiome" to

improve your health.

There's [preliminary evidence](#) analyzing the gut microbiome in a stool sample can help predict who will do well on a certain diet.

There's also [some evidence](#) it can help predict which people with [inflammatory bowel disease](#) respond to medical treatments.

But these findings are far from being applied more generally and for routine health care.

One day, we may understand how combining information about your microbiome with other test results, such as genomic tests (sequencing your [human genes](#)) might help.

The idea is that this would help people prevent disease and medication side-effects, predict their future risk of disease, and help choose a personalized diet for optimal health.

For instance, information about someone's microbiome, when combined with blood tests and their diet, [can predict](#) how someone's blood glucose levels respond to specific meals.

This 2015 study also showed that by analyzing someone's gut microbes you could tailor their diet to keep their blood glucose under control.

Again, while the prospect might sound appealing—and the potential impact huge—we don't yet have the evidence to implement this more widely.

There's also much [we don't know](#) about the microbiome itself. For instance, scientists don't agree what a [healthy microbiome](#) looks like, we haven't sequenced all of the bacterial genes, and we don't know what they do or how they interact.

So while we are starting to understand the ideal

microbiome for health, it is still more of a rough sketch than a blueprint.

But I'm curious anyway

Most companies ask you to send in a stool sample, which you take yourself and post in a secure package to a laboratory to analyze the results.

Each company is different

Different companies analyze your [stool sample](#) in different ways.

For instance, some tell you the relative abundance of bacteria down to the genus level (but not the species level). Some tell you which strains of microbe are present (not just bacteria, but viruses and fungi too) and their function. Some tell you which of the microbe genes are expressed and active.

All of these are [legitimate approaches](#) to analyzing your gut microbiome, and you could expect a reasonable degree of accuracy.

How do you interpret the results?

The companies also differ in how they supply and interpret the results. The company may compare your results with others they've analyzed. But they can't compare them with an "average" or "healthy" microbiome because an individual [company](#) doesn't sample the whole population, and scientists haven't yet defined a "healthy" microbiome.

Some companies advise the types of foods you could eat to boost levels of particular bacteria. You might also be told that a certain bacteria can be associated with some health condition, like obesity or constipation.

Ideally, alongside your results would be an explanation about the types of research the insights are based on, limitations of the evidence, and a caution the results cannot be considered medical advice.

Unfortunately, consumers don't always receive this information, and it can be hard to know what to do

with the test results.

What about privacy?

Another important issue to consider is who has access to your test results and under what circumstances. This has been a [concern with take-home genetic tests in the United States](#).

Although data about your microbial genes may not seem sensitive and private as your own genes, ensuring you know who might have access to your stool testing data is an important consideration.

There's research to see whether the microbiome could one day be used in [forensics](#), demonstrating the very personal nature of these data.

In a nutshell

Given the complexity of the gut microbiome and its interaction with us, its host, we still need large research trials replicated across different centers to make sense of the data.

So-called [microbiome](#) diagnostics could become central to optimizing health and improving care of people with chronic disease in the future.

But, for the moment, knowing the specific community of your [gut microbes](#) will only serve to satisfy your curiosity, not improve your health.

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