

Microbiology & Microbiota Information/Interesting Links

Khan Academy Bacteria - <https://www.khanacademy.org/science/biology/bacteria-archaea>

Harvard Chan School of Public Health Microbiomes -

<https://www.hsph.harvard.edu/nutritionsource/microbiome/#:~:text=The%20microbiome%20consists%20of%20microbes,symbiotic%20microbiota%20coexist%20without%20problems.>

<https://www.biocodexmicrobiotainstitute.com/en/learn-all-about-microbiota>

https://www.science.org/content/article/pill-derived-human-feces-treats-recurrent-gut-infections?utm_source=sfmc&utm_medium=email&utm_campaign=DailyLatestNews&utm_content=alert&et rid=709435771&et cid=4075868

[American Society for Microbiology - Home | Facebook](#)

[Microbiome | Home page \(biomedcentral.com\)](#)

<https://www.genome.gov/about-genomics/teaching-tools/Teaching-Microbiome>

<https://worldmicrobiomeday.com/about/>

Additional Q&A

Do people with diverse or certain microbiomes have a better chance of fighting an infection?

- I saw several comments in the Q&A about “diversity” of the microbiome. While we often talk about higher diversity being “better”, diversity in and of itself is purely a measure of the community composition. There have been associations between higher diversity and “health” (and I myself and guilty of using this work in my early papers). A more nuanced answer gets back to the community function (what are they doing) as opposed to the “who is there” look at communities. If a “low diversity” community has the “right functions” that is sufficient. Conversely you can have a high diversity community that lacks a critical function and therefore isn’t “beneficial”.

That is maybe more nuanced than is necessary. A more direct answer is that one can imagine for certain infections (and *C. difficile* is an example of this) are better handled by a person if they have a microbiota that can aid in the defense against the infection.

Is there any integration of genetic engineering in this topic?

- People have been thinking about (and doing development on) “probiotics” that have specific characteristics genetically engineered into them. For example, you can try to have a normally harmless beneficial bacteria that is engineered to carry out beneficial metabolic functions such as the detoxification of chemotherapeutic agents. Of course, this does bring up the whole controversy of “genetically modified organisms” but that is another topic.

Is the microbiome the reason a person's body decays after death?

- You didn't bring up the "necrobiome". The studies that I have read says that the decay is both due to the indigenous microbiota, but also microbes in the environment that take advantage of the "free meal" that a dead body might present to them.

is there a connection between microbiomes and the endocrine system/hormones?

- This is a big topic, but there are studies that show that certain microbes can stimulate the release of specific hormones in the body. The mechanism by which this occurs isn't entirely clear as far as my reading has come across. Lots of the studies look at hormones that are related to digestion and metabolism, which makes sense in relationship to the gut microbiota.

What are some specific examples of bacteria that might commonly come up, good or bad?

- There are many bacteria that have been found amongst the microbiota of "healthy people". Probably doesn't mean much to list these, but in general we assume that the vast majority of these are "good". Pathogens are the exception rather than the rule.