



Day Thirteen: Prescription and Over-the-Counter Drugs, Alcohol and Tobacco

Pharmaceuticals

It's no secret that pharmaceutical drugs, whether they're over the counter or prescription, have side-effects that can cause everything from bloating to cancer to death. Heck, the drug companies even have to list the side effects (at 2x speed) in commercials, all while they're showing you images of happy, healthy users.

So, it should come as no surprise, then, that many pharmaceuticals, even those that seem innocuous like acetaminophen, can wreak havoc on the gut. I already mentioned stomach-acid blockers in Day 6, but there are many more.

Drugs like statins, antipsychotics, antibiotics, and painkillers can alter the architecture of your gut microbiome. And while we think that non-steroidal anti-inflammatories might help reduce some of the systemic inflammation that causes so much trouble for the gut and the brain, they also disrupt the microbiome, in turn causing more inflammation!



It is the case that, although drugs may be given for one illness, the changes they induce in the microbiome can result in gut dysbiosis, leading to many other issues including mental health and brain issues. In fact, any of these drugs can change the number and kind of gut bacteria. One study found up to 25% of 835 non-antibiotic drugs suppressed the growth of at least one beneficial bacterium.

Beyond altering the microbiome, opioids like morphine, for example, are associated with severe constipation.

It's rather frightening to know that, in the U.S., about 40% of people older than 65 years are using more than 5 prescriptions. Think of what that is doing to their guts AND their brains!

Anticholinergic medications all block the action of the brain chemical called acetylcholine which leads to memory loss and cognitive impairment. Beyond that, these drugs also have negative effects on the gut microbiome, so if you are on any of these, talk with your doctor. Are the benefits outweighing the side effects? These could be prescription medications or over the counter:



- Allergy medications (for example, Benadryl® - diphenhydramine)
- Anti-nausea medications (for example, Gravol® - dimenhydrinate)
- Antidepressants (for example, Paxil® - paroxetine)
- Antipsychotics (for example, Seroquel® - quetiapine)
- Bladder control medications (for example, Ditropan® - oxybutynin)
- Sleeping pills (for example, trazodone or OTC medications like Nytol® or Sominex®)
- Muscle relaxants (for example, Robaxin® - methocarbamol)
- All opioids
- Combination medications (for example, Tylenol PM® or other medications with “PM” in their name which include the ingredient diphenhydramine)

Your gut microbiome is constantly adapting to changes in you and your environment to keep your intestinal environment stable. But treating infections with antibiotics disrupts your microbial community. Ultimately, this can reduce the abundance of probiotic microbes like Bifidobacterium and Lactobacillus.

It goes without saying that recreational drugs are just bad all the way around, for the gut and the brain, so if you do have an issue with these, please get help. Not just for your gut and your brain health, but for your future.

Alcohol

Drinking alcohol can have a profound effect on the gut and can influence what kind and how many bacteria live there. Even a single episode of drinking can damage the gut wall and can also lead to malabsorption of essential vitamins and minerals.

Research shows that people who regularly drink alcohol have guts that look vastly different to those of people who drink little to no alcohol. Alcohol can also lead to a leaky gut, and can interfere with how the immune system functions, leading to increased inflammation within the gut and elsewhere in the body.

This in turn can target other organs in the body, leading to autoimmunity, chronic conditions, or even alterations to the central nervous system and how the brain works.

Alcohol, while it can seem harmless if you're only sporadically consuming it, can have a major impact on the gut. Genetics can play a role in just how sensitive you are, as well as other lifestyle and health factors (people who already have existing autoimmune, gut, or chronic conditions should be more cautious than those who don't already have these issues). While alcohol certainly isn't "all bad", (think the resveratrol in red wine), it is better to just avoid it if you want to build a healthy gut for a happier brain.

I've included a recipe for a "margarita" mocktail. There are many low-sugar, tasty alternatives online that you can try. Just remember many of the recipes have loads of sugar, so choose ones that do not depend on that for flavor.



Smoking

The composition of your microbiome is altered when you smoke. Studies have shown that bad bacteria thrives while good bacteria suffers in the guts of smokers. Smoking also decreases the diversity of the intestinal microbiome.

The increased oxidative stress, alterations of intestinal tight junctions, and changes in acid-base balance seem to be responsible. Some smoking-induced alterations of the microbiome are the same as those in inflammatory bowel disease and obesity!

There is no reason to smoke. Ever. Just. Stop.

Your Assignment for Today:

If you are on any kind of medications – over the counter or prescription – review them and the effect they could be having on your gut. Make special note of acid blockers, anticholinergics, and antibiotics. Talk with your doctor to see if there is a way to reduce their use. And if it's acid-blockers that you're taking, the steps you have been taking over these two weeks should be helping to reduce the need for them anyway.

If there are medications that you simply must take, be extra vigilant in replenishing the nutrients they could be depleting so that you do not become deficient. For anti-depressant use, the exercise you are hopefully getting, and the improvements in your diet, should be helping you wean off them. Again, I stress – do not make any changes without consulting your doctor.