

METABOLIC RESET



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There has been a surge of interest in hormones and gut health. More specifically, the human microbiome (the collection of bacteria in your gastrointestinal tract) and how these trillions of bacteria are crucial to our physiology and metabolism.

Every system in the body is connected and our gut is intrinsically linked to overall health and hormone balance.

Hormones And Gut Health: Why Is Gut Health Important?

Optimizing our gut health is key to keeping our hormones in balance. Gut health is so important because the microbiome has many functions, including:

- Aiding the synthesis and regulation of hormones and neurotransmitters
- Facilitating the absorption of macro and micronutrients
- Plays an essential role in the immune system
- Contributes to regulation of estrogen levels in the body

What is the Estrobolome?

The estrobolome is a collection of bacteria in the gut which is capable of metabolizing and modulating the body's circulating estrogen. It is the bacteria in the gut, and the estrobolome, that affects estrogen levels, which in turn can impact weight, libido, and mood.

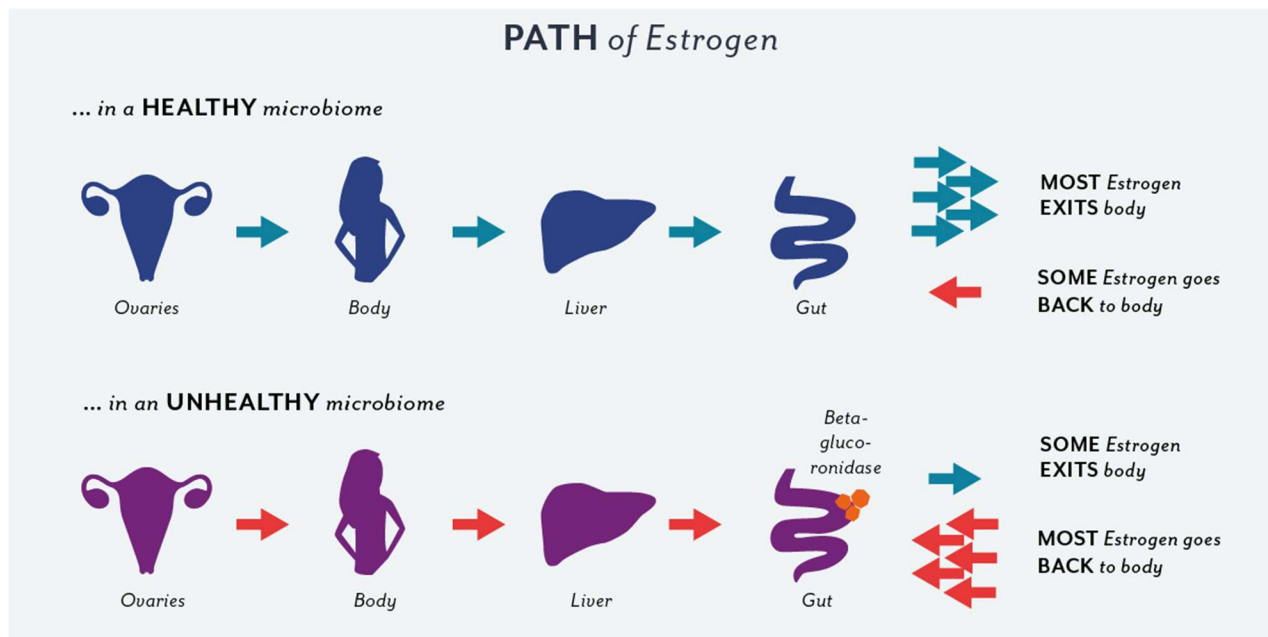
Estrogens are primarily made in the ovaries and adrenal glands. There are three different types, all of which have vital roles in the body. In women, estrogens help regulate body fat, are essential to female reproductive function, cardiovascular health, bone health, and brain function (including memory). In men, estrogens aid in the maturation of sperm and maintenance of libido.

When the gut microbiome is healthy, the estrobolome is producing optimal levels of an enzyme called beta glucuronidase – too much and estrogen levels become imbalanced. Beta glucuronidase also has an important role in breaking down complex carbohydrates and the absorption of bilirubin and flavonoids. A healthy, diverse gut microbiome with a rich collection of different bacteria is critical for hormonal balance.

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As the liver metabolizes estrogen, this conjugated estrogen is delivered to the bile for excretion into the gut. A healthy estrobolome minimizes reabsorption of estrogen from the gut allowing safe removal as waste in stool and urine again ensuring hormone balance.



Gut dysbiosis is an imbalance of the gut bacteria in the gastrointestinal tract. If there is an excess of bacteria that produce beta glucuronidase, this reverts estrogen back into its unconjugated active form and it is then absorbed back into the bloodstream resulting in estrogen dominance. Elevated beta glucuronidase levels are associated with conditions including:

- Pre-menstrual syndrome (PMS)
- Obesity
- Metabolic syndrome
- Estrogen-related cancers (breast and prostate)
- Endometriosis
- Infertility
- Heart disease
- Mood disorders

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Unfortunately, gut dysbiosis and gut microbiome imbalance are very common and the delicate balance of the microbiome and estrobolome can be affected by many different factors which include genetics, age, weight, diet, alcohol, antibiotics, environmental pollutants and more.

Signs of an Unhealthy Gut

There are many signs of an unhealthy gut, which can often be misdiagnosed as something else.

- Digestive issues (bloating, gas, diarrhea or constipation)
- Weight changes
- Food sensitivities
- Fatigue
- Skin irritation
- Autoimmune conditions
- Hormonal imbalance



How digestive problems lead to hormone related disease.

1. Lack of micronutrient absorption

A lack of micronutrient absorption starves hormone-producing glands such as the thyroid, ovaries, and adrenals that need sufficient nutrients to function properly. People who suffer from chronic digestive issues often have compromised villi, and that can prevent nutrients from being absorbed into the body. This explains why, despite taking so many supplements, many individuals are still nutrient-deficient and feel depleted.

2. Imbalanced gut bacteria responsible for metabolizing estrogen

As discussed, the subset of gut bacteria responsible for metabolizing estrogens are known as the “estrobolome.” Research connects the health of these little bugs in your intestine to the state of your hormones. When there are imbalances in the estrobolome, estrogen isn’t metabolized properly, resulting in elevated estrogen levels.

Too much estrogen or too much of the harmful estrogen metabolites (or “by-products”) has been linked by researchers and doctors to the development of cancers in the breasts, ovaries, uterus, thyroid, and even lungs in nonsmokers. High estrogen levels can also be the cause of breast and thyroid lumps, fibroids, and ovarian cysts.

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3. Elevated cortisol levels

Our bodies perceive digestive difficulties as a form of stress. They do not differentiate between stresses caused by emotional, physical, or digestive triggers like food intolerances.

Stress is stress, regardless of the source. Eating foods that you are unable to digest causes inflammation that you may experience as bloating or indigestion. In response, our adrenals release cortisol to cope with the stress.

Elevated cortisol levels contribute to adrenal fatigue, which can have a cascading effect on your thyroid hormones and your levels of progesterone.



Cortisol - The Stress Hormone

4. Chronic inflammation of hormone receptors

Chronic digestive distress leads to chronic inflammation. Chronic inflammation is long-lasting and has been linked to an increased risk of various conditions, including diabetes, heart disease, and hormonal imbalances. One way this happens is by desensitizing hormone receptors. (A hormone receptor is a molecule in the cell that allows the hormone to attach itself and let the cell perform a set of tasks.)

For example, you may be producing sufficient levels of progesterone, but chronic inflammation can desensitize (or shut down) the hormone receptor, preventing progesterone from entering the cells and causing many related symptoms, such as insomnia, infertility, or anxiety.

5. Compromised serotonin production

Serotonin is mainly produced in the gastrointestinal tract, not in the brain. People with digestive issues often experience low serotonin levels that can affect bowel movement and therefore the detoxification of various harmful hormonal metabolites.

Low serotonin levels will cause low melatonin (serotonin is the precursor for melatonin) and severely disrupt your sleep. Good sleep is essential to facilitate detoxification and curb food cravings.

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4 Ways to Improve Gut Health and Hormone Balance

So how can we improve gut health and achieve hormone balance? We take a holistic approach in the clinic with our patients and combine lifestyle changes with bioidentical HRT to effectively correct hormone imbalance.

1. Look at what you're putting into your body.

"The food we eat not only feeds our cells, but also determines what kind of inner garden we are growing in our guts." – Dr. Mark Hyman.

Diet plays a vital role. A low GI (glycemic index) diet which contains a diverse range of fruit, vegetables and fiber, high in phytonutrients – the so-called 'rainbow plate' – can encourage microbial diversity.

It is important to cut out what is referred to as 'white carbs' such as pasta, rice and potatoes which raise blood sugar very rapidly and eventually cause insulin resistance. Insulin resistance causes inflammation in the body which is the root of many disease processes.

Bear in mind that cruciferous vegetables, such as broccoli, contain compounds that ease detoxification of estrogen. The supplement DIM (diindolylmethane) contains concentrates of such compounds and can be effective in lowering more toxic estrogen byproducts.

Prebiotics and probiotics should also be considered. Prebiotic foods such as garlic, onion, asparagus and bananas provide the material that gut bacteria like to feed on. Probiotic foods such as kefir, kombucha, kimchi, and other fermented foods are really useful for introducing beneficial bacterial strains, like lactobacillus, to the gut.

The supplement [calcium D glucarate](#) is a beta glucuronidase inhibitor and allows estrogen to remain conjugated, and therefore safely eliminated by intestinal detoxification.

2. Consider your environment.

Estrogens can also be obtained from the environment. Phytoestrogens from plants such as soya, tofu and tempeh are consumed as food while others are synthetically manufactured and called Xenoestrogens.

These are found in common household products such as fragrances, pesticides and plastics. It is important to find ways of reducing these toxic substances that impact our health and find more environmentally friendly solutions. We should aim to eat organic food and reduce the use

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of plastic. Xenoestrogens are absorbed by the body and stored in liver and fat cells. They act synergistically with endogenously produced estrogens and influence cell proliferation and disrupt the delicate balance of hormones. This is discussed in detail in the [21 Day Spring Cleanse program](#).

3. Antibiotics

The use of antibiotics disrupts the ecology of the gut microbiome and can cause overgrowth or dysbiosis. A study by the University of Copenhagen found that six months after stopping antibiotics, most healthy people can recover the microbiome composition and function. However, the gut can still lack some of the beneficial bacteria and we then need to reintroduce the good guys!

4. Alcohol

We live in a society where alcohol is freely available and socially acceptable. But alcohol consumption can have a negative impact, not only on the gut microbiome but also on the liver and its ability to detoxify circulating estrogens and endocrine-disrupting chemicals. This contributes to estrogen dominance symptoms and an increased risk of estrogen related cancers. We encourage enjoyment of life but be mindful of safe drinking levels – 14 units a week for both men and women – as per the Chief Medical Officers' guidelines. A single large glass of wine can contain up to 3 units of alcohol!

5. Physical activity

Exercise is an excellent way to support the detoxification that happens in the liver. Regular, moderate intensity exercise can lower levels of circulating estrogens. It can also reduce the stress hormone, cortisol, which can have a negative impact on our sex hormones. However, we do need to be mindful of what works for our own individual bodies. Activities that stimulate the parasympathetic nervous system or the body's 'rest and digest' mode, such as yoga, are also very beneficial to hormonal health. Other mindfulness practices also have an impact on how our bodies deal with stress and subsequent hormone balance.

In summary, lifestyle, nutrition, physical activity, and stress management can all help balance your estrobolome and ensure we keep our hormones balanced and optimal. If you're interested in learning more about detoxing, check out my [21-Day Spring Cleanse for just \\$25!](#)