## HORMONE HEALTH: ESTROGEN

## ESTROGEN METABOLISM

The estrogen hormones include Estrone (E1), Estradiol (E2), and Estriol (E3) as well as "estrogen metabolites". These metabolites are mainly metabolized in the liver and excreted through the urinary and digestive tracts.

Estrogen metabolism is affected by several things including diet, lifestyle, stress, toxin burden, medications, and underlying health conditions. If there are disruptions in estrogen metabolism, this impacts proper elimination. This can lead to "Estrogen Dominance" which can contribute to premenstrual syndrome (PMS), endometriosis, and other conditions.

## **HOW TO SUPPORT ESTROGEN METABOLISM**

- Cruciferous vegetables (broccoli, cauliflower, cabbage, kale, garden cress, bok choy, broccoli, Brussels sprouts, and others.) These vegetables contain sulforaphane. This is a phytonutrient that supports detoxification by supporting glutathione production.
- Omega-3s- These can support healthy inflammation levels in the body which may secondarily help healthy metabolism.
- Antioxidant-Rich foods- These include berries, green tea, dark chocolate, certain vegetables, and others. These help neutralize free radicals and support healthy detoxification.
- Fiber- Fiber helps to bind and excrete estrogen metabolites as well as other toxins through the digestive tract for elimination. The goal is to get roughly 25mg of fiber daily. Fiber, along with water helps to support healthy detoxification.
- Supplements- Certain supplements can be of benefit to facilitate excretion of excess estrogen. These can be a combination of vitamins, minerals, antioxidants, or specific phytonutrient extracts.

## THINGS THAT DISRUPT ESTROGEN METABOLISM

- Alcohol- Excess estrogen is metabolized through the stage 2 liver detoxification pathway. Anything that places a higher burden on the liver, such as alcohol may impair the efficiency of this process.
- Medications- Certain medications can cause a tendency for the body to accumulate higher estrogen metabolites including birth control.
- Xenoestrogens- These are chemicals found in various products that mimic estrogen in the body and disrupt metabolism. Use a resource such as Environmental Working Group (EWG) to screen personal care and household products.
- Stress- Chronic stress and high cortisol that keeps the body in a sympathetic state can have a harmful impact on reproductive hormone regulation
- Insulin Resistance- Having a healthy insulin response is important for reproductive hormones including estrogen. Practicing lifestyle habits that encourage healthy blood sugar levels can be of benefit.

