

## Nutritional Considerations for a Healthy Menstrual Cycle

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In order to understand how nutrition can support a healthy menstrual cycle, it is important to look at the phases of a healthy cycle. In adult women, a healthy cycle lasts between 21 to 35 days. The menstrual cycle consists of three phases: the follicular phase, ovulation, and the luteal phase.



### The Follicular Phase

Day 1 of the menstrual cycle begins on the first “heavy flow” day of your period. Any light spotting prior to your first “heavy flow” day may be considered the final days of the previous cycle. Day 1 of the menstrual cycle is the first day of the Follicular Phase. At this point, follicle-stimulating hormone (FSH) stimulates the growth of your follicles and the production of estrogen. A follicle is the sac that contains the egg. It also

produces estrogen, progesterone, and testosterone. Follicles produce a specific type of estrogen called estradiol. Estradiol’s main role is to stimulate the growth of the uterine lining to prepare for a potential pregnancy. Estradiol also boosts feelings of happiness and can improve blood sugar control. The Follicular Phase lasts about 14 days or until ovulation occurs.

### Ovulation

At the time of Ovulation, one (and sometimes more) follicles swell. The egg ruptures out of the follicle and travels down the fallopian tube. Luteinizing hormone (LH) triggers this release. You are now able to become pregnant if sperm is present.

### Luteal Phase

After Ovulation, the emptied follicle begins secreting progesterone. The follicle is now called the corpus luteum. The progesterone produced by the corpus luteum prepares the uterine lining for a fertilized egg. The right amount of progesterone can reduce the chance of a heavy

period. Progesterone also stimulates the thyroid, reduces inflammation, protects against cardiovascular disease, and can promote relaxation and sleep. If you become pregnant, the corpus luteum will continue to make progesterone through the first trimester. If you do not become pregnant, your corpus luteum will shrink within 10-16 days. At this time, your progesterone level drops, and your uterus contracts to shed its lining. The Luteal Phases lasts approximately 10-16 days and ends on the first day of “heavy flow” of your period.

## Other Important Hormones and their Influence on the Menstrual Cycle

### Cortisol<sup>2,3</sup>

Cortisol is the body’s stress response hormone. It is secreted by the adrenal glands. Your body responds to stress through the hypothalamic-pituitary-adrenal (HPA) axis. This is often referred to as the “fight or flight response.” If you feel stress, your body produces cortisol. Cortisol’s job is to stimulate your body’s cells to respond to the stress in the right way. As a result, blood pressure increases, blood sugar increases, and the immune system is stimulated. Less attention is given to processes like digestion, mood, and sex drive. These things are not required for immediate survival.

In our modern world, the HPA axis experiences many stressors. The HPA axis does not know the difference between stress caused by a physical danger and unrelenting work and/or caregiving demands. Modern-day stress leads to too much stress response. Eventually, your HPA axis “burns out.” This can result in:

- fatigue
- more viral or bacterial infections
- anxiety
- decreased sex drive
- digestive problems
- weight gain

Cortisol also affects ovulation by lowering the production of FSH and LSH. This can inhibit ovulation and impacts the health of the follicle (3).



### Insulin<sup>1,2</sup>

Insulin's job is to transport sugar from the blood to cells to be used as energy. Improper insulin signaling is known as insulin resistance. This causes the pancreas to make more insulin to transport sugar into the cells. It can cause inflammation and weight gain. Insulin resistance leads to type 2 diabetes and cardiovascular disease in some people. When your body is insulin-resistant, your pancreas can affect your menstrual cycle health. It can stop ovulation and cause your ovaries to make too much testosterone.

### Thyroid<sup>4</sup>

Hypothyroidism is the most common condition that affects the menstrual cycle. According to functional women's health physician Aviva Romm, thyroid disease affects an estimated 40 million Americans. Nearly 90% of these cases are women. Studies also show that 1 in 8 women can expect to develop hypothyroidism in her lifetime. Not enough thyroid hormone can cause other hormone imbalances like insulin resistance and ovulation suppression. Underactive thyroid function causes hormones to be out of balance. It also can cause heavy periods.

## Nutrition Considerations

Eating for a healthy menstrual cycle means eating nutrients that reduce inflammation and support your hormones. Here are some things to consider as you plan your weekly menu:

### Reducing Inflammation<sup>1,2</sup>

Chronic inflammation can be caused by:

- physical and mental stress
- environmental toxins
- food intolerances or sensitivities
- smoking
- lack of exercise
- imbalanced gut microbiome

When chronic inflammation occurs, your body's immune system blocks hormone signaling. This hormonal imbalance can lead to heavy periods, skipped periods, PMS symptoms, or lack of ovulation.

An anti-inflammatory diet focuses on eating foods that are processed as little as possible. Foods that are high in fiber and rich in vitamins and minerals can help decrease inflammation. These foods can bring hormones back to their proper levels.



### **Foods to Include**<sup>1,2</sup>

**Vegetables** have a lot of fiber, phytonutrients, vitamin C, folate, and magnesium. Vegetable fiber helps to feed healthy gut bacteria. It also promotes regular bowel movements. When the gut has the right balance of bacteria and the gastrointestinal tract is moving properly, inflammation decreases. Leafy greens are a great source of magnesium. Magnesium is important for reducing inflammation and keeping hormones balanced. Magnesium supports insulin and thyroid hormone. It helps with the production of estrogen and progesterone.

**Phytoestrogens** are a type of phytonutrient found in foods like nuts, legumes, whole grains, flaxseeds, and soy. Phytoestrogens can decrease the effectiveness of estrogen. This can help if you

have symptoms of estrogen excess like heavy periods, breast tenderness, PMS, or fibroids.

**Protein** is very important for maintaining lean mass and providing essential amino acids for organ repair. Protein also is necessary for maintaining hormone balance. The liver is responsible for eliminating excess hormones. Amino acids (the building blocks of protein) are required to “package” up the toxins so they can be carried out of the body. You should be getting at least 1 gram of protein for every kilogram of your ideal body weight. For example, if you weigh 150 lbs (divide 150 lbs by 2.2 kg to get 68.2 kg), you need at least 68 grams of protein.<sup>1</sup> Animal protein

also is an excellent source of zinc. Zinc is needed for follicle development. It also regulates the HPA axis and has anti-inflammatory benefits. You do not store zinc so your body needs to get zinc through your diet each day. When choosing animal protein, it is best to choose minimally-processed free-range poultry, grass-fed meat, wild-caught fish, and organic dairy products and eggs.

**Vegetarian and vegan diets** with many vegetables, complex carbohydrates, and a variety of protein sources help maintain a regular menstrual cycle. Sometimes, it can be tough to get enough protein on a vegetarian or vegan diet. This can lead to hormone imbalances. Irregular periods also can be caused by a zinc deficiency. Frequent consumption of soy and legumes can lead to overconsumption of phytoestrogens. Although helpful, too many phytoestrogens can block ovulation.

**Complex carbohydrates** are slow-digesting carbohydrates that give the body energy. Complex carbohydrates also contain fiber and starch that feed good gut bacteria. Carbohydrates are also required for activating thyroid hormone. They also can decrease cortisol. You should get about 150-200 grams of carbohydrate to support a healthy cycle.

Many women try low-carbohydrate diets in an effort to lose weight. Some women are successful on these diets. Others find that low carbohydrate diets negatively affect their cycle. If you experience anxiety, insomnia, hair loss, constipation, skipped periods, or a weight loss plateau, you may benefit from adding complex carbohydrates to your diet.<sup>5</sup>

**Fats** are the building blocks of estrogen and progesterone. Not eating enough fat can cause irregular or heavy periods, PMS, or not ovulating. It is best to choose plant-based fats more often than animal-based fats. The unsaturated fats in plant-based fats support a healthy cardiovascular system.

**Omega-3 fats** are a special kind of fat found in coconut oil, fish, and organic eggs. Omega-3 fats are anti-inflammatory. They play a powerful role in reducing inflammation in the body.

**Vitamin D** is a vitamin with many roles. Vitamin D regulates over 200 genes. It is essential for metabolism and ovulation. The best source of vitamin D is the sun. However, lack of exposure to sunlight, obesity, chronic inflammation, and magnesium deficiency can stop your body from

getting enough vitamin D. 2000 IU of vitamin D per day is typically recommended. Talk with your doctor about getting your vitamin D tested and the proper supplement dose for you.

## Foods to Choose

Vegetables		Protein	Complex Carbohydrates	Fats
Artichokes	Leeks	organic eggs	fruit	
Asparagus	Mixed veggies	grassfed beef, pork, lamb, bison	gluten-free grains :	
Beans (green/yellow)	Mushrooms	free-range poultry	amaranth      buckwheat	extra virgin olive oil
Broccoli	Onions	wild-caught fish	teff              quinoa	coconut oil
Brussels sprouts	Peppers		rice              millet	ghee/grassfed butter
Cabbage	Radishes	legumes	rolled or steel-cut oats	avocado oil
Carrots	Spinach	beans	gluten-containing grains (if you do not have a gluten sensitivity):	grapeseed oil
Cauliflower	Summer Squash	nuts and seeds	whole wheat sprouted bread	<b>avocado</b>
Celery	Swiss chard	organic dairy (if you do not have a dairy sensitivity)	whole wheat pasta	<b>olives</b>
Collard greens	Tomato	organic, low casein cheese and yogurt from goat, sheep and Jersey cow milk	whole wheat cereal	<b>nuts</b>
Cucumber	Turnips		potatoes (white, purple, sweet)	<b>nut butters</b>
Eggplant	Zucchini		winter squash	
Kale			parsnip	

## Foods to Reduce<sup>1,2</sup>

Foods that cause hormone imbalances or increase inflammation can cause period problems. Avoiding or reducing these foods can have a positive impact on your menstrual cycle and overall health.

**Sugar** causes inflammation by promoting insulin resistance. When you eat too much sugar or foods that digest easily into sugar (bread, cereal, pasta), your pancreas needs to pump out insulin to carry the sugar out of the bloodstream and into cells. Your pancreas can put itself into overdrive and pump out too much insulin. This causes weight gain (especially around the midsection) and inflammation. Too much insulin can stop ovulation and cause your ovaries to make testosterone. If you do not have insulin resistance, the World Health Organization

recommends allowing 25 grams of added sugar in your diet. If you are insulin resistant or having period problems, it is best to eliminate added sugar from your diet.

**Alcohol** causes inflammation. It also affects HPA axis regulation and stops absorption of B vitamins. The liver is needed to get alcohol out of the body as it is considered a toxin in the body. When the liver is detoxing alcohol, it can't process estrogen. As a result, people who drink alcohol often have higher levels of estrogen that affect the menstrual cycle.<sup>6</sup>

**Vegetable oils** like soybean, corn, and cottonseed oil are very high in omega-6 fats. Omega-6 fats are an inflammatory fatty acid. The Standard American Diet is typically high in omega-6 fats and low in omega-3 fats. Using healthier oils like extra virgin olive oil, coconut oil, organic butter, or avocado oil and limiting dining out (especially chain and fast food restaurants) is the best way to lower your consumption of these oils.

**Gluten and Dairy** are the two most common food sensitivities that can affect your menstrual cycle. Gluten can cause inflammation. It can also contribute to irregular periods, premenstrual migraines, and endometriosis. Grains that contain gluten include wheat, spelt, rye, barley, and oats. Rice, corn, potatoes, and quinoa do not contain gluten. If you suspect that you have a gluten allergy or sensitivity, ask your doctor if you will benefit from a blood test. You also can stop gluten for at least four weeks to see if you have any improvement in your symptoms.

Like gluten, some people have difficulty digesting dairy proteins, especially A1 casein. A dairy sensitivity can cause:

- acne
- PMS
- heavy periods
- period pain
- inflammation
- hay fever
- recurrent sinus infections
- eczema
- asthma

The best way to see if you have a dairy sensitivity is to exclude most dairy from your diet for at least four weeks. Heavy cream, butter, ricotta cheese, goat and sheep milk products, and Jersey



cow dairy products do not contain A1 casein. These products are usually well-tolerated by people with a dairy sensitivity.

## Take Home Points:

- In order to support a healthy menstrual cycle, it is important to get a wide range of nutrients.
- Adequate protein, plant-based fats, and high-fiber carbohydrates provide your body with the nutrients needed to produce the proper amount of hormones.
- It is important to reduce inflammatory foods and focus on minimally processed foods.
- This can lead to a reduction in inflammation and period-related symptoms.
- Food is a powerful tool for maintaining or improving the health of your menstrual cycle.

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