

Syllabus

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Hormones and the Endocrine System

(Hormons production is governed by your thoughts and emotions)

Food choices, environment, attitude, aging, stress, genetics, even the chemicals in our clothes and mattresses can affect our hormone levels.

Hormons are produced in the endocrine glands: your adrenal glands, pituitary gland, hypothalamus, thyroid, pancreas, and ovaries, among others. These glands control important physiological functions by releasing hormones into the blood, through which they travel to distant organs and cells. In other words, hormones are chemical messengers, like snail mail in the body. They influence behavior, emotion, brain chemicals, the immune system, and how you turn food into fuel.

Food cravings, greasy hair, fascial hair, anxiety, cronic fatigue, weakened connective tissue, infertility, irregular menstruation, weight gain, hair loss etc. are all sign of hormonal imbalance and they are inseparable one from the other. When you start to cure yourself from the inside out those symptoms

gradually will diminish or disappear completely. With the right dietary changes, supplements, daily routine and exercise regimen you can start to cure yourself efficiently.

It is a fact that hormones more likely to go out of whack for those women who overuse their masculine energy. (more on this on Chapter I.)

For happy homes and workplaces as well as for the sake of health of our hormone system we need to operate with the following female traits: tolerance, acceptance, patience, contentment, softness, attention, calmness.

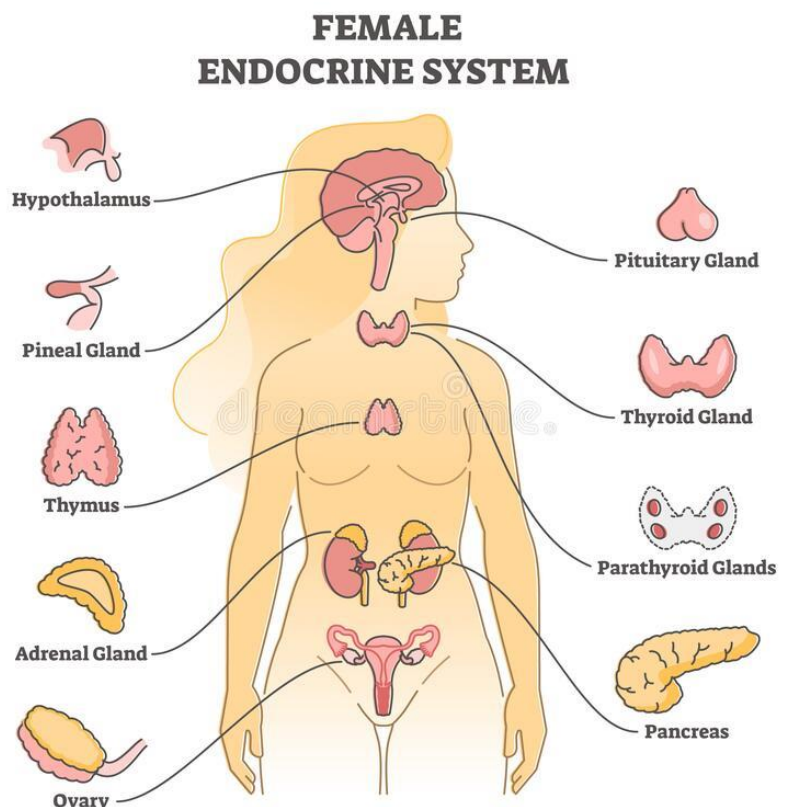
„For happy homes and workplaces as well as for the sake of health of our hormone system we need to operate with the following female traits: tolerance, acceptance, patience, contentment, softness, attention, calmness”

For instance, the *adrenal glands* produce cortisol, one of the most powerful stress hormones. Cortisol, in turn, directs your body on how to react in times of stress—more on this later.

The ovaries, produce many hormones, including estrogen, progesterone, and testosterone. (These are referred to as sex hormones because they determine features such as fertility, menstruation, facial hair, and muscle mass.)

The pancreas secretes insulin, which has the primary job of moving glucose into your cells, thereby lowering the glucose in your blood. Fat cells are the largest endocrine gland in the body: fat secretes hormones such as leptin, which regulates appetite, and adiponectin, which adjusts how you burn fat.

Thyroid affects your metabolism, keeping you



energized, comfortably warm, and at a manageable weight.

Estrogen is actually a group of sex hormones responsible for keeping women juicy, joyous, and jonesin' for sex. thereby augmenting labor, and when a woman's nipples are stimulated, which facilitates breastfeeding and promotes bonding between mother and baby.

Progesterone counterbalances estrogen by helping regulate the uterine lining (i.e., keeps the lining from getting too thick), emotions, sleep and natural diuretic.

Testosterone is the hormone of vitality and self-confidence—and producing too much is the main reason for female infertility and PCOS.

Leptin controls your hunger, determining whether you use food as fuel or store it in your midsection; it cross-reacts with the thyroid and most of the other hormones.

Insulin regulates how your body uses fuel from your food, and directs your muscle, liver, and fat cells to take up glucose from the blood and store it.

Oxytocin is both a hormone and a neurotransmitter, which means it acts as a brain chemical that transmits information from nerve to nerve. Some call oxytocin “the love hormone” because it rises in the blood with orgasm in both men and women. Oxytocin is also released when the cervix dilates, thereby augmenting labor, and when a woman's nipples are stimulated, which facilitates breastfeeding and promotes bonding between mother and baby.

Reasons for female hormonal system to go haywire

- Continuous stress and multi tasking
- Traumas, emotional stress, when you are not true to your principles
- Vitamin & mineral deficiencies
- Over thinking, sedentary lifestyle, too much intellectuality
- Overuse of male energy and too much activity
- Faulty dietary habits
- Autoimmun diseases
- Intoxicants in our environment
- Heavy metal saturation
- etc.

Things to do to balance your hormones

- Climate changes, vacations, right amount of relaxation and sleep
- Intermittent fasting and right dietary habits, right amount of clean water
- Vitamins & minerals
- Life in accordance with our monthly cycle

- Clean your life and surroundings from unnecessary activities, hobbies and things
- Meditation, massage, yoga, chi kung
- Training routine, excursions, sun light
- etc.

Adrenal gland and Cortisol

These tiny glands sit on top of your kidney in your lower back. They produce the stress hormone, cortisol. The stress response is mediated by your brain. The hypothalamus signals to your pituitary gland which signals to your adrenals to make the cortisol. Chronic stress can affect the way how the glands produce hormones. Cortisol main job: to increase your glucose and store the excess in the liver, through a process called glycogen storage. Glucose gives you energy. If your cells don't get enough, you wilt. Your body will make cortisol no matter what if you are on a busy schedule. When you are chronically stressed, your body uses cortisol faster than it can be produced, so you need to get more. Where do you get it from? You take it from cortisol's pre-hormones: pregnenolone and progesterone, fittingly called Pregnenolone Steal. If you have a lifestyle that keeps you in high demand for cortisol, your body will steal from your supply of progesterone (and also from thyroid hormone supply) by shunting pregnenolone so that it can make more cortisol. As if that weren't bad enough, when chronic stress causes cortisol levels to rise, the cortisol also will block your progesterone receptors.

„If you have a lifestyle that keeps you in high demand for cortisol, your body will steal from your supply of progesterone and also from thyroid hormone“

Perhaps when exercising hard, you've had the experience of "bonking." Suddenly, you feel light-headed, irritable, and downright hypoglycemic, clues you've used up your main energy supply.

As the most potent of the glucocorticoids, cortisol keeps us alive via three key properties. It

- raises blood sugar
- increases blood pressure
- modulates inflammation

If you are running on high cortisol all the time (adrenal overproduction) due to stressful lifestyle, then the following changes happen in your body:

- high blood sugar (which predispose for insulin resistance, weight gain, cardiovascular problem and testosterone overproduction)
- high blood pressure
- fat deposit in unusual body parts
- water retention
- muscle and bone loss
- accelerated aging

- weakened immune system
- inflammations
- brain shrinks and cognitive function altered (later multiple sclerosis)
- with high cortisol digestion, detoxification and cell regeneration shuts down (these functions only possible when parasympathetic nervous mode is on)

Does not matter if it a good or bad stress, but if your days are full of activity and stress for a long period of time your body is operating under the sympathetic nervous system. Which means the fight or flee response is continuously activated. In this mode your body is shutting down those functions which are not important for survival such as feminine traits, curves, soft voice, libido, fertility.

„To be a woman is luxury. When you are in fight or flee mode continuously those body functions which do not need for survival (eg female traits) soon starts to shut down (fertility, menstruation, curves etc.)”

DHEA is the good adrenal hormone, which counteracts cortisol. It helps with mental sharpness and memory, anti aging, improves your immune system and it is also very important for the thyroid hormone.

Signs of Cortisol Balance

When your level of cortisol is appropriate and not turning your brain into Swiss cheese, you feel calm, cool, and collected most of the time. You bounce out of bed in the morning. Because you slept well, there are no bags under your eyes, you eat normally with no blood sugar swings, you feel like your body has a good rhythm, and your total load—the amount of physical and psychological stress you’ve got on your plate—is manageable and engaging. You eat nutrient-dense food. You strike a balance in your life between input and output.

Signs and stages of high Cortisol

Recall that cortisol’s main job is to normalize your blood-sugar levels. When you make too much cortisol, you raise your blood sugar excessively. This may lead to prediabetes or diabetes. Both are common causes of accelerated aging. (To slow the aging process, we must prevent overly taxed adrenal glands and persistently elevated cortisol.)

„One of the main reason for early aging and early menopause is persistently high cortisol”

Furthermore high cortisol builds fat deposit unusual parts of the body, enhances water retention, and promotes accelerated muscle and bone loss.

At the I. stage of overwhelming stress cortisol is low in the morning and high in the evening, the opposite of what it's supposed to be. With high evening cortisol, it's no wonder you have trouble falling asleep, staying asleep, or sleeping deeply. Usually this happens when women checking e-mail, reviewing the next day's to-do list, or catching up on a crime show. Most of the time you feel very active, but at the same time depleted and tired. You are more prone to addictions as smoking, overeating or drinking. Craving for sweets and salty things and drinking more than three coffee a day or energy drinks.

The II. stage called adrenal fatigue. In this stage cortisol is low basically all day (under 200), we experiencing debilitating fatigue all day with fluctuating blood sugar. Many of the people fall for depression this stage as well. In this stage the only remedy is sleep and regeneration for a long period of time. You may go to a long vacation or just staying home for weeks with sufficient sleep, nutritious food, vitamins and minerals (D, Mg, Zinc, Q10 600 – 1000 mg). Licorice can also help, just be careful if you have HBP.

„Furthermore high cortisol builds fat deposit unusual parts of the body, enhances water retention, and promotes accelerated muscle and bone loss”

You can check your cortisol level from saliva at home or blood test. Morning cortisol should be no less than 400 – 600 nmol/, however the labour accept it till 200.

Top 7 health risks linked to high cortisol

1. Abnormal blood sugar, diabetes, and prediabetes. Cortisol's main job is to raise glucose levels. Even small increases in cortisol, such as those experienced when drinking caffeine, can raise blood sugar and increase insulin resistance.
2. Obesity, increased body fat, and metabolic syndrome in women. Too much stress makes you fat, especially at your belly, where fat cells have four times more cortisol receptors than fat located

elsewhere. Metabolic syndrome is a cluster of signs, including high blood pressure; high triglycerides, low HDL (or good cholesterol) and elevated fasting glucose.

3. Mood and brain problems, including depression, Alzheimer's disease, and multiple sclerosis (MS). Patients with high cortisol have problems with emotion perception, processing, and regulation, similar to the mood symptoms found in depression. Hypercortisolism linked to depression and suicide, and half of people diagnosed with depression have high cortisol. Excess cortisol shrinks your brain, can cause cognitive impairment, decreases brain activity, and is associated with Alzheimer's disease. An overactive, stressed-out nervous system has been linked to neurodegeneration (breakdown of the nerves) and increased disability.

4. Delayed wound healing.

5. Infertility and polycystic ovarian syndrome. PCOS, the top reason for, has been linked to an overactive HPA axis, which makes sense since high levels of androgens, such as DHEAS (member of the androgen family, and a precursor to testosterone), are associated with early adrenal dysregulation.

6. Worsening sleep. Insomniacs have higher twenty-four-hour cortisol levels.

7. Bone loss in menopausal women and a higher rate of vertebral or spinal fractures are also associated with higher cortisol levels.¹

Remedy: Accepting your women cycle / No gluten and sugar for 3 months at least / stable blood sugar / sleep 8 – 9 hours and rest a lot, go on holiday / aerobic and HIT raise growth hormone which lowers cortisol / adaptogens like maca, ashwaganda, rosae rodiosa, ginseng biloba (2 x 200 – 300 mg) / targeted exercise which lower cortisol (yoga, chi kung) – running is raising cortisol level / Phosphatidylserine (400 mg daily 2-3 months) / 5 HTP amino acid / Antioxidants for free radicals / Omega 3, Mg big quantity, D, C and B complex, Zinc / L-lysine combined with L-arginine 1 week / L-tyrosine / DHEA 3-6 months / Pregnenolone / Phytocortisol N / Breathing, Mindfulness, Meditation / Appreciation, Celebration, Smile / Herbal oils

If you are experiencing chronic fatigue, depression L-tyrosine, 5 HTP amino acid, phosphatidylserine and pregnenolone with 10 – 25 mg DHEA daily.

¹ Sara Gottfried: The Hormone Cure

Top 5 ways to lower cortisol with yoga

People practice yoga for various reasons—flexibility, weight loss, healing of one type or another—but it is also a number one tool for depression, fatigue, heightened stress level and cortisol and for hormonal balance. When you do yoga, here's where you should focus your attention:

1. Chant.
2. Deep breathe, through the nose. Breathing through the nose, slowly and deeply, is especially effective in triggering the calm response.
3. Cultivate presence, and release those clenched muscles. Getting into the present moment is your ticket to normalizing cortisol. Most women unconsciously grip their muscles, whether in the jaw, neck, shoulders, or lower back. Yoga teaches how to release muscle tension, and this helps to lower cortisol.
4. Invert. Any time you put your feet above the level of your heart, even with your legs straight up against the wall, you activate your parasympathetic nervous system, the rest-and-digest counterbalance to fight or flight (or tend and befriend in women) of the sympathetic nervous system.
5. Be sure to do corpse pose (Savasana). The final pose of a yoga practice, called Savasana in Sanskrit, which means “corpse pose,” is considered the most important, and most difficult, pose because it is where you integrate the key stress-relieving practices. While lying flat on your back, close your eyes, breathe deeply, and tune in to a clear state of mind and subtle shifts of energy in your body.²

Hypocortisolism

It may sound counterintuitive, but after you've had continuous high cortisol, low cortisol often follows. In fact, low cortisol is the end game of an overtaxed stress-regulating system. Irritability, burnout, and depression are common symptoms, along with low blood pressure, orthostatic hypotension (which is when your blood pressure drops when you stand and you feel light-headed), and uncharacteristic pessimism. You feel out of sorts and out of sync with the natural rhythm that you once had.

Both low and high cortisol can exacerbate the symptoms of an underactive thyroid, or hypothyroidism, which include fatigue, weight gain, and mood problems.

Consequences includes electrolyte problems such as low sodium and potassium, symptoms can be fast pulse, palpitations, light-headedness, fatigue, frequent urination, thirst, and salt cravings.

² Sara Gottfried: The Hormone Cure

Fibromyalgia which symptoms can be widespread and protracted pain, a heightened sensitivity to pressure, joint stiffness, debilitating fatigue, and difficulty sleeping. It can be caused by stress and is often coupled with anxiety, depression, and post-traumatic stress disorder (PTSD).

Chronic fatigue syndrome, burn out and bone loss and possible fracture. Women with low cortisol have higher rates of hip fracture.

Remedy: Resting, maintain disciplined 8 hours sleep in long term and licorice (sweet root) 3-6 month, grapefruit juice.

Remember that balancing cortisol is related to stress reduction. So whether your cortisol is high or low, always start with the lifestyle changes that you can make to mitigate stress in your life, both real and perceived.

Thyroid

The thyroid gland secretes hormones that regulate the activities of almost every cell in our bodies. It controls the body's sensitivity to other hormones, such as estrogen and cortisol. It regulates how quickly we burn calories and maintains our metabolism, which explains why weight control is such a problem when the thyroid is out of whack. In other words, your thyroid is your very own metabolic thermostat. Sluggish thyroid and metabolism are main reason for poor mood—even, perhaps toward cognitive decline and Alzheimer's disease.

It also sets your heart rate, blood pressure, breathing rate, temperature, the speed at which your cells consume oxygen, and more. In infancy and childhood, the thyroid even supports bone growth as well as the development of the brain and nervous system.

When your thyroid is working properly, you feel energetic, thinking clearly, and upbeat. Your weight is easier to manage and you do not experience constipation. You don't wear socks to bed or outline your eyebrows with a brown pencil. Your cholesterol is normal—not too high and not too low. Your hair stays on your head, your skin is moist and your nails aren't dried out, your sex drive is strong, and your memory is crystal clear.

Your thyroid is incredibly sensitive to what's going on inside and outside your body, so even seemingly insignificant things like too few hours of shut-eye, too much chlorine in your water, or too many sugary caramel macchiatos can cause it to go haywire. But that's also the good news. Because

your thyroid is so sensitive to what you put in your body and what you do with your body, you can easily support and maintain its health with simple diet and lifestyle changes.³

The hormone of thyroid comes in inactive form. Their activation happens in the liver and kidney. That's why it's important to have these organs healthy. After 40 it is good if yearly you do liver and kidney detoxification and support them with teas and herbs (More on it on Detox, Diet, Herbs Chapter) Furthermore high cortisol, estrogen and insulin blocks their activation. When you do your blood test do not measure only TSH, but also T3, reverse T3, T4 and Anti TPO. All should be on good level, for optimal thyroid function.

Low Thyroid

Are you tired, run down, listless? Do you have a bowel movement less than once a day? Are you gaining unexplained weight, most of which is fluid? Are you cold all the time, achy, slow thinking, or depressed? Losing some of your hair? Low thyroid can cause these problems. You may think your sluggishness or poor memory is simply a sign of getting older. Age, however, does not explain a puffy face, high cholesterol, excessive menstrual bleeding, and many other symptoms of low thyroid function.

Low thyroid function resembles to symptoms of depression. In fact, 25 to 30 percent of people with depression are low in thyroid hormones.

Environmental pollutants, termed endocrine disruptors, affect not just the estrogen receptor as xenoestrogens, but also disrupt normal thyroid function. Chemicals that affect either the hypothalamic-pituitary-thyroid axis or thyroid receptors are called thyroid disruptors, and include more than 150 industrial chemicals.⁴

Take Your Basal Temperature

Low body temperature is sometimes correlated with low thyroid. Your temperature is normally lower in the morning and evening and higher in the afternoon, so I recommend checking your basal temperature, under your arm, first thing in the morning. If you're still menstruating, check between Day 2 and Day 4 of your cycle. Normal is between 36,5 and 36,8 degrees, but temperature can vary

³ Sara Gottfried: The Hormone Cure

⁴ Sara Gottfried: The Hormone Cure

significantly and should be considered in the context of symptoms and blood testing. Nevertheless, if your basal temperature in the morning is consistently below 36,5 degrees, this is further evidence of low thyroid function, vitamin or mineral deficiency or adrenal fatigue.

What Causes Low Thyroid?

- Hashimoto's thyroiditis
- Epstein bar virus
- Iodine deficiency
- Goiters
- Stress
- Environment
- Nutrition (Zinc, Selenium, Mg, Vitamin D) deficiency
- Gluten intolerancy (missing on ADEK vitamin, iron. B 12, folat)

Remedies: L lysin, fish oil (Omega 3), l theanin, l tyrosine (pajzsmirigy), Vitamin A, D, zinc, selenium, copper, iodine / Take IGG food test to check if you have any intolerances / Clean your diet / Do Sarvangasana and Setu Bandhasana daily / Important good family atmosphere / Reduce stress and built contentment and happiness / Check viruses and bacterias (Epstein barr, Cytomegalo, Varicella Zoster, Anti Streptolizyn, HPV) The hedge bedstraw (Galium mollugo), the sticky weed (G. aparine) and the yellow bedstraw all good for thyroid malfunction 3-6 month daily. Homeopathy also can help.

Importance of Iodine

Iodine supports the brain function of a growing infant. Without the right amount of iodine the child can be mentally retarded. Ladies should take iodine before getting pregnant. All our cells need iodine, not only the thyroids, but the reproductive organs (uterine, breast, prostate, ovaries, testicles) as well. Iodine is important to detoxify heavy metals. If you eat a lot of fish (mercury), than you definitely need it. It is involved in diabetes and stabilizing blood sugar. One of the most important things is the control of metabolism through the thyroid. If there is not enough iodine, your metabolism can be shut down by 50 % and there you can gain weight.

Before you start to take iodine it is important to go on a healthy diet and also to take selenium and zinc for a month at least.

When the thyroid produce T4 that's an inactive form, and it is activated by the liver, gallbladder and bile (80%) and kidney (20%).

To have healthy thyroid, you have to have the other organs healthy as well.

One cause of thyroid problem is the lack of conversion as the above mentioned organs are damaged. For the conversion you also need Selenium. Iodine should be take with all the other trace minerals.

Causes of iodine deficiency

- No iodine in the soil unless you living within 100 km to the sea, soil in Hungary is especially deprived of iodine
- Low salt diet
- Stress
- Endocrine disrupters (pesticides, septicides, chlorid, bromide (pasta, bakery)) can block the absorption of iodine
- High levels of estrogen can block iodine (for example when you get pregnant the spike of estrogen can take strain on your thyroid)
- HRT, birth control pills, eating food which is not hormone free
- Having a fibroid can deplete iodine
- Liver damage
- Lack of bile (if you do not have saturated fats, cortisol also can block iodine)

Symptoms

- You get fat
- Make you feel sluggish and brain fog
- Mental retardation
- Cancer
- Fibrocystic breast (especially when you breast feeding)
- Cyst
- Prostate enlargement
- Depression, fatigue
- Thyroid problem
- Menstrual cycle issues
- PCOS
- Miscarriage

Benefits of iodine

- Ability to shrink cysts
- Regulating estrogen dominance
- Reduce size of skin tags and warts
- Scar regeneration (put it on about a month, pretty good results)
- Lessen depression
- Reduce hot flashes and heavy bleeding

Remedies: Bioactive blue iodine, sea kelp, 6 eggs daily /Before starting to take iodine, clean your diet and a month before start taking selenium in the morning and zinc in the evening.

Hyperthyroidism

Hyperthyroidism affects only 2 percent of women (and 0.2 percent of men), but rates increase as you age; 15 percent older than sixty have hyperthyroidism. Symptoms include palpitations, shortness of breath, weight loss, tremulousness or shakiness, and proptosis (eyes bugging out). It's not hard to treat an overactive thyroid, but it's important to do so. If you don't, the symptoms can become more severe over time. Untreated, hyperthyroidism can lead to cardiovascular problems such as a potentially dangerous type of arrhythmia called atrial fibrillation, cardiomyopathy (a disease of the heart), and congestive heart failure. When you have hyperthyroidism, you are more likely to have increased bone turnover, which over time may lead to bone loss and fracture. Another serious consequence is thyrotoxicosis, also known as thyroid storm, which has a significant risk of mortality. One of the root cause of hyperthyroidism chronic virus or bacteria infection (Epstein bar, Varicella, Anti Stretolizin, Cytomegalo, HPV, Borelia etc.) Do not take iodine if in this case, it is a toxic for hyperthiroidism.

Lets continue with the sex hormones, produced by the ovaries: Progesteron, Estrogen and Testosteron.

Progesterone

You can't consider progesterone without discussing estrogen. In proper proportion, they are like the two sides of a seesaw, shifting rhythmically back and forth over the course of the menstrual cycle. It's essential to maintain the delicate balance between these two hormones to feel your most vital.

When your progesterone is low, the result is estrogen dominance. The consequences can be rage, headaches, cysts, miserable periods, and sleep disorders. You can become fat and moody, and you're more likely to develop endometriosis and problems with uterine bleeding, possibly even cancer. When you have too much estrogen, you have a greater risk of infertility and endometrial cancer, a malignancy arising in the lining of your uterus. Proportionate balance is the goal.

In addition to balancing estrogen, progesterone is important for your overall sense of equilibrium or well-being (feel good hormon). It raises body temperature (making it "thermogenic" and a boost to metabolism) and helps your thyroid perform efficiently. It is a natural diuretic, which means it helps you release excess fluid in your body. Without it, we are crabby; It is sedating, calming, easing, neutralizes any stress, when it is low you can experience PMS. Progesterone literally soothes you

when you get enraged. It helps you sleep. When you produce the right amount, you feel more levelheaded and relaxed.

„Progesteron is a feel good hormon. It is sedating, calming, neutralizes stress, natural diuretic, metabolizer booster and thermogenic“

Top 5 Reasons For Low Progesterone

1. Aging. Especially relevant from thirty-five onward as you heading toward menopause, age is associated with fewer ripe eggs, less ovulation, and low progesterone.
2. Stress. If your problem is unmanaged and chronic emotional stress, cortisol blocks your progesterone receptors, and your body will make cortisol at the expense of pregnenolone and progesterone, causing Pregnenolone Steal.
3. Little or no ovulation. Ovulation is key to the regular, monthly production of progesterone during your fertile years. If you don't ovulate, either because you've run out of eggs or you have another hormonal problem such as excess testosterone (PCOS), you will have progesterone deficiency.
4. Low thyroid. Thyroid hormone is essential to the smooth operation of the hormone pathways. You need adequate thyroid hormone to make pregnenolone from cholesterol, and then to make progesterone. If you are low in thyroid hormone, you will not make as much progesterone. Additionally, there's a vicious cycle that occurs: when you have low progesterone, it raises thyroid requirements. Your thyroid gland has to work harder. If your thyroid gland is already borderline, it will worsen your low progesterone.
5. High prolactin. Some women make too much prolactin, a hormone in the pituitary of the brain that controls lactation in women. High blood prolactin interferes with the function of the ovaries in premenopausal and perimenopausal women, and as a result, secretion of ovarian hormones such as progesterone, and eventually estrogen, decreases.⁵

Remedy: Yam root (I personally take Zein Pharma yam 500 mg), Vitex, Agnolyt, Chastberry C vitamin important 750mg. Bladderwrack (Fucus vesiculosus).

If you need hormon replacement choose prometrium over provera or progestines. Make sure your doctor prescribes biodentical progesterone, NOT progestins, for you.

⁵ Sara Gottfried: The Hormone Cure

Estrogen

Externally, estrogen gives you hips and breasts. Internally, estrogen buffers mood and keeps you on task. Estrogen is nature's Prozac, adjusting the level of available serotonin—another important neurotransmitter—so that it's in more ready supply. Serotonin regulates your mood, sleep, and appetite, and acts as a general gatekeeper of other neurotransmitters in your brain. Estrogen is responsible for the first half of your menstrual cycle, building up the cells lining your uterus to protect a developing fetus. If conception does not occur, the lining is released about every twenty-eight days as your period. If conception does occur, estrogen, combined with progesterone, thickens and deepens that lining for the fertilized egg to settle into and grow. Estrogen lights a libidinous fire and gets you obsessing about babies until about age forty-five, when you start thinking that sleep sounds a lot better.

Balance is crucial because estrogen and progesterone have opposing yet interdependent effects, similar to the Chinese concept of yin and yang. Estrogen stimulates the lining of the uterus to grow; progesterone stops the growth, stabilizes it, and then releases it in a coordinated fashion called menstruation. Estrogen stimulates breast cells to grow; progesterone prevents cysts from developing in painful breasts. Estrogen causes you to retain salt and water; progesterone is a natural diuretic. Estrogen promotes moodiness, progesterone puts you in ease and gives a sensation of well being. When estrogen levels are high in relation to progesterone, women often experience a wild ride of emotions before their periods.

When your estrogen and progesterone are synchronized, your bones are strong, dense, and pliable. Your skin is hydrated, smooth, and well girded by collagen. Your metabolism is forgiving. Your cardiovascular system stays clear of meddlesome debris, like clots and plaque.⁶

„Estrogen gives you the female traits and keep you on task“

„Balance is crucial because estrogen and progesterone. Estrogen stimulates the lining of the uterus to grow; progesterone stops the growth, stabilizes it, and then releases it in a coordinated fashion called menstruation. Estrogen stimulates breast cells to grow; progesterone prevents cysts from

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developing in painful breasts. Estrogen causes you to retain salt and water; progesterone is a natural diuretic. Estrogen promotes moodiness, progesterone puts you in ease and gives a sensation of well being”

The highs and lows of estrogen dominance

Because estrogen and progesterone levels are so entwined, let’s look at the different combinations that relate to high estrogen:

1. High estrogen relative to normal progesterone. This combination is common in overweight women, and in women who have been exposed to xenoestrogens, which are synthetic chemicals that mimic estrogens. Ovaries are the main source of estrogen, but fat cells make estrogen too. More fat cells mean higher estrogen levels.
2. High or normal estrogen relative to low progesterone. This combination, called estrogen dominance, is more common. Beginning around age thirty-five, as a natural consequence of aging, you begin to run out of ripe eggs. More than half the women over thirty-five have this combination. Today, it is common to have too much estrogen before you reach age fifty. This is an epochal shift in our estrogen hormones over the past century. I believe the reason is twofold: women are more stressed, and they’re more exposed to artificial estrogens than ever before.

Excess estrogen can lead to a host of annoying ailments: water retention, breast tenderness, painful periods, perhaps endometriosis, mood swings, or your garden-variety free floating irritability—take this a step further, and you have full-fledge anxiety or depression. You might feel foggy, sleepless, and weepy. Maybe you’ve noticed that you have more headaches, or that your face is redder than you want it to be. When estrogen levels are high in relation to progesterone, women often experience a wild ride of emotions before their periods. During perimenopause, the emotional roller coaster can be in play all month long. Beyond mood swings, symptoms can include hair loss, headaches, breast tenderness, bloating, difficulty losing weight, depression, fatigue, insomnia, decreased libido, foggy brain, and/or memory loss. Studies on rats show that high estrogen can interfere with the ability to learn and pay attention.⁷

⁷ Sara Gottfried: The Hormone Cure

„The main reasons for estrogen dominance is that women are more stressed and they are more exposed to artificial xenoestrogens than ever”

What causes excess estrogen: top 7 root causes

Several factors can interfere with normal estrogen metabolism, causing you to produce or accumulate too much of the “less good” estrogens, or too much estrogen relative to progesterone. These factors include the aging ovaries, wayward cortisol levels, exposure to xenoestrogens, and nutritional factors such as fat, fiber, and alcohol consumption.

1. Perimenopause Revisited and Diminished Ovarian Reserve

We can blame perimenopause for so many things! In the two to ten years before your final period, your estrogen levels fluctuate madly. Overall, women experiencing perimenopause show higher estrogen relative to progesterone, compared with women in their twenties and thirties. In the years preceding menopause, typically from age thirty-five to fifty, your ovaries produce more estrogen, in some cases double the level of estrogen found in the normal menstrual cycles of a woman in her early twenties. I know this becomes confusing: initially, estrogen levels drop slightly starting in your late twenties, and then estrogen levels increase when your ovaries are running out of ripe eggs, usually after age thirty-five. The fancy name for it: diminished ovarian reserve (DOR). Women are born with one to two million eggs in their ovaries, but by the time you reach perimenopause, you are down to one to three thousand. As your control system (once again, your hypothalamus and pituitary) senses that you are running out of eggs, you make more hormones to stimulate the eggs to hatch so you can become pregnant before it's too late—that is, you make more follicle-stimulating hormone (FSH) and luteinizing hormone (LH), and FSH rises faster than LH.

2. Cortisol-linked estrogen dominance

Premenopausal women treated with hormone therapy—specifically, estrogen plus progesterone—have been shown to develop a high level of cortisol at night. Taking exogenous estrogen raises cortisol levels. Similarly, high levels of cortisol can block your progesterone receptors. Over time, that will lead to lower levels of progesterone, and the result is estrogen dominance.

3. Xenoestrogens

Xenoestrogens are chemicals that can mimic estrogen. (Xeno means “foreign.”) These are synthetic chemicals that have an estrogenlike reaction in the body. They come from artificial chemicals that you get exposed to in your daily life, such as plastics in the environment. Xenoestrogens are stored in fat tissue for decades, and your greatest concentration of fat is usually in your breasts. When xenoestrogens bind to your estrogen receptors, they can activate some of them, such as those in the breast, and block others, such as those in the bone. Recall that receptors are like the locks on a cell’s nucleus. When estrogen passes from the blood into the cells, it attaches to one of two types of estrogen receptors to trigger a particular task, such as stimulating breast-cell growth or slowing bone loss. Lengthened exposure to estrogen creates a significant risk factor for breast cancer. Xenoestrogens are known endocrine disruptors. They interrupt the action of natural, endogenous hormones, with reproductive and developmental consequences. Just living our normal lives, we are exposed to more than seven hundred of these dangerous chemicals; they can be found in toothpaste, deodorant, sunscreen, food preservatives, the lining of cans that hold food, and many kinds of plastic. Be wary of your cosmetics: one report describes a woman who developed both breast and endometrial cancer after using the same estrogen-containing cosmetic cream for seventy-five years.

4. Obesity and weight gain

We know the health risks to women with obesity: sleep apnea and asthma; diabetes; heart disease; cancer of the breast, uterus, colon, and gallbladder; and premature death.

You may also have heard reports that cases of type 2, or adult-onset, diabetes have been steadily rising in the world. Diabetes involves insulin and its ability to regulate blood sugar. Excess weight and lack of exercise can lead to high levels of insulin. Cells that get too much insulin can become resistant to it. Chronically high insulin increases estrogen; estrone, specifically, increases the cells’ resistance to insulin. Ultimately, you get into a vicious cycle: higher insulin creates higher estrogen, which can lead to higher insulin and insulin resistance, which tends to make you gain weight, which leads to making more estrogen. This is a downward spiral with seemingly no end in sight. Enough to get you out there walking, and to just say no when the waitress offers the dessert menu?

5. Diet

Many women have found that a diet high in conventionally raised red meat and refined carbohydrates is likely to cause estrogen overload. That could be because of hormones in the meat,

or perhaps from the type of bacteria cultivated in the gut by people who eat a lot of meat. When estrogen is metabolized, it leaves the body in your urine and feces. If you don't have a certain type of bacteria in your gut to process it, the estrogen will stay in your system. When this happens, you don't follow the Golden Rule of Estrogen—"use it and lose it." Instead, you keep recycling estrogen and the process may lead to overload. The "wrong" bacteria are predominant in people who consume large amounts of meats and refined carbs.

I abhor white bread, white sugar, and white rice for many reasons, but one important reason is that they reduce progesterone and worsen estrogen dominance. My recommendation: reduce your intake of refined carbohydrates as a key step to rebalancing your neuroendocrine system.

Alcohol. Consumption of alcohol raises estrogen levels and slows down fat burning.

If you have constipation or anywhere a long term blockage on the way of excretion than your body can not excrete excess estrogen and hormones.

6. Nutritional deficiencies

Specific nutritional deficiencies can also lead to excess estrogen. Low magnesium, zinc, copper for example, is associated with high estrogen levels in both premenopausal and postmenopausal women. Vitamin B12, folate, and an amino acid called methionine are other supplements that can help produce "good" estrogens and decrease formation of "less good" estrogens. Iodine helps to regulate estrogen level. Excess estrogen has a negative effect on thyroid hormone.

7. Mercury (from fish) and heavy metal toxicity ⁸

Remedy: resveratrol reduce estrogen / reduce alcohol consumption / lose weight / lots of fiber / avoid xenoestrogens / avoid meat and dairy products from conventionally raised animals / eat prunes / exercise regularly / sleep before 10 PM / Iodine helps to regulate estrogen / healthy microbiom / Take DIM. Di-indolemethane (DIM) is the most potent promoter of 2-hydroxylase, the enzyme that helps to correct dysestrogenism by making more 2-hydroxy-estrone and 2-hydroxy-estradiol. In other words, DIM has been shown to favor the production of protective estrogens and reduce bad estrogens. / Take turmeric (*Curcuma longa*).

⁸ Sara Gottfried: The Hormone Cure

Bioidentical hormones such as natural progesterone can help restore balance (Yam or Chastberry) Melatonin. Melatonin lowers estrogen and may prevent breast cancer. Low melatonin has also been linked to a greater risk of endometrial cancer, another estrogen-dependent cancer. I recommend 0.5 to 1 mg at night if you have sleep problems.

Low estrogen

Estrogen is the hormone that makes and keeps you feminine. With more than three hundred jobs, estrogen is the ultimate multitasker. Among hundreds of other duties, it builds and maintains the structure and function of the vaginal, urethral, and vulvar tissues; it stimulates and develops the female reproductive organs, preparing and maintaining the uterus for pregnancy; and along with its partner, progesterone, it regulates the menstrual cycle. I think of estrogen as a woman's life force, which means having too little can feel like a slow death.

Reasons why estrogen levels drop:

- Perimenopause and menopause
- Hypopituitarism
- Anorexia nervosa, bulimia, and other eating disorders
- Extreme exercise or training
- Gluten intolerance

Remedy: Black cohosh / Vitamin E / Flax seed /Magnesium / Maca / Shatavari / Femicin
Phytohormon

Signs of Estrogen Balance

- You have regular periods (estrogen and progesterone work together on this one). If you're postmenopausal, you'll notice the other signs.
- Your joints and vagina feel well lubricated.
- Orgasm regains its central role in your libidinous life, and that sense of dullness is a distant memory.
- You roll with the punches; you don't feel so stressed and overwhelmed.
- Sleep is a crucial part of your self-care regimen, and restores your energy, although you don't prefer it to sex with your partner.
- Your mood is stable throughout your menstrual cycle.
- You have improved brain function: the fog lifts, your memory and recall improve.

Androgens (testosteron)

The combination of excessively high androgens is the most common hormone problem of women in their fertile years, and perhaps even before puberty (PCOS). After menopause, high androgens are associated with serious health problems, such as heart disease, stroke, mood problems, and cancer. High androgens wreak havoc hormonally for women from the embryo to maturity. Androgens are a group of sex hormones that strongly affect your liveliness, libido, mood, and self-confidence. Because they control the development of typically male characteristics, androgens are considered “masculinizing” hormones, but they also account for emotional well-being, assertiveness, and sense of agency—the capacity a person has to act powerfully in his social structure or an innate sense of belonging. Androgens are the biochemical underpinnings of dominance and desire, and even though males have more androgens than females do, having the right amount of androgens is just as essential to women’s health and well-being.

High androgens, PCOS, IR

Eighty-two percent of women with excess androgens have what is known as polycystic ovary syndrome (PCOS), a condition where the sex hormones become unbalanced for reasons we don’t quite understand. Women with PCOS—the top cause of infertility— start making more androgens, which causes the symptoms of high androgens such as acne and rogue hairs. Here’s what confuses most people: not all women with excess androgens have PCOS, and not all women with PCOS have high androgens. While they do overlap, the difference is that PCOS is characterized by insulin resistance and ovarian cysts. Sadly, PCOS goes widely undetected. PCOS the number one reason women struggle to get pregnant. Around the age of 20 in Europe apprixmatelly 25 – 40 % of the ladies suffer from high testosteron or PCOS which is a shocking fact.

Symptoms of PCOS

- Difficulty losing weight
- Does not ovulate regularly – Period becomes irregular
- Ovaries produce higher level of testosterone - rogue hairs, achnes
- Inflammation
- Cysts in the ovaries
- Some women suffer from inzulin resistance
- Mood disorders

- More likely to have autoimmune diseases and estrogen dominance
- More likely to suffer from fatty liver
- Relative estrogen dominance (with no ovulation, no progesterone production which cause estrogen dominance)
- Inflammation through the body which often starts from microbiome, that's why is so important to heal the gut first. Also comes from sugar, alcohol, carbs and insulin resistance

The main cause of PCOS is high insulin. A diet rich in sugar and high GI carbs can be the cause of high insulin. Another cause daily stress in a long term. High cortisol maintain high level of sugar in the blood which leads to an overproduction of insulin. Another reason can be the endocrine disruptors (environment chemicals, PBA, Parabens (personal care products), Phthalates (perfumes and plastic), PCBs and dioxins (non organic food and fish))

PCOS is also linked to other significant health concerns

Heart disease. PCOS puts you on the fast track to major diseases, like heart disease and stroke PCOS is associated with an undesirable cardiometabolic profile, as measured by belly fat, high blood pressure, inflammation, insulin resistance, and abnormal glucose metabolism—and a sevenfold increase in diabetes. The risks can last a lifetime: insulin resistance, high ovarian output of androgens, and inflammation all persist after menopause.

Cancer. PCOS may be associated with an increased risk of hormone dependent cancer, such as breast cancer and perhaps endometrial cancer. The underlying mechanism is that when women rarely ovulate, the ovaries continue to make estrogen but it's not balanced by progesterone, which is released by ovulation. Over time, this can lead to buildup of the uterine lining and precancerous changes.

Mood problems. Even among lean women with PCOS, there is an increased rate of body dissatisfaction and depression symptoms, as well as more anxiety, depression, withheld anger, diminished sexual satisfaction, and lower health-related quality of life. Anxiety correlates with androgen levels and insulin resistance, but not with body mass index or age.

Abnormal liver enzymes. Blood tests show that 30 percent of women with PCOS have high levels of liver enzymes, which indicates inflammation in the liver and probably scarring. In other words, one in three women with PCOS has a liver that doesn't work normally. If you've been diagnosed with PCOS, you'll want to get your liver checked, and I recommend caution with alcohol and medications that overtax the liver and can harm it.

In treatment there is two approach. Either to treat the symphptoms, usually with birth controll pill which does not cure the root cause, but it can be the cause weith gain, mood swings, vitamin deficiency, blood clots and microbiom problems.

The other approach to adress the root causes - Anovulatory circles as women not ovulating, achne and hair problem due to excess production of testosterone, and weight gain due to inzulin resistance and inflammation.

Great news that we can do a lot through lifestyle and diet changes.

Bioidentical progesteron is great to regulate menstruation, only to take in the second half (luteal phase day 13 to 27) of the cycle. Zein pharma Yam root for example. It also helps with the building up of the uterus lining, balancing the effect of estrogen and helps with fertility by maintaining a healthy uterine lining where a potential embrio can implant. Progesteron is the calming hormone which helps with PMS, anxiety and sleep.

Insulin resistance can be battled with organic food and paleo diet. Vegetables are good for the microbiom. Cutting out alcohol, sugar and process food which are inflamatory and can affect your hormons. You can take additional steps and cut out gluten and diary as sometimes they cause inflammation. Cruciferous vegetables are good for hormonal balance.

30 – 45 minutes of work put recommended daily for improvement.

Supplements as Multivitamin with iron, D vitamin, Methyl B complex, Omega 3, Chromium, Magnezium and Calcium. Alternative to metformin berberin (not be taken during pregnancy and lactation). It is important to test the microbiom and take probiotic. Spironolacton can help to reduce the effect of testosterone.

Fertility with PCOS:

See a specialist if they recommend Clomid or Letrozol to help ovulation.

Weight loss with PCOS: Check insulin (ideal fasting insulin 6), testosterone should be under 40, progesterone around 13 and check estradiol and balance them through lifestyle, supplements, bioidentical hormone, diet and work out.

Remedy: Lose weight and exercise / Eat for lower androgens (GI low food and fiber) / Iodine (It can be iodine deficiency) Eat foods containing zinc / Avoid dairy / Eat more protein / Nigella Sativa one tablespoon morning and evening for 6-12 months / Omit sugar / Omega 3 rich oil / Yoga / Chromium / Inositol / Vitamin D / Saw palmetto

Insulin resistance

Insulin resistance heralds several serious problems, including excess weight, obesity, prediabetes, diabetes, dementia, Alzheimer's, stroke, and some cancers. Insulin is not something to mess with. Here's an analogy: insulin resistance fosters a bad neighborhood around the cells of your body, but instead of drive-by shootings, muggings, and other high crime influencing your vulnerable cells, you have too much sugar, inflammation, clogged arteries, and weight gain. These problems lead to accelerated aging, wayward hormones, and poor organ reserve. It's the classic chicken or egg scenario: it's not clear whether high androgens cause insulin resistance or insulin resistance causes high androgens. Either way, we know that high insulin levels drive the ovaries to make more testosterone. Insulin resistance is also a major factor in the troubling condition called metabolic syndrome, a cluster of ominous signs that are linked to a greater risk of diabetes and heart disease; it affects one in four women in the civilized world.

Causes of insulin resistance:

sugar, starches and high GI index food, visceral fat, sedentary lifestyle, stress, over eating

Clues of insulin resistance: Apple shape body, skin tags, darkening on neck and armpit

Insulin resistance:

- raises the activity of aromatase, the enzyme chiefly responsible for estrogen production, which sets the stage for estrogen dominance and lack of ovulation
- it can cause fatty liver diseases because insulin causes your liver cells to produce and store fat
- it can cause inflammation in your heart and blood vessels which can lead to heart attack
- in your brain it can cause stroke, dementia or Alzheimer diseases (now call Type III diabetes)
- It can damage your kidney leading to dialysis
- enhances the activity of 17 β -HSD, an enzyme that increases androgen levels.
- lowers sex-hormone-binding globulin (SHBG), allowing more free testosterone to roam the bloodstream and trigger rogue hairs and pimples.
- raises blood markers of inflammation (biomarkers) such as interleukins, cytokines, and adipokines, which initiate a perpetual cycle of inflammation.

- Increased risk for type 2 diabetes
- Abnormal cholesterol levels
- Hypertension
- Obesity
- Overstimulation of ovarian testosterone
- Polycystic ovary syndrome
- Increased risk for breast cancer and endometrial cancer

Again there are two solutions, one to treat the symptoms with medication that controls blood sugar and give insulin injection which in many cases leads to obesity or the other solution to activate insulin receptors, which controls the blood sugar and reverses the diseases. It can lead to weight loss and decrease in inflammation markers.

Good news if you change your diet and lifestyle insulin resistance is reversible.

Diet should be again in low carb and paleo diet, as well as intermittent fasting (8pm-8am).

Regular exercise is inevitable.

Let's understand how the different macro nutrients impact your blood sugar and insulin level:

- Carbs (especially from grains) can really spike your insulin level
- Proteins have moderate impact on blood sugar and insulin
- Fats have almost no impact

The best is to have protein + fat + fiber with every meal to stabilize your blood sugar. (Gluten and dairy free)

To start to cure yourself check insulin, A1C, and glucose level.

Remedy: People suffer from IR and PCOS usually are deficient on D vitamin. Iodine also needed to regulate blood sugar. Methyl B complex is stress vitamin it helps boost your energy and your mood and it also lowers sugar and carb cravings. Berberine for activating insulin receptors (alternative for metformin), it also has anti-inflammatory benefits and it also works to kill bad bacteria in your microbiome). You have to take good quality of D vitamin, as well as 100 mg Chromium and cinnamon with main meal and inositol. Alpha lipoic acid also helps with insulin resistance. Omega 3 helps to reduce inflammation. Myo inositol helps with ovulation and fertility, it also helps their metabolic profile and high testosterone issues. Regular exercise routine is also inevitable (3-5 x a week cardio and yoga). And you also have to address the gut microbiome and take good quality pre and probiotic and colostrum.

Hair loss (Outward sign of an inner imbalance in the body)

Sometimes hair loss is associated with high androgens, but more commonly, I find in women that the root cause is vitamin and nutrition deficiency, heavy metal saturation, liver or kidney dysfunction, autoimmune diseases, reaction to chemicals (fluoride in water, sulfate in shampoo), stress, insufficient protein in body, low stomach acid, allergy, inflammation and virus infections, low iron, thyroid hormone imbalance, estrogen dominance, inflammatory diet, high testosterone (androgenetic alopecia) or insulin resistance. Before people start looking for a solution to their hair loss in a box from the drugstore or a pill bottle from a dermatologist, I encourage them to look inside their bodies. Remember that most symptoms women try to solve with a pill bottle are a message from the body that something is awry. To find a patient's particular reason for hair loss, I order the blood panel listed below:

Blood panel to find the root cause for hair loss

- Thyroid panel (TSH, T3, T4, TPO)
- Ferritin
- Homocysteine (how well your body metabolizing and detoxifying)
- Vitamin D
- Female or male hormones
- DHT
- ANA, sed rate, CPR (suspect autoimmune or joint pain)

Check microbiome

- H. pylori
- Parasite
- Dysbiosis
- Candida
- Leaky gut
- How well you are absorbing nutrients from your diet
- EPI
- SIBO
- Recycling toxins?

Check cortisol

Salivary test 4 times a day

What can we do

- Optimise your diet (Zinc, more protein, trace minerals, Methyl B complex,
- Onion juice (<https://www.youtube.com/watch?v=XGYT6RaFX6w>), Green tea, Rosemary oil daily for 6 weeks at least
- Reduce inflammation
- Balance your hormones
- Heal your gut microbiome (colostrum)

Top Hormone Imbalances

When your hormones are in balance, neither too high nor too low, you look and feel your best. But when they are imbalanced, they become the mean girls in high school, making your life miserable. Here's the good news: realigning your hormones is a lot easier than running around like a crazy person, depleted and anxious about the little things in life.

Here are the top hormone imbalances:

- High cortisol causes you to feel tired but wired, and prompts your body to store fuel in places it can be used easily, as fat, such as at your waist.
- Low cortisol (the long-term consequence of high cortisol, or you might have high and low simultaneously) makes you feel exhausted and drained, like a car trying to run on an empty gas tank.
- Low pregnenolone causes anomia: trouble finding . . . what's that again? Oh, the right word. Low levels are linked to attention deficit, anxiety, mild depression, brain fog, dysthymia (chronic depression), and social phobia.
- Low progesterone causes infertility, night sweats, sleeplessness, and irregular menstrual cycles.
- High estrogen makes you more likely to develop breast tenderness, cysts, fibroids, endometriosis, and breast cancer.
- Low estrogen causes your mood and libido to tank and makes your vagina less moist, joints less flexible, mental state less focused and alive.
- High androgens, such as testosterone, are the top reason for infertility, rogue hairs on the chin and elsewhere, and acne.
- Low thyroid causes decreased mental acuity, fatigue, weight gain, and constipation; long-term low levels are associated with delayed reflexes and a greater risk of Alzheimer's disease.

Importance of cholesterol

Many of the common sex hormones in the human body are originally derived from cholesterol, which your body turns into pregnenolone. That's why it's important to take essential oils and fat especially if you're not eating meat. Pregnenolone is the "mother" hormone (or "prehormone") from which other hormones are made. Under normal and calm circumstances in your adrenal glands, pregnenolone is converted either into progesterone or DHEA, another stress hormone and a precursor to testosterone. When you are chronically stressed, you make more cortisol—it gets stolen from pregnenolone and other hormone levels may fall—a process called Pregnenolone Steal. Of course, not all hormones are derived from cholesterol.

Autoimmun diseases

Unfortunately it is like a new pandemic as cases are rising in industrialized countries. Every person with the diseases is unique, and women are more affected than men. The exact cause for this remains unclear, but it's been related to interaction between hormones, microbiome and environment.

In autoimmune diseases your immune system starts to attack your organs. There are nearly 100 autoimmune diseases. For example in Hashimoto your immune system attacks your thyroid, in sclerosis the nerves are attacked, in rheumatoid arthritis the joints are in danger, if the liver is attacked it can cause autoimmune hepatitis, Crohn's and colitis your intestines are in danger, in Diabetes I the immune system attacks and destroys the B cells in the pancreas which produce insulin, skin autoimmune disease is psoriasis, vitiligo, kidney autoimmune diseases is lupus nephritis etc.

The main cause of autoimmune diseases is a combination of genetics and environment. Fortunately genetics plays a minor role. From the environment food can be controlled easiest. No sugar, processed food, trans fats, hydrogenated oil. These can cause inflammation in the lining of the gut and also can promote bad bacteria in the microbiome. This is a big deal, because a major part of our immune system is in the lining of the gut. Antibiotics, NSAIDs, stress can also trigger inflammation and promote bad bacteria in gut microbiome.

Normally the lining is made by a single layer of cells that are bound together by tight junctions, which is a barrier which prevents food, bacteria, viruses from entering your bloodstream. If these junctions are disrupted by inflammation or bad bacteria you can develop a condition called leaky gut, and then bad things can enter the bloodstream.

Infection of viruses, allergies, food intolerances, heavy metals (from water, fishes, cigarettes etc.) , pharmaceutical agents can be another cause for autoimmune diseases. They can confuse the immune system, and can be a trigger for development of autoimmune diseases.

However our immune system has a big tolerance and it is not going until it is not attacked by multiple factors.

Vitamin D is a natural immune modulator, low level of vitamin D can increase the risk of autoimmune diseases.

We can do a lot through diet and lifestyle to reduce inflammation and change the course of the diseases.

First step to cut out all the inflammatory foods which includes sugar, dairy, gluten, oils, processed foods and alcohol. With Hachimoto good to cut out soy products. Legumes should be pressure cooked, or soaking them ahead of time and taking a digestive enzyme, as for some people causing bloating and IBS. Eggs are nutritious food, but many of us have intolerance. You should check it with an IGG test. The same things apply to nuts.

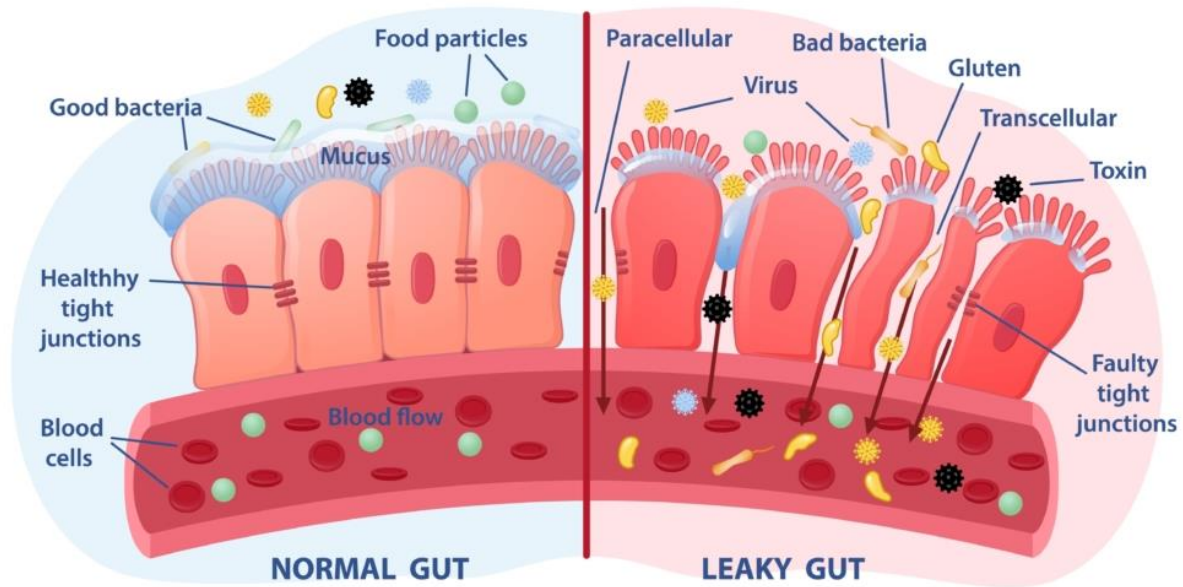
Anti-inflammatory foods are white basmati rice, wild fish, avocado, dark green leafy vegetables, extra virgin olive oils, carrots, raspberry, apples, and your meat should be organic. And lots of natural water necessary to flush out toxins.

Key supplements are Omega 3, D vitamin, Turmeric, Methyl B complex, Magnesium. To heal inflammation in the gut we can use L-Glutamine, good probiotics and digestive enzymes. Intermittent fasting also has a detoxifying effect.

Leaky Gut

Abnormal intestinal permeability. It is not just a gut issue. It can affect all aspects of your health. It can affect your hormones, immune system, your skin and even your brain and your mood.

LEAKY GUT SYNDROME



The lining of our gut is only one layer thick and it is made out of cells enterocytes. It was design this way, so we can easily absorb nutritions from food. In a healthy gut the enterocytes are bound together by tight junctions and this creates a protective barrier. In leaky gut inflammation causes disruptions of the tight junctions between the enterocytes. This results in disruption in the protective barrier and this is a big deal as now food particals, viruses, bacteria and other particles can enter your blood stream. This disruptions usually are caused by antibiotics, infections, yeast, gluten, dairy etc.

When non requested particles enter your blood stream, it can cause confusion in your immune system leading to autoimmune diseases (Hashimoto, rheumatoid arthritis, lupus, chron's disease, psoriasis and many others), brain fog, memory issues, joint pain, intolerances, frequent migrane headaches, skin rashes as acne, rosacea, eczema, GI symptoms (IBS)

Leaky gut is treatable, if you have it.

What causes leaky gut:

- Sugar, Artificial sweeteners, Chemicals, preservatives, transfat
- Antibiotics
- Stres hormon cortisol can lead to inflamation in the gut
- Acid blockers
- synthetic hormon (birth controll pills)

- infections (H-pylori, yeast infection, bad bacteria etc.)
- SIBO (small intestine bacteria overall)

How to diagnose

From microbiom test

What can we do

- Clean our diets
- Knowing your food intolareneces
- Healing enterocytes with L-glutamine amino acid
- improving the health of your microbiom (probiotics (lactbacillus, bifidobacterium, saccharomyces boulardii, spore based bacillus – 20 billion CFU maintenance, 100 billion CFU healing microbiom, 225 billion CFU rebooting your microbiom), yoghurt, fermented food)
- prebiotic (fiber and veggies)
- better digestion: digestive enzyme before eating, slow eating, good chewing
- colostrum

Questioner

— PART A —

- A feeling you're constantly racing from one task to the next?
- Feeling wired yet tired?
- A struggle calming down before bedtime, or a second wind that keeps you up late?
- Difficulty falling asleep or disrupted sleep?
- A feeling of anxiety or nervousness—can't stop worrying about things beyond your control?
- A quickness to feel anger or rage—frequent screaming or yelling?
- Memory lapses or feeling distracted, especially under duress?
- Sugar cravings (you need “a little something” after each meal, usually of the chocolate variety)?
- Increased abdominal circumference, greater than 35 inches (the dreaded abdominal fat, or muffin top—not bloating)?
- Skin conditions such as eczema or thin skin (sometimes physiologically and psychologically)?
- Bone loss (perhaps your doctor uses scarier terms, such as osteopenia or osteoporosis)?
- High blood pressure or rapid heartbeat unrelated to those cute red shoes in the store window?
- High blood sugar (maybe your clinician has mentioned the words

prediabetes or even diabetes or insulin resistance)? Shakiness between meals, also known as blood sugar instability?

- Indigestion, ulcers, or GERD (gastroesophageal reflux disease)?
- More difficulty recovering from physical injury than in the past?
- Unexplained pink to purple stretch marks on your belly or back?
- Irregular menstrual cycles?
- Decreased fertility?

— **PART B** —

- Fatigue or burnout (you use caffeine to bolster your energy, or fall asleep while reading or watching a movie)?
- Loss of stamina, particularly in the afternoon, from two to five?
- An atypical addiction to a negative point of view?
- Crying jags for no particular reason?
- Decreased problem-solving ability?
- Feeling stressed most of the time (everything seems harder than before, and you have trouble coping)? Decreased stress tolerance?
- Insomnia or difficulty staying asleep, especially between one and four in the morning?
- Low blood pressure (not always a good thing, since your blood pressure determines the correct amount of oxygen to send through your body, especially into your brain)?
- Postural hypotension (you stand up from lying down and feel dizzy)?
- Difficulty fighting infection (you catch every virus you meet, particularly respiratory)? Difficulty recovering from illness or surgery or healing wounds?
- Asthma? Bronchitis? Chronic cough? Allergies?
- Low or unstable blood sugar?
- Salt cravings?
- Excess sweating?
- Nausea, vomiting, or diarrhea? Or loose stool alternating with constipation?
- Muscle weakness, especially around the knee? Muscle or joint pain?
- Hemorrhoids or varicose veins?
- Your blood seems to pool easily, or your skin bruises easily?
- A thyroid problem that's been treated, you feel better, and suddenly you feel palpitations or have rapid or irregular heartbeats (a sign of a low cortisol/low thyroid combo)?

— **PART C** —

- Agitation or PMS?
- Cyclical headaches (particularly menstrual or hormonal migraines)?
- Painful and/or swollen breasts?
- Irregular menstrual cycles, or cycles becoming more frequent as you age?
- Heavy or painful periods (heavy: going through a superpad or tampon every two hours or less; painful: you can't function without ibuprofen)?
- Bloating, particularly in the ankles and belly, and/or fluid retention (in

other words, you gain 3 to 5 pounds or more before your period)?

- Ovarian cysts, breast cysts, or endometrial cysts (polyps)?
 - Easily disrupted sleep?
 - Itchy or restless legs, especially at night?
 - Increased clumsiness or poor coordination?
 - Infertility or subfertility (you've been trying hard to conceive but haven't hit the official twelve-month mark of no conception—six months if you're thirty-five or older)?
 - Miscarriage in the first trimester?
- Keep going! We're halfway there!

— **PART D** —

- Bloating, puffiness, or water retention?
- Abnormal Pap smears?
- Heavy bleeding or postmenopausal bleeding?
- Rapid weight gain, particularly in the hips and butt?
- Increased bra-cup size or breast tenderness?
- Fibroids?
- Endometriosis, or painful periods? (Endometriosis is when pieces of the uterine lining grow outside of the uterine cavity, such as on the ovaries or bowel, and cause painful periods.)
- Mood swings, PMS, depression, or just irritability?
- Weepiness, sometimes over the most ridiculous things?
- Mini breakdowns? Anxiety?
- Migraines or other headaches?
- Insomnia?
- Brain fog?
- A red flush on your face (or a diagnosis of rosacea)?
- Gallbladder problems (or removal)?

— **PART E** —

- Poor memory (you walk into a room to do something, then wonder what it was, or draw a blank midsentence)?
- Emotional fragility, especially compared with how you felt ten years ago?
- Depression, perhaps with anxiety or lethargy (or, more commonly, dysthymia: low-grade depression that lasts more than two weeks)?
- Wrinkles (your favorite skin cream no longer works miracles)?
- Night sweats or hot flashes?
- Trouble sleeping, waking up in the middle of the night?
- A leaky or overactive bladder?
- Bladder infections?
- Droopy breasts, or breasts lessening in volume?
- Sun damage more obvious, even glaring, on your chest, face, and shoulders?
- Achy joints (you feel positively geriatric at times)?
- Recent injuries, particularly to wrists, shoulders, lower back, or knees?
- Loss of interest in exercise?

- Bone loss?
- Vaginal dryness, irritation, or loss of feeling (as if there were layers of blankets between you and the now-elusive toe-curling orgasm)?
- Lack of juiciness elsewhere (dry eyes, dry skin, dry clitoris)?
- Low libido (it's been dwindling for a while, and now you realize it's half or less than what it used to be)?
- Painful sex?

— **PART F** —

- Excess hair on your face, chest, or arms?
- Acne?
- Greasy skin and/or hair?
- Thinning head hair (which makes you question the justice of it all if you're also experiencing excess hair growth elsewhere)?
- Discoloration of your armpits (darker and thicker than your normal skin)?
- Skin tags, especially on your neck and upper torso? (Skin tags are small, flesh-colored growths on the skin surface, usually a few millimeters in size, and smooth. They are usually noncancerous and develop from friction, such as around bra straps. They do not change or grow over time.)
- Hyperglycemia or hypoglycemia and/or unstable blood sugar?
- Reactivity and/or irritability, or excessively aggressive or authoritarian episodes (also known as 'roid rage)?
- Depression? Anxiety?
- Menstrual cycles occurring more than every thirty-five days?
- Ovarian cysts?
- Midcycle pain?
- Infertility? Or subfertility?
- Polycystic ovary syndrome?

— **PART G** —

- Hair loss, including of the outer third of your eyebrows and/or eyelashes?
- Dry skin?
- Dry, strawlike hair that tangles easily?
- Thin, brittle fingernails?
- Fluid retention or swollen ankles?
- An additional few pounds, or 20, that you just can't lose?
- High cholesterol?
- Bowel movements less often than once a day, or you feel you don't completely evacuate?
- Recurrent headaches?
- Decreased sweating?
- Muscle or joint aches or poor muscle tone (you became an old lady overnight)?
- Tingling in your hands or feet?
- Cold hands and feet? Cold intolerance? Heat intolerance?

- A sensitivity to cold (you shiver more easily than others and are always wearing layers)?
- Slow speech, perhaps with a hoarse or halting voice?
- A slow heart rate, or bradycardia (fewer than 60 beats per minute, and not because you're an elite athlete)?
- Lethargy (you feel like you're moving through molasses)?
- Fatigue, particularly in the morning?
- Slow brain, slow thoughts? Difficulty concentrating?
- Sluggish reflexes, diminished reaction time, even a bit of apathy?
- Low sex drive, and you're not sure why?
- Depression or moodiness (the world is not as rosy as it used to be)?
- A prescription for the latest antidepressant but you're still not feeling like yourself?
- Heavy periods or other menstrual problems?
- Infertility or miscarriage? Preterm birth?
- An enlarged thyroid/goiter? Difficulty swallowing? Enlarged tongue?
- A family history of thyroid problems?

Part A: High Cortisol

Part B: Low Cortisol

Part C: Low Progesterone

Part D: Excess Estrogen

Part E: Low Estrogen

Part F: Excess Androgens

Part G: Low Thyroid⁹

Sources:

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Dr. Rajsree Nambudripad youtube videos

⁹ Sara Gottfried: The Hormone Cure