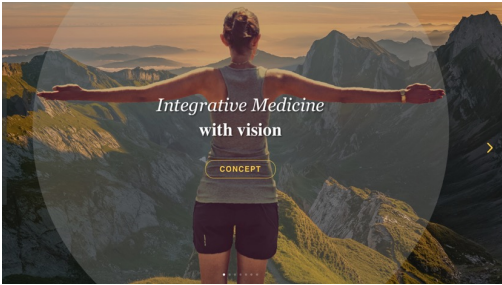




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Integrative Medicine
with vision

CONCEPT



Welcome

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Continuous Professional Development

Seminare & Webinare

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Greetings from the Appenzell region

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GRÜEZI!



**Introduction to
bioidentical hormone therapy**

Dr. med. Heike Herzog and Team, Alpstein Clinic Gais / AR, Schweiz

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***I would like to introduce myself for those
who do not know me yet***

- **Dr. med. Heike Herzog**
 - **General practitioner**
 - **Co-founder of the Alpstein Clinic in 2018**
 - **Additional qualifications in:**
 - Acupuncture
 - neural therapy
 - Short-term psychotherapy (transformation therapist and coach)
 - naturopathy
 - Vital field therapist / bioresonance therapist
 - Biomedicin Education in Paracelsus Academy
 - Integrative biological cancer medicine
 - Functional medicine and stress medicine
 - Biological aesthetic treatment with PRP
 - HormoneCoach for bioidentical hormone therapy



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What are bioidentical hormones?

- **Bioidentical hormones = are just like the body's own hormones**
- **The substance diosgenin is extracted from the wild yams root**
- **Diosgenin is converted into bioidentical hormones like progesterone, estradiol, estriol, testosterone etc. in the laboratory**

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What are bioidentical hormones?

- **Bioidentical hormones = 100% identical structure to the body's own hormones**
- **bind to the body's own hormone receptors**
- **trigger the same hormonal effect at the hormone receptors as the body's own hormones**
- **our body incorporates the bioidentical hormones into our body and metabolizes them**

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Yams - plant and root

Plant



Root



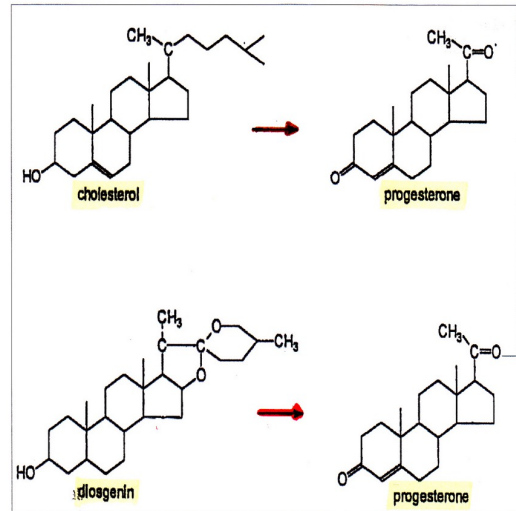
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Structural formula of diosgenin

- Cholesterol is also the starting substance for hormone production, e.g. progesterone
- Structural formula of diosgenin and the resulting progesterone



Difference: Bioidentical hormones compared to exogenous hormones (= HRT)

- Exogenous hormones known as HRT = hormone replacement therapy
- HRT originate from the urine of pregnant mares and do not correspond to the structural formula of our body's own hormones
- HRT are drugs with a hormonal effect
- HRT are not subject to the exact "lock and key principle"
- HRT do not trigger exactly the same effect as bioidentical hormones at the hormone receptors
- HRT are not incorporated and metabolized in the natural synthesis pathway of hormones

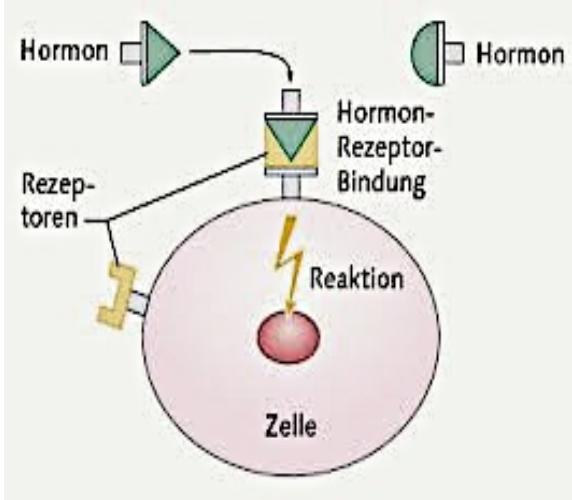


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The lock-and-key principle of hormones

Bioidentical hormones
matches the receptor exactly

Exogenous hormones
cannot completely fill the receptor



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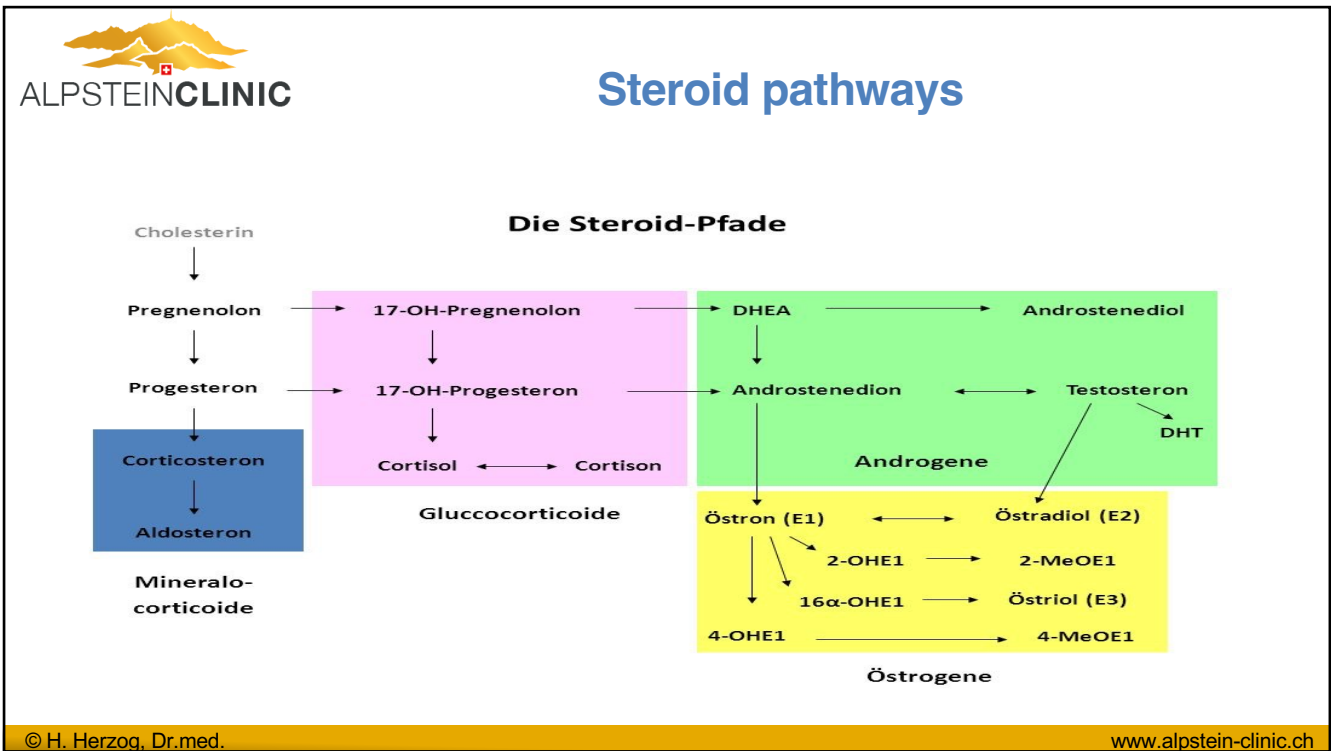
Receptor interactions in comparison

Property	Bioidentical hormones	Synthetic hormones
Binding to receptors	High specificity for natural receptors	Binding also to „non-targeted“ receptors
Side effects	Less side effects as they are endogenous	Increased risk to adverse effects (e.g. thrombosis, acne)
Metabolism	Natural breakdown by the body	Often altered degradation rate, longer half-life
Effect	Natural effect, similar to endogenous hormones	Enhanced or unnatural effect possible

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The 3 different forms of estrogen

- **Estrogens:** are formed in: ovaries, skin cells, adrenal cortex, to a small extent in fat cells
- **3 different forms of Estrogens:**
- **1. Estrone (E1):** Storage hormone
 - Formation: in the ovaries, adrenal cortex + fatty tissue
- **2. Estradiol (E2):** Fertility hormone
 - Formation: ovaries, strongest effective estrogen of the fertile years
- **3. Estriol (E3):** Mucosal hormone
 - Formation: liver from estrone (E1), responsible for: the moisture of all mucous membranes + healthy bladder function

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Concentration ratios of the 3 Estrogens

The 3 types of Estrogen occur in approximately the following ratio:

estrone (E1) to estradiol (E2) to estriol (E3) = 10 to 10 to 80

The highest concentration in terms of quantity is: estriol (E3) = mucous membrane hormone

The most effective estrogen is: estradiol (E2) = fertility hormone



Notes on: Estriol (E3)

- Estriol (E3) has only 1/10th of the estrogenic effect of estradiol (E2)!
- Estriol (E3) has the strongest effect on the bladder, vagina and uterus!
- Estriol (E3) vaginal cream is very good for: Irritable bladder, vaginal dryness, hot flushes!
- Estriol (E3) can also be used in women with breast cancer as, unlike estradiol (E2), it does not trigger cell growth!



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Menstrual cycle

1st half of the cycle dominated by estradiol (E2)

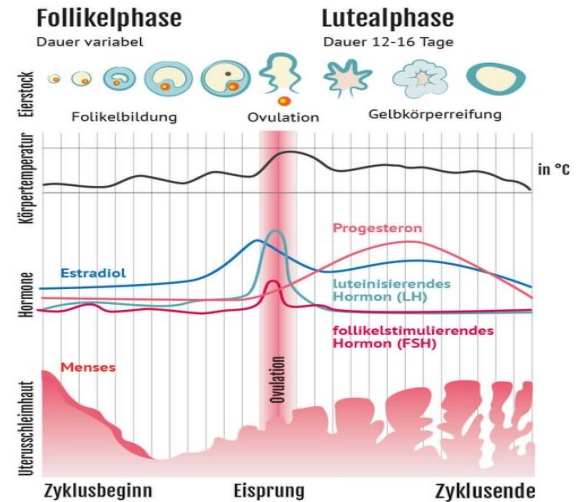
- Estradiol stimulates the cells of the breast to wake up
- Estradiol builds up the lining of the uterus, loosens the connective tissue, stores water + fat in the tissue, leads to ovulation
- matures a follicle in the ovary

mid-cycle during ovulation:

- the egg membrane is ruptured and the egg is ejected
- The egg membrane (the corpus luteum) is the place where progesterone production takes place

2nd half of the cycle is dominated by progesterone

- Progesterone slows down cell growth, excretes tissue fluid again, converts fat into energy (counterpart to estradiol)
- Progesterone maintains the lining of the uterus so that a fertilized egg can implant and pregnancy can occur
- if pregnancy occurs, then the hormone level rises further.
- If pregnancy does not occur, the hormone level drops down and menstrual bleeding occurs



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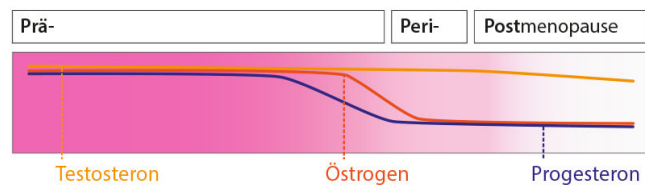


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Hormones in the pre-, peri- and postmenopause

Note the progression of hormones in the 3 stages of the menopause

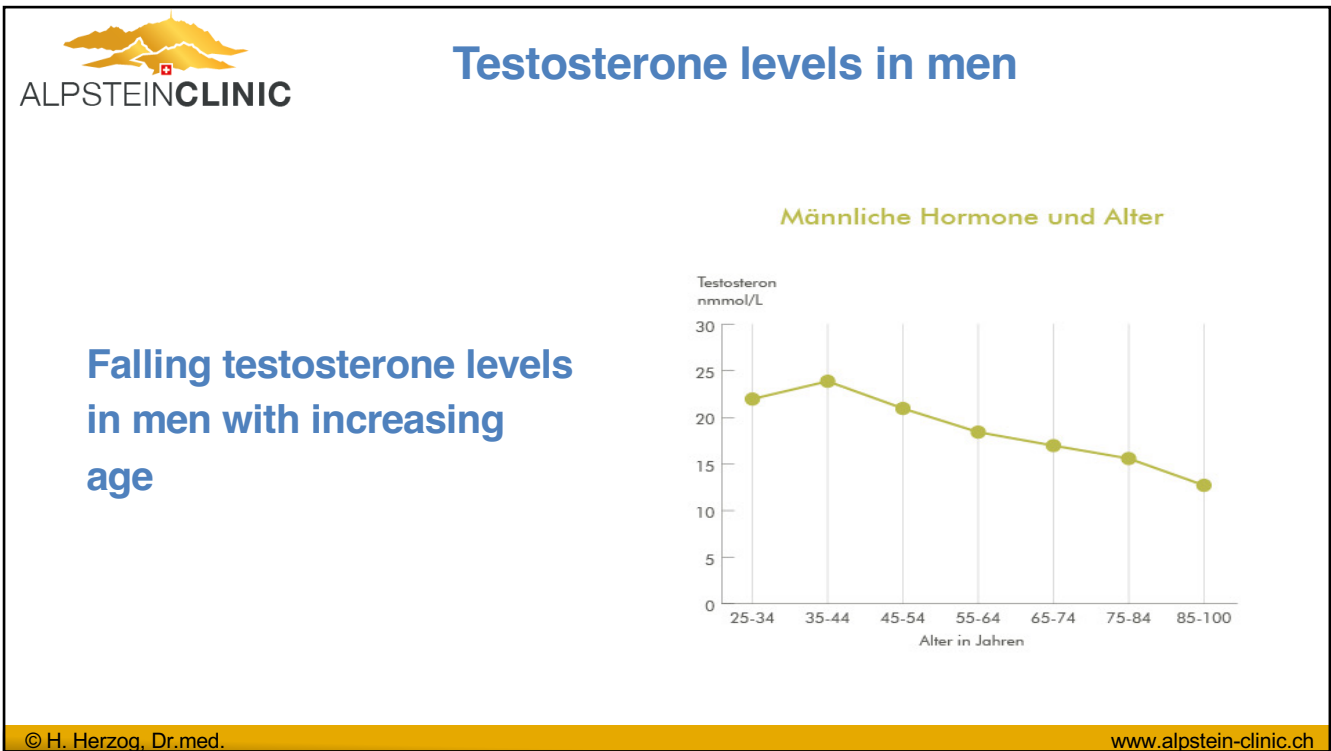
- Progesterone drops first, due to the irregular ovulation (reason: progesterone is mainly produced by the corpus luteum after ovulation)
- Estrogen fluctuates and remains relatively high at the beginning
- Later, estrogen decreases, which eventually leads to the menopause



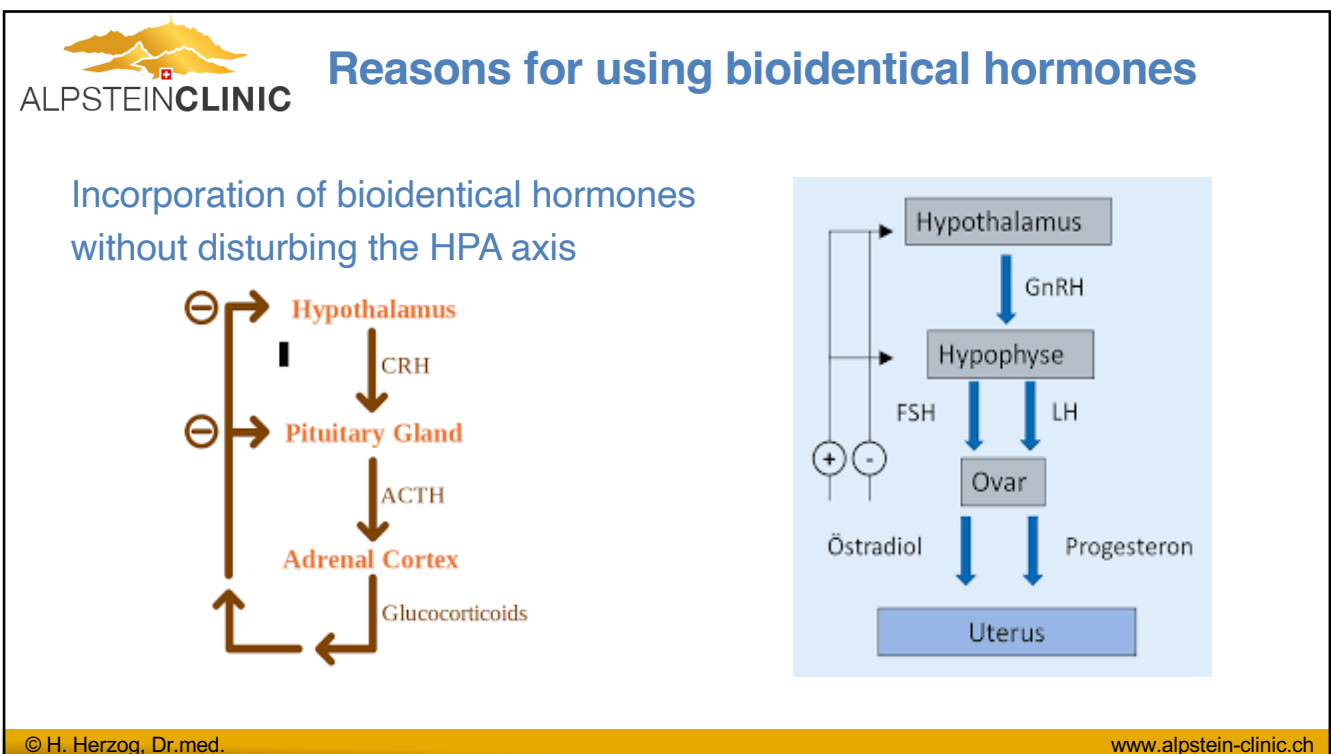
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Measurement of steroid hormones in blood

Advantage of measuring steroid hormones in serum (blood):

- Measurement of free and bound steroids
- It shows the actual hormone production of the respective gland
- Many hormones can only be measured in serum
- The monitoring with oral hormone therapy should be measured with blood



Limits of measuring hormones in serum (blood):

- only the free hormones act on the hormon-receptor (approx. 95% of steroid hormones are bound, i.e. serum measurement = free and bound portion)
- There are difficulties in testing with very low hormone concentrations

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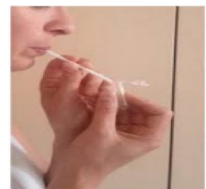
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Measurement of steroid hormones in saliva

Advantage of measuring steroid hormones in saliva :

- Measurement of biologically active free steroids
- Measurement of the biologically active hormone concentration at the receptor
- Simple sample collection
- Therapy control for transdermal hormone therapy



Disadvantage of measuring steroid hormones in saliva:

- The control hormones cannot be measured in saliva (e.g. FSH, LH)
- The Interpretation of saliva samples requires a great deal of experience
- The Method is vulnerable to problems: cave: skin care products etc.

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Time of collection for serum & saliva test under bioidentical hormone intake

Generally the ideal time for a hormone measurement:

- if a cycle is present: between the 19th-21st day of the cycle (i.e. 2nd half of the cycle)
- if no cycle is present and for men: no matter on which day

Hormone measurement in serum when taking bioidentical hormones:

- Orally taken bioidentical hormones can be taken continuously, best time: 2-4 hours after the last intake

Hormone measurement in saliva for transdermal & vaginal hormones:

- Pause application for at least 24-36 hours beforehand
- In the morning: 30 minutes after getting up, do not brush your teeth, rinse your mouth only with water

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Note the steroid hormone measurement in serum and saliva

Serum and saliva tests cannot be compared with each other:

- Reason: different quantities / portions of steroid hormones are measured in different units!
- Serum hormone measurement values in: mU/l - pmol/l - nmol/l - umol/l
- Saliva hormone measurement values in: pg/ml

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Measurement of steroid hormones in urine

Hormone measurement in urine:

- Only measurement of the degradation products of steroids possible



Neurotransmitters, the messenger substances of the brain and nervous system, are preferred tested in urine:

- Adrenaline, noradrenaline, dopamine, serotonin, GABA, glutamate

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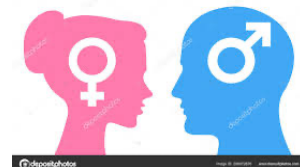
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Estrogen dominance

What is estrogen dominance?

- too much estrogen
- can occur at any stage of a woman's life (puberty -> postmenopause)
- can also occur in men



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Absolute versus relative estrogen dominance

Absolute estrogen dominance

- The total estrogen is too high

Relative estrogen dominance

- The estrogen is normal or low, but the progesterone is even lower

How can this be compensated for, e.g:

- Support progesterone naturally (monk's pepper / bioidentical progesterone)
- Relieve the liver & intestines (high-fiber diet, bitter substances)
- Reduce stress (as cortisol can deplete progesterone)
- Avoid xenoestrogens (less plastic, more natural cosmetics etc.)

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Symptoms of estrogen dominance

Symptoms in women:

- Weight gain (especially hips, waist and thighs)
- Menstrual problems such as light or heavy bleeding / PMS (= Pre-Menstrual Syndrom), cysts, fibroids
- Pain in the breasts
- Tiredness, loss of libido
- Depression, anxiety

Symptoms in men:

- Increase in abdominal fat & Gynaecomastia ("man boobs")
- Sexual dysfunction
- Loss of energy, listlessness
- Depressive mood
- Concentration disorders (brain fog)



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Possible causes of estrogen dominance in women

- **Progesterone deficiency** (from 35 years of age, progesterone falls faster than the estrogen levels)
- **Perimenopause**
- **Ovulation disorders** (e.g. Polycystic ovaries)
- **Luteal insufficiency**
- **High estrogen intake** (pill, cosmetics, diet)
- **Xenohormones** (plastic, cosmetics, pesticides, hormonally contaminated meat, etc.)
- **Stress** (promotes the release of cortisol => progesterone is used for cortisol production)
- **Obesity** (fatty tissue produces estrogen via the enzyme aromatase => estrogens)
- **Liver** ((sinking of SHBGs (= is a protein that binds hormones), poor detoxification))
- **Intestinal problems**
- **Thyroid dysfunction**

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Possible causes of estrogen dominance in men

- **Natural reduction in testosterone with age: from the age of 40-50:** the imbalance slowly increases: because testosterone is increasingly converted into estrogens by the enzyme aromatase
- **Overweight - abdominal fat:** the more abdominal fat, the higher the estrogen production, as fatty tissue contains aromatase and the enzyme converts testosterone into estrogens
- **Xenoestrogens:** plasticizers, pesticides, cosmetics, etc.
- **Liver, stress & diet:** alcohol, sugar consumption, poor liver function
- **Stress & cortisone:** increases cortisol levels => can suppress testosterone production
=> results in less testosterone in relation to estrogen => estrogen dominance
- **Anabolic steroids:** can be converted into estrogen via aromatase
- **Intestinal problems**
- **Thyroid dysfunction**

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estrogen dominance & relative progesterone deficiency

Note

- If there is estrogen dominance, there is always a relative progesterone deficiency, i.e:
- If there is too much estrogen compared to progesterone, the estrogen gets the “upper hand” in the hormonal control loop
- **The result is:** estrogen dominance and a (relative) progesterone deficiency

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Estrogen dominance test saliva



Hormone saliva test for progesterone / estradiol quotients

Standard range: progesterone / estradiol ratio of 100 : 1 = 100

(up to max. 300 : 1)

Value below < 100 = estrogen dominance, e.g. 50:1 or lower

Very strong progesterone deficiency: 10 : 1



Other important laboratory tests are: Vitamins D, Vitamin B6, B12, C, E, trace element (selenium), minerals (Mg), thyroid values & thyroid antibodies, Microbiom

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Estrogen dominance test saliva

Hormone saliva test in men for testosterone / estradiol (T/E2)

Normal range: testosterone / estradiol ratio between 20:1 and 40:1

Value below 20:1 indicates estrogen dominance

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Therapy of estrogen dominance

Treatment of the triggering causes, such as

- Avoiding increased estrogen intake (pill, cosmetics, diet)
- Eliminate xenohormones
- Reduce excess weight, change diet
- Intestinal up building programm (Dysbiosis ?), build up bowel function
- Stimulate liver detoxification
- Balance low progesterone / testosterone levels with bioidentical hormones
- Correct thyroid dysfunction
- Compensate for a lack of vital substances
- Among other things

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Symptoms of estrogen deficiency

Symptoms of estrogen deficiency during the menopause

- Hot flushes
- Sleep disturbances
- Night sweats
- Dry vaginal mucosa
- Loss of libido
- Fatigue, depressive mood
- Facial hair growth (beard)
- Osteoporosis



General symptoms of estrogen deficiency are

- hair loss
- Weight gain
- unclear skin
- Irregular menstrual cycles
- Unfulfilled desire to have children



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Causes of estrogen deficiency



Most common cause

- Menopause in women (=> not a pathological deficiency, but a natural process)



Other causes

- Ovarian insufficiency
- Hyperprolactinemia
- Polycystic ovaries syndrome
- Adrenal insufficiency
- Tumors in the pituitary gland
- etc.

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Symptoms of progesterone deficiency



- Sleep disorders, listlessness
- Increased sweating
- Myomas, mastopathy
- Ovarian cysts
- Heavy menstrual bleeding
- Unfulfilled desire to have children
- PMS (Pre-Menstrual Syndrome)



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Causes of progesterone deficiency



- **Ovulation disorder in anovulatory cycles (without ovulation) or corpus luteum insufficiency**, i.e. if no corpus luteum is formed => too little or no progesterone is also formed
- **Possible causes: Polycystic ovaries** (increased testosterone level suppresses ovulation), **hypothyroidism** (affects FSH, LH & progesterone production) etc.
- **Underdevelopment / malformation of the ovaries**
- **Anorexia nervosa**
- **Hypofunction of the anterior pituitary gland** (lack of FSH production)

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Advantages of bioidentical hormones

- **Develop their effect in the body**
- **individual dosage of hormones possible** (no standard dosages as with synthetic hormones)
- **have no side effects**
- **only have effects: e.g. progesterone cream:**
 - can cause water retention in the legs
 - Reason: if progesterone is increasingly broken down via corticosterone -> aldosterone -> mineral corticoids -> sodium retention -> this favors water retention

Contraindications of bioidentical hormones

- **Post acute myocardial infarction**
- **Post acute apoplexy**
- **Alcohol abuse: Cave metabolism (even small amounts of Alcohol can stimulate the activity of aromatase)**
- **Therapeutic alternative: estradiol D4 / progesterone D4 / testosterone D4**





- **Hormone receptor positive tumor diseases (breast CA)**
- **Cave:** until today, no evidence-based studies have shown, that treatment with natural hormones promotes the development of cancer!
- **Cave:** Some studies suggest, that natural hormones (Progesteron) can protect against cancer.

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- Menopausal symptoms in women / men
- premenstrual syndrome
- osteoporosis
- anxiety/panic
- depression
- fibromyalgia
- migraine
- AD(H)S

- weight problems
- sexual disorders
- acne
- cellulite
- desire to have children
- and much more.



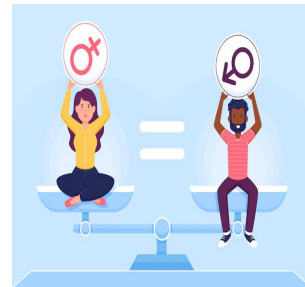
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Forms of application of bioidentical hormones

- **Transdermal cream / gel**
- **Capsules micronized (surface is enlarged) cellulose capsule**
 - **CAVE:** the bioavailability of Capsules are reduced => because of the first-pass effect in the liver!!!!
 - Oral Progesterone: 10-20%
 - (only 20% of the capsule amount is effective)
 - Oral Estrogens: 5-10%
 - Oral Testosterone: 3-7%
- **Vaginal cream**
- **Cream / gel also available in D4 form**
 - First-Pass effect: liver metabolizes (breaks down) a large portion of drug before it enters the general bloodstream



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Case study: PMS - premenstrual syndrome

- **Woman, 39 years old - PMS:**
- **Symptoms:** Cycle problems, mood swings, forgetfulness, cramps, dry vagina, weak libido, brain fog, headaches
- **Saliva hormone test on the 21st day of the cycle:**

Laboratory parameters	Unit	Measured values	Differences from target values	Standard values
17β-Estradiol (E2)	pg/ml	5,2	Normal range	5-7 (2th part of the cycle))
Estriol (E3)	pg/ml	2,5	Significantly lowered	15 -30
Progesteron	pg/ml	146,5	Significantly lowered	280 – 330 (2th part of the cycle)
Testosteron	pg/ml	37,5	Normal range	35 – 45

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Case study: PMS therapy

Therapy recommendation:

- **Medication:**
 - **Progesterone 1%(=10mg) / g** transdermal cream (only in the 2nd cycle phase: from ovulation to the onset of menstruation): 1 x 1 stroke on the inside of the forearm in the evening
 - **Estriol D4 transdermal cream:** 1st week: 2 x 1 stroke inner thigh in the morning & evening, from 2nd week: 1 x 1 stroke in the morning
- **Therapy:**
 - Exercise in the fresh air, bitter substances, magnesium, motherwort, comfrey
 - Intestinal build-up program / change of diet after food intolerance testing
 - Balance of vital substances (vitamins/minerals/trace elements) according to laboratory results
 - Compensate for thyroid dysfunction if present
 - And much more....
- **Repeat saliva test of hormones in 3 months** and then therapy modification, if necessary

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Other options for natural hormone regulation

- **Active plant ingredients:**
 - Monk's pepper (Agnus castus): stimulates the pituitary gland
 - Black cohosh (Cimicifuga): promotes estradiol
- **Application via food:**
 - **Progesterone:** walnuts, walnut oil, eggs ...
 - **Estradiol:** almonds, almond oil. Pomegranates, red clover tea, eggs, licorice, coconut...
 - **Estriol:** Krill oil, fish oil, linseed oil, linseed, coconut, eggs...
 - **Testosterone:** oats, chili, eggs, parsley, ginger, ginseng ...

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TO GOOD LAST.....

So that nobody can say:
„It wasn't me, it was the hormones“

But rather:
„I am in harmony with my hormones“





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Announcement

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Weitere Webinare im 1. Halbjahr 2025

Zeit	Referent	Thema
18.02.25	Dr. Günther Bauer	Medizinische Hypnose
18.03.25	Dr. Heike Herzog	Bioidentische Hormone
08.04.25	Dr. Ralf Oettmeier	Prof. ASLAN Well-Aging und Organpeptide
13.05.25	Dr. Günther Bauer	Ganzheitliche Betrachtung von Cholesterin und Fettstoffwechsel
17.06.24	HP Andreas Petzold	Homöopathische Reiseapotheke

Immer jeweils Dienstags, 18 Uhr

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