The Hormonal Intelligence Protocol

A science-backed framework for understanding oestrogen balance, cycle health, thyroid function, and female vitality — in a world that disrupts it.

1 in 10

women have PCOS

75%

experience PMS

80%

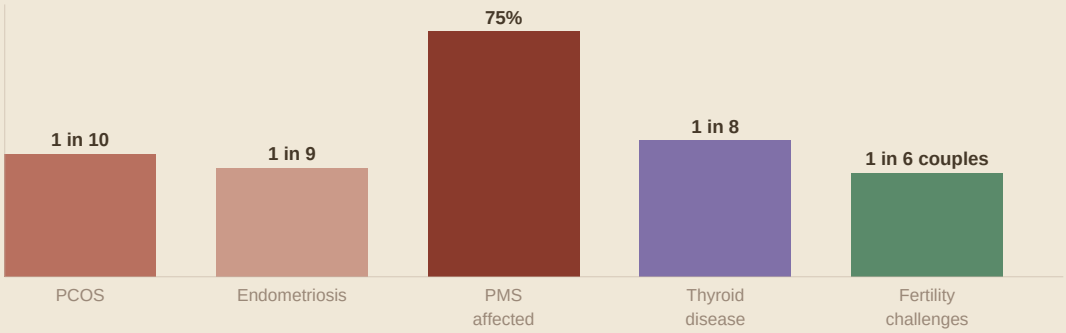
of autoimmune cases are in women

01

Female hormone disorders are exploding. This is not bad luck.

PCOS affects 1 in 10 women globally. Endometriosis affects 1 in 9. PMS is reported by 75% of women and routinely dismissed. Thyroid disorders affect women at 8 times the rate of men. Early perimenopause is occurring in younger women with each passing decade. None of this is inevitable. None of it began with genetics.

The Scale of the Female Hormonal Health Crisis



Sources: WHO · ACOG · NICE Guidelines · Harvard School of Public Health 2020–2024

Research · Raglan et al., Harvard School of Public Health, 2020

Women's exposure to endocrine-disrupting chemicals has increased substantially over 40 years. EDC burden is associated with earlier menarche, shorter cycles, higher rates of PCOS, endometriosis, uterine fibroids, and earlier perimenopause onset.

7–10 years
average time to endometriosis diagnosis

40%
of women have subclinical thyroid dysfunction

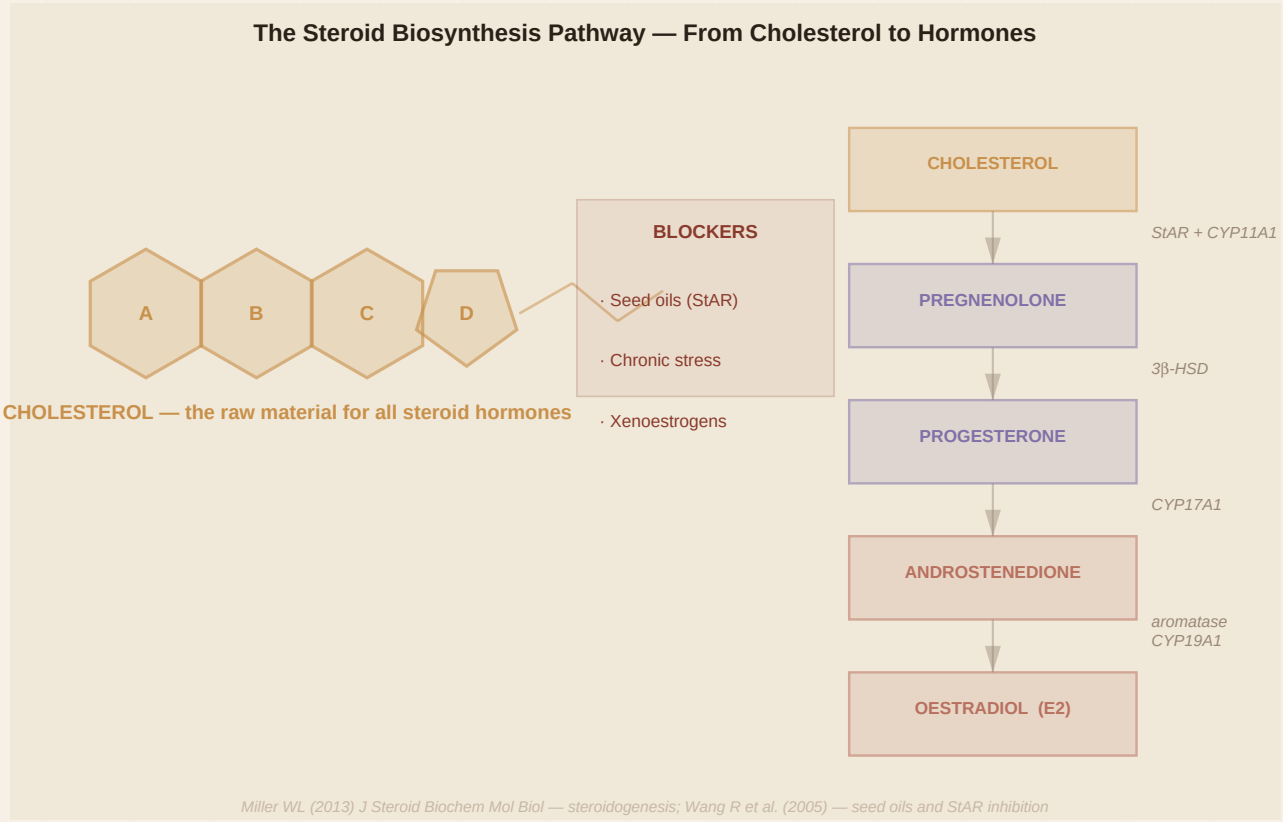
8x
more common thyroid disease in women vs men

Simply put ·

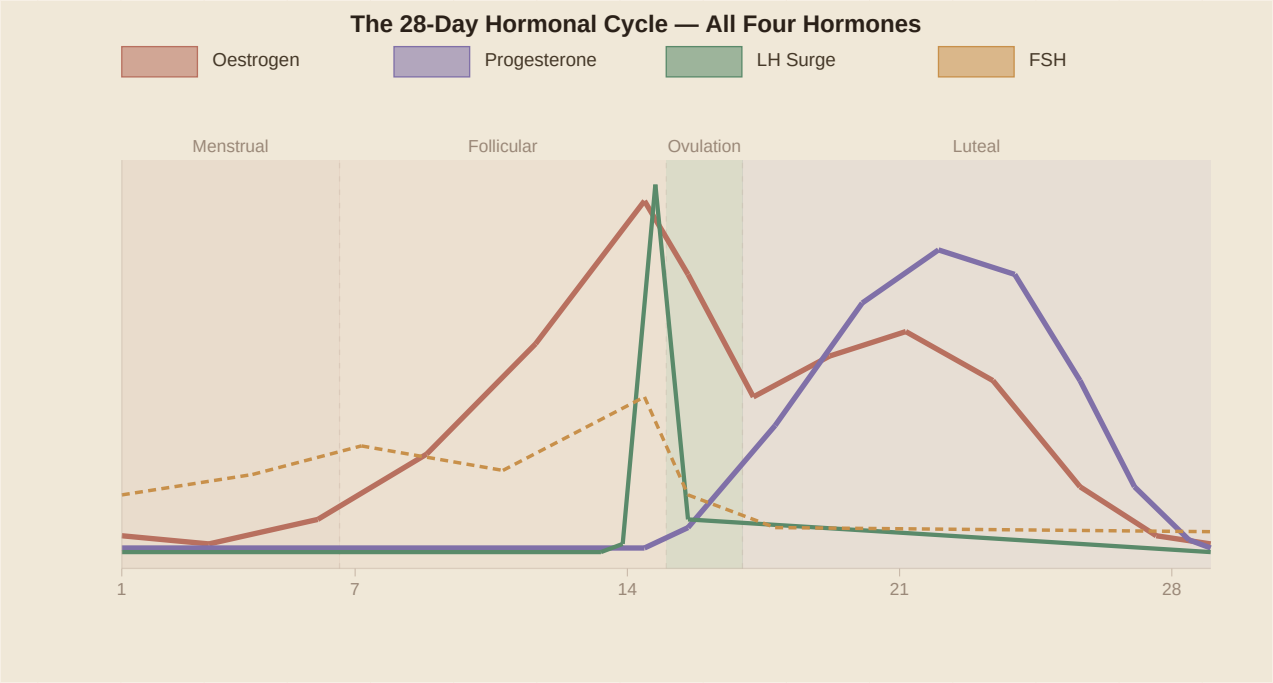
Imagine your hormones as a beautifully choreographed dance — oestrogen leads, progesterone follows, and they take turns in a rhythm that repeats every month. Modern life keeps interrupting: throwing synthetic chemicals onto the dance floor, changing the music mid-song, cutting the power at midnight. This protocol is about clearing the dance floor and letting the rhythm return.

The cycle. The molecular machinery. How it all connects.

Female hormonal health is not a static state — it is a precise 28-day cycle orchestrated by four hormones rising and falling in sequence, controlled by a feedback loop between the brain and the ovaries. At the molecular level, every hormone begins as cholesterol and is built through an enzymatic cascade. Disrupt any single step — and you feel it throughout your whole cycle.



All steroid hormones — oestradiol, progesterone, cortisol, testosterone, DHEA — share the same four-ring molecular skeleton and begin as cholesterol. Disrupting any enzymatic step reduces hormonal output.



Oestrogen leads the first half of the cycle. Progesterone leads the second. An imbalance between them — oestrogen dominant — drives most modern female hormone symptoms.

Menstrual — Days 1–5

Oestrogen and progesterone are lowest. The uterine lining sheds. Energy is physiologically lower — a biological rest phase designed by evolution. Iron, magnesium, and omega-3 are most depleted here. Supplementing all three reduces cramps and fatigue.

Follicular — Days 6–13

Oestrogen rises as follicles develop. Energy, mental clarity, and physical strength peak. Oestrogen is anabolic — muscle building and complex work are measurably easier. This is the cycle's performance window.

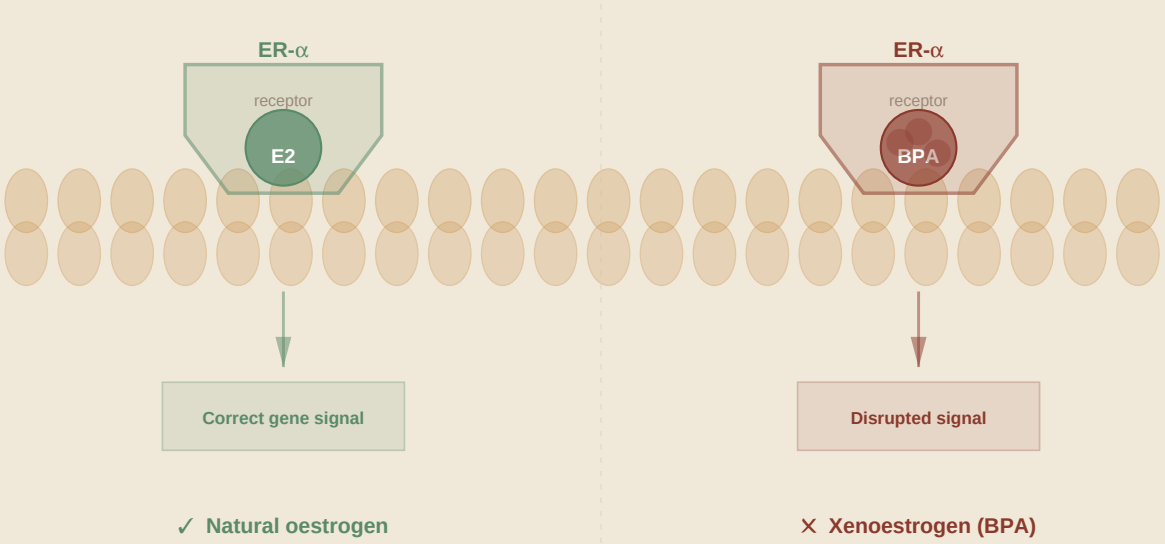
Ovulation — Around Day 14

An LH surge triggers egg release. Oestrogen peaks. Body temperature rises slightly after ovulation. Libido is at its biological peak. Verbal fluency and social confidence are highest. This is the fertility window.

Luteal — Days 15–28

Progesterone rises — calming, sleep-supporting, anti-anxiety. If it falls too quickly or is too low, PMS emerges. If oestrogen remains disproportionately high relative to progesterone, oestrogen dominance symptoms appear in the second half of your cycle.

Oestrogen Receptor Binding — Natural vs Xenoestrogen



✓ Natural oestrogen

✕ Xenoestrogen (BPA)

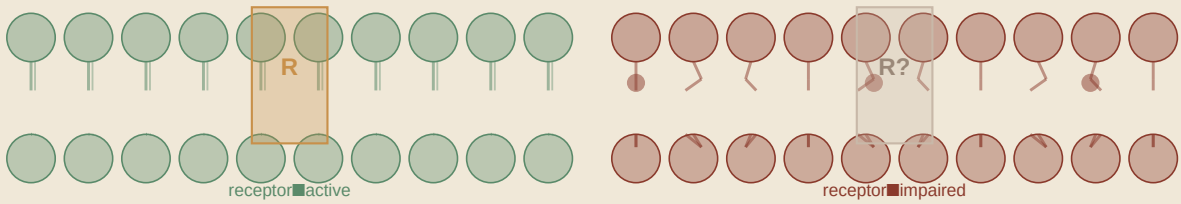
Diamanti-Kandarakis et al. (2009) Endocrine Reviews — xenoestrogens bind ERα with measurable potency

At the molecular level, xenoestrogens (BPA, phthalates, parabens) bind the same receptors as natural oestrogen — jamming the signalling pathway and triggering oestrogen dominance patterns even when your own oestrogen production is normal.

Cell Membrane Integrity — Saturated Fats vs Seed Oils

Butter / ghee / tallow

Sunflower / canola / seed oils



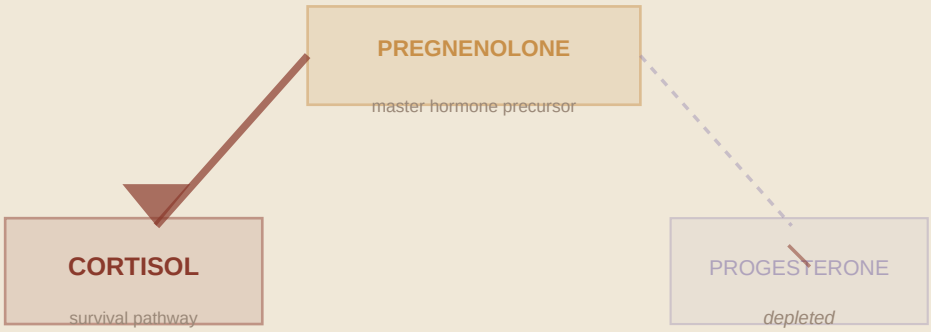
✓ Fluid · Receptive · Hormone-responsive

✕ Rigid · Oxidised · Signalling impaired

Wang R et al. (2005) — linoleic acid directly inhibits StAR protein, blocking steroid hormone synthesis

Seed oils create kinked, rigid, oxidised cell membranes that impair hormone receptor sensitivity and directly block the StAR protein required to initiate steroid hormone synthesis. Saturated fats from butter, ghee, and tallow create fluid, functional membranes.

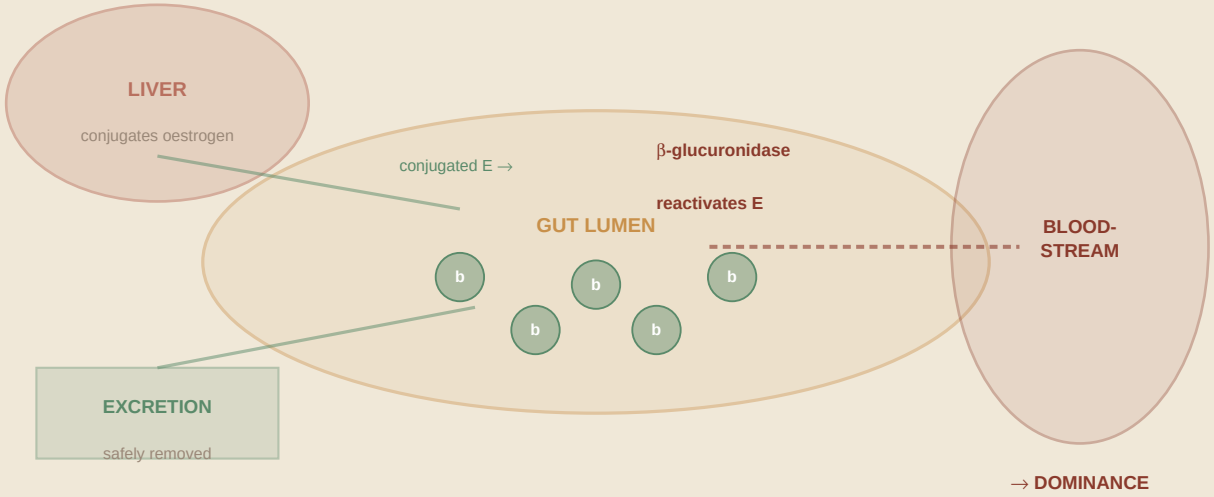
The Pregnenolone Steal — How Stress Depletes Progesterone



→ PMS worsens → Cycle irregular → Anxiety / insomnia → Oestrogen dominant

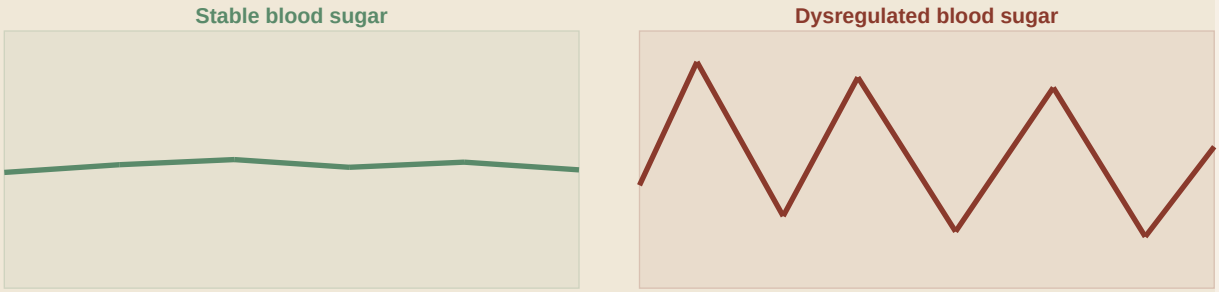
Whirledge & Cidlowski (2010) Nature Reviews Endocrinology

The Estrobolome — Gut Bacteria & Oestrogen Clearance



Baker JM et al. (2017) J Steroid Biochem Mol Biol — estrobolome controls oestrogen excretion and recirculation

Blood Sugar Dysregulation — The Hidden PCOS Driver



→ Balanced androgens · Regular cycles

→ Elevated androgens · PCOS risk

Nestler JE et al. NEJM (1998) — reducing insulin restored ovulation in PCOS

Simply put ·

Think of oestrogen and progesterone as two people sharing a flat equally. Oestrogen is the extrovert — vibrant, turns everything up. Progesterone is the calm one — brings balance, helps you sleep, keeps things steady. When progesterone leaves (through stress, poor diet, or anovulation), oestrogen runs the whole show. The flat becomes chaotic. That is oestrogen dominance — the most common modern hormonal pattern in women.

Ten forces disrupting female hormones every day.

Each has documented molecular mechanisms — not just correlation. They disrupt oestrogen, progesterone, thyroid hormones, cortisol, or insulin: the five primary pillars of female hormonal health.

01 — Xenoestrogens & Plastics

Synthetic molecules bind oestrogen receptors directly (see molecular diagram above). They arrive via plastic containers, cosmetics, food packaging, and thermal receipts. Once bound, they mimic the hormonal signal — sending false feedback to the HPO axis and suppressing natural oestrogen regulation while contributing to dominance patterns.

– **BPA and BPS** food containers, bottle linings, receipt paper — bind ER-α with measurable potency even at low concentrations.

– **Phthalates** in synthetic fragrances, flexible plastics — associated with reduced AMH (ovarian reserve), earlier menarche, and shorter cycles.

– **Parabens** in cosmetics — found intact in human breast tumour tissue. Concentration correlates with cosmetic product use in multiple autopsy studies.

– **Heating plastic** increases xenoestrogen leaching by up to 55x — never heat food in plastic, never leave bottles in sunlight.

Research · Research

Diamanti-Kandarakis E et al. (2009) Endocrine Reviews; Cohn BA et al. (2015) J Epidemiology & Community Health; Barr L et al. (2012) J Applied Toxicology

Simply put ·

Xenoestrogens are fake keys. They fit your oestrogen receptor locks, jam them, and prevent the real hormonal signal from working. Your brain sees "occupied" receptors and assumes oestrogen is plentiful — so it stops regulating carefully. Your hormonal system thinks it's balanced when it isn't.

02 — Chronic Stress & Cortisol

Cortisol and progesterone are both built from pregnenolone — the same molecular precursor. Under chronic stress, the body always prioritises cortisol for survival, diverting pregnenolone away from the progesterone pathway. Low progesterone is frequently the direct molecular result of high cortisol — not a hormone disorder in isolation.

– **Pregnenolone steal** cortisol and progesterone cannot both be maximally produced simultaneously. Chronic stress wins — every time.

– **LH suppression** elevated cortisol directly suppresses the LH surge required for ovulation. High stress delays or prevents ovulation.

– **HPA-HPO cross-talk** the stress axis and the reproductive axis share molecular pathways. Chronic HPA activation downregulates the entire HPO axis.

– **Perimenopausal impact** adrenal glands must take over oestrogen production as ovaries decline. Burned-out adrenals make this transition significantly harder.

Research · Research

Whirledge S & Cidlowski JA (2010) Nature Reviews Endocrinology; Berga SL et al. (1997) JCEM

Simply put ·

When you're stressed, your body makes a molecular choice: progesterone (calm, balanced) or cortisol (survive right now). It always chooses survival. More stress = less progesterone = worse PMS = more anxiety = more stress. This is a biochemical loop that only breaks when the cortisol load is genuinely reduced.

03 — Seed Oils & The Omega Imbalance

Linoleic acid — the dominant fatty acid in seed oils — directly inhibits the StAR protein, the enzyme that transports cholesterol into the mitochondria to begin steroid hormone synthesis (see cell membrane diagram). This is the documented molecular mechanism by which dietary fat composition affects hormone levels — operating at the cellular level every day.

– **StAR protein inhibition** seed oil fatty acids block the first enzymatic step of steroid hormone synthesis — documented at the molecular level (Wang R et al. 2005).

– **Prostaglandin E2** omega-6 from seed oils converts to PGE2 — the primary driver of uterine cramping, endometriosis inflammation, and PMS-related pain.

– **Omega ratio collapse** ancestral diet: 1:4 omega-3 to omega-6. Modern seed-oil diet: 1:20. This imbalance floods the body with pro-inflammatory precursors.

– **Oxidised lipids** heated seed oils produce 4-HNE and acrolein — documented toxins to steroid-producing cells in both testes and ovaries.

Research · Research

Wang R et al. (2005) J Steroid Biochem Mol Biol; Missmer SA et al. (2010) Human Reproduction — dietary fat and endometriosis; Deutch B (1995) EJCN

Simply put ·

Every meal cooked in sunflower or vegetable oil blocks the first step of steroid hormone production at the molecular level, and floods your body with precursors to period pain and reproductive inflammation. Swapping to butter, ghee, or olive oil isn't a lifestyle choice — it's a molecular intervention that directly changes your hormonal chemistry.

04 — Blood Sugar & Insulin

Elevated insulin directly stimulates LH receptors on ovarian theca cells, forcing them to overproduce androgens instead of oestrogen (see blood sugar diagram). This is the central molecular mechanism of PCOS — and explains why high-sugar, high-refined-carbohydrate diets produce masculine hormone patterns in women at the receptor level.

– **Insulin → androgen production** elevated insulin overcomes normal regulation and forces ovarian androgen overproduction. Documented at receptor level.

– **SHBG reduction** high insulin reduces sex hormone binding globulin — increasing free androgens and producing symptoms even at normal total hormone levels.

– **Cortisol-blood sugar link** high cortisol → blood sugar rise → insulin surge → androgen overproduction. One connected molecular cascade.

– **PMS and glycaemic load** highest glycaemic load diets correlate with significantly more severe PMS — mediated by insulin and prostaglandin pathways.

Research · Research

Nestler JE et al. (1998) NEJM; Marsh K & Brand-Miller J (2005) Proc Nutr Soc; Ngo AD et al. (2011) BJOG

Simply put ·

Blood sugar spikes are like turning up the volume dial on male hormones inside women's ovaries. The insulin surge that follows grabs the androgen-production switch and forces it on. Stable blood sugar keeps that switch off. What you eat for breakfast directly affects your hormonal balance for the rest of the day.

05 — Gut Dysbiosis & The Estrobolome

The estrobolome — a community of gut bacteria — produces beta-glucuronidase, the enzyme that determines whether processed oestrogen is safely excreted or reactivated and returned to circulation (see estrobolome diagram). Dysbiotic bacteria overproduce this enzyme, causing oestrogen to recirculate — one of the most direct documented mechanisms of oestrogen dominance.

– **Beta-glucuronidase pathway** liver packages oestrogen with glucuronic acid for excretion. Dysbiotic bacteria's beta-glucuronidase breaks this package in the gut, allowing reabsorption.

– **Gut and endometriosis** women with endometriosis have measurably different gut microbiome compositions. Gut dysbiosis drives the inflammatory environment that allows endometriosis to grow.

– **T4→T3 conversion** gut bacteria convert inactive T4 to active T3 thyroid hormone. Dysbiosis reduces this conversion — producing hypothyroid symptoms with normal blood T4.

– **Autoimmunity** 80% of autoimmune conditions occur in women. Intestinal permeability drives molecular mimicry — including Hashimoto's thyroiditis and lupus.

Research · Research

Baker JM et al. (2017) J Steroid Biochem Mol Biol; Ata B et al. (2019) J Minimally Invasive Gynecology

Simply put ·

Your gut bacteria run the oestrogen disposal facility. Healthy bacteria properly package used oestrogen for excretion. Dysbiotic bacteria break open those packages and put the oestrogen back into your bloodstream. You end up reabsorbing oestrogen your body already tried to discard — building toward dominance levels over time.

06 — Thyroid Disruptors

The thyroid regulates every metabolic process including the menstrual cycle, fertility, mood, weight, and temperature. Women are 8x more likely to develop thyroid disorders. Multiple modern compounds interfere at the molecular level — with iodine availability, T4→T3 conversion, and receptor sensitivity — often producing hypothyroid symptoms when standard blood tests appear normal.

– **Fluoride competes with iodine** fluoride occupies iodine receptor sites in the thyroid. Iodine is the primary raw material for T4 synthesis. Even at "safe" levels, fluoride from tap water reduces thyroid output.

– **Oestrogen elevates TBG** elevated oestrogen increases thyroid binding globulin, rendering thyroid hormone inactive in the blood. Oestrogen dominance and hypothyroid symptoms co-occur through this mechanism.

– **Selenium and deiodinase** selenium is the required cofactor for the enzymes that convert T4 to active T3. Deficiency produces hypothyroid symptoms with normal T4 tests.

– **Cortisol and reverse T3** cortisol blocks T4→T3 conversion and increases reverse T3 — a non-functional hormone that competes for T3 receptor sites.

Research · Research

Peckham S et al. (2015) J Epidemiology & Community Health; Duntas LH (2010) European Thyroid Journal; Bahn RS et al. (2011) Thyroid

Simply put ·

The thyroid is your body's central heating thermostat. When it works, everything runs at the right temperature. When fluoride jams the iodine supply, oestrogen binds your thyroid hormone in the blood, and cortisol blocks the conversion to active form — the thermostat breaks down. You feel cold, foggy, heavy, and tired. Not because you're broken, but because the machinery is being interfered with at the molecular level.

07 — Synthetic Fragrance & Personal Care

Women apply an average of 12 personal care products daily, containing up to 168 unique chemicals. "Fragrance" is a legal umbrella concealing potentially thousands of undisclosed compounds — many of them phthalates and synthetic musks with documented oestrogenic activity. Your skin is not a barrier. It is an absorptive organ that bypasses first-pass liver metabolism.

– **Parabens in breast tissue** found intact in human breast tumour tissue — concentration correlates with cosmetic product use in multiple peer-reviewed autopsy studies.

– **Phthalates and ovarian reserve** urinary phthalate metabolites are associated with earlier menarche, shorter cycles, anovulation, and reduced anti-Müllerian hormone (AMH).

– **Transdermal bioavailability** skin absorption bypasses first-pass liver metabolism — compounds reach systemic circulation at proportionally higher concentrations than if ingested.

– **Rapid elimination on switching** switching to fragrance-free personal care products reduced phthalate and paraben urine metabolites measurably within just 3 days — Harley KG et al. 2016.

Research · Research

Barr L et al. (2012) J Applied Toxicology; Harley KG et al. (2016) Environmental Health Perspectives; Duty SM et al. (2003) Epidemiology

Simply put ·

Every product you apply to your skin is inside your bloodstream within minutes. Moisturiser, deodorant, foundation, perfume, shampoo — if they contain synthetic chemicals, those compounds are inside your body all day, behaving like oestrogen at your receptors. Switching to natural and fragrance-free products removes this burden. The reduction in measurable metabolites happens within days.

08 — Sleep Disruption & Blue Light

The menstrual cycle is a circadian-dependent process. LH surges, FSH pulses, and progesterone production are all timed by the suprachiasmatic nucleus — the body's master clock. The ovaries themselves contain melatonin receptors and produce melatonin to protect follicles during maturation. Blue light from screens suppresses pineal melatonin by up to 85% — disrupting ovarian protection, LH timing, and overnight cortisol reduction simultaneously.

– **Melatonin and follicle quality** ovaries produce melatonin locally to protect follicles from oxidative damage during maturation. Chronic blue light exposure impairs this, reducing follicle quality.

– **LH surge timing** the LH surge that triggers ovulation is precisely timed by the suprachiasmatic nucleus. Circadian disruption delays or prevents the surge.

– **Shift work data** women on rotating night shifts have 2.5x higher rates of menstrual irregularity, 1.6x higher rates of endometriosis, and reduced ovarian reserve vs matched day-shift workers.

– **Cortisol and deep sleep** deep sleep is required for the overnight cortisol drop that allows pregnenolone to flow toward progesterone rather than being consumed by the stress pathway.

Research · Research

Tamura H et al. (2014) J Pineal Research; Mahoney MM (2010) European J Endocrinology; Goldstein CA et al. (2012) Sleep Medicine Reviews

Simply put ·

Your hormonal cycle is timed by light and darkness. When you look at your phone at midnight, you send your body a "it's midday" signal. The precisely timed LH surge that causes ovulation, the overnight cortisol drop that allows progesterone to build, the ovarian melatonin that protects your follicles — all get disrupted. Your cycle's clock is set to the wrong time zone every night.

09 — Conventional Dairy & Meat

Modern intensive dairy comes primarily from pregnant cows, whose circulating oestrogen is 10-30x higher than non-pregnant cows. Oestrogen is fat-soluble and concentrates in dairy fat — present as oestrone, oestradiol, and progesterone in concentrations that survive pasteurisation. For women managing oestrogen dominance, this is a significant additional hormonal burden.

– **Pregnant cow oestrogens** conventional full-fat dairy is estimated to account for 60-70% of total dietary oestrogen intake in Western populations — measurably higher than soy phytoestrogen exposure.

– **Antibiotic estrobolome disruption** conventional meat consumption disrupts estrobolome function through low-level antibiotic exposure — worsening oestrogen recirculation from the gut.

– **Synthetic growth hormones** oestradiol, zeranol, and melengestrol acetate are used in US beef production. The EU bans these because they are pharmacologically active hormones.

– **Grass-fed advantage** grass-fed dairy and beef show better omega-3 profiles, no synthetic hormone load, and higher CLA (conjugated linoleic acid), which has documented anti-oestrogenic properties.

Research · Research

Malekinejad H & Rezabakhsh A (2015) Cell J; Ganmaa D & Sato A (2005) Medical Hypotheses; Hartmann S & Steinhart H (1998) J Chromatography B

Simply put ·

When a pregnant cow is given oestrogen to produce more milk, that oestrogen ends up in the milk. When you drink it, you consume some of it — on top of oestrogens already arriving from plastics, cosmetics, and stress. For a woman already experiencing oestrogen dominance, this is adding fuel to a fire that is already burning.

10 — Hormonal Contraceptive Nutrient Depletion

Oral contraceptives suppress the HPO axis by supplying synthetic hormones — suppressing the body's own production. Beyond contraception, the metabolic processing of synthetic steroids depletes specific nutrients at documented rates. These depletions are rarely communicated but directly produce the anxiety, mood shifts, fatigue, and acne frequently attributed to the pill's hormones — when they are actually nutritional in origin.

– **Magnesium — 20-30% depletion** synthetic oestrogen increases urinary magnesium excretion. Deficiency worsens anxiety, PMS, blood sugar dysregulation, and sleep quality.

– **B6 (P5P) depletion** required for progesterone receptor sensitivity and serotonin production. B6 deficiency produces the mood symptoms most commonly attributed to the pill.

– **Zinc reduction, copper elevation** impairs thyroid function, reduces progesterone synthesis, worsens acne. Copper elevation can independently worsen anxiety.

– **Post-pill HPO recovery** the HPO axis may take 3-12 months to fully resume natural cyclical function. Nutritional support and adrenal recovery protocols shorten this window significantly.

Research · Research

Palmery M et al. (2013) European Review for Medical and Pharmacological Sciences; Webb JL (1980) J Reproductive Medicine; Berenson AB et al. (2004) Obstetrics & Gynecology

Simply put ·

The pill quietly turns off your hormonal cycle at the brain level — synthetic hormones arrive from outside so your own production goes quiet. While this is happening, processing those synthetic steroids consumes specific nutrients: the calming mineral (magnesium), the mood vitamin (B6), and the skin-and-immune mineral (zinc). Replacing these while on the pill, and supporting the system as you come off it, makes a measurable and significant difference.

Five hormonal conditions. Root causes. What works.

These share overlapping root causes — addressing them simultaneously often improves multiple conditions at once.

PCOS

- **Molecular driver** insulin resistance → ovarian androgen overproduction via LH receptor overstimulation. Not primarily a cyst disorder.
- **Key symptoms** irregular or absent periods, elevated androgens (acne, hair thinning, body hair), weight challenges, blood sugar instability, anxiety, fatigue.
- **Evidence-based interventions** myo-inositol 2-4g/day (comparable to metformin in RCTs without side effects). Blood sugar stabilisation — the foundation. Spearmint tea 2x daily reduces free testosterone in documented trials. Omega-3 for inflammation.
- **Research** Nestler JE et al. NEJM 1996; Unfer V et al. 2012 — inositol comparable to metformin; Grant P 2010 Phytotherapy Research — spearmint anti-androgenic.

Endometriosis

- **Molecular driver** oestrogen-driven inflammation with immune dysfunction. PGE2 from omega-6 fatty acids drives pain and growth of endometrial lesions.
- **Key symptoms** severe period pain, pelvic pain throughout cycle, pain during sex, digestive symptoms, fatigue, fertility challenges.
- **Evidence-based interventions** strict seed oil elimination (reduces PGE2). High-dose omega-3 3-4g EPA+DHA. DIM 200-400mg for oestrogen clearance. Magnesium glycinate 400mg for pain. Gut healing protocol.
- **Research** Deutch B EJCN 1995 — omega-3 and period pain; Missmer SA et al. Human Reproduction 2010; Marziali M et al. 2012 — DIM and endometriosis.

PMS & PMDD

– **Molecular driver** low luteal progesterone, cortisol excess via pregnenolone steal, magnesium and B6 deficiency, and abnormal serotonin response to progesterone fluctuations.

– **Key symptoms** PMS: mood changes, bloating, breast tenderness, food cravings, sleep disruption days 14-28. PMDD: severe depression, anxiety, or rage in same window — requires medical involvement.

– **Evidence-based interventions** Vitex (chasteberry) 400-500mg daily — multiple RCTs superior to placebo. Magnesium glycinate 300-400mg. B6 as P5P 50-100mg. Calcium 1000-1200mg. Omega-3 3g.

– **Research** Schellenberg R 2001 BMJ — Vitex; Fathizadeh N 2010 — magnesium; Wyatt KM et al. 1999 BMJ — B6 meta-analysis.

Thyroid Dysfunction & Hashimoto's

– **Molecular driver** autoimmune attack on thyroid peroxidase via molecular mimicry (leaky gut + gliadin) or nutritional deficiency of selenium, iodine, and zinc impairing T4 synthesis and T4→T3 conversion.

– **Key symptoms** fatigue, weight gain, cold intolerance, hair thinning, brain fog, heavy periods, constipation, dry skin, depression. Frequently diagnosed only when severe.

– **Evidence-based interventions** selenium 200mcg L-selenomethionine (reduces thyroid antibodies in RCTs). Strict gluten elimination for Hashimoto's. Zinc 25-40mg. Gut healing protocol. Iodine-containing sea vegetables.

– **Research** Sategna-Guidetti C et al. 2001 — gluten-free reduces antibodies; Duntas LH 2010 European Thyroid Journal — selenium; Ventura A et al. 2012 — Hashimoto's and gluten.

Perimenopause & Menopause

– **What is happening** ovarian function fluctuates then declines. Adrenal glands must take over oestrogen precursor production via DHEA. Burned-out adrenals impair this critical transition.

– **Key symptoms** irregular cycles, hot flashes, night sweats, sleep disruption, mood instability, brain fog, vaginal dryness, joint pain, weight redistribution.

– **Evidence-based interventions** ashwagandha for adrenal support and cortisol reduction. Magnesium for sleep. Omega-3. Vitamin D3+K2. Ground flaxseed and fermented soy (phytoestrogens). Black cohosh 40-80mg for hot flashes — Cochrane review confirms efficacy.

– **Research** Leach MJ & Moore V 2012 Cochrane Review — black cohosh; Davis SR et al. 2012 Lancet — menopause management review.

The supplement protocol. No brand names. All available on iHerb.

Look for the compound, form, and dosage — not a specific brand. Third-party tested, non-GMO, free from titanium dioxide and unnecessary fillers.

FOUNDATION — START HERE

Magnesium Glycinate or Bisglycinate · ~$15–22/mo/mo

What to look for: most important mineral for female hormones. Reduces PMS severity, improves sleep, lowers cortisol, supports progesterone receptor function. NOT oxide.

Dose: 300–400mg elemental, evening

Omega-3 EPA + DHA · ~$18–25/mo/mo

What to look for: reduces PGE2 (period pain, endometriosis inflammation), supports oestrogen metabolism, reduces cortisol reactivity. IFOS certified, triglyceride form.

Dose: 2–3g EPA+DHA with food

Vitamin D3 + K2 MK-7 · ~$12–18/mo/mo

What to look for: steroid hormone regulating immune function, progesterone production, and protective pathways. Combined softgel with MCT or olive oil.

Dose: 4,000–5,000 IU D3 with fat

Methylated B-Complex · ~$15–20/mo/mo

What to look for: B6 as P5P, B12 as methylcobalamin, folate as 5-MTHF (not folic acid). Depleted by oral contraceptives. Supports oestrogen methylation and progesterone receptor function.

Dose: As directed, morning

Zinc Picolinate or Bisglycinate · ~$10–15/mo/mo

What to look for: required for thyroid function, progesterone synthesis, skin, immunity. Depleted by oral contraceptives. NOT oxide.

Dose: 25–40mg with food

HORMONAL BALANCE — ADD WEEK 3+

Vitex Agnus-Castus (Chasteberry) · ~$12–18/mo/mo

What to look for: most evidence-backed herbal for PMS and luteal phase support. Multiple RCTs confirm superiority to placebo for PMS. Standardised 0.5% agnusides, 400-500mg. Full effect at 3 months.

Dose: 400–500mg morning fasted

Ashwagandha (KSM-66 or Sensoril) · ~$15–20/mo/mo

What to look for: reduces cortisol 14-32% in controlled trials — increasing pregnenolone for progesterone synthesis. Also improves subclinical hypothyroidism. Standardised 5%+ withanolides, root extract only. Cycle 8 wks on/2 off.

Dose: 300–600mg with food

DIM (Diindolylmethane) · ~$15–22/mo/mo

What to look for: from cruciferous vegetables. Shifts oestrogen metabolism toward the safer 2-OH pathway. For oestrogen dominance, endometriosis, fibrocystic breasts. With BioPerine for absorption.

Dose: 200–400mg with food

Myo-Inositol · ~$18–25/mo/mo

What to look for: for PCOS or blood sugar issues. 2g myo-inositol + 50mg D-chiro inositol (40:1 ratio) comparable to metformin in multiple RCTs. Improves egg quality. Use powder — far more cost-effective.

Dose: 2–4g daily as powder

Iron — Ferrous Bisglycinate only · ~$10–15/mo/mo

What to look for: affects 30-50% of menstruating women. Ferritin below 30 causes fatigue and hair loss frequently misdiagnosed as depression. Test first. Take with vitamin C, away from calcium and tea.

Dose: Per blood test results

TARGETED — SPECIFIC CONDITIONS

Selenium L-Selenomethionine · ~$8–12/mo/mo

What to look for: for thyroid and Hashimoto's. Required cofactor for T4→T3 conversion by deiodinase enzymes. Reduces thyroid antibodies in documented trials. NOT selenite.

Dose: 200mcg with food

Black Cohosh · ~$12–18/mo/mo

What to look for: for perimenopausal hot flashes. Cochrane review: effective for vasomotor symptoms. Standardised extract, 40-80mg. Not recommended beyond 6 months without monitoring.

Dose: 40–80mg daily

Saffron (Crocus sativus) · ~$15–20/mo/mo

What to look for: reduces PMS and PMDD symptoms in RCTs — comparable to antidepressant effect in some trials. Supports libido. Standardised 30mg extract.

Dose: 30mg standardised extract

Evening Primrose Oil · ~$10–15/mo/mo

What to look for: GLA precursor to anti-inflammatory PGE1. Reduces PMS, breast tenderness, period pain. Take in luteal phase only — days 14-28.

Dose: 1,500–3,000mg luteal phase only

Rhodiola Rosea · ~$12–18/mo/mo

What to look for: adaptogenic adrenal support. Reduces fatigue, improves HPA axis resilience. Standardised 3% rosavins + 1% salidroside.

Dose: 200–400mg morning

Nutrition for female hormones. Every meal is a molecular signal.

Female nutritional needs shift across the cycle. The follicular phase benefits from antioxidant-rich foods; the luteal phase requires stable blood sugar, more magnesium, and B vitamins to prevent PMS.

HORMONAL ALLIES

✓ **Dark leafy greens daily** — iron, magnesium, folate, B6, vitamin K — every hormone synthesis pathway requires these.

✓ **Wild fatty fish 2–4x/week** — EPA + DHA. Reduces PGE2, calms reproductive inflammation.

✓ **Whole eggs including yolk** — choline for oestrogen methylation, B12, D3, zinc, selenium.

✓ **Cruciferous vegetables daily** — broccoli, cauliflower, Brussels — I3C precursor to DIM for oestrogen clearance.

✓ **Ground flaxseed 1–2 tbsp** — lignans modulate oestrogen receptors — whole food intervention for dominance.

✓ **Pumpkin seeds** — highest combined whole-food magnesium and zinc source.

✓ **Brazil nuts 2–3 daily** — 200mcg selenium — the thyroid mineral — in just 2-3 nuts.

✓ **Fermented foods daily** — kimchi, sauerkraut, kefir — restores estrobolome, reduces oestrogen recirculation.

✓ **Ginger and turmeric** — reduce PGE2 (period pain), support liver oestrogen clearance.

✓ **Pomegranate** — punicalagin reduces aromatase and supports oestrogen clearance.

HORMONAL DISRUPTORS

✕ **All seed oils** — block StAR, drive PGE2 — directly worsen period pain and endometriosis.

✕ **Refined sugar** — spikes insulin → androgen overproduction → PCOS, acne, irregular cycles.

✕ **Gluten** — molecular mimicry drives thyroid antibodies in Hashimoto's — eliminate strictly.

✕ **Conventional full-fat dairy** — high oestrogen from pregnant cows — worsens oestrogen dominance.

✕ **Alcohol** — directly impairs liver oestrogen clearance. Elevates oestrone.

✕ **Isolated soy protein** — concentrated phytoestrogens can worsen dominance in sensitive women. Fermented soy is fine.

✕ **Ultra-processed food** — emulsifiers disrupt gut barrier → estrobolome disruption → oestrogen recirculation.

✕ **Licorice root products** — inhibits cortisol metabolism — worsens cortisol:progesterone ratio.

07

A day designed for hormonal intelligence.

Integrating supplements, movement, nutrition, and sleep into a consistent daily structure. Consistency matters more than perfect timing.

ON WAKING

- **Morning light — 10 minutes** outdoors, face and arms. Sets circadian rhythm. Initiates the healthy morning cortisol peak — sharp and brief, not chronic.
- **Breathwork — 5 minutes** box breathing (4-4-4-4) or coherent breathing (5.5 sec in, 5.5 sec out). Regulates HPA axis tone and directly supports progesterone by reducing cortisol demand.
- **No phone for 20-30 minutes** notifications trigger cortisol. Protecting the morning pattern directly protects progesterone.
- **Fasted supplements** Vitex, B-complex, or any empty-stomach supplements.

BREAKFAST 7–8AM

- **Protein-led — always** eggs, smoked salmon, quality protein with fat. Protein-first breakfast stabilises blood sugar for the whole day.
- **Vitamin D3 + K2** with your fat-containing meal — fat-soluble.
- **Omega-3** 2-3 softgels with food.
- **Zinc and selenium** with food. Zinc away from calcium (they compete).

MID-MORNING

- **20-30 minute walk outdoors** reduces morning cortisol tail, supports lymphatic drainage, secondary light exposure.
- **Ashwagandha (week 3+)** 300-600mg with a small snack.
- **Filtered water throughout day** avoiding fluoride reduces thyroid receptor competition with iodine.
- **Herbal support** dandelion root (liver oestrogen), raspberry leaf (luteal phase), ginger (anti-inflammatory).

LUNCH

- **Largest or second largest meal** digestive capacity peaks midday. Front-loading calories supports circadian metabolism.
- **Cruciferous vegetable daily** broccoli, Brussels, cauliflower — I3C and DIM for oestrogen clearance.
- **DIM supplement (week 3+)** 200-400mg with food and black pepper.
- **Fermented food** 2-4 tablespoons of kimchi, sauerkraut, or kefir.

EXERCISE — CYCLE-AWARE

- **Follicular phase days 6–13** higher intensity well-tolerated. Best for strength work and challenging training.
- **Ovulation around day 14** peak physical performance. Use it.
- **Luteal phase days 15–28** reduce intensity. Yoga, Pilates, walking. Heavy training raises cortisol and worsens PMS in this phase.
- **Menstrual phase** rest and gentle movement. Honouring this phase reduces next cycle's PMS severity.
- **Resistance training 3x weekly** improves insulin sensitivity, bone density, cortisol resilience, sleep quality.

EVENING MEAL — FINISH BY 7PM

- **Magnesium glycinate** 300-400mg with food. Sleep improvement is the secondary hormonal mechanism.
- **Iron if supplementing** with vitamin C. Away from calcium, dairy, tea.
- **Evening primrose oil** days 14-28 only — luteal phase, not follicular.
- **Fasting window begins** 12-14 hours. Supports overnight gut repair and liver oestrogen detoxification.

EVENING WIND-DOWN

- **Screens off or amber glasses** melatonin suppression from blue light impairs ovarian follicle protection and LH surge timing.
- **Dim warm lighting** shift from ceiling lights to lamps and candles — the trigger for melatonin production.
- **Extended exhale breathing** 5-10 minutes: inhale 4 sec, exhale 6-8 sec. Activates vagus nerve, lowers cortisol, supports overnight progesterone.
- **Same wake time every day** including weekends — anchors the circadian LH pulse patterns that time your entire cycle.

Biomarkers worth testing. Beyond the standard panel.

"Normal" ranges are disease thresholds — not optimal ranges. These tests identify dysfunction in the grey zone most women occupy for years before receiving any useful diagnosis.

Oestradiol (E2)

Test at day 3 AND day 21. Day 21 should be 100-400 pg/mL. Chronically elevated = xenoestrogen burden, gut dysbiosis, or impaired liver clearance. Low with symptoms = perimenopause marker.

Progesterone

Day 21 — 7 days after presumed ovulation. Optimal luteal: 10-25 ng/mL. Below 10 = luteal phase defect. Below 5 = anovulatory cycle. This single number explains most PMS.

Full Thyroid Panel

TSH, free T3, free T4, TPO antibodies, TG antibodies. Optimal TSH: 1.0-2.0 (not lab normal 0.5-4.5). Free T3 must be in top third of range to be functional. Antibodies confirm Hashimoto's even when TSH appears normal.

Ferritin

Lab normal >12 ng/mL. Optimal for women: 50-100 ng/mL. Below 30 causes fatigue and hair loss frequently misdiagnosed as depression or thyroid disease.

Vitamin D 25-OH

Lab normal >30 ng/mL — the deficiency cut-off, not optimal. Target: 50-80 ng/mL. Deficiency associated with PCOS, endometriosis, Hashimoto's, and PMS severity.

DUTCH Complete Test

Dried urine test — measures oestrogen metabolites (2-OH, 4-OH, 16-OH pathways), progesterone, testosterone, daily cortisol pattern, and melatonin. Identifies exactly which oestrogen clearance pathway is impaired. Most comprehensive non-specialist hormonal assessment available.

hsCRP

Systemic inflammation marker. Target: below 0.5 mg/L. Above 1.0 = significant inflammatory burden driving PMS severity, endometriosis progression, and thyroid antibody production.

FSH and LH Day 3

FSH above 10 mIU/mL under 40 suggests declining ovarian reserve. LH:FSH ratio above 2:1 = PCOS pattern. LH above 25 mid-cycle = confirmed ovulation.

The 90-day timeline. What changes. When.

Hormonal recovery follows the rhythm of the cycle. Three cycles is the minimum timeframe for meaningful assessment.

Days 1–14

REMOVE & FOUNDATION

- Remove all seed oils, conventional dairy, processed food, alcohol, synthetic fragrance products
- Replace plastic bottles and containers with glass or stainless steel
- Begin: Magnesium glycinate · Omega-3 · Vitamin D3+K2 · Zinc · Methylated B-complex
- Establish: morning sunlight · consistent wake time · screen curfew 60-90 min before bed
- Start resistance training — 2-3x weekly minimum
- Days 3-7: possible fatigue, skin breakout — detox and microbiome transition. Normal.
- Day 7-14: sleep quality typically improves. The magnesium effect.

Days 15–45

ACTIVE RESTORATION

- Add: Vitex 400mg · Ashwagandha 300-600mg · DIM 200mg · Saffron if needed
- Add yoga or Pilates in the luteal phase alongside resistance training
- First full cycle on protocol: PMS symptoms typically reduce by 30-50%
- Begin cycle tracking — temperature, cervical fluid, mood, energy patterns
- Evening primrose oil in luteal phase only (days 14-28)
- Cortisol reduction from Ashwagandha begins week 3-4
- PCOS: begin myo-inositol 2-4g daily from this point

Month 2

CYCLE IMPROVEMENT

- Blood test at day 3 AND day 21 for full hormonal picture
- Second full cycle: period pain typically reduces significantly
- Thyroid symptoms beginning to improve with selenium, zinc, and gut healing
- PCOS: cycle regularity often improves with inositol and blood sugar stabilisation
- Skin: acne typically improves as androgens reduce and gut health restores
- Perimenopause: hot flash frequency often reduces with the full stack by month 2

Month 3

CONSOLIDATION

– Second blood test — compare to baseline. Adjust supplementation accordingly.

– If progesterone still low at day 21: increase Vitex, assess cortisol load

– If thyroid antibodies elevated: confirm strict gluten elimination, verify selenium

– DUTCH test if comprehensive hormonal mapping is desired

– Long-term anchors: Omega-3 · Magnesium · D3+K2 · Vitex (cyclic) · Ashwagandha (cyclic)

– Most women report feeling more connected to their cycle, less reactive to it, and genuinely well — often for the first time in years