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CLINICAL WEBINAR

The Menopausal Transition: A Four-Phase Framework for HPA/HPO Axis Support

Presented by:
Amie Skilton, Functional Medicine Practitioner & Educator

Presenter | Amie Skilton

Amie Skilton's professional journey spans nearly two decades as a functional medicine practitioner and educator in naturopathic medicine. Her expertise has brought her to conference stages, television, and digital platforms, where she has addressed a broad audience that includes functional medicine practitioners and the general public. Amie's approach deeply integrates environmental factors with traditional health practices, emphasising the significance of a harmonious relationship between individuals and their surroundings for optimal health.

In 2017, Amie's personal health journey took a significant turn when she was diagnosed with Chronic Inflammatory Response Syndrome (CIRS), a condition often associated with mould exposure. This diagnosis transformed her health perspective and led her to become a certified Mould Testing Technician. Amie's experience with CIRS has greatly influenced her practice, emphasising the built environment's impact on health. Thus, she has expanded her clinical focus to include environmental health hazards alongside conventional naturopathic treatments.

Host | Vashti D'Vyne

Vashti D'Vyne (BHSci, DipNat) is a Health Educator for Designs for Health, bringing over 25 years of industry experience. She has developed a unique practice style that combines mindfulness, health coaching, and lifestyle medicine with functional testing and targeted nutritional interventions.

Vashti has a special interest in:

- Simplifying complex information into easy-to-understand, actionable guidance for practitioners.
- Mindfulness-based health coaching and lifestyle medicine approaches.
- Streamlining practice workflows to save time and money while improving patient outcomes.
- Supporting practitioners with personalised one-on-one training to elevate their practice.

Outline

1. Optimising Ovulation
2. **Phase 1 –** Perimenopause On-ramp
3. **Phase 2 –** Perimenopause Crossing
4. **Phase 3 –** The Menopausal Corridor
5. **Phase 4 –** Post-Menopausal Chapter

Optimising Ovulation

The Foundations

Goals

- **Keep ovulating as long as possible (prolonging progesterone production) –** the menstrual cycle is how we make hormones – especially progesterone as it's beneficial for cardiovascular health, stimulates hair growth, is anti-androgenic, good for mood/sleep, and reduces risk of breast cancer:
  - the huge Nurses' Health Study found that women live longer if they have a history of regular, natural menstrual cycles[1]
  - later menopause age is associated with larger volume in temporal brain structures and better prospective memory.
  - longer reproductive span was associated with larger brain temporal volumes.
- **Maintain, preferably build, active tissue mass –** reduce the risk of sarcopenia.
- **Optimise hormonally healthy habits** (nutritions, circadian biology, nervous system support and sleep).
- **Intervene on poor stress and sleep patterns.**
- **Correct any unhealthy menstrual patterns** if they haven't been addressed already (short cycles, long cycles, oestrogen excess symptoms including PMS, and PMDD).

Progesterone

Progesterone is important for:

- Reproductive health – stabilises uterine lining, counterbalances oestrogen.
- Fertility – maintains pregnancy.
- Neurological (brain) health.
- Mood and sleep.
- Metabolism – augments thyroid function, and enhances insulin sensitivity.
- Skeletal health – synergistically with oestrogen.
- Cardiovascular health – balances lipids, improves vascular tone.
- Anti-inflammatory – modulates immune function, calms prostaglandins and cytokines.
- Healthy fluid balance – via allopregnanolone.

Hormonal Patterns

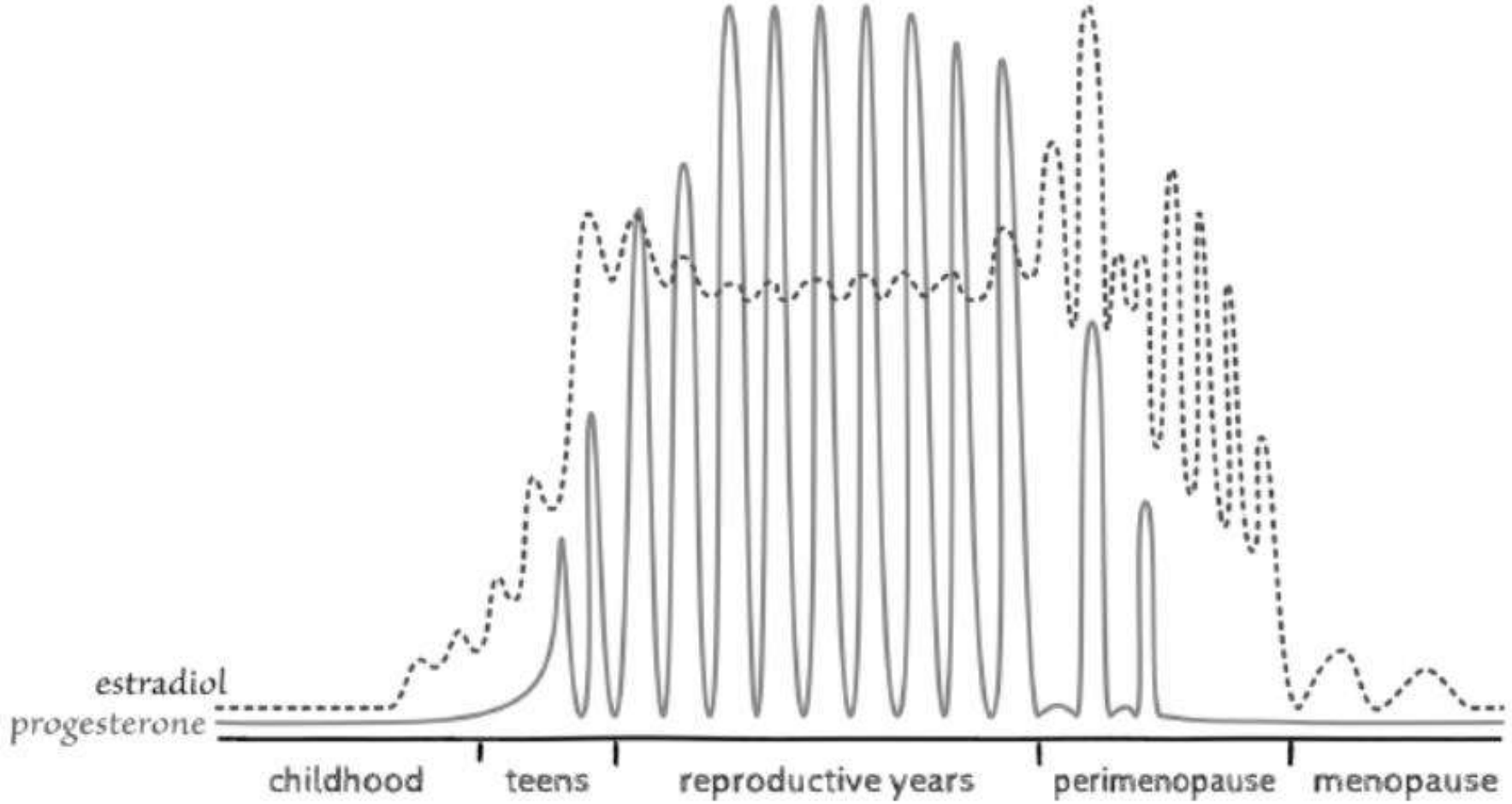
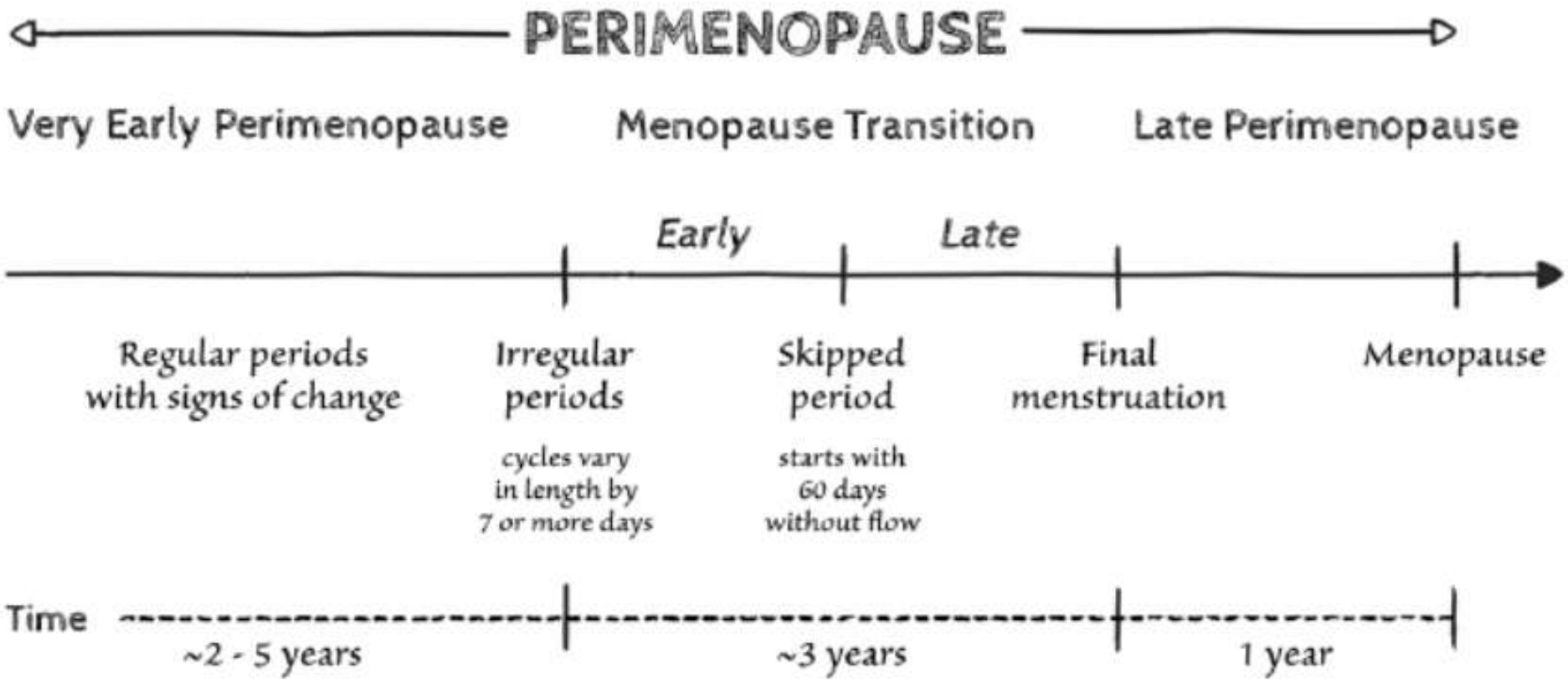


Image adapted from JC Prior, 'Perimenopause lost – reframing the end of menstruation', Journal of Reproductive and Infant Psychology, 2006, vol. 24, pp. 323–35.

Perimenopausal Patterns



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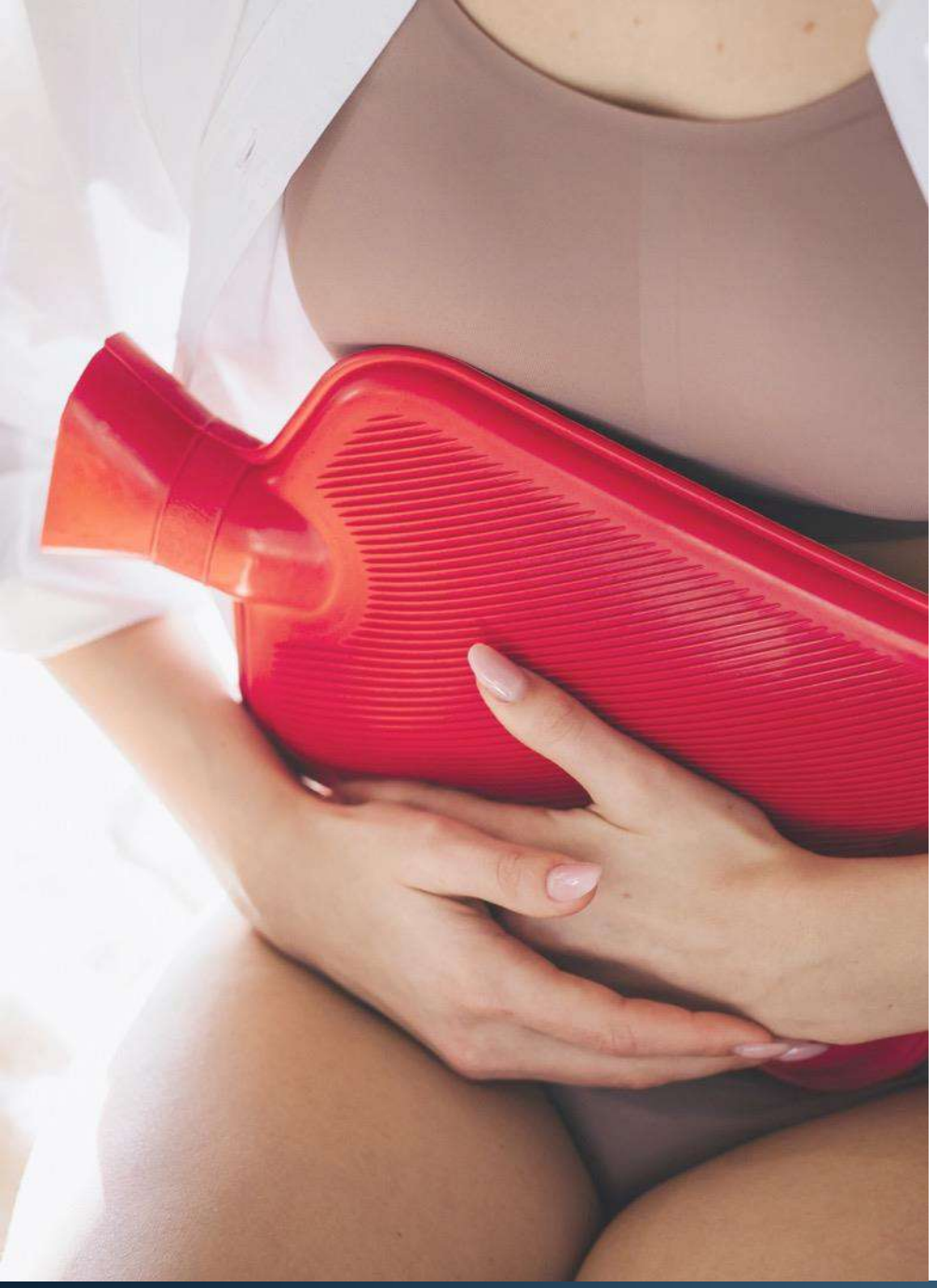


Symptoms

Perimenopause is likely if a woman is older than 35, and has at least 3 of the following changes:

- New-onset heavy and/or longer flow.
- Shorter menstrual cycles (25 days or less).
- New sore, swollen or lumpy breasts.
- New mid-sleep waking.
- Increased menstrual cramps.
- Onset of night sweats, in particular premenstrually.
- New or markedly increased migraine headaches.
- New or increased premenstrual mood swings.
- Weight gain without changes in exercise or eating.

Optimising Ovulation: Nutrition

Support progesterone production; keep cycling for as long as possible:

- Good peak progesterone level is 80 nmol/L, which is 100 times more than an average peak estradiol level of 800 pmol/L (0.8 nmol/L)).
- Pre-menopause, a blood test should indicate an FSH level less than 40 IU/L.

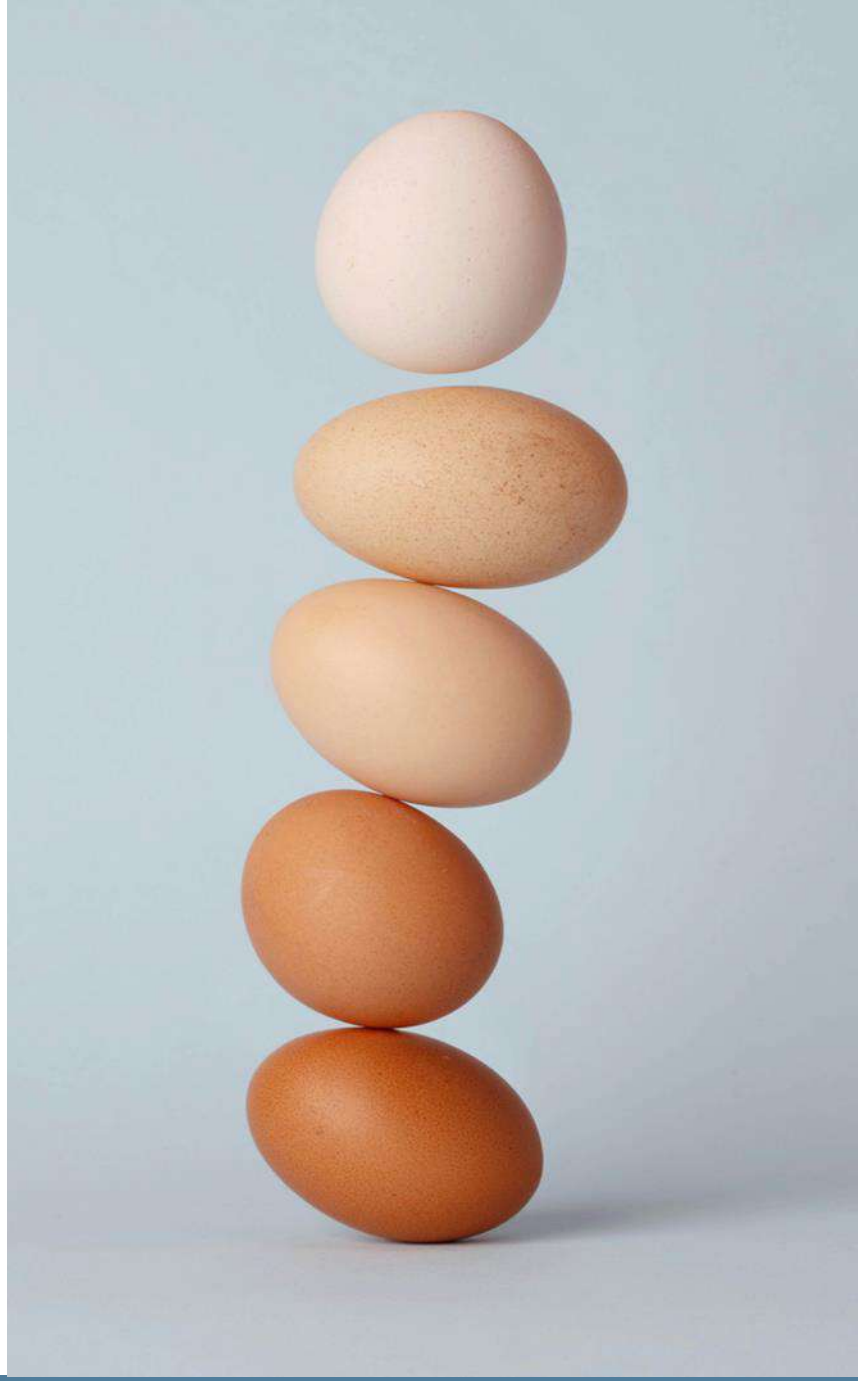
Optimising ovulation requires optimising health through nutrition, movement, sleep, stress management and ensuring circadian biology is respected.

Optimising Ovulation: Nutrition

Optimal protein intake supports hormone health:

- Stabilises blood sugar and cortisol levels.
- Amino acids are required to convert cholesterol into progesterone and to produce the carrier proteins that carry it around the body.
- Amino acids (especially leucine) regulate LH and FSH secretion.
- Adequate protein intake supports thyroid hormone conversion (T4 → T3) and low T3 impacts ovulation.

Aim for adequate protein ~1.8 to 2.4 grams of protein per kilogram of lean body mass (LBM).



Optimising Ovulation: Nutrition

Optimal carbohydrate intake supports hormone health:

- Avoids low blood sugar to avoid cortisol spikes (and pregnenolone steal).
- The LH surge that triggers ovulation is very sensitive to energy and glucose availability; if carb intake is too low the LH pulses weaken, ovulation can be delayed, skipped, or incomplete.
- Low carb diets can also reduce T3 and increase rT3 impacting thyroid function.
- The insulin produced after consumption supports follicle development.

Ensure you're consuming adequate carbohydrate for your lifestyle and season (100g - 300g carbs/day).

Optimising Ovulation: Nutrition

Progesterone is literally made from cholesterol, but also FAs:

- Support cell membrane fluidity (so hormone signals are received properly).
- Stabilise blood sugar (reducing cortisol spikes that steal from progesterone).
- Provide long-lasting energy that reassures the hypothalamus: we're safe to reproduce.
- EFAs are anti-inflammatory.

Food sources: include egg yolks, avocado, olive oil, ghee, and wild-caught fish i.e. salmon, sardines.

Optimising Ovulation: Nutrition

Some additional things to consider:

- Avoid long fasting (12-hour TRE is sufficient).
- Eat within an hour or so of waking.
- Avoid late night meals and snacks.
- No caffeine after midday.
- Don’t under-eat or go too low-carb for too long — that tanks luteinising hormone (LH), which is what triggers ovulation (erratic eating → erratic LH release).
- Honour the increased metabolic demands in luteal phase (100-300 calories).

Optimising Ovulation: Movement

Too much exercise can stress the body and affect cortisol:

- Replace high-intensity workouts (if overdone) with walking, Pilates, or yin yoga in the luteal phase.

Too little exercise can make stress management harder with loss of circulation and endorphins:

- Build in daily movement according to your natural energy and circadian rhythms.

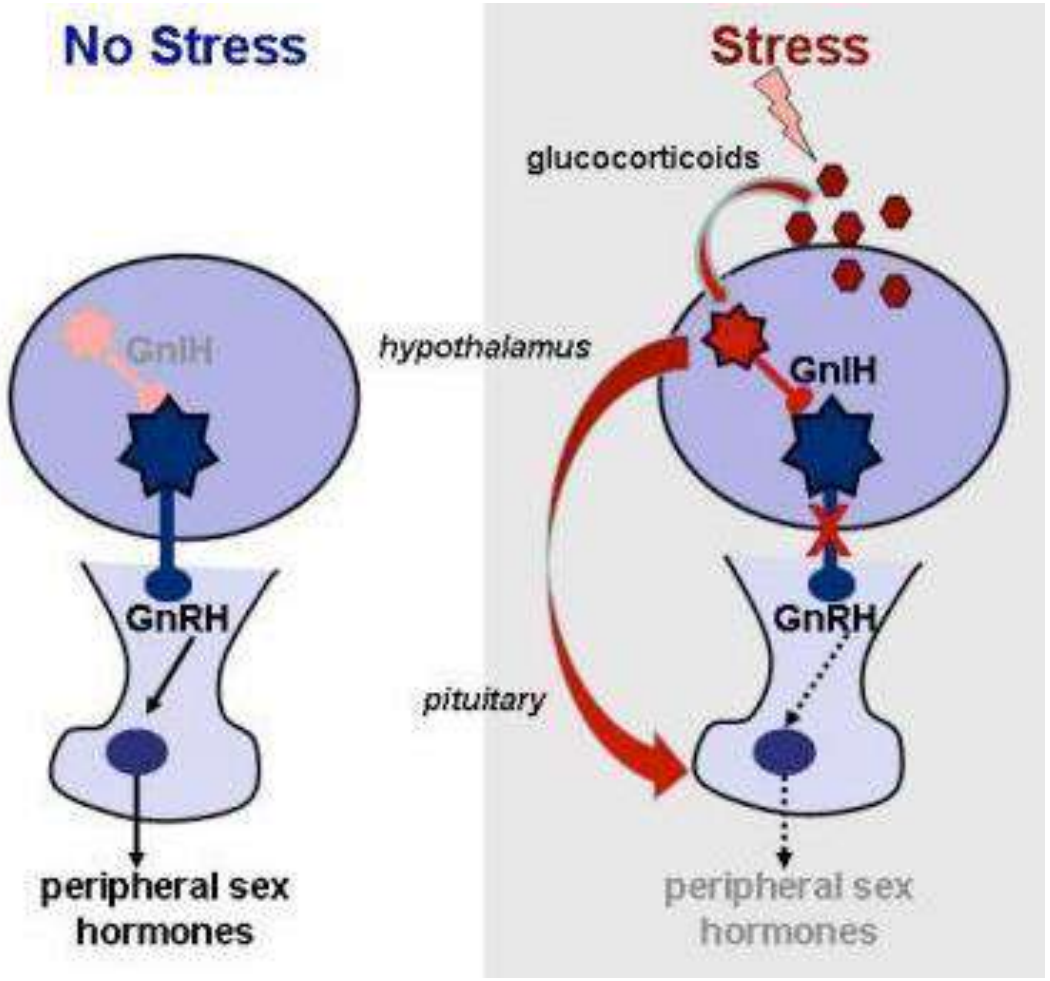
Optimising Ovulation: Sleep

Sleep is important for hormone balance:

- Consistent sleep/wake times.
- Women need more sleep than men aim for 7.5-9 hours.
- Melatonin is the main follicle/egg antioxidant.

A lack of sleep results in:

- Adrenaline and cortisol production the next day triggering pregnenolone steal and poor blood sugar balance (reduced insulin sensitivity).
- Hypothalamus dysregulation which, in turn, causes erratic FSH and LH production and thus impairs ovulation.



Optimising Ovulation: Stress

Build in parasympathetic time — morning light, slow meals, breathing, laughter, and ‘white space’ in the diary.

Set a hard boundary for “no productivity after dinner.”

Daily decompressions.

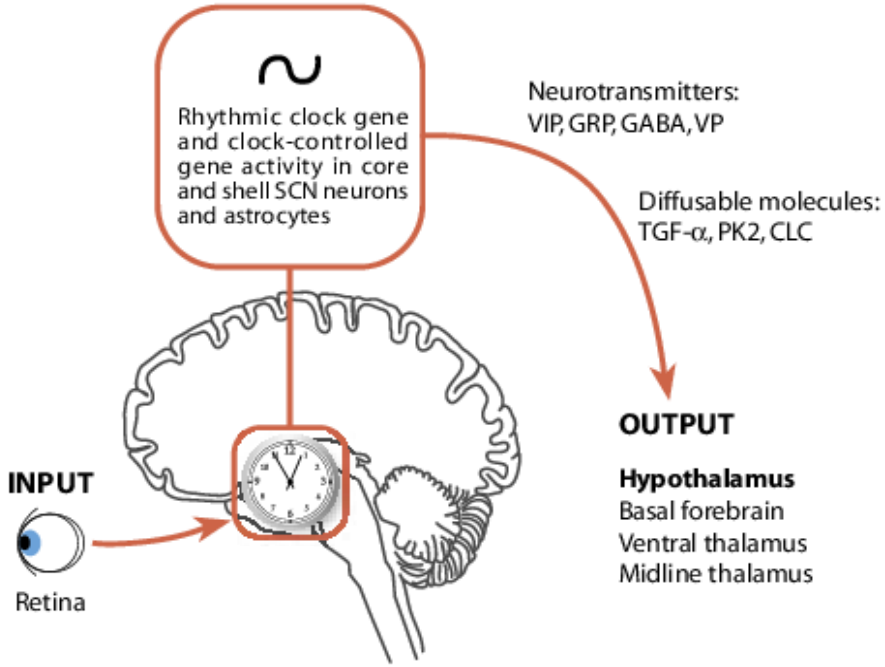
Optimising Ovulation: Circadian

Aim for brighter days:

- Morning sunlight within 30 min of waking.
- 20 minutes of outdoor time around UVA rise.
- Regular ‘light breaks’ during the day.
- Weather permitting, open windows and doors to let the full spectrum of sunlight in.

Aim for darker nights:

- Avoid blue light after sunset.
- Avoid bright light (especially screens) within two hours of bed – keep the lux below 10.
- Ensure bedroom is completely dark.



Perimenopause Onramp

Phase 1

Clinical Picture

During this stage a woman will still get regular cycles, however they start to shift – oftentimes:

- Shorter luteal phases.
- Lengthening or shortening cycles.
- Heavier bleeding.
- Increased period pain, PMS – particularly breast pain.

Less mid-luteal progesterone (sometimes higher oestrogen, whether relative or absolute) will also contribute to:

- Reduced tolerance to stress, and anxiety.
- Heart palpitations, frequent migraines.
- Night sweats, and sleep disturbances.

Pathology

- FSH usually lower than 40 IU/L.
- Changes in cortisol patterns.
- Mid-luteal progesterone dropping below 50 nmol/L but basal body temperature rising at least 0.4 degrees celsius (or 0.2 Fahrenheit) confirms ovulation (some texts say 0.3 degrees celsius).

Support: Progesterone

Losing progesterone changes the brain and nervous system and can:

- Reduce the ability to cope with stress.
- Increases the risk of anxiety, depression, memory loss, and sleep disturbance (when untreated can cause chronic body pain).

Losing progesterone in the presence of lots of oestrogen (maybe even more oestrogen) contributes to many of the symptoms of perimenopause, including migraines, breast pain (iodine) and heavy periods:

- Can also be affected by histamine or mast cell activation.
- Possibly hot flushes (can also trigger palpitations).
- High or fluctuating oestrogen can cause irritability, insomnia and rage .

Support: Oestrogen

Calcium-D-glucarate (CDG) supports phase II liver detoxification by enhancing glucuronidation, a key pathway for inactivating and eliminating steroid hormones such as oestrogen. Its metabolite D-glucaro-1,4-lactone helps ensure oestrogen is conjugated, made more water-soluble, and excreted via bile and urine rather than recirculated.

- Promotes glucuronidation of oestrogen and other steroid hormones, tagging them for safe excretion.
- Renders oestrogen less lipophilic, so it is more easily carried out in bile and urine.
- Glucuronidation also reduces oestrogen's ability to bind to receptors, effectively inactivating it at the tissue level.
- In animal models, calcium-D-glucarate administration has been associated with about a 23% decline in serum oestrogen levels.

Support: Oestrogen

CDG also acts in the gut by inhibiting β-glucuronidase, an enzyme produced by intestinal bacteria that can “undo” glucuronidation and reactivate conjugated oestrogens. By blocking this deconjugation, CDG helps prevent enterohepatic recycling of oestrogen and reduces the pool of circulating active hormone

- Inhibits blood and tissue β-glucuronidase, stopping the hydrolysis of oestrogen glucuronides.
- Limits the estrobolome-mediated reactivation of conjugated oestrogens in the gut.
- Reduces reabsorption and enterohepatic cycling of oestrogen, supporting net clearance instead of recirculation.
- This mechanism is particularly relevant in oestrogen-dominant, oestrogen-driven conditions where lowering active oestrogen load is a key therapeutic aim.

Support: Oestrogen

Iodine may help breast pain by supporting healthier breast tissue response to oestrogen and improving oestrogen-related signalling in the breast.

Clinical studies have shown symptom improvement in fibrocystic breast disease with iodine supplementation, and a randomised multicentre trial found reduced nodularity and breast pain in women using a formula containing iodine.

PMID: 8221402
PMID: 15239792
PMID: 29237134

Support: Oestrogen

Vitamin C:

- Can support histamine clearance by acting as an antioxidant, and helping reduce mast-cell reactivity, which may lower histamine burden overall.
- Is a cofactor for DAO, so adequate vitamin C may help the body break down histamine more effectively and reduce symptoms that often worsen when oestrogen and histamine are both high (2000mg per day).

Support: Oestrogen

Quercetin:

- Known for mast-cell stabilisation, it can help reduce degranulation and the release of histamine and inflammatory cytokines.
- Useful for oestrogen-related histamine symptoms such as breast pain, congestion, hives and migraine-type symptoms, especially where histamine flares track with hormonal shifts (around period, and ovulation).

Support: Sleep

***Urtica dioica* (Nettle leaf):**

- Dampens mast-cell activation and histamine release (oestrogen can amplify histamine signalling and mast-cell reactivity).
- In a mast-cell/high-histamine context, this may help ease symptoms such as breast tenderness, flushing, headaches and irritability.

Support: Stress Tolerance

L-Theanine:

- Promote mind relaxation.
- Enhance frontal alpha brainwave activity.
- Support a healthy physiological response to stress.

Support: Stress Tolerance

L-Theanine modulates several neurophysiological pathways:

- GABAergic modulation: L-theanine has been shown to increase GABA levels and support GABA-A receptor expression, enhancing inhibitory neurotransmission without causing sedation.[10,12]
- Glutamatergic regulation: It modulates the glutamatergicsystem by attenuating glutamate-induced excitotoxicity and supporting excitatory-inhibitory balance.[10]
- Alpha brainwave activity: L-theanine increases alpha brainwave activity, particularly in the frontal cortex, as measured via EEG. This brainwave pattern is associated with a state of relaxed wakefulness, typically observed when an individual is calm yet alert, such as during meditation.[6,10,12]

Support: Stress Tolerance

***Piper methysticum* (Kava)**; its central nervous system activity of kava is attributed to its kavalactones, which modulate multiple neurochemical targets.[2,16]

These include:

- GABAergic pathway interaction.
- modulation of voltage-gated ion channels.
- influence on monoamine neurotransmission.
- effects on noradrenaline transport.

Optimising Ovulation: Nutrition

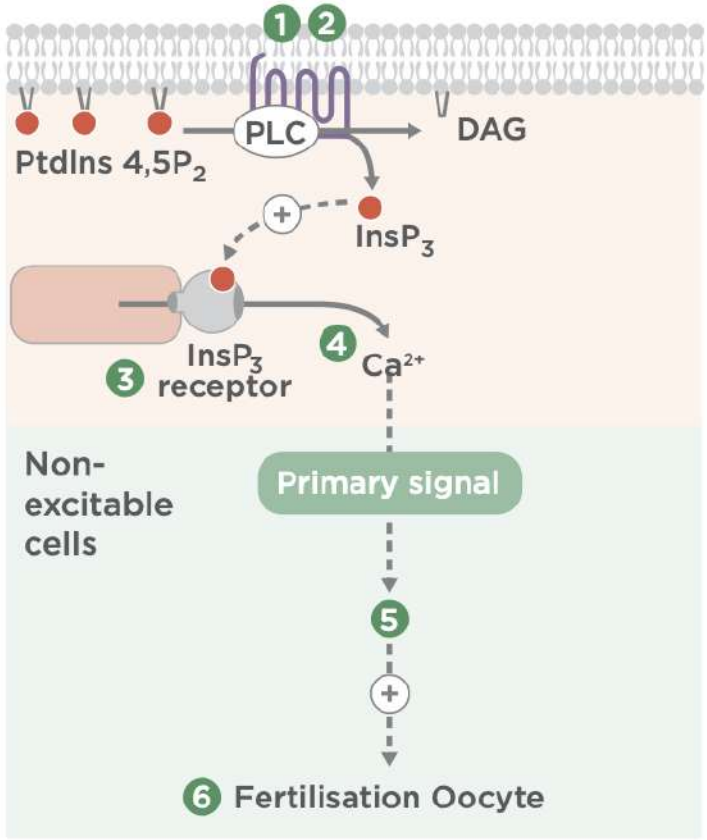
- **Myo-Inositol** can be produced by the body, but dietary intake also contributes to biological stores.
- Good food sources include rockmelon/cantaloupe, oranges, eggplant and beans.
- Doses used in clinical research range from 1-4 g daily.

Optimising Ovulation: Nutrition

Myo-inositol (considered to be a member of the B group family of vitamins as vitamin B8): involved in a number of cellular processes as a second messenger.

- Insulin utilises inositol phosphoglycans (IPGs) from the cell membrane as secondary messengers to allow glucose entrance into the cell.
- An also act as a second messenger for follicle stimulating hormone gametogenesis, oocyte maturation.[7,9,13]
- High concentrations are found in follicular fluid and are involved in involved in oogenesis and oocyte quality, cell morphogenesis, cell membrane structure and growth and the developing embryo.[1,9,10]

Optimising Ovulation: Nutrition



1. Myo-Inositol in follicular fluid
2. Inositol phospholipids
3. Inositol 1, 4, 5 tri phosphate
4. Modulates intracellular calcium Ca^{2+} release in oocytes
5. Meiotic progression of Germinal vesicles
6. Improve oocyte maturation & quality, fertlisation, embryonic development

The role of inositol in oocyte maturation.

Optimising Ovulation: Nutrition

One of the primary causes of ovarian dysfunction is considered to be Insulin resistance (IR) brought about by a deficiency of **Myo-Inositol**. IR causes hyperinsulinemia which:

- Affects the ovaries, endometrium, adrenals, liver and adipose tissue;
- Reduces the liver's ability to produce SHBG which leads to free circulating testosterone;
- Elevates LH whilst FSH remains unchanged, causing a raised LH:FSH ratio (in healthy women the ratio sits at 1-2, in women with ovarian dysfunction the ratio can be as high as 2-3), which may go on to induce anovulation;
- Reduces epimerase activity thereby lowering the conversion of MI to DCI however;
- In the ovaries, hyperinsulinemia increases epimerase activity thus increasing DCI (see paradox information below). DCI mediates the production of androgens in thecal cells and inhibits androgen conversion to estrogen by downregulating aromatase activity in granulosa cells.

Optimising Ovulation: Nutrition

The follicular fluid of hyperinsulinaemic patients with ovarian dysfunction has significantly lower concentrations of MI than their healthy counterparts (see below: The Ovarian Paradox). Moreover, the ratio of MI to DC in the follicular fluid is lower at 0.2:1 compared to 100:1:

- Correct levels and ratios of MI are crucial for proper ovarian function.
- Treatment of subjects with ovarian dysfunction on fertility protocols with MI has been shown to result in restored ovulation and improvements in oocyte maturation and quality.[3]
- Supplementation with MI also reduces hirsutism and hyperandrogenism normalises the LH/FSH ratio, triggers calcium ion oscillation in the ER and helps in oocyte maturation and quality (i.e. is able to trigger the meiotic process leading to fertilisation-competent eggs), restores ovulation and regulates menstruation.[9,12,17,18]

Optimising Ovulation: Nutrition

Studies have shown MI:

- Improved HOMA* and hyperinsulinemia and increases estradiol and SHBG levels and reduces LH levels and therefore may be beneficial for women with ovarian dysfunction with insulin resistance.[19]
- Decreases in fasting insulin and HOMA* index were observed with MI supplementation. A small trend toward testosterone reduction compared to controls whilst androstenedione levels were unchanged. SHBG was significantly increased in subjects who were taking the intervention for at least 24 weeks. MI improves the metabolic profile of women with ovarian dysfunction whilst concomitantly reducing hyperandrogenism.[20]
- **Comparable to metformin but with minimal side effects.[21]**

Optimising Ovulation: Nutrition

Zinc is essential for ovulation and corpus luteum health as it:

- Triggers ovulation via GnRH as well as FSH and LH.
- Maintains follicle health so it can respond to LH properly.
- Supports cholesterol conversion to pregnenolone.
- Supports ovarian mitochondrial function (no energy, no ovulation).
- Is a follicle/egg antioxidant.
- Supports thyroid function.

Food sources include oysters, beef, and pumpkin seeds.

Optimising Ovulation: Nutrition

Magnesium supports progesterone indirectly:

- By regulating the HPA axis (reducing stress) it lowers cortisol and adrenaline (and reduces pregnenolone steal).
- Supports GABA (your brain's main calming neurotransmitter), which progesterone also works through.
- Boost energy, stabilises blood sugar/insulin and cell membranes, and activates the enzyme 3β-hydroxysteroid dehydrogenase (3β-HSD) (a key player in progesterone synthesis).

Food sources include leafy greens, cacao, pumpkin seeds, and almonds.

Support: Active Tissue Mass

During perimenopause, hormonal shifts (particularly declining oestrogen) contribute to measurable changes in body composition, with a gradual loss of lean (active) tissue mass and a relative increase in fat mass:

- Perimenopausal transition is identified as a vulnerable period for skeletal muscle loss, with appendicular lean mass indices around 10% lower in late peri- vs early perimenopause.
- Studies show perimenopause is commonly associated with decreasing lean body mass and increasing fat mass and body weight.
- Loss of lean muscle reduces resting metabolic rate, predisposing to weight gain and metabolic issues such as insulin resistance and type 2 diabetes.
- Reduced muscle mass and strength in this life stage increase risk of sarcopenia, frailty, falls, fractures and functional decline later in life.
- Regular physical activity, especially resistance training, can preserve or increase muscle mass and mitigate menopause-related muscle loss.

Optimising Ovulation: Nutrition

- **Collagen** supplementation may support active tissue mass in perimenopausal women by providing the amino acids needed for muscle repair and by helping preserve lean body composition, especially when paired with resistance training.
- In perimenopause, where falling oestrogen is linked to reduced collagen formation and greater risk of lean mass loss, collagen peptides may help attenuate muscle decline.

Hormone Support: Herbal

***Vitex agnus-castus* (Chaste tree)** supports ovulation (progesterone production) in a few ways:

- It increases LH – the hormone that triggers ovulation.
- It can lower elevated prolactin levels (which inhibit ovulation).
- Supports the corpus luteum resulting in better progesterone production and a longer luteal phase.

Contraindications:

- High LH
- High E2

Hormone Support: Herbal

***Vitex agnus-castus* (Chaste tree)** can support perimenopausal women with:

- Premenstrual tension, including breast tenderness, mood changes, irritability, and headache.[1,2,12-14]
- Menstrual cycle disturbances.[2,7]
- Support menstrual cycle regularity and to help.
- Relieve dysmenorrhoea.[4-6]
- Traditionally used to relieve symptoms associated with menopause, particularly where symptoms overlap with premenstrual-type presentations.[1,4,5]

Look for standardised agnuside and casticin, and best given as a single daily dose in the morning.[2]

Perimenopause Crossing

Phase 2

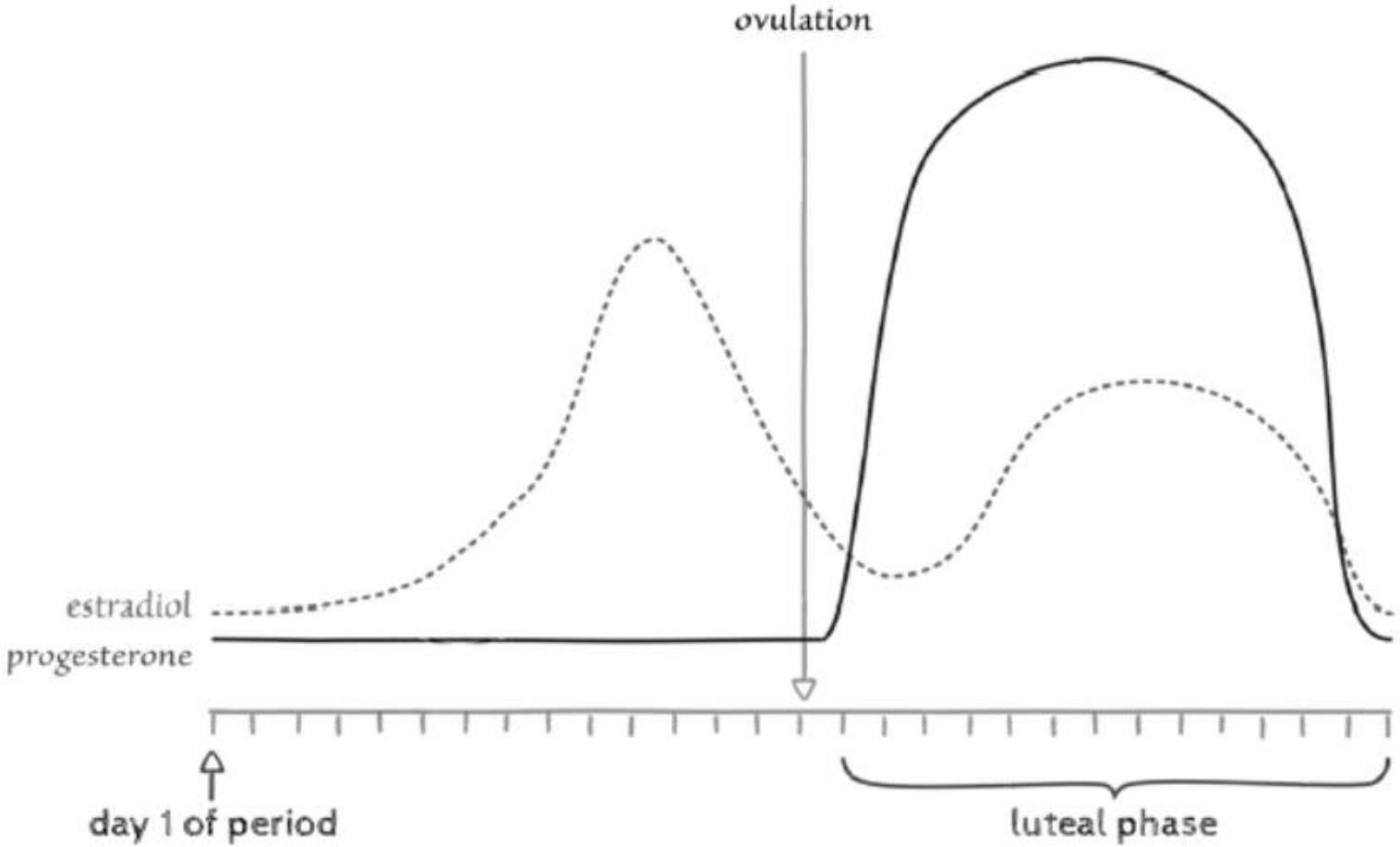
Clinical Picture

- Shortening or lengthening cycles.
- Anovulatory cycles.
- Skipped cycles.
- Heavier bleeding, dysfunctional bleeding.
- Exacerbated stress and sleep issues.
- Hot flashes.
- Cognitive shift.
- Up to three times higher oestrogen, which can worsen irritable mood, breast pain and heavy periods – direct effects of the hormone and from oestrogen's indirect effects on mast cells and histamine.

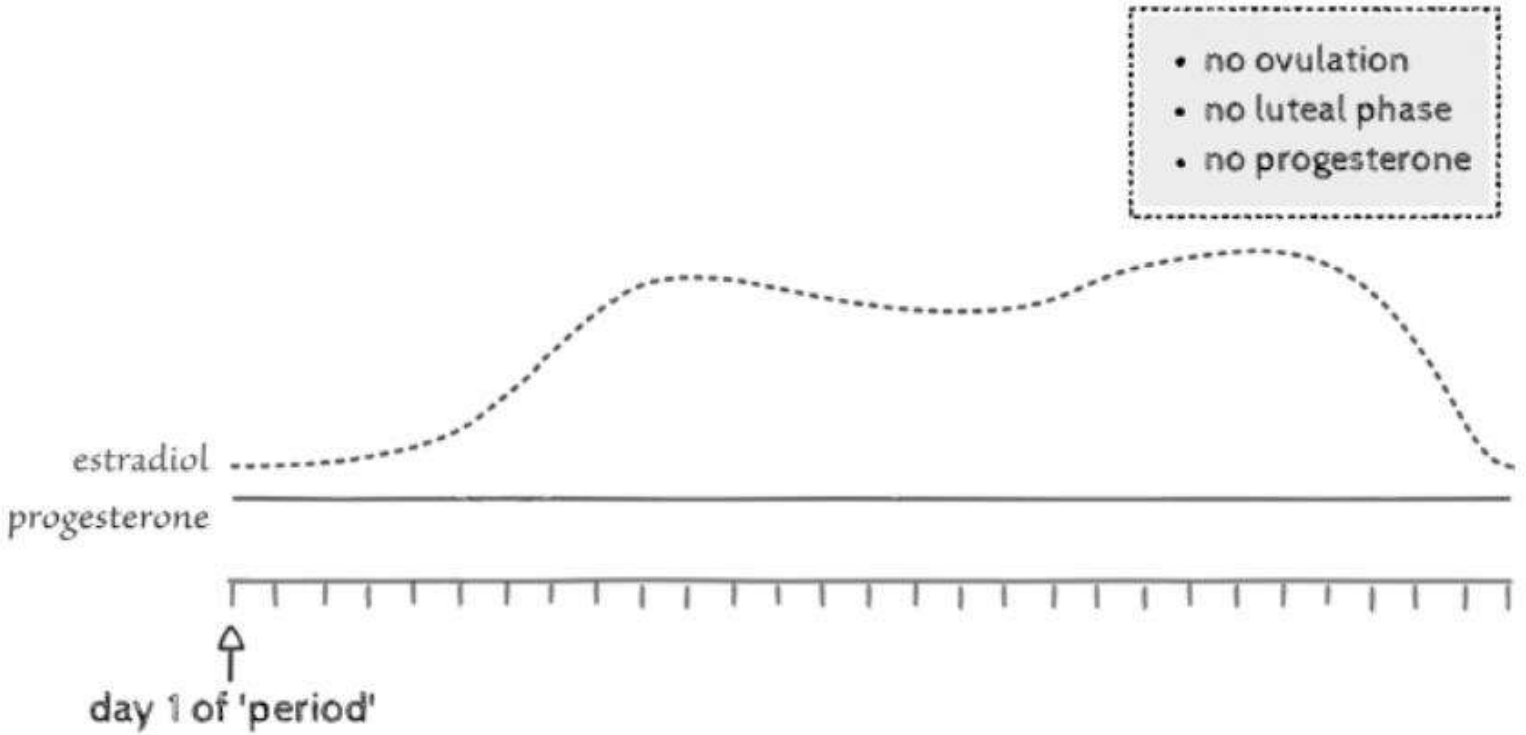
Pathology

- Loss of 1:1 ratio (FSH:LH) on CD3.
- Mid-luteal progesterone dropping below 35 nmol/L.
- Possible rise in leptin.

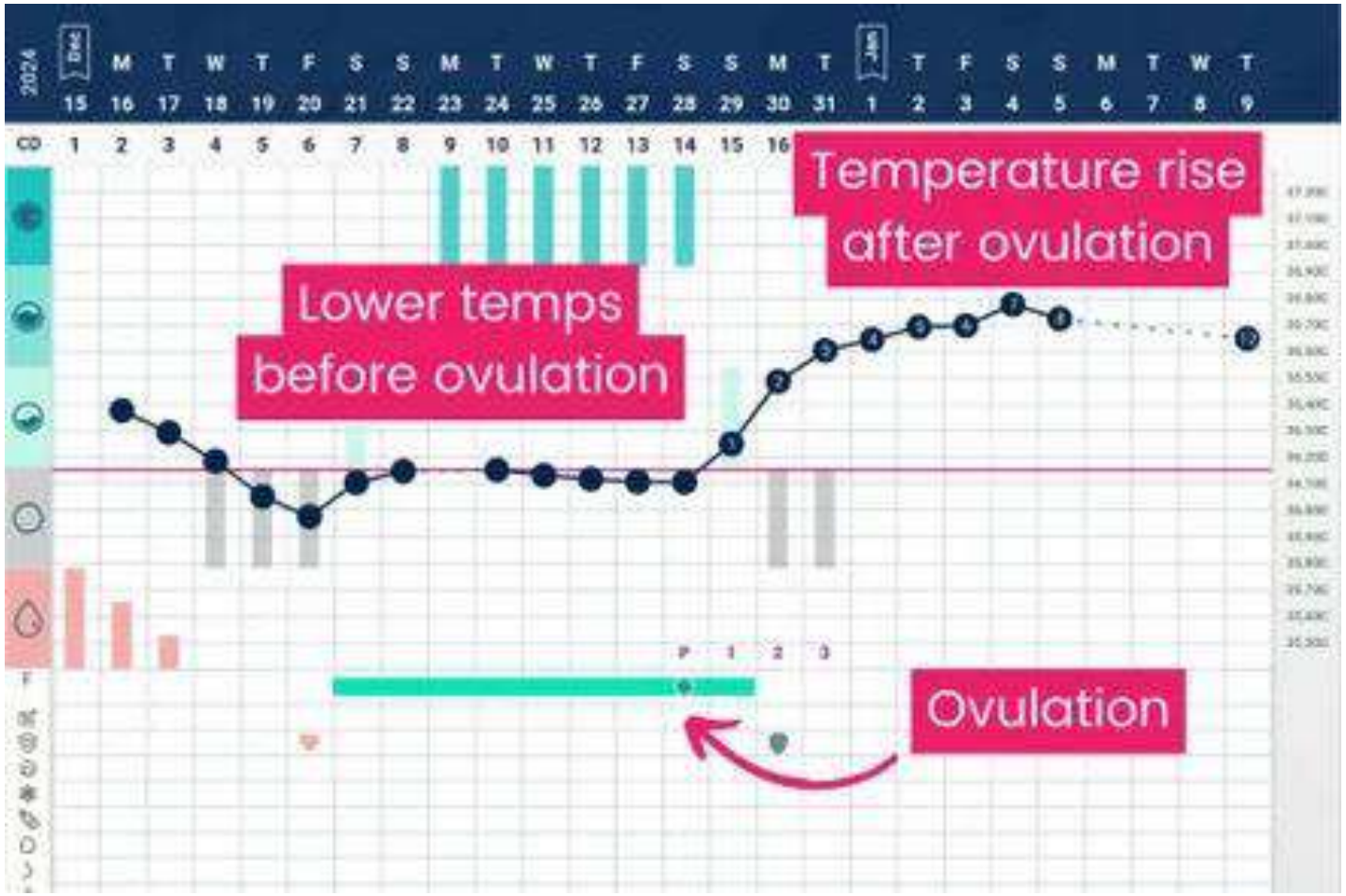
Ovulatory Cycle Basal Body Temperature (BBT) Pattern



Anovulatory Cycle BBT Pattern



Cycle Pattern: BBT



Cycle Pattern: BBT

Support: Appetite with Oleoylethanolamide (OEA)

OEA suppresses appetite through distinct intestinal mechanisms.[18] Its effects are selective for food intake, with no observed influence on water or sodium consumption, and are not confounded by stress responses such as conditioned taste aversion or elevated cortisol:[15]

- Reduces food intake, prevents weight gain, prolongs meal latency, decreases meal frequency, and reduces initial meal size under fasting conditions.[22,15,30,31]
- Reduces circulating ghrelin, spares GLP-1, CCK, and PYY31, and delays gastric emptying and intestinal motility.[32]
- Supplementation with 250 mg/day OEA reduces appetite and improves anthropometric outcomes including weight, BMI, waist circumference, and fat mass.[3]

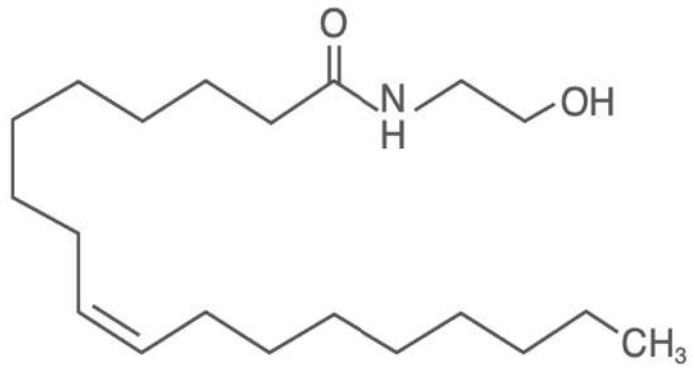


Figure 1. Chemical structure of oleoylethanolamide.

Support: Appetite with OEA

The anorectic and metabolic effects of **OEA** are mediated by three receptor systems:

- **PAR-α (Peroxisome proliferator-activated receptor-α)**: PPAR-α activation (the principal mediator) regulates fatty acid uptake, β-oxidation, and lipolysis.[38] In obese adults, 250 mg/day OEA increased PPAR-α expression and improved weight, BMI, waist circumference, and fat mass.[3] Preclinical studies confirm that PPAR-α activation reduces hepatic lipid accumulation and plasma triglycerides, while also upregulating genes such as FAT/CD36 that enhance fatty acid uptake, oxidation, and lipolysis.[10,23,39]
- **TRPV1 (Transient receptor potential vanilloid 1):** OEA interacts with TRPV1 channels involved in gut-brain communication contribut to reduced food intake, improved insulin sensitivity, and modulation of inflammatory pathways.[40,41] Preclinical models suggest OEA indirectly regulates TRPV1 activity and visceral sensory nerve excitation,[43] and promotes release of hypothalamic neuropeptides such as oxytocin and CART, both of which reinforce satiety signalling.[42]
- **GPR119:** Expressed in intestinal L-cells and pancreatic tissue, GPR119 activation by OEA stimulates GLP-1 secretion, enhancing insulin release, suppressing glucagon, and supporting appetite regulation and glucose homeostasis.[24,44] Through this pathway, OEA contributes to satiety signalling and metabolic regulation in obesity and related disorders.[46] Notably, this mechanism may also help explain the increased abundance of *Akkermansia muciniphila* observed in human OEA trials,[45] linking incretin signalling to microbiome modulation.

Support: Blood Sugar Regulation

- Low progesterone and lower oestrogen can also contribute to a change in insulin sensitivity called prediabetes or insulin resistance – also called hyperinsulinemia, metabolic syndrome or prediabetes – and is a major player in abdominal weight gain and many other menopausal symptoms.
  - especially if overweight and/or already insulin resistant (PMOS or otherwise).
- Can contribute to relative testosterone dominance.

Support: Cognition

Creatine for brain and cognition in menopause:

- Creatine helps brain cells recycle ATP, the energy currency of your neurons, so they can keep firing efficiently during mental effort and stress.
- Research in women shows creatine can improve short-term and working memory, reasoning, and overall cognitive performance, particularly in older and menopausal women under stress or sleep loss.
- Studies suggest creatine may reduce mental fatigue and support mood, with emerging evidence for benefits on depression and emotional stability in women.
- Because menopause is a high energy-demand stage for the brain, experts highlight creatine as especially relevant for supporting cognitive function and resilience in peri- and post-menopausal women.

Support: Active Tissue Mass

Creatine for energy, muscle and physical performance:

- Creatine is stored as phosphocreatine in muscle, where it rapidly regenerates ATP to power short, high-intensity efforts like lifting, sprinting, or explosive movements.
- Supplementation increases muscle phosphocreatine stores by roughly 10–40%, boosting strength, power output, and the ability to perform repeated bouts of intense exercise.
- In women, creatine is linked with better muscle function, support for lean mass, and may help counter age- and menopause-related losses in muscle and bone when combined with resistance training.
- By improving cellular energy availability, creatine can lessen perceived fatigue, enhance training quality, and support faster recovery between sessions and across the day.

Support: Nervous System

Glycine for stress and sleep in peri- and menopause:

- Glycine is an inhibitory neurotransmitter that calms the brain and nervous system, helping reduce over-arousal, ease anxiety, and promote a smoother transition into sleep – valuable when hot flushes, night sweats, and stress fragment sleep in midlife.
- Taken in the evening, glycine can lower core body temperature and increase time spent in deeper, more restorative sleep stages, and when combined with magnesium (as magnesium glycinate) it offers a highly absorbable, dual-action support for relaxation, stress resilience, and menopause-related insomnia.

Support: Nervous System

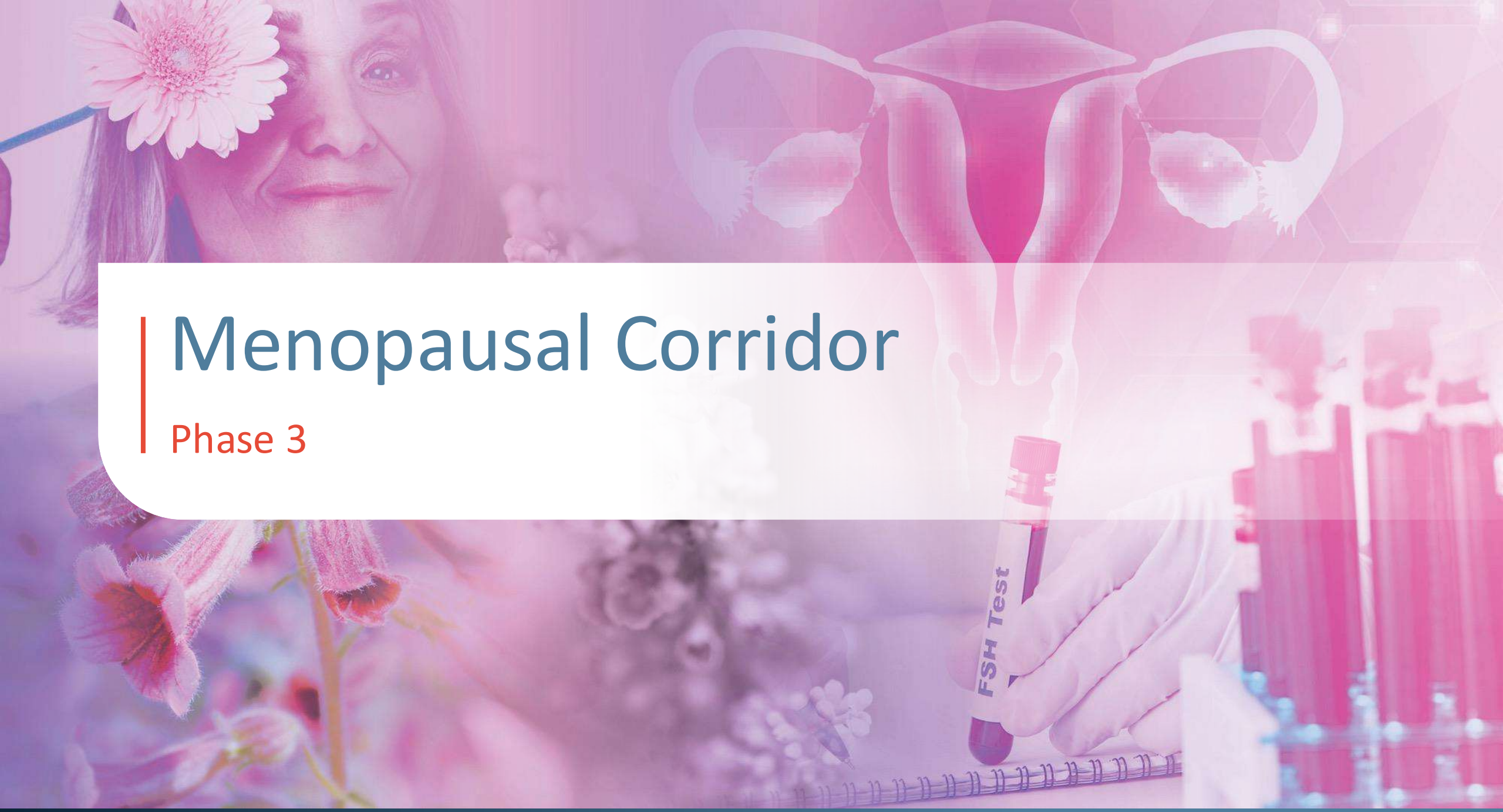
Magnesium (esp. glycinate) for stress and sleep in peri- and menopause:

- Magnesium is a calming mineral that helps regulate cortisol and activate the parasympathetic nervous system, which can ease anxiety, irritability, and “tired but wired” stress states common in peri- and post-menopause.
- It supports melatonin production and GABA activity, improving sleep onset and sleep quality, and forms like magnesium glycinate/bisglycinate are especially recommended for menopausal sleep problems, night-time waking, leg cramps, and muscle tension.

Support: Adrenals

Adaptogens like ***Withania somnifera*** **(Ashwaghanda)** help to support energy and reduce stress levels and – in turn:

- Reduces HPA-axis overactivation – the brain–adrenal feedback loop that drives cortisol.
- Lowers baseline and reactive cortisol levels – and pregnenolone steal.
- Improves resilience to daily stressors (mental, emotional, or physical) and indirectly.
- Enhances GnRH signalling (the brain's "start ovulation" message).
- Supports normal LH/FSH rhythm improving ovulation timing.



Menopausal Corridor

Phase 3

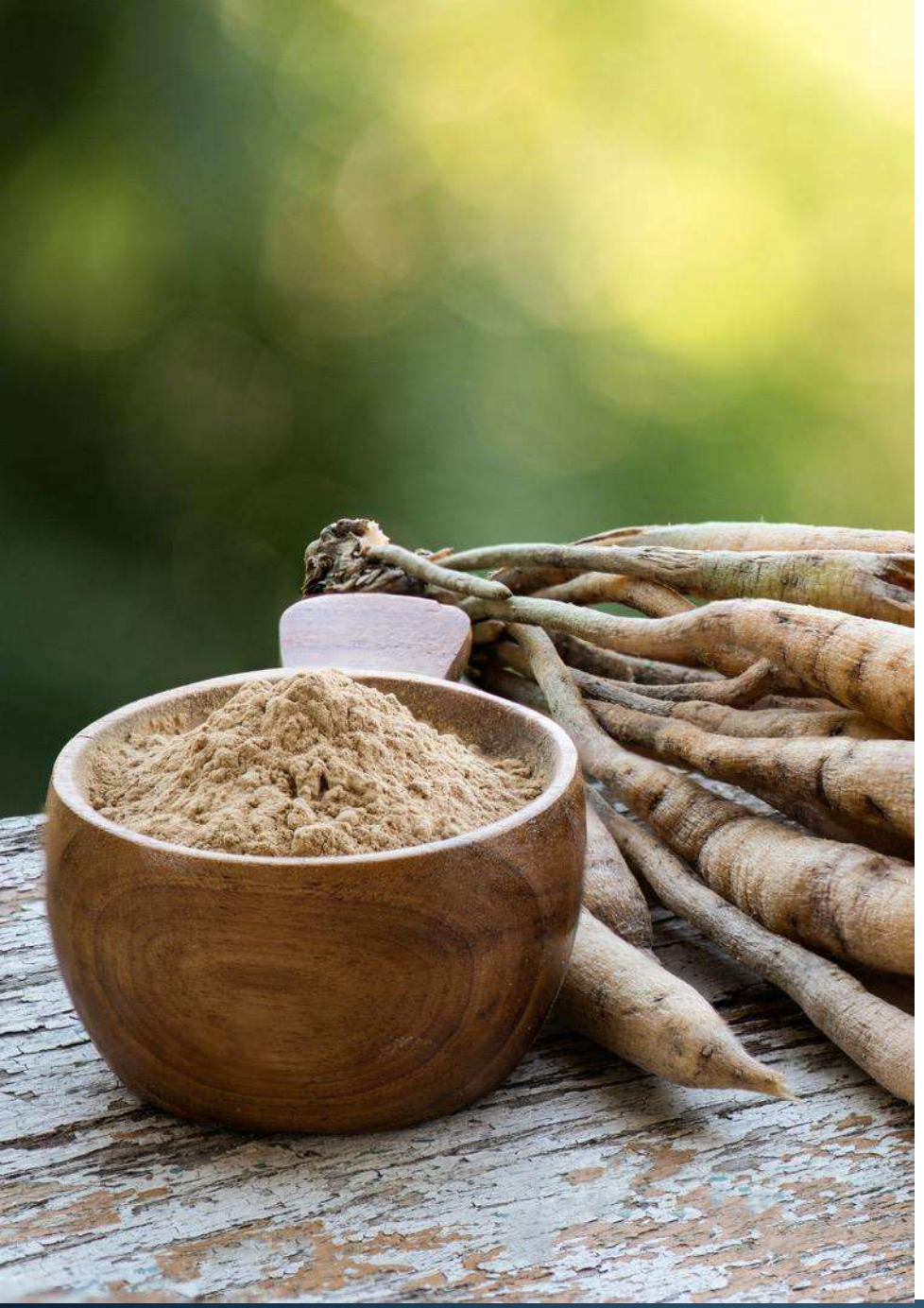
Clinical Picture

The Menopausal Corridor is the chapter in time where there is loss of periods – no cycle for 60+ days – and often:

- Increasing hot flashes (frequency and/or intensity).
- Falling/low levels of oestrogen lead to insomnia, memory loss and vaginal dryness.
- Insulin metabolism changes (resistance) – SWAN Study identifies CVD risk for women, primarily due to this.
- Immune system remodelling – increased risk for AI.
- Neuroflocial transition – synaptic pruning* ++

Pathology

- Rising FSH < 40 IU/L.
  - 1 elevated FSH result does not confirm menopause.
- Mid-luteal progesterone dropping below 20 nmol/L.
- Slight (relative) increase in androgens.



Support: Hormone Optimisation

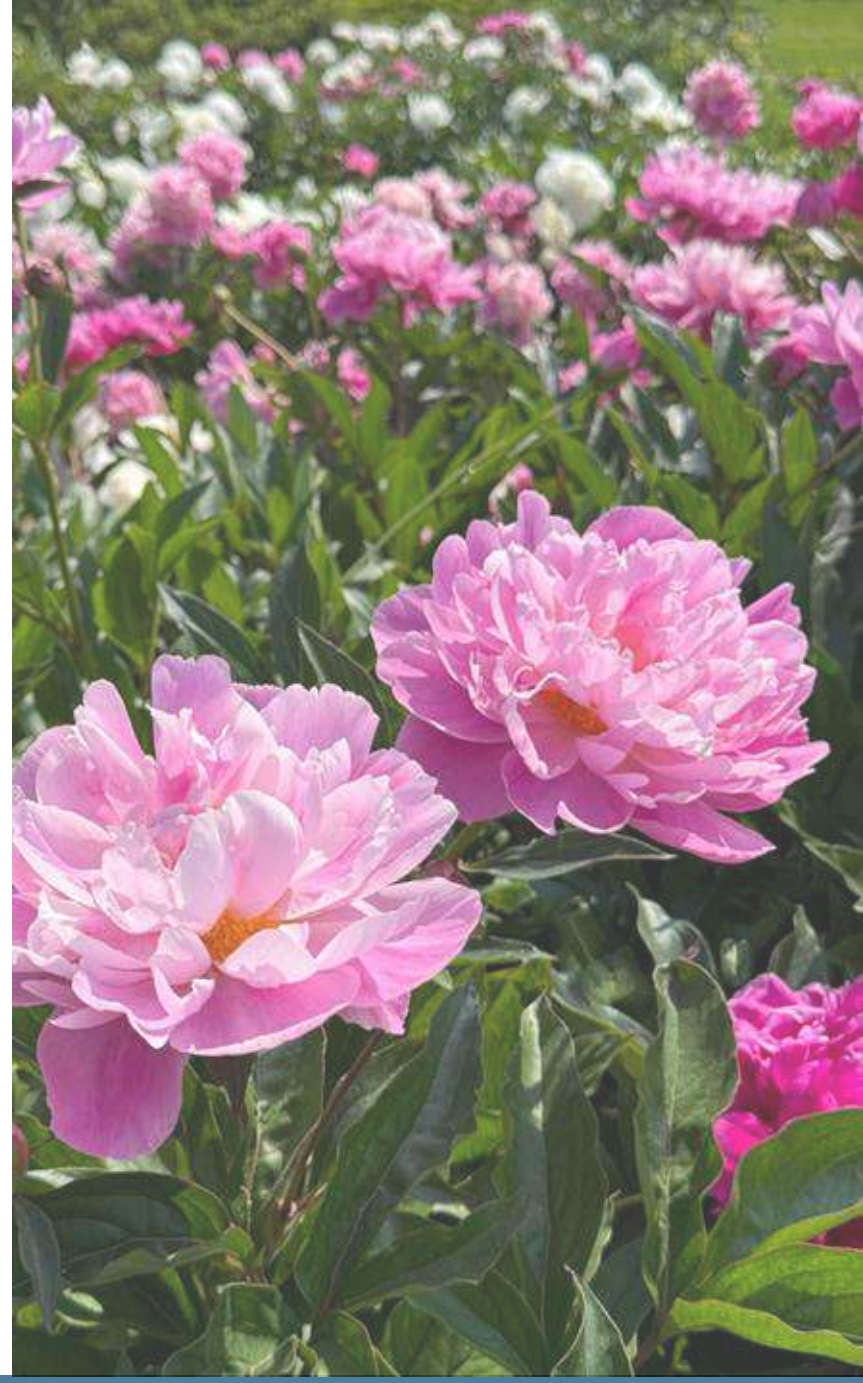
***Asparagus racemosus* (Shatavari)** is a botanical native to India and the shatavarins are considered the primary active compound, and in randomised, double-blind, placebo-controlled clinical studies in peri- and post-menopausal women it was found:[24]

- To help relieve symptoms of menopause, including hot flushes and night sweats, while supporting healthy female hormonal balance.
- To help relieve fatigue, mild anxiety and sleeplessness.
- To promote general health and wellbeing during hormonal transition.

Support: Hormone Optimisation

***Paeonia lactiflora* (Peony)** supports progesterone production as it:

- Supports HPO axis communication – and the release of LH and FSH.
- Reduces excessive LH output when it's too high (common in PCOS or stress-driven cycles), allowing the follicle to mature normally.
- Encourages more regular ovulation, which means more consistent progesterone production each month.
- Lowers excess androgens (like testosterone and DHEA) that can interfere with ovulation.
- Enhances ovarian blood flow.



Support: Hormone Optimisation

- In traditional Chinese medicine (TCM), ***Paeonia lactiflora*** **(Peony)** has been used for centuries in gynaecological formulations and is traditionally used to relieve menstruation pain, particularly where pain is associated with uterine tension, cramping or spasm.[3,4]
- In traditional practice, white peony is commonly combined with other herbs in classical TCM formulas for menstrual pain, where its actions are described as nourishing and harmonising, consistent with its long- standing use in women's health.[4,6,7]
- Peony inhibits testosterone production, increases aromatase (converts testosterone → estrogen).
- In combination with **liquorice** it can be particularly helpful for androgen excess (downregulates CYP17A1).

Support: Androgenic Activity

During menopause there is slight (temporary) increase in androgen production:

- There is a greater availability of unbound or ‘free testosterone’ thanks to a reduction SHBG.
  - Various factors contribute to the drop in SHBG, including a lower level of oestrogen, a greater tendency to insulin resistance and, in some cases, low thyroid function.
- Along with cortisol issuses, this increase in androgens can contribute to androgenic fat distribution (abdominal weight gain).
  - May also increase the risk of breast cancer and cause mild hirsutism (facial hair) and hair loss.
- Relatively high androgens drive insulin resistance and, at the same time, insulin resistance drives more androgens, both by lowering SHBG and by directly stimulating the ovaries to make more androgens.

Support: Hormone Optimisation

***Rehmannia glutinosa (*Rehmannia)** root is a traditional Chinese herb and is traditionally used in TCM to: [9-12]

- Relieve menstrual cycle irregularity.
- Reduce heavy menstruation.
- Relieve fatigue.

(a) Fresh rehmannia root

(b) Rehmannia dried rhizome

(c) Prepared rehmannia root

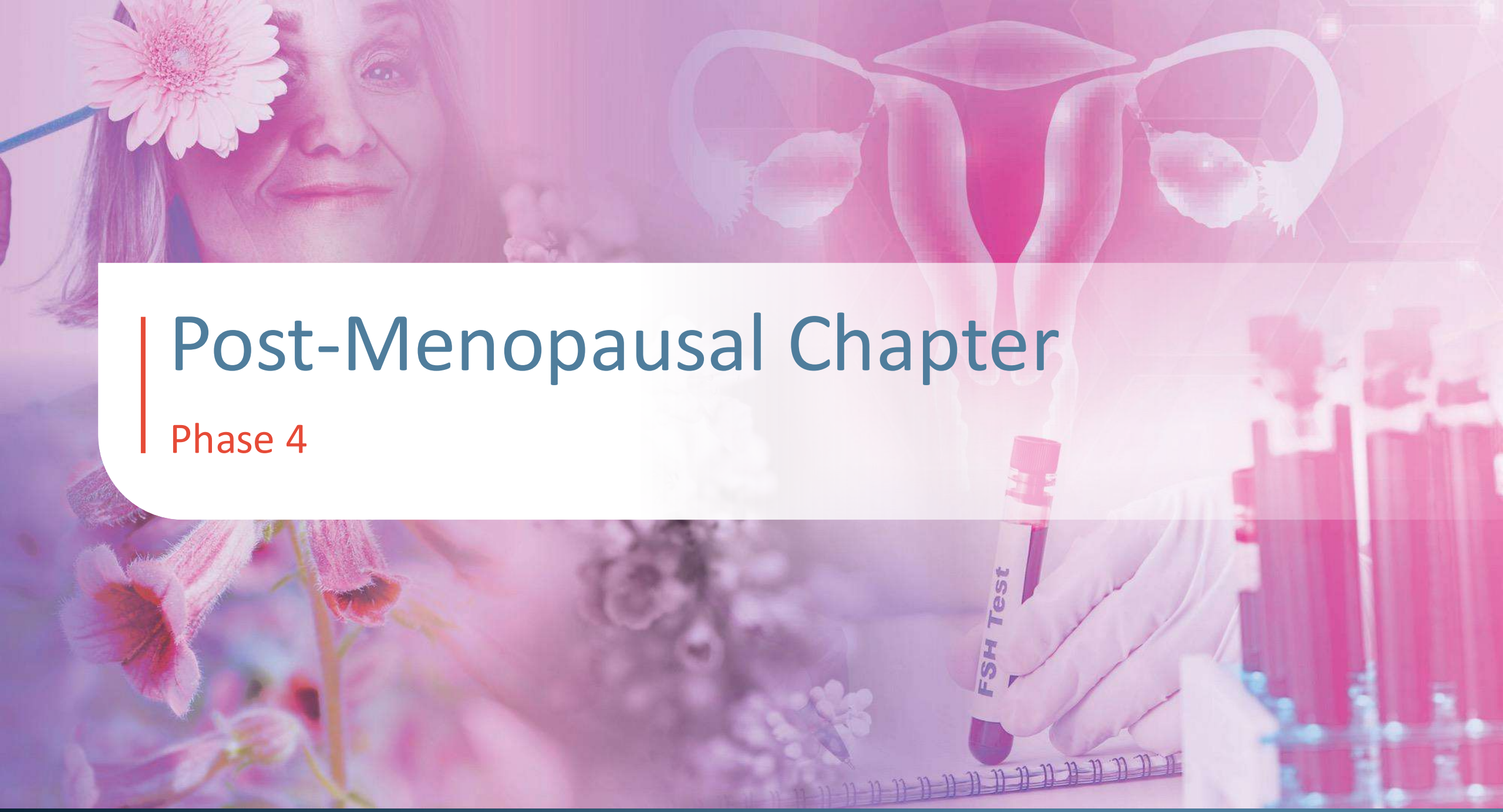
Support: Hormone Optimisation

- ***Scutellaria lateriflora* (Skullcap)** is a traditional North American nervine herb used to support a calm nervous system, reduce anxiety and stress-related tension, and improve sleep quality.
  - Particularly valuable for midlife women experiencing mood swings, irritability, insomnia, and "tired but wired" states common in perimenopause and menopause.
  - Contains flavonoids like baicalin and wogonin that appear to act on GABA receptors, providing a gentle, non-sedating calming effect that pairs well in blends for menstrual wellbeing and emotional support during hormonal transitions.
- A randomised, double-blind, placebo-controlled crossover study showed that Skullcap significantly decreased total mood disturbance and enhanced global mood, while reducing symptoms of anxiety and depression without impairing energy or cognition.

Support: Hormone Optimisation

***Ocimum tenuiflorum* (Holy Basil/Tulsi)** is a highly aromatic Ayurvedic herb traditionally used as an adaptogen to help the body adapt to stress.[1,14]

- Modulates the HPA axis and reducing cortisol, which in turn can lower anxiety, exhaustion, and sleep disturbances that are often amplified during menopause.
- A randomised, double-blind, placebo-controlled trial showed that 8 weeks of Tulsi significantly reduced subjective stress and anxiety scores and lowered cortisol compared to placebo, with benefits for sleep quality.
- Emerging clinical evidence also suggests that Tulsi may reduce menopausal symptom severity.



Post-Menopausal Chapter

Phase 4

Clinical Picture

Menopause, the point at which it has been 12 months with no period, is the time to focus on supporting the new hormonal cadence which includes:

- Managing androgens.
- Supporting the adrenals and oestrogen dependent tissues.
- Maintaining a healthy body composition.
- Continuing to nurture the foundation of good health.

The Japanese word for menopause is **Konenki**; a term associated with menopause and the broader menopausal transition, often translated as **“renewal years”** or a time of transition and new purpose.

Support: Bone Optimisation and Active Tissue Mass

Bone mineralisation + acid-base

- **Bone density**
- **Acid-base balance** Subclinical acidosis drives bone mineral mobilisation; citrate-bound minerals buffer acid load physiologically, reducing skeletal buffering demand
- **Connective tissue + metabolic** support collagen matrix

BODYBALANCE® collagen peptides

- **Lean mass** Low molecular weight bovine collagen peptides promote muscle protein synthesis post-exercise; critical as oestrogen decline reduces anabolic signalling and collagen formation
- **Collagen decline** Collagen falls ~1%/yr from 40, reaching up to 75% loss by age 80; hormone fluctuations accelerate this.
- **Bone + joint structure** Collagen provides the protein scaffold onto which calcium mineralises into bone, supporting structural strength and joint mobility

Creatine monohydrate

- **Muscle strength + lean mass** Enhances performance, strength and lean body mass during resistance training in post-menopausal women and those over 50, directly countering sarcopenia risk
- **Cognitive function** Supports cognitive function and general wellbeing in females; oestrogen withdrawal affects brain energy metabolism, making creatine particularly relevant post-menopause
- **Prescribing notes** 5 g daily without loading. Creatine levels decline with age and reduced red meat intake

Clinical Pearl: These three work synergistically: provide bone-building minerals and vitamin co-factors; supply the structural protein scaffold; drive cellular energy and muscle signalling. Resistance training is the non-negotiable foundation that activates all three.

References

References available on request.

Products to Consider

100% BODYBALANCE® collagen peptides

Advanced dual-axis herbal support for women across life stages

High dose bioavailable magnesium blend for rest and relaxation