Developed by the Science & Medical Team at Symphony Natural Health

Postmenopause Guide to Whole Health

Empowerment, Knowledge & Practical Strategies for Every Stage of Your Transition



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How to Use This Guide

This guide is designed to support you, and the practitioners who care for you, in the years after menopause. Whether your final period was recent or many years ago, the information here is meant to inform and guide.

Each chapter addresses a different dimension of whole health in postmenopause: understanding what is happening in your body, how your hormones have shifted, the role of nutrition and supplements, the importance of movement, and the influence of lifestyle and environment.

You do not need to read this guide from start to finish. You may find it most useful to turn to the chapters most relevant to what you are experiencing right now.

For consumers: This guide is written in plain language and does not require a clinical background. Where medical terms appear, they are explained.

For practitioners: This guide may be shared directly with patients as a take-home resource. The numbered References section at the back provides the clinical evidence base. Digital versions include active links to all cited sources.

A note on references

All citations in this guide appear as superscript numbers [n] in the text. Each number matches a full reference in the References section at the end of this guide, listed in the order sources first appear. In the digital version, DOI links and web addresses are active hyperlinks. In print, each DOI can be entered directly into any browser or at doi.org to access the original source.





Chapter 1

Empowerment & Knowledge: What Happens to Your Body After Menopause?

- What Is Postmenopause?
- Why Menopause Feels Different for Every Woman
- How Menopause Changes Your Hormone Communication System
- The Stages of Menopause: Perimenopause, Menopause, and Postmenopause
- What Your Age at Menopause May Say About Your Health
- Common Signs and Symptoms of Postmenopause
- Vaginal and Urinary Changes After Menopause: Genitourinary Syndrome of Menopause (GSM)
- Pelvic Floor Health After Menopause
- How Postmenopause Affects Your Long-Term Health
- Why You May Feel Hungrier After Menopause
- Menopause Treatment Options, Including Hormone Therapy (HRT/MHT)
- Your Microbiome After Menopause: Gut, Vaginal, and Skin Health
- Postmenopause Is a Window of Opportunity

What Is Postmenopause?

You may have expected things to settle after menopause.

For some women, they do. For others, this phase brings a different set of questions about sleep, energy, your body, and what long-term health looks like from here.

People often use the word “menopause” to describe this entire hormonal transition.[1] Medically, though, menopause is one point in time: the day that marks 12 consecutive months without a menstrual period.

The years leading up to menopause are called perimenopause, a transition often marked by fluctuating hormone levels and symptoms such as cycle changes, hot flashes, sleep disruption, mood shifts, and metabolic changes. The stage after menopause is called postmenopause, and it includes all of the years that follow your final menstrual period. Hormones settle at a new baseline during this stage, and the focus often shifts toward long-term bone, cardiovascular, metabolic, cognitive, and overall healthy aging.

This guide focuses primarily on postmenopause while recognizing that many of the changes discussed begin during perimenopause. If you are currently navigating perimenopause, our Perimenopause Guide to Whole Health offers support specific to that stage.

Menopause is a whole-life shift. It touches your body, your mind, your identity, and how you see yourself in the world. This new phase of life involves physical, psychological, spiritual, cultural, relational, and social changes.

Women around the world experience menopause differently, even when their hormonal changes are similar. The years after menopause bring a shift in how your body operates and an opportunity to be more intentional about how you support it.

> Across cultures, menopause has been interpreted in very different ways. In some European countries, women have described menopause as distressing and a threat to their health, whereas women in North India often describe it as a transition into greater freedom and social respect.[2]
>
> Even language reflects this. In Arabic, menopause translates to "the age of despair or hopelessness."[3] In English, the word comes from the Greek words for "month" and "cease," reflecting a purely biological framing.[1] In Japanese, however, the term for menopause more closely translates to "renewal years" or "regeneration."[4]

This guide is written from that perspective, because these changes are meaningful even when they aren't easy.

Why Menopause Feels Different for Every Woman

You may notice that your experience doesn't look like someone else's, or like what you expected. That's not unusual.

Up to 85% of women in the United States report menopausal symptoms, including hot flashes, disturbed sleep, and mood changes.[5] Genitourinary symptoms, such as vaginal dryness, urinary changes, or discomfort with intimacy, can become more noticeable over time.[5] In other populations, symptom patterns differ. In rural India, women more commonly report fatigue, anxious feelings, and physical exhaustion.[6] Among Chinese women, poor sleep, fatigue, and mood swings are most frequently reported.[7] These differences reflect biology along with culture, environment, and how women perceive and report symptoms.[8]

There is no single "correct" menopause experience.[9]

> Menopause is a natural part of aging, and there is no universal way to experience it.

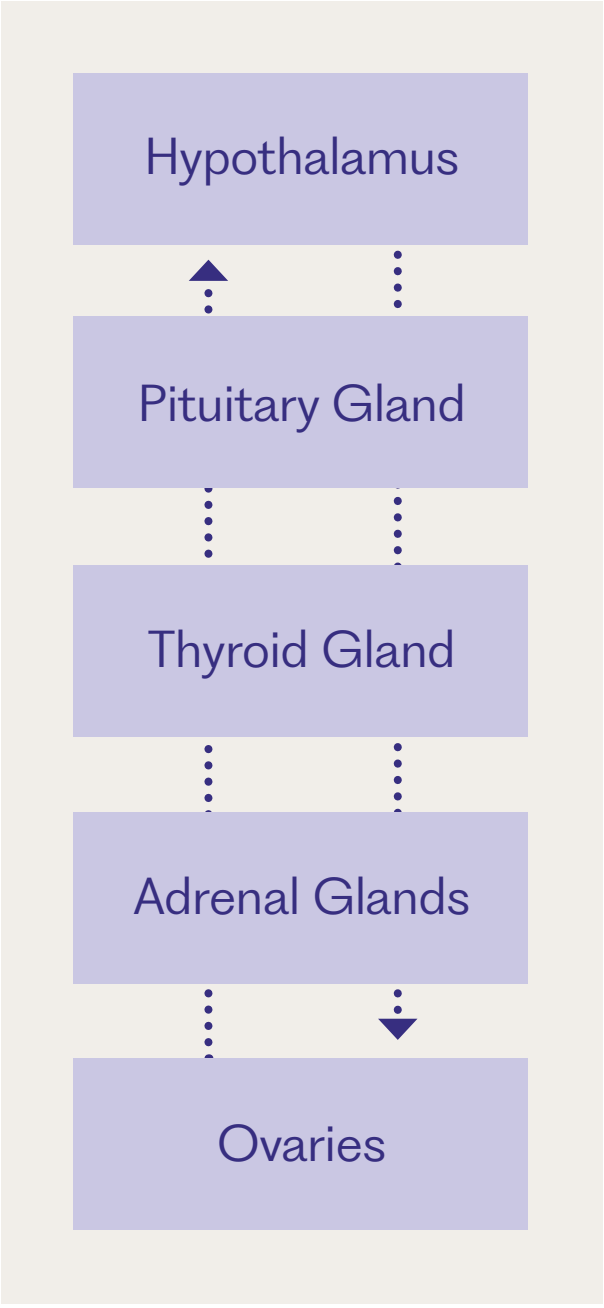
How Menopause Changes Your Hormone Communication System

Menopause is often described as a decline in estrogen, but that explanation is incomplete. What's changing is how your entire endocrine system (the glands that make and release your hormones) communicates.

At the center of this is the hypothalamic-pituitary-thyroid-adrenal-ovarian (HPTAO) axis, the network that coordinates your hormones. It includes:

- Your brain (hypothalamus and pituitary), which act as control centers
- Your thyroid (which regulates metabolic pace)
- Your adrenal glands (which help you respond to stress)
- Your ovaries (which produce reproductive hormones)

Together, they function as a communication loop, constantly sending signals and adjusting based on feedback.



With age and the menopausal transition, two things begin to shift:

- The ovaries gradually reduce hormone production
- The signaling and feedback between these systems becomes less responsive and less predictable

This is why menopause affects many systems at once, including sleep, metabolism, mood, and cognitive function.

You'll see the HPTAO axis throughout this guide. It helps explain what is changing and why.

The Stages of Menopause: Perimenopause, Menopause, and Postmenopause

Here is how the stages typically line up:

- Perimenopause (typically mid-30s to ~50): hormonal fluctuations begin
- Menopause (~51 on average): defined retrospectively after 12 months without a period
- Postmenopause (51+): the phase you are now in

Postmenopause can be divided into two phases, based on the STRAW+10 staging system researchers use to describe reproductive aging:[10][11]

- Early postmenopause (about 5 to 8 years after menopause): your body is still recalibrating.[10][12] Hormone levels change quickly during the first 2 years or so (Stages +1a and +1b). Some symptoms, like hot flashes, mood changes, or genitourinary discomfort, may persist through the next 3 to 6 years (Stage +1c).[10]
- Late postmenopause: hormones have reached a new baseline.[12] Some symptoms improve, while others (especially vaginal or urinary changes) may continue without support.[10]

This stage is often overlooked, yet it is one of the most important windows for shaping your long-term health.

What Your Age at Menopause May Say About Your Health

In the United States, the average age of menopause is approximately 51 years, though there is a wide range of what is considered typical.[1]

Both earlier and later menopause are associated with distinct health patterns.

Earlier menopause (before 45) is consistently associated with increased risk across several areas of health, including cardiovascular, bone, cognitive, and metabolic health.[12][13][14][15] This is largely attributed to less lifetime exposure to estrogen, which plays a protective role in many systems throughout the body.[16]

At the same time, later menopause (after 55 years old) is not always protective.[13]

While it reflects a longer duration of ovarian activity and estrogen exposure, its relationship with long-term health is more complex and depends heavily on your overall metabolic health and physiology.[13]

Emerging research suggests that lifestyle factors, including diet quality, may modestly influence the timing of menopause.[14] For example, a large analysis of data from the National Health and Nutrition Examination Survey (NHANES) found that closer adherence to the Healthy Eating Index-2015 (HEI-2015), a dietary pattern emphasizing whole fruits, whole grains, vegetables, and quality protein sources, was associated with a slightly longer reproductive lifespan and a higher likelihood of later menopause.[14] These findings suggest that better overall diet quality may be associated with a more gradual pace of reproductive aging. This likely reflects broader differences in metabolic health, inflammation, and overall resilience rather than a direct "delay" of ovarian aging.

On the other hand, a large representative study of postmenopausal women found that age at menopause was not linked to osteoporosis risk after accounting for factors such as body composition and hormone therapy use.[17] Body mass index (BMI) and hormone therapy use were more strongly linked to bone density and fracture-related outcomes than the timing of menopause itself.

Taken together, these findings highlight an important distinction:

- Healthier lifestyle patterns (including diet quality) may be associated with slightly later menopause
- But later menopause itself does not automatically translate to better long-term outcomes once other physiological factors are accounted for

Menopause timing appears to reflect your broader physiology, particularly metabolic health, body composition, and hormone signaling. This is why it is increasingly viewed as a reflection of how well your body's systems have maintained balance and adapted over time, rather than as simply "good" or "bad."[18]

From this perspective, supporting your circadian rhythm (your internal 24-hour clock) through sleep, light exposure, meal timing, and stress regulation matters for more than symptom relief.[19] It also supports your hormone and metabolic health over the long term.

There is no "perfect" or "ideal" age for menopause. Genetics, environment, lifestyle, nutrition, stress exposure, and overall health all influence reproductive aging differently across individuals. The goal now is to support your body in a way that promotes long-term resilience, symptom relief, and quality of life.

Common Signs and Symptoms of Postmenopause

Symptoms of menopause can affect almost every system in your body.

You may notice changes in:[20]

- Sleep and energy
- Mood and focus
- Sexual health and comfort[21][22]
- Skin, hair, and joints[23][24]
- Muscle mass and bones[25]
- Body composition and metabolism

Vasomotor symptoms (hot flashes and night sweats) are among the most commonly discussed and often begin during perimenopause.[5] For some women, they resolve. For others, they persist for years after the final menstrual period.[26] Alcohol, smoking, emotional stress, and physical inactivity may worsen vasomotor symptoms, so addressing these is one practical way to ease symptoms while supporting your overall health.[1] Genitourinary symptoms, such as vaginal dryness, urinary discomfort, or recurrent infections, often become more noticeable over time and may persist without support.[22][21]

These symptoms are connected. Many are downstream effects of changes in hormonal signaling across the HPTAO axis, the hormone communication network described above.[1]

Your healthcare provider may use a symptom questionnaire, such as the Menopause Rating Scale or the Kupperman Menopausal Index, to understand how significant your symptoms are and how they affect your daily life.[27] If you aren't offered one, you can ask. Keeping a simple record of your symptoms before your appointment can also help you describe what you're experiencing.

Vaginal and Urinary Changes After Menopause: Genitourinary Syndrome of Menopause (GSM)

You may notice changes in vaginal or urinary health that weren't part of your earlier experience. This group of symptoms is called Genitourinary Syndrome of Menopause (GSM), and it includes:[22]

- Vaginal dryness or irritation
- Pain with intercourse
- Urinary urgency or incontinence
- Increased risk of urinary tract infections

These changes are driven by shifts in hormone signaling that affect tissue structure, blood flow, and the local microbiome. They are common, and they are treatable.

Pelvic Floor Health After Menopause

If you are noticing changes in vaginal, sexual, or urinary health, it can help to look beyond GSM to the pelvic floor.[28] This often-overlooked group of muscles and connective tissues supports the bladder, uterus, and bowel, and plays a key role in bladder control, sexual function, and core stability.

As estrogen levels decline, connective tissue quality and how well your nerves and muscles respond can change, which may affect pelvic floor strength, coordination, and comfort. This can contribute to symptoms such as urinary leakage, pelvic pressure, or changes in sexual sensation.

The good news is that these muscles and tissues can adapt.

Pelvic floor function can often be improved through targeted support, which may include:[29][30]

- Pelvic floor physical therapy (especially for pain, prolapse, or incontinence)
- Gentle pelvic floor strengthening and coordination exercises
- Breathwork that supports pressure regulation through the core and pelvic system
- Whole-body strength training that improves overall core and hip stability
- Relaxation practices, since pelvic floor over-tension can also contribute to pain

Importantly, not all pelvic floor symptoms are related to weakness. Some are related to tightness or poor coordination. For this reason, individualized assessment is often more helpful than generic exercises.

Addressing both the hormonal and muscular sides of pelvic health can significantly improve your comfort, function, and quality of life after menopause.

How Postmenopause Affects Your Long-Term Health

At this stage, the question often shifts from

"What's happening to me?" to *"How do I protect my health from here?"*

Postmenopause also changes how your body regulates itself over time. Over time, estrogen decline can influence:[31]

Bone density

Estrogen plays a key role in maintaining bone remodeling and mineral balance. As levels decline, bone breakdown can outpace bone formation, increasing the risk for osteopenia, osteoporosis, and fractures over time.

Cardiovascular health

Estrogen supports vascular flexibility, circulation, nitric oxide production (which helps blood vessels relax), and cholesterol balance. Postmenopausal changes may influence cholesterol patterns, blood vessel function, blood pressure regulation, and long-term cardiovascular risk.

Metabolic function and blood sugar regulation[24]

Hormonal shifts can alter insulin sensitivity, glucose metabolism, appetite signaling, and how your body uses energy. Many women notice changes in blood sugar stability, energy levels, cravings, and metabolic resilience during this phase.

Muscle mass and strength

Muscle is highly responsive to hormonal signaling. Declining estrogen may contribute to gradual losses in lean muscle mass, strength, recovery capacity, and physical performance, especially without adequate protein intake and resistance training.

Cognitive and neurological health

Estrogen interacts with neurotransmitters, mitochondrial energy production, blood flow, and neuroplasticity (your brain's ability to adapt and form new connections). Changes during postmenopause may affect memory, focus, mood, mental clarity, and long-term brain health.

Sleep and circadian rhythm

Hormonal fluctuations can influence melatonin signaling, cortisol rhythm, body temperature regulation, and the structure of your sleep cycles. This may contribute to difficulties with falling asleep, staying asleep, or waking feeling restored.

Body composition[32]

Postmenopause is often associated with shifts in fat distribution, particularly increased abdominal or visceral fat storage. These changes affect more than appearance. They are also linked to inflammation, metabolic health, and cardiovascular function.

Some of these changes reflect normal aging. Others are amplified by shifts in hormonal communication. The goal is to support your body as it adapts.

This is where your daily inputs, including nutrition, movement, sleep, stress, and targeted support, have more influence than they may have had earlier in life.

Why You May Feel Hungrier After Menopause

You may feel hungrier, or less satisfied, than you used to, even if your habits haven't changed. You're not imagining it. Along with changes in body fat distribution and declining estrogen, your appetite-regulating hormones, leptin and ghrelin, also shift.

Leptin is a hormone that signals fullness and tends to increase with more fat tissue.[33] In simple terms, more stored energy should mean your body asks for less food. However, after menopause, leptin generally decreases even as body fat increases. Declining estrogen may contribute to leptin resistance, meaning your body doesn't respond to leptin as well as it used to. This can increase your desire to eat even when your body has enough energy stored.

Along with decreases in leptin levels, ghrelin, the "hunger hormone," increases.[34] Together, these shifts signal your body to eat more even when energy stores are adequate. These hormone changes may help explain some of the metabolic and cardiovascular changes women experience after menopause.

Understanding these changes in your appetite can help you shift from *"What's wrong with me?"* to *"How do I support this system better?"*

Menopause Treatment Options, Including Hormone Therapy (HRT/MHT)

You may already be exploring options to support your symptoms or long-term health after menopause.

Hormone therapy, often called Hormone Replacement Therapy (HRT) or Menopausal Hormone Therapy (MHT), is one option that has received renewed attention in recent years, particularly following re-evaluation of earlier research from the Women's Health Initiative.[35][36][37]

For some women, MHT can be a valuable tool, especially for:[38]

- Managing hot flashes and night sweats
- Improving sleep and quality of life
- Supporting bone health and reducing fracture risk
- Addressing the health effects of early or premature menopause
- Treating genitourinary symptoms such as vaginal dryness and urinary discomfort

Despite increased public discussion and updated clinical guidance, use of systemic hormone therapy remains relatively low in the United States (about 5%).[39] However, newer research showing the health benefits of appropriately prescribed MHT, along with recent FDA labeling changes, has renewed interest in its use for managing menopause symptoms.[40][41]

At the same time, hormone therapy is not appropriate for everyone.[42] Certain medical histories may make systemic estrogen therapy unsuitable or require greater caution, including:

- Personal history of estrogen-sensitive cancers
- Unexplained vaginal bleeding
- Active liver disease
- Prior blood clots or thromboembolic disease
- Stroke
- Certain cardiovascular conditions

Whether hormone therapy is appropriate depends on many factors, including age, timing relative to menopause onset, symptom severity, family history, metabolic health, and personal preferences.

Hormone therapy also comes in several forms, with different formulations and delivery methods, including:

- Estrogens: estradiol, conjugated estrogens, and (less commonly) estriol-containing preparations
- Progestogens: micronized progesterone and synthetic progestins
- Delivery systems: oral capsules, transdermal patches, topical gels or sprays, vaginal creams, tablets or rings, and other compounded formulations such as pellets

Each option differs in absorption, metabolism, and clinical application. For example, local vaginal estrogen is often used specifically for GSM, while systemic therapies are more commonly used for hot flashes, night sweats, and bone protection.[43]

For women who don't use hormone therapy, or aren't candidates for it, non-hormonal strategies can still provide meaningful support. These include lifestyle changes, targeted nutrients, and botanicals such as phytoestrogens and other plant-based compounds.

Hormone therapy is best understood as one option within a broader, personalized approach to care.[44] Working with a knowledgeable healthcare practitioner can help you weigh the potential benefits and risks and determine which strategies best align with your health goals and values.

Your Microbiome After Menopause: Gut, Vaginal, and Skin Health

Your gut microbiome, the community of trillions of microbes living in your digestive tract, plays a direct role in:

- Hormone metabolism (including how estrogen is recycled through the *estrobolome*, explained below)
- Inflammation
- Metabolic health
- Detoxification processes
- Even vaginal and skin health

The gut microbiome. Each person has a unique "microbial signature" shaped by diet, lifestyle, and health history. Influences include how you were born (vaginal birth or Cesarean section), your environment, eating habits, how often you have close personal contact with others, whether you have pets, and medication use, among other factors.[45][46]

Men and women have notable differences in their gut microbiomes. For example, compared to men, some studies suggest women may have differences in gut microbiome diversity, meaning the variety and balance of microbes in the gut.[47] After menopause, women's gut microbiomes have been shown to shift toward patterns more similar to those of men the same age, suggesting that changes in hormones like estrogen are associated with changes in gut microbiome diversity.[48] This shift may be associated with changes in inflammatory signaling, possibly contributing to changes in metabolic, bone, and cognitive health.[49][50][51] Emerging evidence also suggests that changing estrogen levels may affect gut barrier function (the strength of your gut lining), which can influence your normal inflammatory response.[52] They may also affect the "estrobolome," a collection of gut bacterial genes that helps your body either clear estrogen or recirculate it.[52]

The connection between menopause and the gut microbiome is still an emerging area of research. Even so, your diet offers strong support for a healthy microbiome, now and in the years ahead.

> The Diet & Nutrition chapter of this guide shares practical ways to support your gut microbiome through food.

The vaginal microbiome. Emerging research is also showing how changes to the vaginal microbiome affect genitourinary symptoms after menopause.[50] The vaginal microbiome changes throughout a woman's life. While each woman's microbiome is unique, common patterns are seen during menopause.

One of the most notable changes in the vaginal microbiome after menopause is the decline in *Lactobacillus*, a beneficial bacteria, which is associated with changes in vaginal health.[50] As a result, women often have a higher vaginal pH after menopause than before, which makes the vaginal environment less acidic and more prone to uncomfortable imbalances.[53] The decrease in *Lactobacillus* also gives room for other bacteria to become more dominant, which may contribute to vaginal discomfort.[50] Research suggests that certain probiotic strains from the *Lactobacillus* genus (e.g., *Lactobacillus rhamnosus* and *Lactobacillus reuteri*) may help support a healthy vaginal microbiome, supporting *Lactobacillus* levels and helping to maintain a healthy, acidic vaginal pH.[54][55]

Changes to the vaginal microbiome are a natural part of this stage, and supporting a healthy, diverse vaginal microbiome matters for your comfort and health. A good place to start is supporting a healthy gut microbiome by eating fiber-rich foods, which contain prebiotics, and fermented foods, which contain probiotics.[53]

> If you suspect issues with your vaginal microbiome, such as infection or changes to sexual health, talk with your healthcare provider about testing and treatment.

The skin microbiome. Aging is associated with significant changes to the skin, including wrinkles, dryness, and loss of elasticity. Like the gut and vaginal microbiomes, the skin microbiome changes over a woman's life, affecting how your skin functions and looks.[56]

Just as *Lactobacillus* is beneficial to the gut and vaginal microbiomes, *beneficial bacteria called Cutibacterium* play a role in maintaining skin balance and barrier function.[56] Their abundance often changes with age, partly due to reductions in sebum (your skin's natural oil).[56] A compromised skin barrier and loss of moisture contribute to dry and rough skin, which is commonly associated with aging.[56]

As beneficial bacteria decline, less helpful and potentially harmful bacteria have more room to grow. Shifts in the skin microbiome, including changes in Corynebacterium and Proteobacteria, have been observed with aging and may be associated with changes in skin health and appearance.[57]

These findings show the importance of the skin microbiome in maintaining skin health.[56] Although these changes are a natural part of this stage, supporting the skin microbiome matters for your comfort and health after menopause.[58] While the use of probiotics topically is becoming more popular, more research is needed to understand how well they work.[59] In the meantime, evidence suggests that supporting your gut microbiome with the strategies presented in this guide may help support healthy skin.

If you suspect issues with your skin microbiome, such as changes to skin hydration, texture, or appearance, talk with your healthcare provider about testing and treatment.

Postmenopause Is a Window of Opportunity

Menopause and the years after it are often framed as an ending. They can also be a transition into a new stage, one that invites greater awareness of how connected your body's systems are.

This phase of life is not defined by a single hormone or a single symptom. It is shaped by how your brain, metabolism, immune system, stress response, circadian rhythms, bones, muscles, and cardiovascular system adapt over time, and by how you choose to support those changes.

By understanding what is shifting beneath the surface, you can make informed and intentional decisions that help you:

- Maintain strength, resilience, and mobility
- Support metabolic and cardiovascular health
- Protect cognitive function and emotional well-being
- Strengthen sleep and circadian rhythms
- Support communication between your hormones, brain, gut, and immune system
- Build a foundation for long-term vitality and healthy aging

This guide will help you understand what is shifting in your body during this time and offers practical strategies to support it.

If you are experiencing persistent or concerning symptoms, work with a qualified healthcare practitioner for a personalized evaluation. They can help assess the severity and underlying contributors to your symptoms and discuss the full range of available approaches, both hormonal and non-hormonal. Because healthcare decisions are deeply personal, finding a practitioner whose philosophy aligns with your own values and goals can be an important part of care.





Chapter 2

How Your Hormones Change During Postmenopause

You may have been told that what you experience in postmenopause is about "low estrogen." But what you're likely feeling (changes in sleep, energy, mood, metabolism, and your body) involves more than one hormone. It reflects how your entire hormonal communication system has shifted.

- How Your Body Communicates
- What Changes in Your Hormones After Menopause
- Key Hormone Changes After Menopause
- Lab Markers After Menopause
- Other Health Testing Considerations
- Cardiovascular Health in Postmenopause
- Why Your Body Composition Changes After Menopause

How Your Body Communicates

Your body runs on two primary communication systems:

- Neurotransmitters (chemical messengers in the nervous system)
- Hormones (chemical messengers that travel through the bloodstream)

While neurotransmitters act quickly, hormones create longer, more sustained effects, regulating things like metabolism, mood, sleep, reproduction, and stress response. These systems don't operate separately. They are constantly interacting.

This is why changes in hormones can affect how you think, feel, sleep, and function, well beyond your reproductive system.

The HPTAO Axis: The System Behind Your Hormones

Rather than thinking about hormones individually, it helps to understand the system that controls them: the HPTAO axis introduced in Chapter 1, the communication network that connects your brain and endocrine glands.[60]

In simple terms:

- Your hypothalamus (in the brain) senses what's happening in your body
- Your pituitary gland sends signals based on that information
- Your thyroid, adrenals, and ovaries respond by producing hormones
- Those hormones send feedback back to the brain

This constant feedback loop is what keeps your body in balance. Earlier in life, this system is highly responsive and adaptable. After menopause, it still functions, though it operates differently.

What Changes in Your Hormones After Menopause

Before menopause, your ovaries play a central role in this system, producing estrogen and progesterone in a rhythmic, cyclical pattern and responding to signaling from the brain in a tightly regulated feedback loop.[60]

After menopause:[11]

- The ovaries become largely inactive in terms of hormone production
- Estrogen and progesterone production significantly declines[11][61]
- The cyclical pattern of hormone signaling is lost
- The brain continues sending signals, but the feedback loop is no longer responsive in the same way

At this point, the body does not stop producing sex hormones entirely. It shifts where and how they are produced.

Estrogen, in particular, is still synthesized in peripheral tissues such as adipose (fat) tissue by converting androgens (hormones such as testosterone) into estrogen, a process called aromatization.[62][63] This means body fat becomes a meaningful contributor to baseline estrogen levels postmenopause. The adrenal glands also continue producing precursor hormones, such as DHEA and androstenedione, which can be converted into sex hormones in peripheral tissues.[64][65] While these sources of estrogen cannot replicate the ovarian rhythm of premenopause, they do contribute to your overall hormone levels after menopause.

These shifts are part of a broader reorganization of the HPTAO axis, where endocrine regulation becomes more dependent on metabolic, stress, and circadian inputs rather than ovarian cycling. Because of this transition, menopause is better understood as a redistribution of hormonal signaling across multiple tissues and systems than as simply a "low hormone state."

These changes extend beyond hormone levels and influence several key biological systems:

Brain: Estrogen plays a role in brain function, development, learning, memory, and adaptation.[66][67][68] Changes in estrogen availability are associated with adaptations in brain energy use, cognitive function, and structural connectivity.

Muscle: Estrogen influences muscle protein synthesis, mitochondrial function, and recovery capacity.[72][73] Combined with age-related changes, this contributes to accelerated loss of muscle mass and strength (sarcopenia) if not actively supported.[73]

Bone: Bone is a dynamic tissue that continuously remodels in response to hormonal and mechanical signals.[69] Reduced estrogen signaling shifts this balance toward increased bone resorption, contributing to changes in bone mineral density over time.[70][71]

Mitochondria and metabolism: Estrogen plays a role in mitochondrial efficiency and energy production.[74] Its decline is associated with changes in energy production from carbohydrates and fats and overall metabolic flexibility (your body's ability to switch between fuel sources).[75]

These changes help explain why the postmenopause experience is a whole-system transition rather than an isolated reproductive event. As the endocrine system becomes more reliant on inputs (like sleep quality, stress load, nutrition, movement, and circadian alignment), lifestyle factors that once had a subtle effect may now have a more meaningful impact on how the body feels and functions.



Why Postmenopause Feels Different: A Brief Look Back

You don't need to memorize the menstrual cycle, but understanding one key concept helps explain what's changed.

Earlier in life:[60]

- The brain (via GnRH) signals the pituitary
- The pituitary releases FSH and LH (messenger hormones)
- The ovaries respond by producing estrogen and progesterone
- Those hormones send feedback back to the brain

This creates a predictable rhythm. Now, that rhythm is gone.

Instead of a dynamic cycle, your body is operating from a new baseline, with less hormonal fluctuation and less built-in buffering.

What This Means for You

Without the buffering effect of ovarian hormones:

- Stress signals may feel more pronounced
- Sleep disruptions may have a bigger impact
- Metabolic changes may happen more easily
- Recovery (physical or emotional) may take longer

This reflects a shift in how your system maintains balance. It is not a sign of dysfunction.

Key Hormone Changes After Menopause

Estrogen

Estrogen is a group of related hormones produced primarily by the ovaries, with smaller contributions from peripheral tissues, such as fat, skin, bone, and the brain:[76]

- Estradiol (E2): the most biologically active form during the reproductive years
- Estrone (E1): becomes the predominant circulating estrogen postmenopause, largely produced through peripheral conversion in adipose (fat) tissue
- Estriol (E3): present in smaller amounts and more prominent during pregnancy

After menopause, ovarian production of estradiol declines significantly, and total circulating estrogen stabilizes at a lower baseline. On lab tests, estradiol is often <20 pg/mL in postmenopausal women, though individual variation is common.[1]

Estrogen influences multiple systems throughout the body, including:[77]

- Brain function (memory, mood, cognitive clarity)
- Cardiovascular health
- Bone density and turnover
- Skin and connective tissue integrity
- Vaginal and urinary tissue health

Because estrogen receptors are widely distributed throughout the body, its decline is experienced systemically rather than in a single organ system.

This is also why approaches to support menopausal symptoms vary. Menopausal hormone therapy (MHT), which may include estrogen alone or estrogen combined with a progestogen, taken orally, through the skin, or vaginally, is sometimes used to replace or supplement declining hormone levels, depending on timing, symptoms, and individual risk profile.[78][79]

For women who do not use or are not candidates for MHT, other strategies are often explored.[80] These may include lifestyle interventions, targeted nutrients, and botanicals. Some plant compounds, known as phytoestrogens (such as isoflavones found in soy), have a mild ability to interact with estrogen receptors and may offer modest support for certain symptoms, though their effects are significantly weaker than your body's own estrogen or prescribed estrogen.[81]

Progesterone

Progesterone declines significantly as ovulation ceases.[61]

Earlier in life, it helped:

- Regulate sleep
- Support mood stability
- Balance estrogen's effects
- Slightly increase metabolic rate (reflected in body temperature changes)

After menopause, lower progesterone can contribute to:

- Sleep disruption
- Changes in stress tolerance
- Altered nervous system regulation

Follicle-Stimulating Hormone (FSH) and Luteinizing Hormone (LH)

Follicle-stimulating hormone (FSH) and luteinizing hormone (LH) are signaling hormones produced by the pituitary gland in the brain.

They act as part of a feedback loop with the ovaries, helping regulate ovulation and estrogen production during the reproductive years.

After menopause, this feedback loop changes significantly:

- FSH levels rise significantly (>30 mIU/mL)[82][1]
- LH levels also increase (Generally >40 IU/L), though typically to a lesser degree than FSH[83][84]

This occurs because the ovaries are no longer producing consistent levels of estrogen and progesterone. As a result, the brain continues to send "upstream" signals in an attempt to stimulate ovarian activity, but the ovarian response is greatly reduced.

Clinically, elevated FSH is often used to confirm menopause (>30 mIU/mL).[1] While reference ranges can vary slightly by laboratory, an FSH level greater than ~30 mIU/mL is often consistent with postmenopausal physiology, particularly when interpreted alongside symptoms and menstrual history. In practice, many postmenopausal women will have FSH levels well above this threshold.

Gonadotropin-Releasing Hormone (GnRH)

Gonadotropin-releasing hormone (GnRH) is released by the hypothalamus and initiates the hormonal signaling cascade.

With reduced feedback from estrogen and progesterone:

- GnRH signaling becomes less regulated
- This contributes to elevated FSH and LH

Testosterone

Testosterone declines gradually with age rather than abruptly at menopause.[85] However, because estrogen declines more significantly, the relative balance shifts.[18]

This shift may influence:

- Muscle mass
- Motivation and drive
- Libido
- Body composition

Sex Hormone Binding Globulin (SHBG)

Sex Hormone Binding Globulin (SHBG) is a protein that binds to hormones like estrogen and testosterone, regulating how much is available for your body to use.

Levels of SHBG are influenced by estrogen and also by:[86]

- Insulin sensitivity
- Liver function
- Metabolic health

This is one example of how hormones are deeply interconnected with metabolism.

Beyond Reproductive Hormones

While estrogen and progesterone get the most attention, other hormones also play important roles in this stage:

- Cortisol (your stress hormone)
- Thyroid hormones (regulate metabolic pace)
- Leptin and ghrelin (influence hunger, fullness, and energy balance)[33][34]

As the system becomes less buffered, these signals can have a more noticeable impact on how you feel day to day.

What You Can Do

- Shift your focus from "fixing one hormone" to supporting the system as a whole
- Prioritize sleep and circadian rhythm, which directly influence hormonal signaling
- Support metabolic health (blood sugar stability, muscle mass, nutrition)
- Pay attention to your stress load and how well you recover from it
- Work with a practitioner who looks at patterns, not just single lab values

Lab Markers After Menopause

Ongoing Monitoring for Long-Term Health

You may be wondering if lab testing will give you clear answers about what's happening in your body. In some cases, it can. In others, it can create more confusion than clarity.

At this stage, labs are most useful when they are used to identify patterns, assess risk, and guide long-term strategy, beyond confirming menopause.

Hormone Testing: What It Can (and Can't) Tell You

Hormone testing is often one of the first things women ask for. Your doctor can assess hormone levels through a blood draw. Typical results after menopause:

- Estradiol: <20 pg/mL[1]
- FSH: >30 mIU/mL[1]

These values are consistent with postmenopausal physiology.

However, a few important nuances:

- Hormone levels fluctuate significantly during the transition and may take 3-6 years to stabilize[1][87]
- A single test is a snapshot, not a full picture
- In postmenopause, hormone levels are expected to be low, and this alone does not explain symptoms

What matters more is how your body is functioning within this new hormonal environment.

Tracking labs over time can help identify trends, but they should always be interpreted alongside symptoms, lifestyle, and overall health. The timing of samples to assess hormones is also important.

Additional Hormones You May See on Labs:

- Luteinizing hormone (LH): Generally elevated (>40 IU/L)[84]
- Progesterone: Low (<0.5 ng/mL)[88]
- Testosterone: Declines gradually (Total: ~7-40 ng/dL)[89]
- Thyroid-stimulating hormone (TSH): ~0.3-4.2 mIU/L[90]
- Free T3: 2.0-4.4 pg/mL[91]
- Free T4: 0.9-1.7 ng/dL[92]
- DHEA: Age-dependent decline

Rather than focusing on individual numbers, it's more useful to view these markers as signals within a larger system, the same HPTAO axis discussed earlier.

Which Lab Markers Matter Most After Menopause?

At this stage, lab testing shifts from *"Am I in menopause?"* to *"How do I protect my long-term health?"*

The most valuable labs fall into three categories:

1. Metabolic Health:
These markers reflect how your body is managing blood sugar, one of the most important drivers of long-term health after menopause.

a. Fasting glucose

b. Fasting insulin

c. HbA1c

2. Cardiovascular Health:
These markers help assess cardiovascular risk, which becomes increasingly important after menopause.

a. LDL-C (low-density lipoprotein cholesterol)

b. HDL-C (high-density lipoprotein cholesterol)

c. Triglycerides

d. LDL particle | number (LDL-P)

e. Apolipoprotein B (ApoB)

f. Lipoprotein(a) [Lp(a)]

g. LDL particle size

3. Foundational Nutrients: These influence energy, bone health, cognitive function, and metabolic processes.

a. Magnesium

b. Vitamin B12

c. Vitamin D

d. Zinc

e. Omega-3 fatty acids

A Note on Reference Ranges: Laboratories use varying reference ranges and units for blood work, which can impact the interpretation of your results. It's important to work closely with your healthcare provider to ensure accurate analysis and understand how the results apply to you.

Below is a summary of labs that can help you understand your menopausal status, symptoms, and how to support long-term health. Note that you may require additional lab testing based on your health history, family history, and symptoms.

Keep in mind that you may need to discontinue supplements prior to testing. Follow your doctor's guidance on preparing for labs. Do not discontinue medications, including hormone therapy, unless you're advised to do so by your doctor.

Lab Marker	When to Test	Reference Range*	Your Result
Hormones			
Estradiol	-	<20 pg/mL[1]	
FSH	-	>30 mIU/mL[1]	
LH	-	Generally >40 IU/L[84]	
Progesterone	-	<0.5 ng/mL[88]	
Testosterone (Total and Free)	-	Total T: 7.0 to 40.0 ng/dL[89] Free T: <0.13-0.92 ng/dL[93] in ages 50-60	
Thyroid Stimulating Hormone**	-	0.3-4.2 mIU/L[90] Note: 0.5-2.5/3.0 mIU/L is used by some functional medicine practitioners	
Free T3	-	2.0-4.4 pg/mL[91]	
Free T4	-	0.9-1.7 ng/dL[92]	
DHEA	-	51-60 years: <6.0 ng/mL[94] > or =61 years: <5.0 ng/mL[94]	
DHEA-S	-	51-60 years: 16-195 mcg/dL[95] (160-1950 ng/mL)	

Lab Marker	When to Test	Reference Range*	Your Result
Metabolic Health			
Fasting Blood Glucose	Morning	70-99 mg/dL (ADA standard)	
Fasting Insulin	Morning	~2.6-25 µIU/mL[96]	
HbA1C	Morning	4.0-5.6%[97]; prediabetes 5.7-6.4%[97]	
Cholesterol: HDL and LDL***	Morning	HDL: >50 mg/dL[98] LDL: <100 mg/dL[99]	
Triglycerides	Morning	<150 mg/dL[100]	
Nutrients			
Magnesium	Morning	~1.7-2.3 mg/dL[101]	
Vitamin B12	Morning	180-914 pg/mL[102]	
Vitamin D	Morning	20-50 ng/mL[103]	
Zinc	Morning	1.7-2.3 mg/dL[104]	
Omega-3 fatty acids (EPA and DHA)	Morning	8-12%[105]	

*Laboratories use varying reference ranges and units for blood work, which can impact the interpretation of your results. It's important to work closely with your healthcare provider to ensure accurate analysis, understand how the results apply to you, and take appropriate action, if needed. If you need help supporting nutrient biomarkers, it's recommended that you consult with a qualified nutritionist, such as a Certified Nutrition Specialist (CNS) or Registered Dietitian (RD).

**A full thyroid panel includes TSH, Free T4, Free T3, Thyroid Antibodies (TPO/TgAB), and Reverse T3. A full panel offers a more complete picture of how your thyroid is functioning. Note: 0.5-2.5/3.0 mIU/L is used by some functional medicine practitioners, though this range has not been formally published.

***Standard lipid panels provide useful baseline information, but in postmenopause, a more comprehensive lipoprotein analysis may offer deeper insight into cardiovascular risk. Looking beyond LDL and HDL to particle number, size, fractionation, and oxidized LDL can help reveal patterns not always captured on a routine lipid test.

Other Health Testing Considerations

Some markers offer deeper insight, particularly when symptoms or risk factors are present.

Cortisol: Cortisol is your stress hormone, but it's also involved in circadian rhythm regulation.[106] As such, it undergoes large fluctuations between the time you wake up and the time you go to bed. Compared to measuring cortisol at a single time point, assessing it at several points throughout the day (using saliva or urine) can offer unique insight into more subtle symptoms related to its natural rhythm that may not be reflected in standard labs.[106]

DEXA: A DEXA scan measures your bone mineral density. However, DEXA scans aren't typically recommended until age 65 despite bone loss accelerating in the perimenopausal and postmenopausal periods.[107][108] Getting a scan earlier can help you address bone concerns sooner. Some research suggests screening for bone loss in women should be considered at age 45.[108] For more information about bone density testing, read the section below.

P1NP, CTX, BSAP/bone ALP, osteocalcin: Bone health can also be assessed using laboratory markers that reflect how actively bone is being built and broken down. See Bone Turnover Markers below for more detail.

hs-CRP: High-sensitivity C-reactive protein (hs-CRP) is a marker of systemic inflammation. It may help you understand the inflammatory balance in your body, which may change across the menopausal transition.[109]

Liver function: Liver function, measured via liver enzymes like ALT, AST, and GGT, offers insight into metabolic health and may be particularly relevant during menopause.[110] GGT can also tell a health practitioner whether you might be at risk for certain toxic exposures.

Apolipoprotein B (ApoB): Reflects the number of particles that can contribute to plaque buildup in arteries, and may provide a more precise assessment of cardiovascular risk than LDL alone.[111]

Lipoprotein(a) [Lp(a)]: A genetically influenced marker associated with increased cardiovascular risk.[112]

Bone Density Testing After Menopause

Bone health is a central focus after menopause. As hormones change, the balance between bone breakdown and bone formation shifts, increasing the risk of bone loss over time. Because bone loss is often silent, testing plays an important role in early detection and prevention.

What test should you ask for? The gold standard for bone density is a Dual-Energy X-ray Absorptiometry (DEXA or DXA) scan.[113]

A DEXA scan:

- Measures bone mineral density (BMD)
- Is quick, non-invasive, and uses very low radiation
- Typically assesses the hip and lumbar spine, which are common fracture sites

As previously mentioned, most guidelines recommend routine screening starting at age 65. However, earlier screening (age 50+) can support earlier prevention initiatives. If risk factors are present, including early menopause, low body weight, family history of osteoporosis, prior fractures, and long-term corticosteroid use, earlier screening is recommended.

Understanding Your DEXA Results: T-Scores

Your DEXA scan results are reported as a T-score, which compares your bone density to that of a healthy young adult.

- Normal: T-score of -1.0 or higher
- Osteopenia (low bone mass): T-score between -1.0 and -2.5
- Osteoporosis: T-score of -2.5 or lower

Even small changes in bone density can be meaningful over time, especially when combined with other risk factors.

It's also important to consider:

- Trend over time (repeat scans every 1-2 years if indicated)
- Fracture risk, not just the number itself

An Emerging Bone Assessment Tool: REMS

Radiofrequency Echographic Multispectrometry (REMS) is a newer bone assessment technology that uses ultrasound-based radiofrequency signals, rather than the radiation used in X-rays, to estimate bone mineral density at sites such as the spine and hip.[114] In postmenopause, when bone remodeling speeds up as estrogen declines, REMS may offer an additional, accessible tool for monitoring skeletal health over time.

Unlike DEXA, which remains the gold standard for diagnosing osteopenia and osteoporosis, REMS may provide information about estimated bone density and aspects of bone microarchitecture (the inner structure of bone).[113] Some research suggests REMS may help identify fracture risk even in individuals whose DEXA scores do not yet fall into the osteoporotic range.[115]

Potential advantages of REMS include:

- No ionizing radiation exposure
- Portable and increasingly accessible technology
- Ability to repeat assessments more frequently
- Evaluation of bone quality in addition to density
- Useful option for longitudinal monitoring during menopause and aging

This may be particularly relevant in perimenopause and early postmenopause, when bone turnover can increase rapidly before substantial changes in bone mineral density become apparent.

Important considerations:

- DEXA is still considered the clinical reference standard for osteoporosis diagnosis.
- REMS is relatively new and still being integrated into mainstream clinical practice.
- Availability and practitioner experience vary by region.
- More long-term outcome data are still emerging.

Bone strength is influenced by much more than bone mineral density alone. Hormonal signaling, muscle mass, inflammation, nutrient status, circadian rhythms, metabolic health, physical activity, and connective tissue integrity all contribute to skeletal resilience.

Technologies such as REMS may help support a more dynamic and systems-oriented understanding of bone health, particularly during menopause and healthy aging.

Bone Turnover Markers

Bone health can also be assessed using laboratory markers that reflect how actively bone is being built and broken down.[116] These tests do not replace a DEXA scan, but they can provide additional insight into bone remodeling dynamics and may be useful when monitoring response to treatment.

Examples include:

- P1NP (Procollagen Type 1 N-Terminal Propeptide): a marker of bone formation that reflects osteoblast activity (the cells that build bone)
- CTx (C-Terminal Telopeptide): a marker of bone resorption that reflects osteoclast activity (the cells that break down bone)
- Bone-specific alkaline phosphatase (BSAP or bone ALP): another marker of bone formation
- Osteocalcin: a marker associated with bone formation and turnover

Alkaline phosphatase (ALP) deserves special attention.[117] Total ALP is an enzyme produced primarily in the liver and bone, and the bone-specific fraction reflects osteoblast activity and mineralization. Postmenopause, ALP and bone-specific ALP may increase as estrogen declines and bone turnover accelerates.

Both zinc and magnesium are required for normal ALP activity and also play important roles in skeletal health.[118] Zinc supports collagen synthesis, osteoblast function, and mineralization, while magnesium contributes to bone structure, vitamin D metabolism, and the regulation of parathyroid hormone.[119][120] Because of this, persistently low or low-normal ALP levels may sometimes raise suspicion for inadequate zinc and/or magnesium status, particularly when accompanied by symptoms such as poor wound healing, low appetite, hair loss, muscle cramps, fatigue, or impaired immune function. While ALP is not a specific marker of either deficiency, this relationship highlights the importance of adequate intake of both minerals to support bone remodeling, metabolic health, and healthy aging.

Together, DEXA imaging and bone turnover markers provide complementary information, one showing bone density and structure, the other reflecting the current pace of bone remodeling.

Cardiovascular Health in Postmenopause

Heart disease is one of the leading causes of death in women, yet many women do not realize that their risk increases significantly after menopause.[121] Because it often develops without noticeable symptoms, screening and early detection are especially important.

Before menopause, estrogen helps support cardiovascular health by:[122]

- Promoting healthy blood vessel function
- Supporting favorable cholesterol levels
- Enhancing insulin sensitivity

After menopause, as estrogen declines, these protective effects are reduced.[122] This can contribute to changes in cholesterol, blood pressure, blood sugar regulation, and inflammation, many of which develop quietly over time.

Because these changes are often not felt day-to-day, cardiovascular health is one of the most important areas to monitor proactively in postmenopause.

Why Heart Health Matters After Menopause

Postmenopausal women are more likely to experience:[122]

- Increases in LDL cholesterol ("bad" cholesterol)
- Decreases in HDL cholesterol ("protective" cholesterol)
- Higher triglyceride levels
- Increased abdominal fat (visceral fat)
- Reduced insulin sensitivity
- Changes in blood vessel flexibility

Together, these shifts can increase the risk of:

- Atherosclerosis (plaque buildup in arteries)
- Heart attack
- Stroke

Importantly, cardiovascular disease in women may present differently than in men, with symptoms such as:[123]

- Fatigue
- Shortness of breath
- Nausea
- Jaw, neck, or back discomfort

This makes early detection and prevention even more critical.

Key Lab Markers for Heart Health After Menopause

Routine lab testing can provide important insight into your cardiovascular and metabolic health.

A standard lipid panel includes:

- LDL cholesterol (LDL-C): Often referred to as "bad" cholesterol, higher levels are associated with increased cardiovascular risk.
- HDL cholesterol (HDL-C): Known as "good" cholesterol, higher levels are generally protective.
- Triglycerides: Elevated levels are associated with insulin resistance and increased cardiovascular risk.
- Total cholesterol

General reference ranges (may vary by lab):

- LDL-C: <100 mg/dL (optimal for most individuals)[99]
- HDL-C: >50 mg/dL (women)[98]
- Triglycerides: <150 mg/dL[100]

However, optimal ranges may differ based on individual risk factors.

Cardiovascular changes after menopause are common, but they are not inevitable. Regular monitoring and supportive lifestyle strategies can help reduce long-term risk. Building a strong foundation early is important for heart health and longevity.

Why Your Body Composition Changes After Menopause

You may notice changes in body composition, especially increased abdominal fat. While frustrating, this is not random.

As ovarian function declines throughout the menopausal transition, estrogen conversion from tissues other than the ovaries becomes critical for estrogen production.[124] Specifically, fat tissue can create estrogen from circulating androgen hormones like testosterone. Therefore, as estrogen levels fall, the body can compensate by increasing fat storage.

Although women experiencing increased fat storage may agree that it is an unwanted side effect of going through the menopausal transition, it is a normal physiological process, not a failure of willpower or metabolism. Understanding this can help you respond to these changes with support instead of frustration.

What You Can Do

- Use labs to track patterns over time, not chase single numbers
- Prioritize metabolic and cardiovascular markers, since they matter most long-term
- Consider body composition assessment tools, such as BIA (bioelectrical impedance analysis), to monitor changes in lean mass and fat mass over time
- Ask your doctor about advanced testing if you want a more personalized picture
- Advocate for yourself in medical settings by coming prepared with questions
- Focus on what labs can inform: actionable next steps

The chapters that follow share diet and lifestyle strategies to support your health after menopause.





Chapter 3

Diet & Nutrition: How to Eat to Support Your Body After Menopause

You may be noticing that the way you used to eat doesn't work the same way anymore. Foods that once felt neutral may now affect your energy, sleep, or weight differently. Hunger cues may feel less predictable. Recovery may take longer. This change reflects a shift in how your body processes energy, regulates hormones, and responds to stress, driven by the same changes in the HPTAO axis and metabolic signaling we discussed earlier.

Nutrition becomes one of your most powerful tools for supporting your body through these changes.

- Why Hydration Matters After Menopause
- How Much Protein Do You Need After Menopause?
- Plant Foods and Phytochemicals
- Fats and Oils
- Carbohydrates and Fiber
- What to Eat for a Healthy Gut Microbiome
- Phytoestrogens in Food
- Key Nutrients After Menopause
- What to Limit After Menopause
- Reducing Toxins in Food Preparation and Selection

Why Hydration Matters After Menopause

Hydration supports:[24]

- Energy and concentration
- Temperature regulation
- Joint and skin health
- Digestion and elimination

As hormonal changes occur, shifts in body composition can also influence hydration dynamics. Lean mass is the most water-rich tissue in the body, so when lean mass decreases with age, total body water tends to decrease as well.[125] This means that hydration status may feel more variable or noticeable in postmenopause, especially in the context of changes in muscle mass and metabolic rate. This is one reason hydration needs can change over time.

If plain water feels unappealing, adding citrus, herbs, or cucumber can make it easier to maintain consistency.

Additionally, if you drink water but still don't feel hydrated, mineral intake may play a role in fluid balance. Some individuals choose to include electrolyte or mineral-rich options like Sole (pronounced sol-'ay), a super-saturated Himalayan crystal salt solution, to support fluid balance, particularly if they are active or sweating regularly.

How Much Protein Do You Need After Menopause?

Protein becomes more important after menopause, not less.[24][126] This is due to changes in muscle mass, along with reduced absorption following changes in gastrointestinal physiology during this time of life.

It supports:

- Muscle mass and strength[127]
- Metabolic health
- Satiety and appetite regulation
- Recovery and tissue repair[128]
- Bone health and physical function

The current Dietary Guidelines for Americans (2025-2030) recommend that adults, including older adults, eat about 1.2 to 1.6 grams of protein per kilogram of body weight per day, with some individuals needing more depending on age, activity level, muscle mass goals, and overall health status.[129] [24] For a woman weighing 68 kilograms (150 pounds), this would equal about 82 to 109 grams of protein per day.

Just as important as intake is the body's ability to digest and utilize protein effectively. With age, stomach acid production and digestive enzyme output may decline, which can reduce the breakdown and absorption of protein. [130] In addition, aging muscle becomes less responsive to smaller protein doses, a phenomenon known as anabolic resistance. This means that older adults often need both adequate total protein and sufficient protein at each meal to best support muscle building.[131]

To support protein digestion and utilization:

- Include a meaningful source of protein at each meal
- Chew food thoroughly and eat in a relaxed state
- Pair protein intake with resistance training to maximize muscle maintenance and growth
- Discuss digestive health with your doctor if symptoms such as bloating, reflux, or fullness after meals are present

Animal proteins include:

- Grass-fed meat (beef, bison, buffalo, lamb)
- Pasture-raised eggs
- Pasture-raised poultry (chicken, turkey)
- Wild-caught fish (sardines, salmon, tuna)

Plant proteins include:

- Beans and legumes
- Nuts and seeds
- Tofu and tempeh
- Whole grains

Supplemental protein may include:

- Collagen powder
- A protein powder to add to shakes or smoothies (e.g., pea, rice, hemp, soy, whey)

Does a high protein diet harm bone density? Whether or not high protein consumption increases resorption of bone calcium has been debated for years.[132] However, more recent research has only shown a negative influence on bone in those on bed rest. A higher protein intake has also been associated with higher bone mineral density in the hip and lumbar spine in older women.[133]

Is collagen powder the same as protein powder? Although collagen powder does contain protein, it is not the same as a complete protein powder.[134] Collagen is low in several essential amino acids and does not provide the full amino acid profile needed to fully support daily protein requirements on its own.

If your goal is to meaningfully contribute to your total daily protein intake, it is best to rely on a complete protein source such as a dairy- or plant-based protein powder. Collagen can still be used alongside these sources, but it should be viewed as a targeted supplement rather than a primary protein replacement.

Plant Foods and Phytochemicals

After menopause, shifts in estrogen and other hormonal signaling can influence inflammatory tone, metabolic regulation, and fat distribution.[24] While these changes are natural, dietary patterns rich in whole plant foods can meaningfully influence how they are expressed over time.[135]

Emerging research also suggests that dietary patterns rich in polyphenols may influence body composition. For example, in one study, a high-polyphenol Mediterranean diet was associated with reductions in visceral adiposity (abdominal fat) compared to standard dietary approaches, suggesting a potential role for polyphenol-rich foods in supporting healthier fat distribution patterns over time.[136] While this study was not conducted specifically in postmenopausal women, it adds to a broader body of evidence suggesting that dietary quality and phytochemical intake may influence central (visceral) fat accumulation, a key metabolic concern in midlife and postmenopause.

Phytochemicals (plant compounds) are found in fruits, vegetables, and other plant products, including tea, whole grains, and legumes. Phytochemicals can also support a variety of health concerns in postmenopausal women. For example:

- Blackcurrants, rich in anthocyanins, may help support bone and heart health[137][138]
- Cocoa, rich in polyphenols, may support mental health[139]
- Garlic, rich in organosulfur compounds, may support joint comfort[140]
- Mangos, rich in flavonoids, carotenoids, and mangiferin, may improve wrinkles (up to a certain intake)[141]

This is only a small snapshot of the diversity of phytochemicals in plant foods. Rather than focusing on individual "superfoods," a more consistent strategy is dietary diversity (often described as "eating the rainbow") to increase exposure to a broad range of plant compounds over time.

A simple approach is to aim for a variety of colors across the day or week, rather than strict daily targets.

Supplemental fruits and vegetables may include:

- Concentrated fruit and vegetable powder
- Multivitamins with plant extracts
- Mushroom powders
- Cocoa powder
- Spirulina powder

How to choose a cocoa powder: Cocoa is rich in antioxidant phytochemicals, but different cocoa products vary in their phytochemical content.[142] Many people are familiar with Dutch cocoa powder, which undergoes alkalinization to improve its solubility and bitterness, making it better for baking.[142] However, this process can also reduce the cocoa's phytochemical content.[142] When choosing a cocoa powder as a dietary supplement, it's best to choose a minimally processed, non-alkalized "natural" variety. This is often marketed as "raw cacao powder," and it can be used in foods like smoothies, yogurt, and oatmeal for a nutritious boost.

Fats and Oils

Fats are essential for helping the body absorb the fat-soluble vitamins A, D, E, and K.[143] They are also incorporated into cell membranes for structure and function. Some dietary fats, especially those from plants, have anti-inflammatory properties due to their content of essential fats and even phytochemicals, such as oleocanthal in extra-virgin olive oil.[144][145]

Healthy fats include:

- Avocados
- Nuts: Almonds, cashews, hazelnuts, macadamias, pecans, walnuts
- Oils: Coconut, extra-virgin olive oil
  - For cooking: Avocado oil, butter, coconut oil, extra-virgin olive oil, ghee (clarified butter), sesame oil
  - Not for cooking, but for salad dressings and other non-heat preparations: Flaxseed oil, pumpkin seed oil
- Olives (black, green, purple)
- Seeds: Chia seeds, flaxseeds, hemp seeds, pumpkin seeds, sesame seeds

Supplemental fatty acids may include:

- Omega-3 fatty acids concentrated in long-chain omega-3 fatty acids such as EPA and DHA
- Omega-3 fatty acids from algal sources, typically higher in DHA
- Flaxseed oil
- MCT oil

The total amount of fat in the diet appears to be less important than the composition of fats.[24] It's recommended that menopausal women prioritize polyunsaturated fatty acids and omega-3 fatty acids rather than saturated fats, which should not exceed 10% of daily calories.[24][129]

What About Seed Oils?

Seed oils are a topic of ongoing debate in nutrition. Many commonly used seed oils, such as soybean, corn, sunflower, safflower, and canola oil, contain polyunsaturated fats that can support heart health when used in place of trans fats or highly processed saturated fats. However, concerns have been raised about the high intake of omega-6 fatty acids relative to omega-3 fatty acids in modern diets, as well as the degree of processing, refining, repeated heating, and oxidation that some industrial oils undergo. Rather than viewing all seed oils as inherently "good" or "bad," it may be more helpful to focus on overall dietary patterns, balance, and quality. Choosing minimally processed oils, avoiding repeatedly heated oils used in deep frying, and emphasizing whole-food sources of healthy fats alongside omega-3-rich foods can help support a more favorable inflammatory and metabolic environment.

Carbohydrates and Fiber

You may notice greater sensitivity to carbohydrates. This reflects changes in insulin signaling and metabolic flexibility. To support blood sugar balance:

- Pair carbohydrates with protein and fat
- Consider eating carbohydrates later in the meal
- Focus on whole, fiber-rich sources

Whole grains provide fiber, which can support healthy blood sugar regulation and cardiovascular health. It's recommended that menopausal women consume 30-45 g fiber per day.[24]

Unless otherwise indicated, include whole grains, such as:

- Buckwheat
- Millet
- Oats
- Rice (Brown, black, red, and wild)*
- Quinoa

Besides using whole grains as a component of healthy meals, many are also available as flour, which can be used for baking to incorporate more fiber and nutrients. Some examples include oat, buckwheat, and quinoa flour.

Supplemental fibers may include:

- Himalayan tartary buckwheat powder
- Flaxseed meal
- Chia seeds

Note: Choose gluten-free options as needed or as directed by your healthcare provider.

*Rice may contain arsenic, a toxic heavy metal. Parboiling rice is shown to be the most effective way to remove arsenic from rice.[146] To parboil rice, you should 1) Boil fresh water, 2) Add rice and boil for 5 minutes, 3) Discard the water, 4) Add fresh water to rice and cook according to normal preparation instructions (e.g., 2 cups of water for each 1 cup of raw rice).

A note about glycemic impact: Foods with a high glycemic index are known to increase blood sugar rapidly. Including protein, fiber, or fat with meals containing carbohydrates can help reduce the meal's glycemic impact. Additionally, eating carbohydrates at the end of the meal, after protein and fat can also help reduce the rise in blood sugar after a carbohydrate-containing meal.

What to Eat for a Healthy Gut Microbiome

Supporting the gut microbiome may also support the vaginal and skin microbiomes after menopause.

What to eat to support the gut microbiome:

- Fermented dairy products (if allowed), such as yogurt and kefir[147]
- Fermented plants, such as kimchi, sauerkraut, miso, and natto (fermented soybean)[147]
- Polyphenols from colorful fruits and vegetables (e.g., berries of all types, herbs and spices, cocoa powder)[148]
- Prebiotics from plants, such as artichoke, bananas, onions, whole grains, beans, and legumes[148]

Fermented foods can be consumed daily, and products like kimchi and sauerkraut can contribute to your daily vegetable intake.[149] If you are unaccustomed to eating fermented foods, it may be best to start with small servings and gradually increase your intake to reduce unwanted digestive symptoms, such as bloating and gas. Some individuals may not be able to comfortably consume these foods because of food sensitivities or intolerances, such as histamine intolerance.[150]

Daily consumption of pre- and probiotic-rich foods is a supportive strategy for gut health. Prebiotics "feed" the good gut bacteria, while probiotics help support an abundant and diverse microbiome. If you suspect issues with your gut microbiome, such as infection, talk with your healthcare provider about testing and treatment.

Phytoestrogens in Food

Phytoestrogens are plant compounds that are similar to estrogen and can be found in a variety of foods, including soy and flaxseeds, as well as herbs such as red clover and alfalfa.[81]

Soy is of particular interest for menopausal women. As a source of isoflavones, a type of phytoestrogen, soy has several benefits, including the potential to support bone health, metabolic health, and cardiovascular health.[81][151][152] Soy foods are also high in protein and contain branched-chain amino acids (BCAAs), which play an important role in muscle growth.[81] Soy consumption is most known for its role in easing vasomotor symptoms (hot flashes and night sweats).[153][154][155] It is best to choose soy products that are certified organic.

Examples of soy-containing foods include:

- Edamame (immature soybean)
- Miso
- Natto
- Soy milk
- Tempeh
- Tofu
- Whole soybeans

Some women may experience greater health benefits from consuming soy foods compared to others because of their ability to produce equol, which is a metabolite of an isoflavone known as daidzein.[156] Equol is of importance because it has greater antioxidant activity and estrogenic potency compared to other isoflavones.[156][157]

However, equol production varies between individuals due to differences in the gut microbiome.[158] Though approximately 50-60% of adults from Japan, China, and Korea are equol producers, this number is only 25-30% of adults in Western countries.[156]

Your ability to produce equol may change over time; however, more research is needed to identify how this may happen.[158] One study suggests that equol production increased with higher intake of carbohydrates.[159] On the other hand, high intake of dietary fats may reduce equol production.[160] Finally, promoting diversity in the gut microbiome by eating a variety of plant foods may help support equol production.[161]

Key Nutrients After Menopause

Focus on food sources first:

- Calcium: Almonds, beans, cheese, collard greens, fortified foods (e.g., plant-based milks), kale, milk, sesame seeds, soft-boned fish (e.g., sardines), tofu, yogurt[24][162]
- Choline: Egg yolk[163]
- Magnesium: Almonds, beans, brown rice, cashews, chia seeds, pumpkin seeds, soybeans, spinach[164]
- Vitamin C: Berries, broccoli, cherries, citrus fruits, peppers, tomatoes[24]
- Vitamin D: Egg yolk, dairy products, fortified foods[24]
- Vitamin K: Broccoli, collards, kale, natto (fermented soybeans), soybeans, spinach[165]
- Zinc: Red meat, seafood, eggs, dairy, fortified cereals, nuts, whole grains[166]

Calcium is important for bone health in menopause. However, an intentional and balanced diet can likely cover your calcium requirements and is preferred over regular supplementation, unless a deficiency exists.[24] Some evidence suggests calcium supplements may negatively affect heart health, though controversy exists.[167] Working with a healthcare provider is advised to help you assess individual nutrient and supplement needs.

What to Limit After Menopause

Rather than strict avoidance, think in terms of frequency and impact:

- Highly processed carbohydrates (blood sugar disruption)
- Excess alcohol (sleep + vasomotor symptoms)
- High-AGE cooking methods (frequent charring, frying)

Food sensitivities should be identified individually, not assumed.

- Suspected or known food sensitivities, intolerances, and allergies, such as:
  - Caffeine (e.g., coffee, energy drinks, soft drinks, teas)
  - Corn (e.g., chips, tortillas)
  - Dairy products (e.g., cheese, milk, yogurt)
  - Gluten (e.g., barley, rye, wheat, spelt)
  - Peanuts
  - Shellfish

Note: Work with your healthcare provider to determine whether you have any food sensitivities, intolerances, or allergies through laboratory testing or elimination from the diet.

- *Processed/refined carbohydrates:* They may affect blood sugar regulation and the body's natural inflammatory response.[168][169]
  - Breads, especially white bread
  - Chips
  - Crackers
  - Fruit juice
  - Pancakes and waffles
  - Pastas
  - Ready-to-eat cereal
  - Soft drinks
  - White flour
  - White sugar and other refined sweeteners

- *Dietary advanced glycation end products:* These foods are rich in damaged, complexed proteins and fats called Advanced Glycation Endproducts (AGEs).[170][171] AGEs are linked to inflammation and aging.
  - Grilled, fried, or roasted meats
  - High fat and aged cheeses
  - High fat spreads
  - Roasted nuts
- *Alcohol:* Drinking alcohol may increase the risk of vasomotor symptoms, especially night sweats.[172] For women experiencing bothersome vasomotor symptoms, it may be best to limit or refrain from alcohol.

Reduce the AGE content of meals by changing how you cook. Cooking methods to reduce AGEs include low heat food preparation, cooking with moisture (e.g., boiling and steaming), and using acidic marinades.[173]

What You Can Do

- Anchor meals around protein + fiber + healthy fats
- Eat with consistency to support metabolic rhythm
- Increase plant diversity (not perfection)
- Support your microbiome daily
- Adjust expectations, since your body is adapting to a new hormonal baseline

Reducing Toxins in Food Preparation and Selection

Food does more than provide nourishment. It also carries information from the environment in which it was grown, processed, packaged, stored, and prepared. While it is impossible to eliminate all environmental exposures, reducing the overall toxic burden from food can support the body's natural detoxification systems, hormonal balance, metabolic health, and long-term resilience.

One helpful starting point is choosing foods that are as close to their natural state as possible. Whole, minimally processed foods generally contain fewer additives, preservatives, artificial colors, flavor enhancers, and packaging-related contaminants. Fresh vegetables, fruits, legumes, nuts, seeds, herbs, spices, and high-quality proteins can help provide protective nutrients and phytochemicals that support the body's antioxidant and detoxification pathways.

When possible, consider choosing organic versions of foods that are more heavily sprayed with pesticides, especially thin-skinned produce. Washing produce thoroughly, peeling when appropriate, and varying food choices may also help reduce repeated exposure to agricultural chemicals.

Food storage and preparation methods matter as well. Heating food in plastic containers can increase the migration of chemicals such as bisphenols and phthalates into food, particularly with fatty or acidic foods. Using glass, stainless steel, ceramic, or cast iron cookware and storage containers may help reduce exposure. Avoiding scratched nonstick cookware and minimizing heavily charred or burnt foods can also be beneficial, as high-heat cooking may generate potentially harmful compounds.

Water quality is another important consideration. Filtered water may help reduce exposure to contaminants such as chlorine byproducts, heavy metals, microplastics, and other environmental pollutants depending on the filtration system used.

Certain foods may naturally support the body's detoxification processes. Cruciferous vegetables such as broccoli, cabbage, kale, arugula, and Brussels sprouts contain sulfur-containing compounds that support liver detoxification pathways. Colorful plant foods rich in polyphenols and antioxidants may also help protect cells from oxidative stress associated with environmental exposures.

The goal is a more supportive environment for your body, built over time through small, sustainable choices.





Chapter 4

Dietary & Herbal Supplements: Select Supplements for Postmenopause

You may be considering supplements to support symptoms or long-term health. They can be helpful, and they work best alongside foundational inputs like nutrition, sleep, and stress regulation.

A high percentage of menopausal women seek alternative and complementary medicine approaches to help support comfort during menopause.[174][175] This may be due to several factors, including concerns about side effects of HRT.[176] All supplements should be considered in context of your symptoms, medications, and overall health.

- Organizing Dietary Supplements by Mechanism of Action

A Note on Hormone Support

As you've learned, menopause involves more than low hormone levels. It reflects changes in hormonal signaling across the HPTAO axis and how multiple systems adapt to a new hormonal baseline.

In clinical practice, hormonal therapy is often initiated during a specific window of time relative to the final menstrual period.[177] In general, postmenopausal women who are more than approximately 10 years beyond menopause or over age 60 are often considered outside the typical "initiation window" for systemic hormone therapy, due to a different balance of potential risks and benefits in this population.[178] As a result, some women in later postmenopause may be less likely to pursue or be offered conventional hormone-based options.

This context is one reason many women begin exploring additional, non-hormonal approaches for support during this stage of life. Botanicals and certain dietary supplements may play a meaningful role here, as some are thought to support natural hormonal signaling pathways, nervous system regulation, stress response, and overall resilience, without directly replacing hormones.

These approaches are designed to support the body's existing regulatory systems as it adapts during postmenopause.

Organizing Dietary Supplements by Mechanism of Action

One of the most confusing aspects of choosing dietary supplements during perimenopause and postmenopause is that many products are grouped together simply because they are used for similar symptoms. Yet supplements can work through very different biological pathways.

Organizing supplements according to their primary mechanism of action can help create a more personalized and strategic approach. Rather than viewing all supplements as interchangeable, it may be more helpful to think about them in functional "buckets" based on how they interact with physiology.

Endocrine Modulation

These supplements support communication within the body's endocrine system rather than supplying hormones directly. They may help the body adapt to changing hormonal rhythms and signaling patterns during midlife transitions.

Examples include:

- Maca-GO® (Femmenessence®)

Maca is often described as an endocrine adaptogen because it appears to influence hypothalamic-pituitary signaling and support the body's own regulatory capacity. Rather than acting like estrogen, it may help support balance across multiple endocrine pathways related to mood, energy, sleep, and reproductive function.

Phytoestrogens

Phytoestrogens are naturally occurring plant compounds with structural similarities to estrogen.[81] Some can weakly bind to estrogen receptors and may influence estrogen-related signaling in tissues such as bone, blood vessels, skin, and the brain.

Examples include:

- Soy isoflavones
- Red clover
- Resveratrol

These compounds do not function identically to human estrogen, and their effects can vary depending on factors such as gut microbiome composition, life stage, and individual metabolism. In some individuals, phytoestrogens may help support comfort during the menopausal transition.

Antioxidant and Chronobiology Support

Some supplements work less through direct hormone modulation and more through supporting cellular resilience, circadian rhythms, and oxidative balance.

Examples include:

- Melatonin (Herbatonin®)

Melatonin is widely recognized for its role in sleep regulation, but it also functions as a powerful antioxidant that supports mitochondrial health, immune signaling, and circadian biology. Because melatonin production naturally declines with age, supporting healthy melatonin rhythms may influence sleep quality, recovery, and healthy aging processes.

Herbal Support for Symptom Relief

Certain herbs are traditionally used to help manage common menopause-related symptoms such as occasional sleep disruption, tension, mood changes, or hot flashes. These botanicals are often used for targeted symptom support rather than broad endocrine regulation.

Examples include:

- Lemon balm
- Valerian
- Black cohosh

Some herbs may support the nervous system and relaxation pathways, while others may influence thermoregulation or neurotransmitter activity. Their mechanisms are often multifactorial and may involve interactions with the nervous, endocrine, and immune systems.

Musculoskeletal and Cellular Energy Support

Some supplements support the body's energy-producing systems directly, particularly within muscle, brain, and cellular metabolism. These nutrients may become increasingly important during and after menopause, when changes in estrogen can influence muscle mass, strength, recovery, and mitochondrial function.

Examples include:

- Creatine monohydrate[179]
- Creatine hydrochloride (HCl)[180]

Creatine is best known for supporting muscle performance and strength, but it also plays an important role in cellular energy production through the phosphocreatine energy system.[181] Emerging research suggests creatine may support healthy aging by helping maintain lean body mass, physical function, cognitive performance, and recovery capacity.[182] Because postmenopausal women are at increased risk for age-related declines in muscle and bone health, creatine is receiving growing attention as a foundational tool for musculoskeletal resilience and metabolic health.[183]

A Functional Perspective

Many supplements fit into more than one category. For example, some botanicals may have antioxidant effects in addition to endocrine activity, while others influence both mood and sleep pathways. Understanding the primary mechanism of action can help simplify decision-making and encourage more thoughtful, individualized use.

Rather than asking, "What supplement should I take for menopause?" it may be more useful to ask:

- What system am I trying to support?
- Is the goal endocrine signaling, symptom relief, sleep support, antioxidant protection, or metabolic resilience?
- What is the root physiological shift occurring in my body?

This type of framework can help create a more personalized and systems-based approach to supplementation.

Endocrine Modulation

Maca-GO® (Lepidium peruvianum Chacon)

Clinical research suggests the potential of specific maca phenotypes for supporting healthy hormone levels in healthy postmenopausal women by supporting the HPTAO axis.[184][185] Note that this research only applies to this particular combination of bioavailable, proprietary maca phenotypes and not just any "maca".

Study #1. A study in healthy early postmenopausal women (aged 45-62) investigated the effects of two grams of Maca-GO® taken daily for two or eight months.[185] The following results were noted:

- Significant increase in progesterone after eight months of use
- Significant decrease in FSH after two and eight months of use
- Significant increase in estradiol after eight months of use
- Significant increase in LH after two and eight months of use

These results translated to a significant reduction in menopausal symptoms, including feeling more energetic, less nervous tension, reduced hot flashes, and more interest in sex life.[185] These results reflect this specific study population and may not represent individual experiences.

Study #2. This study led to a more extensive multi-center clinical trial to assess varying biological and symptomatic marker changes depending on Maca-GO® administration in various sequences and for various lengths of time.[184] Compared to baseline levels, healthy early postmenopausal women who were given Maca-GO® for two months in a row experienced increases in estradiol and decreases in FSH. Progesterone levels increased from baseline after two months of Maca-GO® administration, but this increase was lost once the group switched to receiving a placebo.

Additionally, the administration of Maca-GO® positively influenced the frequency and severity of menopausal symptoms as assessed by the Kupperman's Menopausal Index (KMI), from a baseline score of 22 to 10 post-Maca-GO® treatment.[184] These results reflect this specific study population and may not represent individual experiences.

Study #3. A final study involving 34 healthy early postmenopausal women (aged 49-58 years) took place to assess hormone and bone density changes associated with Maca-GO® supplementation.[186] In this carefully designed crossover trial, participants took either 2 g Maca-GO® or placebo for two months before switching to the opposite intervention.

Results demonstrated that women taking Maca-GO® for two months experienced significantly increased estradiol levels and decreased cortisol levels compared to placebo. Though statistical significance was not reached, positive changes were also experienced in active thyroid hormone (triiodothyronine or T3).

Most importantly, the women participating in the study experienced positive changes in symptoms associated with menopause, including hot flashes and interrupted sleep, in addition to a statistically significant decrease in BMI after taking Maca-GO®. These findings suggest that Maca-GO® may be a favorable non-hormonal, plant-based option for peri- and post-menopausal women.[186] These results reflect this specific study population and may not represent individual experiences.

Why the Type of Maca Matters. With this in mind, it is essential to note that the type of maca should be carefully considered. Not just any maca supplement will do. In fact, up to 17 different colors of maca exist, each displaying varying characteristics.[187] Based on this, where and how the maca was grown and harvested may alter maca's nutrition and functional profile, which could impact how it is used in the body. The combination of colors found in Maca-GO® have been used in both animal studies and human trials.[187] They have been found to have a favorable impact on various hormone levels and may be included in a comprehensive hormone health plan.

In summary, the Femmenessence (Maca-GO®) line of women's products is the only clinically tested dietary supplement for women that supports healthy hormone levels without the introduction of exogenous hormones. Instead, Femmenessence can help support healthy hormone production in perimenopausal and postmenopausal women through the HPTAO axis.

There are two different Femmenessence products to address each stage of life:

1. Femmenessence MacaLife® for *perimenopausal* women has a 74-82% success rate. Anecdotally, women report improvements in as little as 2 days, with an average of 21 days, in areas such as normal hormone balance, hot flashes and night sweats, dryness and lack of desire, balanced mood, energy and sleep, heart health, and hair, skin, and nails.
2. Femmenessence MacaPause® for *postmenopausal* women provides all the benefits listed above, with added support for bone and mental health.

Note: As hormone balancing is very individualized, we recommend contacting our Medical Team (medical.team@symphonynaturalhealth.com) if you need guidance with a particular clinical situation. We do not recommend Femmenessence for individuals who have been prescribed or are currently taking tamoxifen, or any hormone-suppressing medication.

Phytoestrogens

Red *Clover (Trifolium pratense)*[188]

Red clover is a flowering plant used in traditional medicine to support symptoms associated with menopause. The effects of red clover are thought to be due to its isoflavone content, which imparts estrogen-like effects. The main isoflavones in red clover are aglycones, formononetin, and biochanin A.

A systematic review and meta-analysis of randomized controlled trials reported that women who took red clover had 1.73 fewer hot flashes per day than those who took a placebo.[188] The effect of red clover was reported to be stronger in postmenopausal women with at least five hot flashes per day. A 12-week treatment duration was more effective, and higher doses around 80 mg/day resulted in better outcomes.

Although these results are promising, more research is needed to clearly understand red clover's role in menopausal symptoms. The optimal dosage and duration of red clover supplementation for treating menopausal symptoms remain unclear and most likely vary substantially among individuals.

Resveratrol

Resveratrol is a polyphenol found in foods such as grapes, berries, and red wine, and has been studied for its potential effects on cardiovascular, metabolic, and cognitive health.[189]

In postmenopausal women, a 24-month randomized, placebo-controlled crossover trial demonstrated statistically significant improvements in overall cognitive performance and cerebrovascular function, suggesting a potential role in supporting brain blood flow and cognitive aging.[190] However, the broader body of evidence is mixed. A systematic review and meta-analysis did not find a consistent benefit of resveratrol supplementation on cognitive outcomes in postmenopausal women.[191] These discrepancies may be due to differences in dosage, duration, study populations, and baseline health status.

Soy Isoflavones

Soy contains naturally occurring phytoestrogens known as isoflavones, primarily genistein, daidzein, and glycitein.[192] These compounds can bind to estrogen receptors, particularly estrogen receptor beta (ERβ), and may exert mild estrogen-like or selective estrogen-modulating effects in the body.[193] Because estrogen levels decline during menopause, soy isoflavones have been widely studied for their potential role in supporting menopausal symptoms, cardiovascular health, and bone health.[193]

Research suggests that soy isoflavones may modestly reduce the frequency and severity of hot flashes, particularly in women who experience more frequent vasomotor symptoms.[155] Additionally, research demonstrates a beneficial effect of soy isoflavones on cognitive symptoms in postmenopausal women, especially verbal memory.[194] Some evidence indicates that benefits may be greater in individuals who can produce equol, a metabolite formed from daidzein by specific gut bacteria, highlighting the importance of the gut microbiome in phytoestrogen metabolism and response.[195]

Beyond symptom management, soy foods and soy isoflavones have also been investigated for their potential effects on bone density, lipid metabolism, and vascular function during and after menopause.[152][81] Whole soy foods such as edamame, tofu, tempeh, and miso provide additional nutrients including protein, fiber, minerals, and other phytochemicals that may contribute to healthy aging.

While many studies support the safety and potential benefits of soy isoflavones for menopausal women, findings remain mixed due to differences in dosage, supplement form versus whole foods, duration of use, and individual variability in metabolism. More research is needed to better understand which individuals are most likely to benefit and the optimal intake levels for different health outcomes.

Antioxidant and Chronobiology Support

Melatonin

Melatonin is a hormone that helps regulate the circadian rhythm and sleep-wake cycle. Levels naturally decline with age, and this reduction may contribute to sleep disturbances commonly experienced after menopause.[196]

Research on melatonin supplementation in menopausal women shows mixed results. A systematic review and meta-analysis found inconclusive evidence for its effectiveness in improving sleep overall.[197] However, another systematic review reported more consistent benefits in postmenopausal women who already experience sleep disturbances, suggesting that melatonin may be more helpful when sleep issues are present.[198]

Beyond sleep, melatonin also has antioxidant properties and may play a broader role in supporting circadian alignment, which influences metabolic, cognitive, and hormonal health.

Melatonin may also contribute to bone health. Experimental studies suggest it may support osteoblast activity (the cells that build bone) while helping temper osteoclast activity (the cells that break down bone), thereby promoting a more favorable balance in bone remodeling.[199] Its antioxidant and anti-inflammatory effects may also help protect the bone microenvironment from oxidative stress and inflammatory signaling that can contribute to bone loss.

Although clinical research remains limited, several small trials have reported improvements in bone remodeling markers and increases in bone mineral density in peri- and postmenopausal women, particularly those with osteopenia.[200][201] A systematic review and meta-analysis of randomized controlled trials concluded that melatonin-containing interventions may improve bone mineral density, especially at the femoral neck, though many studies combined melatonin with other nutrients, making it difficult to isolate its independent effects.[202]

Taken together, melatonin may offer benefits beyond sleep by supporting circadian rhythm, cellular resilience, and skeletal health. As with any supplement, it is best used within the context of an individualized plan developed with a qualified healthcare practitioner.

Herbal Support for Symptom Relief

Lemon Balm *(Melissa officinalis)*

Lemon balm is a traditional herbal medicine commonly used for its calming properties and support of the nervous system. It has been studied for its potential to support sleep, mood, and stress resilience.[203][204]

In a randomized, double-blind, placebo-controlled clinical trial, postmenopausal women with sleep disturbances experienced significant improvements in sleep quality after 8 weeks of lemon balm supplementation.[205] These effects are thought to be related to lemon balm's interaction with neurotransmitter systems involved in relaxation and stress regulation, including GABA signaling.

Valerian *(Valeriana officinalis)*

Valerian is a well-known herbal remedy traditionally used to support sleep and relaxation. It is thought to influence the nervous system through GABA-related pathways, promoting a calming effect.

A triple-blind, randomized, crossover clinical trial in postmenopausal women demonstrated significant improvements in both sleep quantity and sleep quality with valerian supplementation.[206] While individual responses can vary, valerian may be particularly helpful for women experiencing difficulty falling asleep or maintaining sleep.

Black Cohosh *(Actaea racemosa, formerly Cimicifuga racemosa)*

Black cohosh is a popular herbal medicine, with its earliest recorded use dating back to the 17th century. A meta-analysis of available data from 43,759 women, of which 13,096 were given black cohosh, reported significant improvement in various menopausal symptoms, including hot flashes, sweating, and mood disturbances.[207]

The analysis reported effects comparable to standard HRT/MRT, with fewer adverse events. Additionally, black cohosh was not observed to change hormone levels.

Black cohosh may be a safe option to consider for women experiencing menopausal symptoms. Similar to other herbal treatments, working with your healthcare provider to establish a safe but effective dose, duration, and frequency should be considered.

Musculoskeletal and Cellular Energy Support

Creatine

Creatine is one of the most well-studied supplements for supporting cellular energy production and may be particularly valuable in postmenopause, when age-related changes in muscle, bone, and brain energy metabolism become more pronounced.[181][183]

When paired with resistance training, creatine may help support:[183]

- Muscle mass and strength
- Functional performance and recovery
- Bone health (indirectly through greater muscle loading and possibly direct effects on bone cells)
- Cognitive function and mental energy

Most studies have used creatine monohydrate, which remains the most extensively researched, effective, and cost-efficient form.[179] Creatine hydrochloride (HCl) is another commonly used form that may be better tolerated by some individuals, although it has been studied less extensively.[180] Current evidence does not clearly demonstrate superior benefits of HCl over monohydrate.

A common evidence-based dose is 3-5 grams daily, taken consistently rather than cycled.[208] Some experts suggest that women, particularly those in peri- and postmenopause, may benefit from doses in the range of 5-10 grams per day, depending on body size, dietary intake, and individual goals. Importantly, a loading phase is not necessary for most people.

Creatine may cause a small increase in body weight initially due to greater water retention within muscle tissue, which is generally considered a normal and expected response rather than fat gain. Creatine is also considered safe for most healthy adults, but individuals with kidney disease or other significant medical conditions should consult their healthcare provider before starting supplementation.

Daily consumption of pre- and probiotic-rich foods is a supportive strategy for gut health. Prebiotics "feed" the good gut bacteria, while probiotics help support an abundant and diverse microbiome. If you suspect issues with your gut microbiome, such as infection, talk with your healthcare provider about testing and treatment.





Chapter 5

Exercise & Movement: How Movement Shapes Your Health in Postmenopause

- Bone Health and Exercise
- Muscle Loss and Exercise
- Fear of Falling and Functional Movement
- Mind-Body Exercises
- Training Guidelines for Postmenopause
- Tips for Moving More After Menopause

You may be noticing that your body responds differently to movement than it did before. Recovery might take longer. Strength may feel harder to maintain. Or you may feel a stronger pull to move so you feel capable, steady, and energized in your body. This is a signal to move with more intention.

In postmenopause, exercise becomes one of the most powerful ways to influence how your body functions over the next several decades, beyond how it looks or performs today.

Movement is not separate from your hormones. It is one of the most direct inputs into how your brain, metabolism, and musculoskeletal system communicate and adapt.

- Exercise for you now supports:[209][210]
- Bone health
- Cardiometabolic health[211]
- Cognitive health[212]
- Fall risk and physical independence[25]
- Mental wellbeing[213]
- Muscle mass and strength[214]
- Sleep[215]
- Body composition and metabolic resilience[216]

Bone Health and Exercise

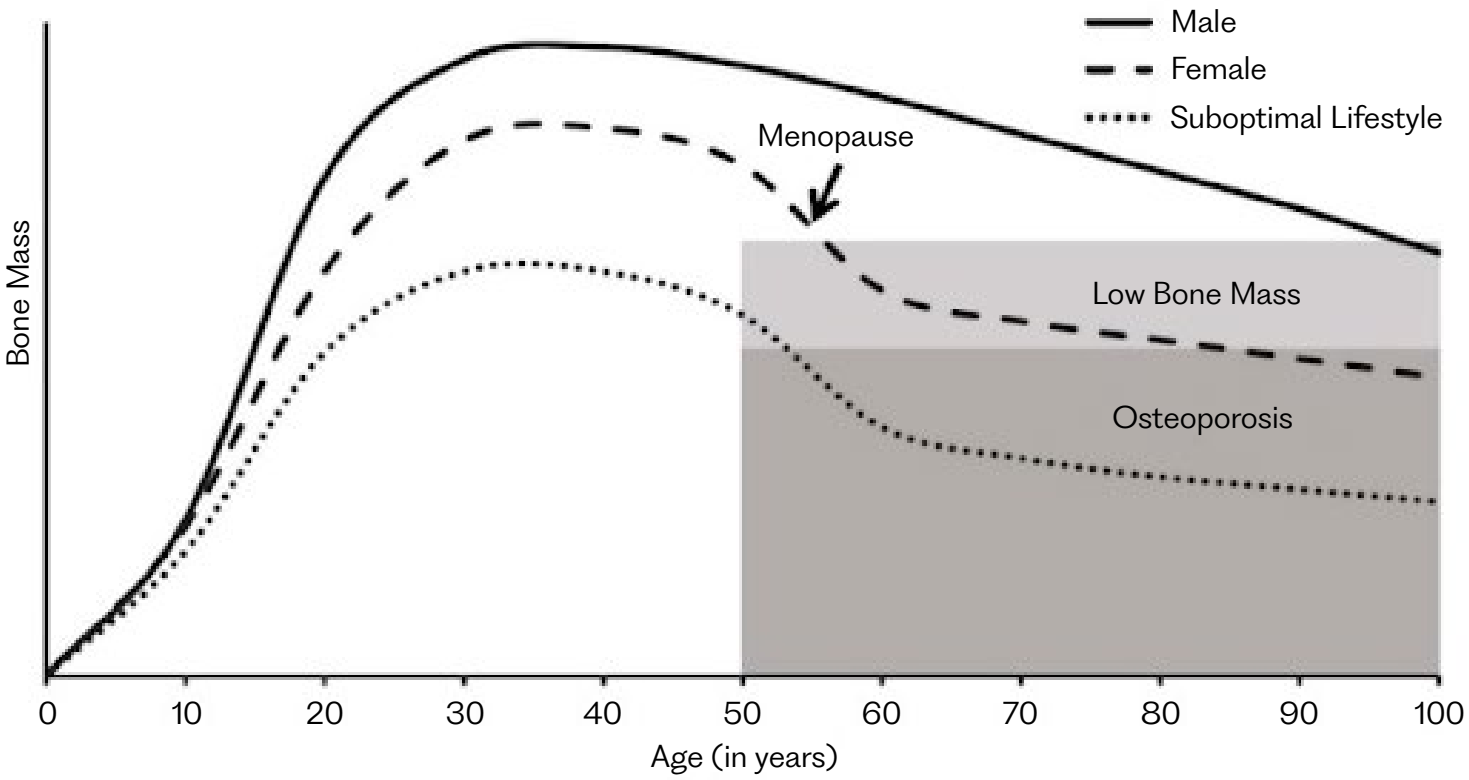


Figure: Hodges, J. K., Cao, S., Cladis, D. P., & Weaver, C. M. (2019). Lactose Intolerance and Bone Health: The Challenge of Ensuring Adequate Calcium Intake. Nutrients, 11(4), 718. https://doi.org/10.3390/nu11040718 (CC BY 4.0)

Bone mineral density begins declining approximately one year before the final menstrual period and continues to decline more rapidly in the years immediately following menopause due to lower estrogen levels.[217]

Because bone is a living tissue, it responds directly to mechanical load. This means that the right types of exercise can actively help preserve, or even improve, bone strength.

Women who engage in regular, targeted movement reduce their risk of fracture and maintain greater independence over time. However, exercise recommendations should be individualized. In women with osteopenia or osteoporosis, particularly those with a history of fractures or very low bone density, certain high-impact or high-load movements may need to be modified.[218] In these cases, working with a qualified healthcare provider or exercise professional (such as a physical therapist or trained strength coach) is important to ensure movements are safe, progressive, and appropriate for current bone health status.[218] When appropriately adapted, strength and weight-bearing exercise remain one of the most effective strategies for preserving bone strength, improving balance, and reducing fracture risk over time.

Particularly effective strategies include:

- Resistance training (free weights, machines, bands)[219]
- Impact-based exercise (such as jumping or light plyometrics, when appropriate)[219]
- Brisk walking or hiking[220]

These forms of movement create mechanical strain on bone, which signals your body to maintain or build bone tissue.

Other supportive modalities include Pilates, yoga, tai chi, and qigong, which can improve balance, coordination, and movement quality.[210]

Aquatic exercise can support strength and mobility, though it provides less stimulus for bone loading compared to land-based training.

Muscle Loss and Exercise

After menopause, loss of muscle mass (sarcopenia) tends to accelerate. This is influenced by aging, lower estrogen levels, reduced physical activity, and changes in protein metabolism.[127] Muscle also plays a key role in regulating how your body functions.

It directly influences:

- Blood sugar regulation
- Metabolic health
- Balance and coordination
- Injury prevention
- Long-term independence

Loss of muscle mass is one of the most important drivers of reduced resilience with aging. Preserving it is one of the most powerful ways to maintain how you feel in your body day to day.

Resistance training is essential for gaining and maintaining muscle after menopause.[221] This can include:

- Free weights
- Machines
- Resistance bands
- Bodyweight exercises

If joint discomfort or mobility limitations are present, aquatic exercise can be a useful entry point while reducing load on joints.[222][223]

In this stage of life, maintaining muscle is foundational.

Fear of Falling and Functional Movement

You may not think about fall risk day to day, but changes in strength, coordination, and balance can happen gradually.

Just as important, fear of falling can quietly reduce how much you move, which increases risk over time.[224][225] Exercise helps interrupt that cycle.

It improves:

- Balance
- Coordination
- Strength
- Confidence in movement

Walking, strength training, Pilates, and tai chi are all effective ways to build stability and reduce fall risk.[226][227][228][229]

Working with a trained professional, even short term, can help you rebuild confidence and establish safe movement patterns.

Mind-Body Exercises

Mind-body practices offer something uniquely valuable in postmenopause: they support both physical capacity and nervous system regulation.

This matters because your nervous system is deeply connected to your endocrine system (HPTAO axis), influencing stress response, sleep, recovery, and energy.

These practices may support:

- Balance and fall prevention
- Flexibility and mobility
- Stress resilience
- Sleep quality

Examples include:

- Yoga may support sleep quality and stress reduction[230]
- Pilates may improve balance, posture, and core strength[231]
- Tai chi has been associated with improvements in strength, coordination, and fall risk reduction[232]

These forms of movement can be especially valuable when paired with strength and aerobic training to create a well-rounded routine.

Training Guidelines for Postmenopause

Training guidelines continue to evolve, but current evidence supports a combination of aerobic, strength, and balance training for long-term health. Below are training guidelines recommended for healthy adults.[233]

	Aerobic Training	Strength Training
Days Each Week	Five days per week, with 7,000 daily steps[234]	At least twice per week[233]
Time Commitment	150 to 300 minutes per week with sessions lasting at least 15 to 30 minutes	Choose 8-10 exercise movements (e.g., squat, bicep curl) and perform each for 1 to 3 sets. Choose weights that allow for 8 to 12 repetitions
Exercise Intensity	Moderate to vigorous	**General, healthy population:** Moderate intensity or 40-60% 1RM for 8 to 12 repetitions **Healthy adults who want to maximize strength:** High intensity or >80% 1RM for 1 to 6 repetitions
Examples of Exercises	Brisk walking, running, cycling, hiking, or swimming	Exercises using free weights (e.g., dumbbells, barbell), body weight (e.g., push ups, squats), machines, or resistance bands

RM=repetition maximum

In postmenopause, consistency matters more than intensity alone. The goal is preserving strength, mobility, metabolic health, and independence over time. A balanced routine that includes strength, aerobic activity, and stability work provides the greatest long-term benefit.

An emerging and increasingly supported approach to daily movement is the use of "exercise snacks."[235] This refers to short bouts of movement distributed throughout the day (typically 1 to 10 minutes) that help interrupt prolonged sitting and accumulate meaningful physical activity in a more flexible, accessible way.

For many women in midlife and postmenopause, exercise snacks can be especially valuable because they:

- Reduce the negative metabolic effects of prolonged sitting
- Support blood sugar regulation throughout the day
- Improve circulation and joint mobility
- Make strength and movement more achievable during busy or low-energy periods
- Help maintain neuromuscular engagement without requiring a structured workout

Examples might include a short walk after meals, a few sets of bodyweight squats between tasks, a brief stair climb, or mobility work spread across the day.

While exercise snacks do not replace structured resistance or aerobic training, they can meaningfully complement them, particularly for building consistency and increasing total daily movement volume.

How Much Weight Should You Be Lifting?

You may have heard that it is important for women to "lift heavy" to build muscle. However, that guidance may not apply to every woman, especially women with fragile bone health.

Strength training should feel challenging without feeling depleting or risky.

A practical way to gauge this is "reps in reserve":

> - You should finish a set feeling like you could complete about 2 to 4 more repetitions with good form
> - If you could easily do 7+ more reps, it may be time to increase weight

As you gain experience, gradually increasing intensity is appropriate, and progress should be slow and intentional (increases of 2% to 10%).

If you're unsure where to start, working with a trainer can accelerate both safety and confidence.

Tips for Moving More After Menopause

Move in a way that is enjoyable for you. Whether it's strength training, water workouts, walking, Pilates, dancing, hiking, or yoga, choose activities you enjoy. Everyone has a preferred way to move, and it's okay if it takes some time to find yours.

Prioritize resistance training. Include squats, lunges, push-ups, resistance bands, weightlifting, or bodyweight exercises to help maintain muscle mass, bone health, and metabolic health.

Use water workouts to your advantage. The pool is a great place to combine aerobics with the natural resistance the water provides. Water workouts may be particularly useful if you experience joint pain, since water reduces impact.

Stay social and accountable. Social support improves consistency and makes exercise more enjoyable. Join an exercise class, hiking group, or other group fitness activity.

Align your exercise routine with your energy levels and schedule. Consider when you feel best exercising and schedule accordingly. By allowing exercise to fit more seamlessly into your lifestyle, you'll likely find it easier to be consistent and enjoy it.

Remember to support your exercise with proper nutrition. Adequate calories, protein, hydration, and relevant supplements will give you the energy you need to perform, recover, and feel great while moving.

Seek assistance from a trained professional to create the ideal exercise routine. With their support, you can ensure exercise meets your experience level, preferences, schedule, and addresses any health concerns (e.g., joint or bone problems).





Chapter 6

Lifestyle & Environment: How to Support the Systems That Shape How You Age

- Why Sleep Matters More After Menopause
- Nervous System, Stress, and Emotional Health
- Social Connection
- Brain Health, Memory, and Mood After Menopause
- Spiritual Health
- Environmental Inputs and Hormone Health
- Sexual Health and Intimacy After Menopause
- Rewriting Menopause: From Loss to Power
- What You Can Do (Putting It All Together)

You may be noticing that what used to feel like “lifestyle choices” now have a more immediate impact on how you feel: your sleep, your energy, your mood, your resilience. That’s not a coincidence.

At this stage, your body is no longer buffered by the same hormonal patterns. The systems that regulate your health (your brain, metabolism, nervous system, and endocrine system) are still deeply connected, but they are more responsive to the inputs you give them each day. Lifestyle is no longer background. It is infrastructure.

These systems are part of the same communication network, the HPTAO axis (your brain, thyroid, adrenal glands, and ovaries). Sleep, stress, light exposure, nutrition, and environment all feed into how this system signals, adapts, and stabilizes over time.

What you do daily becomes how your body functions long-term.

Why Sleep Matters More After Menopause

You may be noticing that your sleep has changed: waking more often, feeling less rested, or struggling to stay asleep. Sleep does more than rest your body. It helps regulate it.

During sleep, your body:

- Regulates cortisol (your stress hormone)
- Stabilizes blood sugar
- Clears metabolic waste from the brain[236]
- Supports memory and cognitive function[237]
- Coordinates immune and cardiovascular health

In postmenopause, sleep continuity (staying asleep) becomes just as important as falling asleep. When sleep is disrupted, it can amplify:

- Mood changes
- Fatigue
- Cognitive symptoms (brain fog, memory lapses)
- Metabolic shifts

Over time, poor sleep also influences long-term risks related to cardiovascular and neurological health. This is one reason tracking heart rate variability (HRV), a marker of nervous system balance and recovery, can be useful for understanding how well the body is adapting to stress and sleep disruption.[238] HRV can be tracked passively during sleep using wearable devices (e.g., rings, watches, bracelets), offering a longer-term view of recovery trends rather than nightly sleep alone.

Why Sleep Changes After Menopause

Several systems are shifting at once:

- Hormones: Lower and more stable estrogen and progesterone influence temperature regulation, mood, and sleep cycles[239][240]
- Melatonin: Natural levels decline with age, which can affect sleep timing and depth.[241][242] Herbatonin® is the first phytomelatonin supplement and may help support healthy sleep and cellular health.
- Circadian rhythm (your internal clock): Becomes more sensitive to light exposure, meal timing, and stress.
- Vasomotor symptoms: Nighttime hot flashes can fragment sleep.[243]

This is why sleep may feel lighter, more interrupted, or less predictable.

Melatonin may have diverse benefits beyond sleep for postmenopausal women. Some evidence suggests that melatonin may improve bone health in menopausal women due to its effect on bone remodeling, ability to support or correct the circadian rhythm of bone tissue, and potential to reduce osteoblast damage.[244] Additionally, melatonin has shown potential for its use in supporting mental health in menopausal women.[245] Though melatonin is a natural substance, it's best to work with your healthcare provider if addressing certain health conditions.

Supporting Your Circadian Rhythm

Your circadian rhythm regulates hormone release, metabolism, and energy, along with sleep. When it's supported, your body knows when to be alert, when to wind down, and how to coordinate repair. When it's disrupted, everything feels harder.

Irregular sleep schedules, light exposure at night, inconsistent meal timing, and stress can all disrupt this rhythm, making it harder to fall asleep and to stay asleep.[246][247][248] For many women, this shows up as fragmented sleep, where waking during the night becomes more common. Supporting your circadian rhythm and sleep continuity, along with sleep duration, is an important focus in postmenopause.[249][250]

What You Can Do:

- Keep a consistent sleep-wake schedule as best you can.
- Dim lights two hours before bed.
- Sleep in a dark room or use an eye mask.
- Use a plant melatonin supplement (Herbatonin™) when appropriate.[251][252]
- Turn devices like phones, tablets, watches, and TVs off or set to 'night mode' to reduce blue light, which can disrupt melatonin signaling.[253]
- When waking at night to use the restroom, avoid turning on lights unless it is unsafe to do so.
- Consider trying out a temperature-controlled mattress cover to help keep your body cool during the night.[254]
- Get morning sunlight exposure when possible. Natural light early in the day helps anchor your circadian rhythm and supports nighttime melatonin production.[255]
- Be mindful of alcohol and late meals. Both can disrupt sleep continuity and increase nighttime awakenings.[256]

Nervous System, Stress, and Emotional Health

You may feel more emotionally steady in some ways and more sensitive in others. This is not contradictory. It reflects a nervous system that is recalibrating.

Your nervous system and endocrine system are in constant conversation. Chronic stress ("fight-or-flight") can influence:

- Sleep quality
- Blood sugar regulation
- Hormone signaling
- Mood and energy

Supporting your nervous system helps create the conditions where your body can regulate and repair.[257]

Emotional Health After Menopause

Menopause affects nearly every body system, significantly impacting a woman's quality of life.[20] Data from a large cohort report that women experience higher average levels of stress, and they are more likely to rate their stress levels higher compared to men.[258]

Additionally, studies suggest that stress levels are different in early perimenopause compared to postmenopause. For example, according to one study, early perimenopausal women experienced significantly higher levels of stress and were more likely to be bothered by mood-related symptoms and poor memory compared to postmenopausal women.[259] Compared to early

perimenopausal women, postmenopausal women are thought to have better coping and emotional regulation skills, which may be associated with higher optimism and better stress management, leading to better quality of life.[259] Finally, having higher psychological resilience may be associated with better adjustment through the menopausal transition.[260]

This matters because higher perceived stress is associated with more severe vasomotor, psychosocial, physical, and sexual symptoms.[261] Along with a woman's body and mood changing to seemingly unrecognizable patterns (i.e., "It feels like my body's taken over by aliens"), she often deals with challenging life events, including changing family relationships, balancing work and personal life, re-discovering herself, financial stability, divorce and/or breaking up with a partner, health problems of loved ones, and deaths of parents or friends.[262][263]

Mindfulness, or the act of non-judgmentally paying attention to the present moment, may be helpful as it's associated with improved perceived stress scores and improved quality of life.[264]

Simple practices that support your nervous system include:

- Slow, intentional breathing
- Time in nature
- Gentle movement like walking or yoga
- Creating moments of pause throughout the day

These small inputs can have meaningful effects over time.

Additionally, the practice of being kind to oneself when facing a difficult situation, called self-compassion, is associated with improved cortisol levels in older women, which may be helpful during these big changes.[265]

Social Connection

You may find yourself re-evaluating relationships: what feels supportive, what doesn't, and what you need more of. Connection affects your body as well as your emotions.

- Supportive relationships influence:[266]
- Stress hormones
- Immune function
- Cardiovascular health
- Longevity

Isolation, on the other hand, increases physiological stress.

What you can do:

- Prioritize relationships that feel mutual and supportive
- Stay socially engaged in ways that feel energizing (not draining)
- Seek out community, especially with women in similar life stages[267]

Brain Health, Memory, and Mood After Menopause

You may have noticed changes in memory, focus, word recall, and mental clarity. These changes are common and often temporary.

In postmenopause, cognitive health becomes an important area of focus, both for how you feel day to day and for long-term brain health and resilience.

Women experience cognitive, behavioral, and mental health changes during the menopausal transition. While these changes are often associated with hormonal changes, they may also have roots in the structural changes seen in the brain during this time.[268] Pioneering research conducted by Lisa Mosconi, PhD and her colleagues has uncovered several changes that occur in the brains of menopausal women. Changes associated with the menopausal transition include decreased volume of both white and gray matter, decreased ability of the brain to generate energy from glucose, and even increases in the amyloid-beta protein, a substance that has been studied in relation to neurodegenerative conditions.[269][268]

Cognitive Health

Gray matter is important for the processing and interpreting of information, while white matter supports normal nerve transmission and communication between different brain regions.[270][271] The normal decline in estrogen that accompanies menopause is thought to contribute to decreased gray and white matter volume.[268] These changes are associated with memory and cognitive concerns, which have been reported to partially recover as a woman progresses to later stages of postmenopause, indicating the brain's (and body's) capacity to adapt to significant hormone changes.[272][268]

Apart from the changes reported with gray and white matter volume, the brain's ability to generate energy from glucose declines during the menopausal transition.[268] This might feel like brain fog, memory issues, and fatigue. Similar to changes in gray and white matter, changes to energy production appear to partially recover as women progress to later stages of postmenopause.[268]

Finally, compared to premenopausal women, amyloid-beta plaque has been found to increase in perimenopausal and postmenopausal women, suggesting an association between estrogen levels and amyloid-beta plaque.[268] It should be noted that amyloid-beta plaque levels were more pronounced in peri- and postmenopausal women who carried the APOE-4 genetic variation, signifying a gene-hormone interaction.[268]

These findings are relevant to menopausal women especially because cognitive difficulties, such as changes in memory, concentration, and decision-making, are often experienced.[273]

Mental Health

A growing body of research suggests that these structural and metabolic changes in the brain not only impact cognitive function but may also play a role in mood regulation.[274] Similar brain regions affected by menopause, such as the prefrontal cortex, hippocampus, and amygdala, are involved in emotional regulation and stress responses.[268][274] As estrogen levels decline from early perimenopause through late postmenopause, disruptions in these brain regions may contribute to an increased risk of mood-related complaints.[268] Research suggests that 45% to 69% of menopausal women experience mood-related concerns, while 40% to 60% experience memory-related concerns.[274]

Beyond these physical, emotional, and mental changes, the experience of menopause is a deeply personal and transformative experience. It may call for reflection, connection, and a renewed sense of purpose and meaning. Some women may choose to turn to spiritual practices for guidance and reflection.

While some cognitive changes may occur during the menopausal transition, the brain is highly adaptable. Lifestyle factors such as sleep, physical activity, social engagement, nutrition, and ongoing mental stimulation play a significant role in supporting cognitive function over time.

What you can do for brain health:

- Prioritize sleep (this is essential for brain health)
- Stay physically active
- Maintain social engagement
- Continue learning and mentally stimulating activities
- Support metabolic health through nutrition

Spiritual Health

This stage of life often brings an opportunity to shift from externally driven roles toward a more internally guided sense of identity and meaning. While this transition can bring physical and emotional change, it can also open the door to reflection, clarity, and transformation.

For some women, spirituality becomes a grounding force during this time. Whether expressed through faith, connection to nature, creative practices, or a sense of something greater than oneself, spiritual practices can offer support, perspective, and resilience. Women who experienced hardship or adversity often describe spirituality as a source of strength, helping them feel supported, maintain a sense of purpose, and cultivate gratitude during times of uncertainty.[275][2]

This can be especially meaningful given that many women report feeling apprehensive or uncertain about menopause. What if this stage is something to step into?

Environmental Inputs and Hormone Health

In addition to nutrition and lifestyle habits, your environment plays a meaningful role in hormone and metabolic health.

Everyday exposures, such as plastics, personal care products, pesticides, and air pollutants, may contain compounds known as endocrine disruptors.[276] These substances can interfere with hormone signaling, metabolic regulation, and inflammatory pathways. While it is not possible to eliminate all exposures, small, consistent changes can reduce overall burden over time.

What you can do:

- Use glass or stainless steel for food storage when possible
- Choose fragrance-free or low-tox products
- Wash produce when accessible
- Filter drinking water if possible

Sexual Health and Intimacy After Menopause

If your experience of intimacy feels different after menopause, you are not alone. Many women notice changes in desire, arousal, comfort, and overall interest in sex during this stage of life. These shifts can feel unexpected, especially if they persist rather than fluctuate.

There is a real, biological basis for these changes, and there are also emotional, relational, and lifestyle factors involved. Understanding both can help you feel more informed, supported, and empowered in this stage of life.

What is changing in your body

After menopause, levels of estrogen, progesterone, and testosterone reach a new, lower baseline.

- Estrogen plays a key role in maintaining vaginal tissue, lubrication, elasticity, and blood flow. With consistently lower estrogen levels, vaginal tissue may become thinner, drier, and less elastic. These changes are part of genitourinary syndrome of menopause (GSM) and can contribute to discomfort with intimacy.[22]
- Testosterone continues to play a role in sexual desire. Lower levels may influence libido, particularly spontaneous desire.
- Progesterone is no longer cycling in the same way, but its earlier influence on sleep and mood may still shape how you feel overall. If sleep or stress remains disrupted, this can continue to affect interest in intimacy.

These are normal physiological changes. They are not a reflection of your relationship, your identity, or your capacity for connection.

Why desire may feel different

Because desire is closely tied to the nervous system, feeling safe, relaxed, and regulated becomes a key part of intimacy. This is why stress, fatigue, and mental load can have such a strong influence on libido after menopause.

Libido is shaped by your hormones and also by your nervous system, your energy, your emotional connection, and how you feel in your body.

After menopause, many women notice that desire becomes less spontaneous and more responsive. This means it may arise after feeling:

- Relaxed
- Safe
- Connected
- Physically comfortable

rather than appearing automatically.

You may also be navigating:

- Ongoing stress or life transitions
- Changes in body composition or self-image
- Shifts in identity or priorities
- A different relationship with your body

Vaginal changes and comfort

Vaginal dryness, irritation, and discomfort are common after menopause, but they can persist without support.

You may notice:

Less natural lubrication

- Increased dryness or irritation
- A feeling of thinning or sensitivity
- Discomfort or pain with intercourse
- Changes in urinary comfort or frequency

These changes are primarily related to lower estrogen levels and can affect both physical comfort and confidence.

What can help

There are effective, practical ways to support both vaginal health and your experience of intimacy:

- Use lubrication and moisturizers. Lubricants can improve comfort during intimacy, while vaginal moisturizers can help maintain tissue hydration more consistently.

- Support vaginal tissue health. In some cases, healthcare providers may recommend targeted therapies, such as low-dose vaginal estrogen or other treatments, to support tissue integrity and comfort.
- Stay connected to your body. Gentle movement, pelvic floor awareness, and regular touch can support circulation, sensation, and overall comfort.
- Support your nervous system. Because desire is closely tied to feeling safe and regulated, practices that support stress resilience, like breathwork, mindfulness, or time in nature, can play an important role.
- Prioritize sleep and recovery. When your body feels rested, desire and connection are more likely to follow.
- Support overall health through nutrition and movement. Stable blood sugar, adequate protein, and regular movement support energy, circulation, and hormone signaling.
- Communicate openly. Sharing your experience with your partner can reduce pressure, shift expectations, and create space for a more connected and supportive experience.

If you are experiencing persistent discomfort, pain, or significant changes in sexual function, working with a healthcare provider can help you explore additional options.

A different rhythm, not a loss

Your sex life is *not* disappearing. It is evolving.

Postmenopause can be a time to redefine intimacy in a way that feels more intentional, communicative, and aligned with your body. Without the demands of hormonal cycling, some women find a new sense of freedom in how they approach connection, pleasure, and relationships.

With understanding and the right support, this stage of life can offer a more grounded, aware, and fulfilling experience of intimacy.

Rewriting Menopause: From Loss to Power

Menopause has long been framed as a time of loss: of youth, fertility, identity, and vitality. That story is incomplete. For many women, postmenopause is a powerful beginning.

This shift is hormonal, neurological, emotional, and social. As estrogen stabilizes at a new baseline, many women experience changes in how they process stress, make decisions, and relate to themselves and others. This can create space for a stronger, more grounded sense of identity. This stage of life offers something that may have been harder to access before: clarity, autonomy, and the opportunity to live more fully aligned with who you are.

Without the cyclical demands of reproductive hormones, many women describe:

- A stronger sense of self
- Less tolerance for what no longer serves them
- Greater emotional clarity
- A desire to live more intentionally

Rather than something to "get through," menopause can be reframed as a transition into personal authority.

Getting to Know Who You Are Now

Postmenopause can be a time to get to know who you are now, apart from who you've been expected to be.

You may begin asking deeper questions:

- "What do I want my life to look like now?"
- "What feels meaningful to me?"
- "What am I ready to release?"
- "What do I want to create moving forward?"

The point is alignment with who you are, rather than reinvention for the sake of productivity.

Living on Your Own Terms

One of the most empowering aspects of this stage is the ability to redefine how you live your daily life.[2][262]

Take movement as an example. Instead of exercising to meet external expectations or achieve a specific appearance, you may begin to choose movement that feels:

- Nourishing
- Enjoyable
- Sustainable
- Aligned with your body's needs

This shift from obligation to choice can extend into many areas of life, including relationships, work, creativity, and rest.

There is a quiet but profound power in recognizing: you get to decide how you live this stage of your life.[2]

And remember, you are not alone. To help support and destigmatize menopause, women can be supported to create, journal, and adopt storytelling practices (e.g., print, digital, or audio) to share their experiences with future generations.[277] These community-based practices are disappearing at a huge cost to younger generations missing out on the knowledge and experience of older, wiser women. Gathering in multi-generational groups in safe spaces to impart knowledge may be a great way to gain real-world experience that will benefit generations to come.

Postmenopause is a phase to build from.

The daily choices you make around sleep, connection, movement, environment, and meaning form the foundation of how you will feel and function in the years ahead.

What You Can Do (Putting It All Together)

- Protect your sleep. It is foundational.
- Support your circadian rhythm with light, timing, and consistency
- Build daily nervous system regulation practices
- Stay socially connected in meaningful ways
- Reduce environmental exposures where realistic
- Support your brain and metabolic health through movement and nutrition
- Approach intimacy as something that evolves

Most importantly, see these as inputs into the same system rather than separate tasks.





Closing

A New Beginning

- Key Takeaways By Chapter
- Resources
- Full Bibliography

Menopause does not need to be defined by suffering. It can be an opportunity for the fullest expression of a woman to emerge at this transformative time of life: a heroine's journey. When she is supported from within, at a physical level, through her hormones, there can be a ripple effect on her mindset and emotional well-being. She might feel inspired to write her memoir, start a new business, champion a social cause, or even give herself the luxurious self-care she has longed for over the decades of overwork and fatigue.

With the support of diet, lifestyle, and high-quality dietary supplements like Femmenessence® that support the body's natural ability to balance and regulate hormones, she can navigate this transition, moving from the physical phase of fertility into the more expansive phase of nourishing the wisdom and power within.

Your vitality, purpose, and identity continue after menopause, into a stage of life that can be marked by:

- Greater self-trust
- Deeper self-awareness
- More intentional living
- A stronger connection to purpose

This stage may look different from the ones before it, and it holds the potential to be just as rich, meaningful, and powerful.

Many factors affect the health of menopausal women. Our goal is to help you improve hormone health with a "Whole Health" approach. This approach allows you to make changes in many areas of your life, from diet to exercise and more. If you are unsure about certain areas of your health, working with a health professional who can customize a plan to meet your individual needs is best.

KEY TAKEAWAYS BY CHAPTER

Chapter 1:

Empowerment & Knowledge

Menopause marks the end of a woman's menstrual cycle and reproductive years.

The median age at menopause in the United States is 51 years, but perimenopause begins, on average, 2-8 years before the final menstrual period.

Symptoms of menopause can range from hot flashes and thinning skin to changes in bone and cognitive health, but each woman's experience is unique.

Menopause is a dynamic and multidimensional transition that should be viewed as a natural process, not a disease.

Chapter 2:

Hormones

During menopause, estrogen and progesterone decline, while FSH and LH levels rise, contributing to common symptoms like hot flashes, mood changes, and metabolic shifts.

With lower estrogen and SHBG levels, testosterone may become relatively more bioavailable, which can influence body composition, fat distribution, and libido.

Changes in appetite-regulating hormones (e.g., leptin and ghrelin), along with sleep and stress, may influence hunger, cravings, and energy balance.

As ovarian function declines, adipose tissue contributes to estrogen production, which may partially explain shifts in body fat distribution.

Understanding these hormonal shifts, and supporting the body through nutrition, movement, sleep, and stress regulation, can improve how women feel and function.

Chapter 3:

Diet & Nutrition

Nutrition plays a central role in supporting bone, cardiovascular, metabolic, and cognitive health after menopause.

Prioritizing adequate protein intake supports muscle mass, bone health, and physical function, which are key drivers of long-term independence.

Consuming a variety of fiber-rich, colorful plant foods supports cardiometabolic health, bone health, gut health, and a healthy inflammatory response.

Phytoestrogen-containing foods (e.g., soy, flax) may support cardiometabolic and bone health and may help reduce vasomotor symptoms in some women.

Overall dietary patterns matter more than individual nutrients. Consistency and adequacy are key.

Chapter 4:

Dietary & Herbal Supplements

Supplements may be selected according to their primary mechanism of action and in the context of your symptoms, medications, and overall health.

Creatine supplementation may support muscle strength and function in some postmenopausal women, particularly when combined with resistance training.

Chapter 5:

Exercise & Movement

Exercise supports bone health, cardiometabolic health, cognitive function, muscle mass, and overall quality of life.

Resistance training is especially important for maintaining muscle and bone, while aerobic and balance training support cardiovascular health and fall prevention.

Menopause-related changes may increase fall risk, and fear of falling can reduce activity, so safe, progressive training is essential.

Chapter 6:

Lifestyle & Environment

Hormonal changes can disrupt sleep; consistent routines, light exposure management, and circadian alignment are key strategies for improving sleep quality.

Environmental exposures (e.g., endocrine-disrupting chemicals) may influence hormone signaling, though reducing total burden, rather than eliminating all exposure, is a practical goal.

Stress regulation, nervous system support, and social connection play meaningful roles in emotional, metabolic, and overall health.

Supporting cognitive health through sleep, movement, nutrition, and mental engagement is an important focus in postmenopause.

Menopause is a transition that can offer an opportunity for reflection, personal growth, and redefining purpose.

Practices such as storytelling, creative expression, and community connection can support emotional well-being and intergenerational knowledge sharing.

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