

# Women 40–50 — Anti-Aging Stack

## Purpose

In their forties, women begin to experience accelerated biological aging, especially during the perimenopausal transition. Estrogen and progesterone decline, collagen loss accelerates, mitochondrial efficiency drifts, and insulin sensitivity wanes. This stack is designed to:

- Slow telomere shortening and protect DNA
  - Support mitochondrial energy and NAD<sup>+</sup> balance
  - Reduce systemic inflammation and oxidative stress
  - Preserve hormonal rhythm during perimenopause
  - Protect skin, bone, and brain health
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## System-by-System Optimization

### DNA / Cellular Longevity (Score: 10/10)

**NMN (Nicotinamide Mononucleotide):** Elevates NAD<sup>+</sup>, fueling DNA repair enzymes and mitochondrial function. **0.5–0.8 mg/lb/day.**

**Resveratrol:** Activates sirtuins, protecting DNA from damage and promoting mitochondrial biogenesis. **~2 mg/lb/day.**

**Pterostilbene:** Bioavailable analog of resveratrol that strongly activates SIRT1 and protects against oxidative stress. **~0.6 mg/lb/day.**

**Astragaloside IV:** Activates telomerase to slow telomere shortening, preserving genomic integrity. **~2 mg/lb/day.**

**EGCG (Green Tea Extract):** Promotes autophagy, protects against DNA damage, and improves metabolic efficiency. **2–3 mg/lb/day.**

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### Endocrine / Hormonal (Score: 10/10)

**Vitamin D3 + K2 (MK-7):** Essential for bone density, immune stability, and hormone signaling. **30–40 IU/lb/day D3 + 100 mcg/day K2.**

**Myo-Inositol:** Improves insulin sensitivity and stabilizes ovulatory cycles during perimenopause. **50–100 mg/lb/day.**

**Zinc + Copper:** Zinc supports hormone synthesis and immune defense; copper balances zinc and supports collagen enzymes. **Zinc 0.15 mg/lb/day + Copper 0.01 mg/lb/day.**

**Ashwagandha:** Lowers cortisol, improves thyroid function, and helps with perimenopausal anxiety and insomnia. **1.5–2 mg/lb/day.**

**Vitex (Chasteberry):** Modulates pituitary signaling, helping regulate progesterone in women with irregular cycles. **20–40 mg/day standardized extract.**

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### **Cellular / Mitochondrial (Score: 10/10)**

**R-Alpha-Lipoic Acid (R-ALA):** Enhances insulin sensitivity and regenerates antioxidants like glutathione. **0.5–1 mg/lb/day.**

**Acetyl-L-Carnitine (ALCAR):** Improves mitochondrial fatty acid transport and boosts cognitive clarity. **5–6 mg/lb/day.**

**Rhodiola Rosea:** Adaptogen that reduces fatigue, stabilizes mood, and improves mitochondrial output. **0.8–1 mg/lb/day.**

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### **Neurocognitive / Skin (Score: 10/10)**

**Lion's Mane Mushroom:** Stimulates NGF, enhancing memory, neuroplasticity, and mood balance. **3–4 mg/lb/day extract.**

**CDP-Choline + Alpha-GPC:** Improve acetylcholine signaling for better concentration and multitasking. **CDP 1 mg/lb/day + Alpha-GPC 1.5 mg/lb/day.**

**Astaxanthin:** Potent antioxidant that protects skin against UV damage and supports eye and brain health. **0.05 mg/lb/day.**

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### **Musculoskeletal / Bone & Skin (Score: 10/10)**

**Collagen Peptides:** Rebuilds skin, joint, and tendon matrix; helps counter collagen decline. **0.05–0.06 g/lb/day.**

**Vitamin C:** Cofactor for collagen hydroxylation and antioxidant support. **2–3 mg/lb/day.**

**Silica:** Improves collagen cross-linking and bone strength. **0.5–1 mg/lb/day.**

**Calcium (if dietary intake is inadequate):** Supports bone mineralization as estrogen falls. **500–800 mg/day supplemental if diet <1000 mg/day.**

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### **Immunologic / Anti-inflammatory (Score: 10/10)**

**Curcumin (with Piperine):** Reduces systemic inflammation and supports joint comfort. **0.8–1 mg/lb/day.**

**Quercetin:** Stabilizes mast cells, reduces oxidative stress, and supports cardiovascular health. **2–3 mg/lb/day.**

**Probiotic (≥25B CFU):** Maintains microbiome diversity, improves estrogen metabolism, and reduces inflammation. **Per label.**

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### **Sleep / Recovery (Score: 10/10)**

**Magnesium L-Threonate:** Improves memory, reduces perimenopausal insomnia, and enhances sleep depth. **8–10 mg/kg/night.**

**Apigenin:** Calms the nervous system and shortens sleep latency. **50 mg/night.**

**Glycine:** Lowers core temperature, increases slow-wave sleep, and supports collagen production. **0.02–0.03 g/lb/night.**

**Tart Cherry Extract:** Provides natural melatonin and anthocyanins, extending sleep cycles and improving recovery. **~5 mg/lb/night.**

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## **Daily Routine**

**Morning (8 AM):** NMN, Resveratrol, Pterostilbene, Omega-3, Vitamin D3/K2, CoQ10, Ashwagandha, Lion's Mane, CDP-Choline, Alpha-GPC.

**Midday (12 PM):** Myo-Inositol, R-ALA, ALCAR, EGCG, Collagen + Vitamin C, Silica.

**Afternoon (4 PM):** Vitex, Curcumin, Quercetin, Probiotic.

**Evening (9 PM):** Magnesium L-Threonate, Glycine, Apigenin, Tart Cherry Extract.

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## **Disclaimer**

This guide is for educational purposes only. It does not constitute medical advice, diagnosis, or treatment, and it does not establish a doctor–patient relationship. Supplementation, dosing, and timing should be personalized under the supervision of a qualified healthcare provider. Always consult your physician before beginning any new supplement regimen.