

Women 60–70 — Muscle-Building Stack

Purpose

In their sixties, women face accelerated **sarcopenia** (muscle loss), anabolic resistance, reduced bone density, and slower recovery. Estrogen is absent, recovery capacity is diminished, and the risk of injury is higher. This stack is designed to:

- Overcome anabolic resistance by ensuring per-meal leucine thresholds
 - Prevent muscle breakdown and preserve lean mass
 - Support tendon, ligament, and bone integrity during training
 - Improve mitochondrial energy and training tolerance
 - Enhance focus, drive, and recovery through better sleep and stress resilience
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System-by-System Optimization

Musculoskeletal / Anabolic Drive (Score: 10/10)

Creatine Monohydrate: Increases phosphocreatine for ATP regeneration, boosting strength, endurance, and lean mass. Supports cognition in older women. **0.04–0.05 g/lb/day**.

HMB (β -Hydroxy β -Methylbutyrate): A leucine metabolite that reduces proteolysis and preserves lean mass in older adults. Particularly effective against sarcopenia. **3 g/day**.

Beta-Alanine: Raises intramuscular carnosine, buffering lactic acid and delaying fatigue during resistance training. **0.03–0.04 g/lb/day**.

Leucine (per meal targeting): Directly activates mTORC1. Older adults need ≥ 3 g leucine per meal to trigger MPS due to anabolic resistance. **3–5 g/meal** if meals are low in leucine.

Essential Amino Acids (EAAs): Provide all indispensable amino acids required for MPS. **0.05–0.1 g/lb/day**, peri-workout emphasized.

Whey Isolate: Fast-digesting, leucine-rich protein to maximize post-exercise MPS. Daily protein goal: **1.0–1.2 g/lb/day**.

Collagen Peptides: Replenish tendon, ligament, and skin collagen, improving connective tissue tolerance. **0.05–0.06 g/lb/day**.

Vitamin C: Cofactor for collagen hydroxylation; required with collagen supplementation. **2–3 mg/lb/day**.

Silica (orthosilicic acid/MMST): Supports collagen cross-linking and bone mineralization. **0.5–1 mg/lb/day.**

Calcium (if diet insufficient): Preserves bone strength in postmenopause. **500–800 mg/day supplemental if <1000 mg dietary intake.**

Endocrine / Hormonal (Score: 10/10)

Vitamin D3 + K2: Improves muscle contraction, calcium handling, bone health, and immune resilience. **40–60 IU/lb/day D3 + 100 mcg/day K2.**

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

Ashwagandha: Reduces cortisol, enhances sleep, and improves recovery capacity. **1.5–2 mg/lb/day.**

DHEA (if indicated): Replaces declining adrenal androgens, helping preserve lean mass and energy. **5–25 mg/day under medical supervision.**

Cellular / Mitochondrial (Score: 10/10)

NMN (Nicotinamide Mononucleotide): Restores NAD⁺ for sirtuin activity, DNA repair, and mitochondrial energy production. **0.5–1 mg/lb/day.**

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

Acetyl-L-Carnitine (ALCAR): Improves fatty acid transport into mitochondria, boosting endurance and cognition. **5–6 mg/lb/day.**

Rhodiola Rosea: Adaptogen improving fatigue resistance, mood stability, and mitochondrial health. **0.8–1 mg/lb/day.**

Fisetin: Senolytic polyphenol that clears senescent cells, improving muscle stem cell renewal and tissue regeneration. **4–5 mg/lb/day × 2 days/month.**

Quercetin: Daily antioxidant and senolytic partner with fisetin. **3–4 mg/lb/day.**

Neurocognitive / Training Focus (Score: 10/10)

L-Tyrosine: Dopamine precursor that improves focus, motivation, and drive during workouts. **5–7 mg/lb pre-workout.**

Caffeine: Enhances strength, endurance, and training intensity. **2–3 mg/kg pre-workout.**

L-Theanine: Smooths caffeine's stimulant effects, improving calm focus. **100–200 mg with caffeine.**

Lion's Mane Mushroom: Stimulates NGF (nerve growth factor), supporting motor learning, memory, and mood. **3–4 mg/lb/day extract.**

CDP-Choline + Alpha-GPC: Improve acetylcholine availability at the neuromuscular junction, enhancing contraction quality. **CDP 1 mg/lb/day + Alpha-GPC 1.5 mg/lb/day.**

Cardiovascular / Anti-inflammatory (Score: 10/10)

Omega-3 (EPA/DHA): Anti-inflammatory lipid that supports cardiovascular health, joint comfort, and fat metabolism. **25–30 mg/lb/day.**

Curcumin (with Piperine): Suppresses NF-κB, reducing DOMS, joint pain, and systemic inflammation. **0.8–1 mg/lb/day.**

Quercetin (daily use): Potent antioxidant that reduces oxidative stress and supports immune stability. **2–3 mg/lb/day.**

Sleep / Recovery (Score: 10/10)

Magnesium L-Threonate: Improves deep sleep, cognitive resilience, and recovery. **8–10 mg/kg/night.**

Apigenin: Promotes relaxation and reduces sleep latency via GABA-A receptor modulation. **50 mg/night.**

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

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

Melatonin (if needed): Restores circadian rhythm as endogenous production declines with age. **0.3–1 mg/night.**

Daily Routine

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

Pre-Workout (45–60 min): Creatine, Beta-Alanine, L-Tyrosine, Caffeine + L-Theanine, EAAs (half dose).

Post-Workout (0–60 min): Whey Isolate; add Leucine to reach ≥ 3 g at the meal; Collagen + Vitamin C; EAAs (remaining dose).

Midday (12 PM): R-ALA, Curcumin, Quercetin, Silica, Calcium (if diet insufficient).

Afternoon (4 PM): Ashwagandha, HMB (any time), DHEA (if prescribed).

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

Monthly: Fisetin 4–5 mg/lb/day \times 2 days with Quercetin.

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.