

TABLE 11.2 Key Supplements for Premature Ovarian Insufficiency and Diminished Ovarian Reserve

Supplement	Suggested Dose	Key Benefits	Form and Timing	Clinical Notes
Coenzyme Q10 (ubiquinol/ubiquinone)	200–400 mg/d (split doses)	Supports mitochondrial energy production and reduces oxidative stress; improves egg quality and ovarian response	Ubiquinol is better absorbed, especially in older women; take with breakfast and lunch.	Start at 200 mg/d; increase based on age, IVF prep, or mitochondrial need.
DHEA DO NOT TAKE WITHOUT TESTING DHEA-S serum levels.	10–25 mg once daily	Enhances intraovarian androgens; improves antral follicle count, AMH, and oocyte yield	Micronized pharmaceutical-grade; take with meals 1–3x/d.	Avoid high doses long term; use under supervision with hormone monitoring (DHEA-S, testosterone, estradiol).
Omega-3 fatty acids (EPA/DHA; cod liver oil or fish oil)	2,000–3,000 mg/d EPA/DHA combined	Anti-inflammatory, improves ovarian blood flow and follicular health	Triglyceride or re-esterified form; take with fat-containing meals.	Cod liver oil adds vitamins A and D, but monitor for fat-soluble vitamin levels if combined with other D ₃ products.
NAC	600–900 mg twice daily	Boosts glutathione, reduces oxidative stress in ovarian tissue	Take away from protein-rich meals; mid-morning and before dinner.	Supports detox pathways; monitor in women with sulfur sensitivity or MTHFR mutations.
Vitamin D ₃	2,000–5,000 IU/d	Regulates ovarian reserve, AMH expression, and immune balance	Cholecalciferol form (D ₃); take with food.	

AMH, anti-Müllerian hormone; DHA, docosahexaenoic acid; DHEA, dehydroepiandrosterone; DHEA-S, dehydroepiandrosterone sulfate; DOR, diminished ovarian reserve; EPA, eicosapentaenoic acid; IVF, in vitro fertilization; MTHFR, methyltetrahydrofolate reductase; NAC, N-acetyl cysteine; POI, premature ovarian insufficiency.