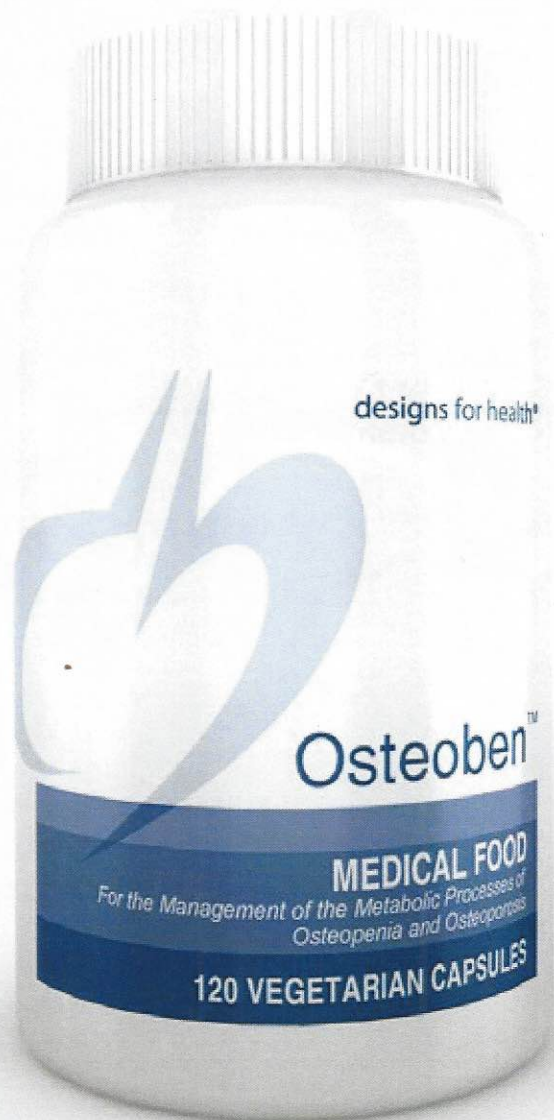


Osteoben[®]

MEDICAL FOOD

For the dietary management of osteoporosis and osteopenia

- Increases bone mineral density (BMD)
- Reduces frequency and severity of hot flashes
- Reduces specific predictors of CVD



IMPROVED OUTCOMES WITH SCIENCE-BASED COMBINATION THERAPY

GENISTEIN AGLYCONES

Hormone replacement therapy is an effective treatment for postmenopausal bone loss. However, in some forms, it may increase risk of serious health problems. Genistein is a phytoestrogen that acts as a mild SERM (selective estrogen receptor modulator) which may positively regulate bone cell metabolism without serious side effects. The genistein aglycone in OSTEOBEN® is from a non-soy plant source.

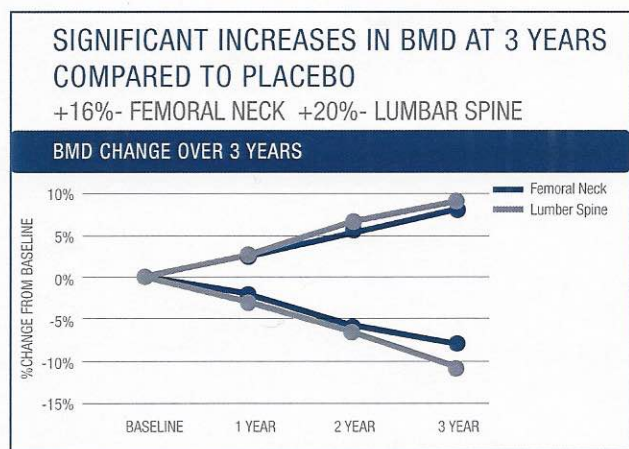
CALCIUM AND VITAMIN D

In spite of their importance, available data suggest that calcium and vitamin D3 alone are not adequate to manage menopausal bone loss. However, there is good reason to believe that supplementation with these nutrients combined with other intervention strategies (e.g., genistein aglycone) maximizes restoration of bone loss.

COMBINATION THERAPY

In a study published in *The Annals of Internal Medicine*, the combination of genistein aglycone, calcium and vitamin D3 was compared to calcium and vitamin D3 alone.¹⁶

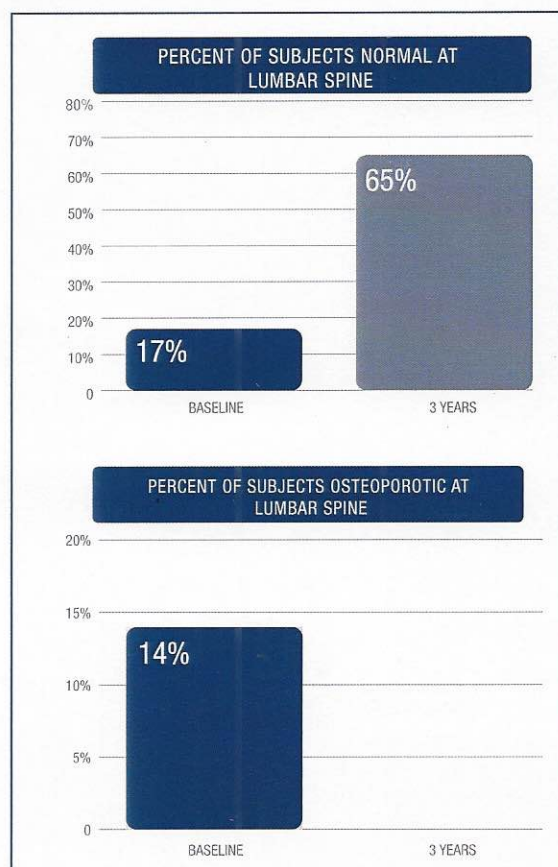
- Significantly increased bone mineral density (BMD)
- Decreased levels of bone resorption markers including urinary pyridinoline and deoxypyridinoline
- Increased levels of markers of new bone formation including levels of bone-specific alkaline phosphatase



OTHER BENEFITS

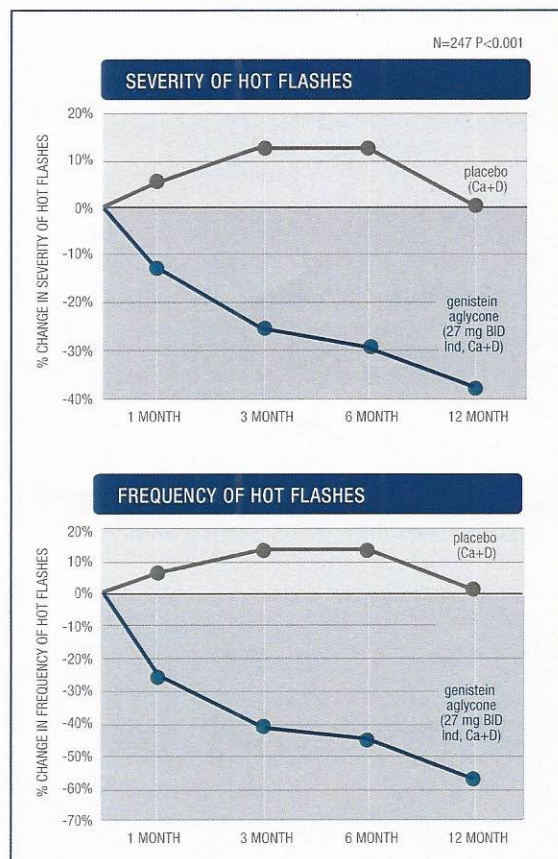
- Significant reduction in hot flashes in menopausal women
- Significant reduction in specific predictors of cardiovascular risk
- No side effects on endometrial thickness or vaginal mucosa compared with placebo

REGRESSION OF OSTEOPOROSIS¹⁶



HOT FLASH REDUCTION

IN 74% OF WOMEN¹⁷



MAGNESIUM (AS DI-MAGNESIUM MALATE)

Greater magnesium intake is significantly related to higher BMD in older white men and women.¹ Several studies have shown significantly higher bone density in individuals receiving magnesium supplements.²⁻³ Postmenopausal women taking oral magnesium supplement for 30 days had significantly higher serum osteocalcin levels and lower urinary deoxypyridinoline levels.⁴ Postmenopausal osteoporotic women receiving magnesium supplementation for 30 days had significantly increased serum iPTH levels and osteocalcin and reduced urinary deoxypyridinoline levels, supporting the role of magnesium in suppressing bone turnover.⁴ Insufficient dietary magnesium has been associated in humans with low bone mass. The majority of the population in the U.S. gets less than the RDA of magnesium in their diet, with numerous factors accelerating this mineral's losses, including stress, caffeine, alcohol, environmental toxin exposure and physical activity.

68% of Americans get less than the RDA of magnesium in their diets.

VITAMIN K (AS K2 MENAQUINONE-7)

Vitamin K2 menaquinone-7 supplementation significantly increases total-body BMD and lumbar spine BMD.⁵ Women who received dairy products fortified with vitamin K menaquinone-7 for 12 months had significant increases in total-body BMD and lumbar spine BMD. Undercarboxylated osteocalcin is inversely correlated with BMD.⁶ MK-7 increases osteocalcin carboxylation.^{7,8} Vitamin K2 inhibits apoptotic cell death of osteoblasts and preserves the number of osteoblasts.⁹

Combination nutritional therapies have been found to be more effective than calcium and vitamin D3 alone.

ZINC (AS CITRATED ZINC BISGLYCINATE)

Zinc is an important nutrient for bone health and poor zinc status may be an important predictor of bone loss.¹⁰ Low serum zinc and increased zinc excretion are associated with osteoporosis,¹¹⁻¹³ however the precise nature of the relationship is unclear. Data suggests that 40 % of men and women over 65 years old had zinc intake at least 33% under the former RDA of 15 mg/day.¹⁴ The combination of genistein and zinc produce additive effects on bone loss, cell survival, and gene expression in vitro. Genistein and zinc may produce complementary effects on osteoblast and osteoclast function that restore the metabolic balance in bone turnover that is disrupted by postmenopausal ovarian hormone loss. Preliminary data suggest that daily intake of 15 mg of zinc increases BMD by 1.28% over two years when taken with 1000 mg of calcium daily.¹⁵

Osteoben® provides a combination of nutrients with demonstrated efficacy in managing menopausal bone loss and increasing bone mineral density.

Osteoben®

Medical Food for the dietary management of osteoporosis and osteopenia

INGREDIENTS

Osteoben®	Amount per serving
Serving size	4 capsules
Number of servings per container	30
Calcium (as di-Calcium Malate)	400 mg
Magnesium (as di-Magnesium Malate)	400 mg
*Genistein aglycone (98% material; not from soy)	54 mg
*Zinc (as citrated zinc bisglycinate 20%)	8 mg
Vitamin K (as Vitamin K2 Menaquinone-7)	50 mcg
Vitamin D (as Cholecalciferol)	1000 IU

Osteoben® is available in a 120 capsule size.

RECOMMENDED USE

Take 2 capsules, two times per day, or as directed by a physician.

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