



Doctor's overview for AlgaeCal Plus and Strontium Boost

Dear Doctor,

Your patient is considering taking AlgaeCal Plus and Strontium Boost for osteoporosis. We provide this brief overview of the safety and efficacy of these two products for you.

SAFETY

The foundation of AlgaeCal Plus is a marine algae calcium source which is different from calcium carbonate in several respects:

1. AlgaeCal is a whole plant compared to traditional limestone or marble sourced calcium.
2. AlgaeCal calcium has been shown effective at lower doses (720 mg/day) than carbonate (1200 mg)
3. AlgaeCal naturally contains 2-4% magnesium, plus 11 trace minerals shown to play a role in bone health in addition to calcium.

AlgaeCal powder is GRAS (Generally Recognized As Safe), and has an NDI (New Dietary Ingredient number) with the US Food and Drug Administration. The AlgaeCal Plus formula contains added Vitamin C, D3, K2, magnesium and boron.

The combination of AlgaeCal Plus and Strontium Boost has been the subject of 3 published human clinical studies where a panel of 43 blood tests were evaluated along with quality of life questionnaire with one year of use.

Strontium is a mineral naturally found in soil, food, and our bones. It is clinically supported in numerous salts (strontium ranelate, carbonate, citrate) to help with our bone remodeling process. Not only does strontium reduce osteoclast activities, it increases the formation of new bone by stimulating osteoblasts.

A 7 year follow up study showing excellent safety for adults taking the combination as recommended has been completed. The study showed women in their mid 60's gained 7.3% more bone over 7 years - and that it happened in a linear fashion with about 1% added per year. Safety was well established by a panel of 45 blood chemistries drawn at baseline and ending. This is significant given recent studies suggesting traditional calcium supplements may increase cardiovascular risks.

EFFICACY

5 groups of adults (totalling over 400 participants) with various AlgaeCal formulations all increased bone density outright in 6 months to one year. As you know, traditional calcium supplements only slow annual bone loss in adults. The best results came from the AlgaeCal Plus and Strontium Boost combination with annualized average increase of more than 3%. A long term study with post menopausal women taking the two products shows a linear increase in BMD of approximately 5% over a 7 year period.

Health Canada has reviewed these studies concluding that a unique health claim for AlgaeCal "may increase bone density in women" is allowed.

References will gladly be provided or search of "algaeal" on Pubmed will show the studies.

Warm Regards,

Dean Neuls

Dean Neuls
CEO, AlgaeCal Inc.

AlgaeCal Plus

Suggested Use:
Take 4 capsules daily (2 caps twice a day with meals) for increased bone strength.



Supplement Facts

Serving Size 4 Capsules
Servings Per Container: 22

Amount Per Serving		%DV
Vitamin C (as calcium ascorbate)	50mg	84%
Vitamin D3 (as cholecalciferol)	1600 IU	400%
Vitamin K2 (as menaquinone-7)	100 mcg	126%
Calcium (from algal calcareas)	720 mg	72%
Magnesium (from algal calcareas and magnesium oxide)	350 mg	8%
Boron (as glycinate)	3.0 mg*	

*Daily Value (DV) not established

Other Ingredients: Vegetable cellulose (vegetarian capsule), silicon dioxide, magnesium stearate (vegetable grade).



Strontium Boost

Suggested Use:
Take 2 capsules once daily with or without food.

For best absorption, take strontium at least two hours apart from AlgaeCal or calcium-containing meals



Supplement Facts

Serving Size 2 Capsules
Servings Per Container 30

Amount Per Serving	% DV
Strontium (from Strontium Citrate)	680 mg*

*Daily Value (DV) not established.





Doctor's Overview for Strontium Boost

Dear Doctor,

Your patient is considering Strontium Boost, a strontium citrate supplement for low bone density. Due to common misunderstandings about the different forms of strontium, this brief discusses these 2 misconceptions:

1. Strontium's effects on DXA scans
2. Strontium's safety

The Main Forms Of Strontium

As you may know, there are multiple strontium compounds:

1. **Strontium Ranelate.** This is the strontium compound responsible for the negative publicity around strontium. Used in Europe as an osteoporosis drug, strontium ranelate appears to be responsible for side effects for some subjects. Indeed, synthetic ranelic acid is used in this form, leading to often severe side effects like: venous thromboembolism, DRESS, skin conditions, and brittle bones.¹²³ Strontium ranelate is now significantly restricted throughout the EU and has never been approved in the United States or Canada.⁴
2. **Strontium-89** (radioactive strontium). This form is administered intravenously during chemotherapy to treat prostate and advanced bone cancer patients. Being radioactive, this form is not suitable for dietary supplementation.
3. **Strontium Citrate.** This form combines strontium with citrate. It's also the subject of the aforementioned human clinical trials resulting in healthy, increased bone density, without side-effects. The studies are discussed below in the Safety and Efficacy section. Strontium Boost uses strontium citrate in its formulation.

Strontium Supplementation and DXA Scan Readings

You may have heard about strontium's effects on DXA bone scan readings. Yes, strontium does overestimate a patient's bone mineral density (BMD) on DXA scans (as it's denser than calcium), but all studies show *strontium still increases bone density outright even after accounting for any overstatement* due to the strontium content in bone.

In other words if your patient shows an increase in bone density after taking strontium supplements, part of that increase may be an overstatement but not all of it. Indeed, strontium only overestimates BMD by an average of 10%.⁵

So, if your patient achieves a 5% increase in BMD in their lumbar spine, when you factor out strontium's BMD overestimation, on average that's still a 4.5% increase. Perhaps more importantly, strontium has been shown to reduce fracture risk independent of bone density scores.

Safety and Efficacy: The Scientific Literature's Case For Strontium Citrate

Strontium Boost is the only strontium citrate supplement on the market that has human clinical studies backing its safety and efficacy for bone health:

*Nutritional Journal*⁶ - All 216 male and female participants took AlgaeCal Plus (our flagship organic plant-based calcium supplement) over 12 months, while 58 of them took *Strontium Boost* as well. The participants took a 43-chemistry blood test panel, and an

Strontium Boost

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Take 2 capsules once daily with or without food.

For best absorption, take strontium at least two hours apart from Algae-Cal or calcium-containing meals.



Supplement Facts

Serving Size 2 Capsules
Servings Per Container 30

Amount Per Serving	% DV
Strontium (from Strontium Citrate)	680 mg*

*Daily Value (DV) not established.



84-item quality of life inventory at its conclusion.

Result: The *Strontium Boost* participants saw no side-effects, and an average BMD increase of over 2%.

*Journal of the American College of Nutrition*⁷ - 172 women in their mid 60s took both AlgaeCal Plus and Strontium Boost over 7 years.

Result: These women gained 7.3% more bone over 7 years– and did so in a linear fashion with about 1% added per year. No adverse effects or safety concerns were established by a panel of 45 blood chemistries drawn at baseline and ending.

As for a non-AlgaeCal funded study of strontium citrate, the landmark Combination of Micronutrient for Bone (COMB) Study⁸ had participants take (among other vitamins and minerals) 680 mg of strontium citrate each day over 12 months. The *Journal of Environmental and Public Health* published the study's findings, concluding "a major proportion" of participants saw an increase in BMD of more than 3%. Under the COMB protocol, none of the patients (ranging between "normal", osteopenic and osteoporotic BMD) suffered fractures or reported side effects over the 12 months.

I hope this analysis adequately outlines strontium citrate's ability to safely improve your patient's BMD.

Warm Regards,

Dean Neuls

Dean Neuls
CEO, AlgaeCal Inc.

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