

# REJUVENATE



## CLINICAL APPLICATIONS

- Support Growth, Development & Regeneration of Connective Tissue (skin, bones, cartilage, etc), Hair, Nails and Certain Membranes, such as Mucosal Membranes

*Rejuvenate is a safe, bioavailable, patented cholinestabilized formulation of orthosilicic acid (ch-OSA). Only the stabilized form of OSA activates the human body's production of collagen, elastin and keratin. Rejuvenate is delivered in proprietary microsphere capsules.*

**All 3rd Opinion Inc.® Formulas Meet or Exceed cGMP quality Standards**

## DISCUSSION

Silica exists in a variety of forms in nature and its component, silicon is the second most prevalent element after oxygen.<sup>[1]</sup> Orthosilicic acid, (H<sub>4</sub>SiO<sub>4</sub>) a water-soluble form of silicic acid found in very dilute concentration in the earth's waters, is the form humans predominantly absorb and is found in the serum fraction of blood. In its non-polymerized form, silicon is very unstable; thus making it available for supplementation has been difficult. However, Rejuvenate's patented processing prohibits silica from turning into a polymer as silica does in other supplements (i.e. gels, horsetail herb), rendering superior absorption. Choline, a nutrient especially important to membrane health, is combined with elemental silicon to yield the stabilized form of silica in Rejuvenate.

Compelling data supports a myriad of health benefits of adequate silica. The benefits are undoubtedly due to silica's ability to activate the body's synthesis of collagen which constitutes one-third of the body's protein. A study demonstrated a 12.5% increase in collagen in the dermis with ch-OSA supplementation.<sup>[2]</sup> Silica supplementation stimulates collagen type-1 synthesis in osteoblasts, enhances osteoblast differentiation,<sup>[3]</sup> increases calcium uptake<sup>[4]</sup> and is a major determinant in bone mineral density in men and pre-menopausal women.<sup>[5]</sup> In addition to collagen, silica has a role in the synthesis of two other "beauty proteins" – elastin and keratin.<sup>[2]</sup> Silica deficiency may cause bone and joint deformities and disrupt mineral balance.<sup>[1]</sup>

Another 20-week, randomized, double blind, placebo-controlled study with 50 women with photodamaged facial skin showed oral intake of 10 mg ch-OSA resulted in a 30% reduction in micro-wrinkle depth and 30% reduction in skin roughness and a positive effect on brittleness of hair and nails.<sup>[6]</sup>

In a nine-month, randomized, double-blind, placebo-controlled trial with 48 healthy Caucasian women with fine hair (average age 43.3 years), an international research team concluded that ch-OSA (5 mg ch-OSA b.i.d) safely and significantly improved hair fiber thickness and helped reduce loss of hair elasticity and strength. Orthosilicic acid delivered by ch-OSA is known to bind with positively charged aminogroups in peptides. This structural interaction might improve the mechanical properties of keratin resulting in improved hair tensile properties.<sup>[7]</sup>



## Supplement Facts

Serving Size: 1 Capsule  
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Choline (as Choline-Stabilized Orthosilicic Acid)	100 mg	18%
Silicon (as Choline-Stabilized Orthosilicic Acid)	5 mg	**

\*\* Daily Value not established.

**Other Ingredients:** Microcrystalline cellulose, HPMC (vegetable capsules) and purified water.

## DOSING:

Take one capsule two times per day, preferably with a meal or as directed by your qualified health care consultant.

## REFERENCES

1. Martin KR. The chemistry of silica and its potential health benefits. *J Nutr Health Aging*. 2007 Mar-Apr; 11(2): 94-7. [PMID: 17435951]
2. Calomme MR, Vanden Berghe DA. Supplementation of calves with stabilized orthosilicic acid. Effect on the Si, Ca, Mg, and P concentrations in serum and the collagen concentration in skin and cartilage. *Biol Trace Elem Res*. 1997 Feb;56(2):153-65 [PMID: 9164661]
3. Reffitt DM, et al. Orthosilicic acid stimulates collagen type 1 synthesis and osteoblastic differentiation in human osteoblast-like cells in vitro. *Bone*. 2003 Feb;32(2):127-35 [PMID: 12633784]
4. *Calcif Tissue Int* 2002;70:292, P-139
5. Jugdaohsingh R, et al. Dietary silicon intake is positively associated with bone mineral density in men and premenopausal women of the Framingham Offspring cohort. *Bone* 2003 May;32,:S192 [PMID: 14969400]
6. Barel A, et al. Effect of oral intake of choline-stabilized orthosilicic acid on skin, nails and hair in women with photodamaged skin. *Arch Dermatol Res*. 2006 Feb;297(8):381 [PMID: 16205932]
7. Wickett RR, Effect of oral intake of choline-stabilized orthosilicic acid on hair tensile strength and morphology in women with fine hair. *Arch Dermatol Res*. 2007 Dec;299(10):499-505. [PMID: 17960402]
8. Silicon: <http://nhiondemand.com> {accessed 18 Dec 2008}

## CAUTIONS

Silicon is apparently safe and non-toxic.<sup>[1]</sup> No known drug interactions at the time of this writing. Nevertheless, anyone on medication, women who are pregnant or lactating or anyone with a medical condition or a suspected medical condition should consult a healthcare practitioner before using.<sup>[8]</sup>

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

