

The Professional Standard for MCHC



Cal Apatite[®]

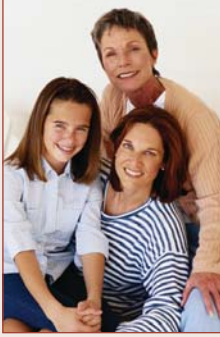
Clinically Effective Bone Nutrition[♦]

Recommend Cal Apatite with Confidence

- ▶ Clinically proven support for complete bone health[♦]
- ▶ Over 20 years of safe and effective clinical use
- ▶ Highly absorbable calcium, magnesium, phosphorus, and trace minerals that are beneficial for bone mineralization[♦]
- ▶ Type 1 collagen protein and the intact organic portion of bone for optimal bone development[♦]
- ▶ Very well tolerated—does not produce gas like calcium carbonate
- ▶ Exceptional quality ensures reliability
- ▶ GMP-certified manufacturing to protect the integrity of delicate factors contained in the raw bone matrix to ensure optimal clinical outcomes[♦]
- ▶ Purity-certified, organic microcrystalline hydroxyapatite concentrate (MCHC) for more consistent clinical outcomes

Bones are more than calcium. So is Cal Apatite.

The Cal Apatite Advantage...



COMPLETE BONE NUTRITION

MCHC is an all-natural, bovine-derived, whole bone supplement providing a full spectrum of highly absorbable minerals and other factors that naturally comprise healthy bone, such as: ♦

- **Macrominerals**, including calcium, magnesium, and phosphorus.
- **Trace Minerals**, such as boron, zinc, copper, and selenium.
- **Intact Protein and Naturally Occurring Growth Factors**
- **Type 1 Collagen**, the predominant type of collagen found in healthy bone.
- **Bone Growth Factors** thought to play a role in the beneficial effects of MCHC.
- **Organic Factors** that provide essential bone amino acids and mucopolysaccharides (glycosaminoglycans).



PROVEN EFFECTIVE

MCHC has been used extensively as a nutritional supplement with an excellent safety profile. ♦

Research over the past three decades in Europe and America demonstrates MCHC as a highly absorbable, well-tolerated source of calcium providing successful bone health support. While MCHC given alone provides complete bone nutrition for people of all ages, it also combines well with other bone-supportive nutrients for a targeted approach. ♦

The naturally occurring spectrum of additional macro and trace minerals in a matrix of protein and organic factors may underlie the Cal Apatite difference. ♦

Cal Apatite®

Complete Bone Nutrition

- Purity-certified MCHC
- Ideal for patients who prefer smaller tablets

3 Tablets Supply:

MCHC†	1500 mg
Calcium*	626 mg
Phosphorus*	398 mg

Recommendations: Three tablets daily or as directed.

Form: 90 and 270 Tablet Bottles

Cal Apatite® 1000

Complete Bone Nutrition Featuring Concentrated Calcium

- Purity-certified MCHC
- Convenient – 1000 mg elemental calcium in three tablets

3 Tablets Supply:

MCHC†	3000 mg
Calcium*	1011 mg
Phosphorus*	609 mg

Recommendations: Three tablets daily.

Form: 90 and 180 Tablet Bottles

Cal Apatite® Forte Capsules

Complete Bone Nutrition with Vitamin D

- Purity-certified MCHC
- Vitamin D to support bone and muscular health ♦
- Flexible dose format for delivering optimal levels of MCHC, calcium, and vitamin D ♦
- Ideal for those who prefer capsules

3 Capsules Supply:

MCHC†	3036 mg
Calcium (as MCHC)	684 mg
Phosphorus (as MCHC)	357 mg
Vitamin D (as cholecalciferol)	600 IU

Recommendations: Three capsules daily or as directed.

Form: 90 Capsule Bottle



Cal Apatite and a Healthy Diet

The dosage recommendations for the Cal Apatite family of products are based on a healthy diet. Dosages can be adjusted based on the patient's diet or special needs.



EXCEPTIONAL QUALITY

Properly manufactured MCHC is vital. Advanced cold-processing technology preserves the delicate organic factors that heat processing destroys. Every batch of MCHC guarantees raw bone extract integrity, including:

- Standardized levels of naturally occurring calcium and other macrominerals.
- Naturally occurring protein and organic factors ranging from 22%-28%, including active factors, amino acids and Type 1 collagen.
- Collagen analysis indicating approximately 20% collagen, the majority of which is Type 1.

Metagenics is also certified for good manufacturing practices by the National Nutritional Foods Association (NNFA) and NSF International. Metagenics manufacturing is also certified by the Therapeutic Goods Administration of Australia (TGA).



PURITY-CERTIFIED

Natural ingredients derived from plants and animals can provide extraordinary biological activity. They also possess the potential to absorb unwanted substances from the earth, water, and air. Purity-certified MCHC guarantees:

- X-ray diffraction analysis, which verifies microcrystalline structure and ensures the delicate MCHC matrix has not been denatured by heat.
- All MCHC is obtained from New Zealand, pasture-fed cattle raised in a pesticide-free environment. The New Zealand Ministry of Agriculture ensures the cattle consume a vegetarian diet to remain BSE ("Mad Cow Disease")-free.
- Independently assayed for antibiotics, pesticides, and microbial contaminants.
- Independently assayed for lead and other heavy metals.



Cal Apatite® with Magnesium

Complete Bone Nutrition with Extra Magnesium

- Purity-certified MCHC
- 2:1 calcium to magnesium ratio
- Well-tolerated and absorbed magnesium sources
- No magnesium oxide

3 Tablets Supply:

MCHC [†]	1500 mg
Calcium*	600 mg
Phosphorus*	378 mg
Magnesium	300 mg
(as magnesium citrate, magnesium aspartate and magnesium bis-glycinate ^{††})	

Recommendations: Three tablets daily or as directed.

Form: 90 and 180 Tablet Bottles

Cal Apatite® Chewable

Complete Bone Nutrition in a Chewable Tablet

- Purity-certified MCHC
- Great-tasting Natural Chocolate flavor
- Patented mineral amino acid chelates for enhanced absorption
- Ideal for children and those who find it difficult to swallow tablets and capsules

3 Tablets Supply:

MCHC [†]	750 mg
Calcium*	300 mg
Phosphorus*	189 mg
Vitamin D (as cholecalciferol)	75 IU
Magnesium (as magnesium bis-glycinate ^{††})	75 mg
Zinc (as zinc glycinate ^{†††})	6 mg
Copper (as copper glycinate ^{†††})	750 mcg
Manganese (as manganese glycinate ^{†††})	750 mcg

Recommendations: Three tablets daily or as directed.

Form: 90 Tablet Bottle

Cal Matrix™

Nutritional Support for Bone and Joint Integrity*

- Purity-certified MCHC
- Helps maintain normal joint strength and function by supporting healthy bone density and cartilage matrix integrity*
- Delivers essential nutrients that naturally comprise healthy skeletal and connective tissue*
- Patented mineral amino acid chelates for enhanced absorption

6 Tablets Supply:

MCHC [†]	2688 mg
Calcium*	1224 mg
Phosphorus*	774 mg
Glucosamine Sulfate	500 mg
(as D-glucosamine sulfate HCl)	
Vitamin C (as Ultra Potent-C ^{**})	500 mg
Manganese (as manganese glycinate ^{†††})	1 mg
Vitamin D (as cholecalciferol)	400 IU
Magnesium	220 mg
(as magnesium bis-glycinate ^{††})	
Zinc (as zinc glycinate ^{†††})	15 mg
Copper (as copper glycinate ^{†††})	2 mg
Boron (as boron citrate)	390 mcg
Chromium	240 mcg
(as chromium nicotinate glycinate ^{†††})	
Horsetail Aerial Parts	600 mg
(<i>Equisetum arvense</i>)	

Recommendations: Six tablets daily.

Form: 180 Tablet Bottle

[†] Microcrystalline hydroxyapatite concentrate supplies calcium, phosphorus, and trace quantities of other minerals.

^{††} As MetaMag™, our proprietary fully reacted magnesium amino acid chelate: U.S. Patent No. 4,830,716 Albion®.

^{†††} Patented mineral amino acid chelates: U.S. Patent No. 4,599,152 Albion®.

* As MCHC and dicalcium phosphate.

** Ultra Potent-C is a patented form of vitamin C: U.S. Patent No. 5,626,883.

BONE—A WORK IN PROGRESS

Bone, like other tissues in the body, constantly renews itself.

Throughout life, bone is continually resorbed and formed through the dynamic process of bone remodeling, which is necessary for the normal development and maintenance of bone mass. Bone resorption occurs when osteoclast cells remove minerals and collagen from bone. Bone formation follows when osteoblast cells use proteins and other building blocks to produce collagen—which attaches to calcium, phosphorus, and numerous other minerals—resulting in the deposit of new bone tissue. Over a period of days and weeks, a natural crystallization process transforms the collagen- and mineral-rich tissue into the finished product hydroxyapatite crystals—the substance that makes bone so hard.

It's easy to appreciate how microcrystalline hydroxyapatite concentrate (MCHC)—which naturally comprises healthy bone—is *complete bone nutrition*. *Feeding bone what it's made of makes sense!*

Maintaining Bone Mass for a Lifetime

Maximizing peak bone mass in the growing years, coupled with reducing the rate of age-related bone loss later in life are key to maintaining optimal bone mass throughout life. During the younger years, the remodeling process favors new bone formation, permitting a significant and critical increase in bone growth until



peak bone mass is achieved between the ages of 20 and 30. Once peak bone mass is attained, remodeling is usually in balance until the fourth decade of life.

Subsequently, resorption is slightly favored, resulting in a small, continual loss of bone. As the aging process continues, genetics, diet, health status, certain medications, and exercise influence how well bone mass is maintained.

MCHC for Women, Men, and Children

An adequate intake of calcium and other bone-supportive nutrients can help maximize peak bone mass and maintain strong bones throughout a lifetime. MCHC provides complete bone nutrition to support healthy bone formation, and is therefore suitable for women, men, and children.♦

Comparing Quality MCHC to Other Calcium Supplements

Nutrients	Cal Apatite	Heat-Processed Bone	Bone Meal	Multi-Mineral Supplement	Oyster Shell Calcium	Calcium Chelate	Calcium Citrate	Calcium Carbonate
MCHC Calcium	●	●						
Phosphorus	●	●	●	●	●	●	●	●
Magnesium	●	●	●	●	Trace			
Trace Minerals	●	●	Trace	●				
Mineral Complex	●			●				
Type 1 Collagen	●	Trace	Trace					
Bone Amino Acids	●	Trace						
Protein	●	Trace						
Organic Factors	●							
Possible Contamination		●	●	●	●	●	●	●

Cal Apatite offers complete bone nutrition that is purity-certified—
for comprehensive support you and your patients can trust.♦

♦ These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.