



## **CALCIUM MAGNESIUM WITH VITAMIN D<sub>3</sub>**

UPC CODE 0 646420 2375 9

NPN # 80007103

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### **NATURAL HEALTH PRODUCTS DIRECTORATE (NHPD) CLAIMS:**

#### **Jamieson Calcium Magnesium with Vitamin D<sub>3</sub> is approved for the following NHPD claims:**

- Calcium, magnesium and Vitamin D help in the development and maintenance of bones and teeth
- Vitamin D helps in the absorption and use of calcium and phosphorous
- Magnesium helps to maintain proper muscle function, helps in tissue formation, and helps the body to metabolize carbohydrates, fats and proteins
- Helps to prevent magnesium deficiency at three caplets daily
- Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis

#### **GENERAL INFORMATION**

Calcium is a major mineral in the body that is perhaps most well known for its role in the formation and maintenance of strong, healthy bones and tooth enamel. Although the majority of calcium in the body is found stored in the bones and teeth, a small amount is also found in the bloodstream. Calcium in the blood has many important roles to play: it transports nutrients across cell membranes; produces hormones and enzymes involved in digestion and metabolism; is involved in nerve cell communication; promotes blood clotting and wound healing; and assists with muscle contractions. Calcium is an essential nutrient throughout the lifespan, but it is particularly important for growing children and adolescents to help establish adequate bone mass for maintaining strong bones throughout life.<sup>1,2</sup>

Although only a small amount of calcium is found in the bloodstream, the body keeps blood levels of calcium tightly regulated. If there is inadequate calcium in the bloodstream, bone resorption (breakdown) will occur in order to draw calcium from the bones into the blood. Over

many years, this condition can lead to the development of osteoporosis, a disease characterized by brittle and weak bones, which increases the risk of hip and vertebrae fractures as well as spinal deformities and loss of height. Osteoporosis generally strikes both men and women in later life, though it is a particular concern for post-menopausal women. The risk of osteoporosis increases when the diet does not provide adequate calcium. Regular calcium supplementation along with weight-bearing exercises can help prevent bone resorption and osteoporosis to reduce the risk of fractures later in life.<sup>1,2</sup>

New scientific evidence shows that calcium plays many other important roles in the body. This mineral has been shown to support the health of the gastrointestinal tract by reducing the irritating effects of bile acids and fatty acids on the lower colon.<sup>3</sup>

A recent study published in The Archives of Internal Medicine showed that a sufficient intake of calcium from both food and supplements may ward off certain types of cancer. Conducted by researchers from the National Cancer Institute in the United States, this study followed almost 500,000 men and women between the ages of 50 to 71 for a total of seven years. At study completion, researchers found that women with higher calcium intakes (up to 1,300 mg/day), had a decreased risk of cancer overall. They also showed that both men and women with higher calcium intakes had a lower risk of developing cancers of the digestive system (including head, neck, esophagus, stomach, bladder, colon and rectum), and in particular, colorectal cancer. The results were the same whether the calcium came from dairy products and other foods, or supplements.<sup>3</sup>

Calcium is also thought to play a role in helping to reduce high blood pressure. By allowing the muscles to contract and relax, adequate calcium ensures that the heart and blood vessels function normally.<sup>4</sup>

Other research indicates that calcium can help relieve symptoms of pre-menstrual syndrome (PMS). Symptoms of PMS include irritability and mood swings. These symptoms have been attributed to several factors, one of which is hormonal imbalances caused by insufficient calcium. Regularly taking a calcium supplement may prevent symptoms of PMS, and reduce the severity of these symptoms when they do occur.<sup>5</sup>

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Approximately half of the magnesium in the body is found in the bones and it is an essential nutrient to keep them strong and healthy. Magnesium also plays an important role in maintaining the function of nerves and regulating muscle relaxation. A deficiency in magnesium is associated with the occurrence of muscle spasms, tremors and convulsion.<sup>6</sup> Low magnesium levels have also been associated with psychiatric problems such as depression and schizophrenia.<sup>6</sup>

Vitamin D is a fat soluble vitamin that regulates calcium and magnesium metabolism in the body. Vitamin D promotes intestinal absorption of calcium, mobilization of calcium from bone stores, and retention of calcium by the kidneys. It is therefore essential for the calcification of bones and teeth. New research has also found Vitamin D inversely associated with the incidence of upper respiratory tract infections.<sup>7</sup>

Calcium, magnesium, and vitamin D work together in the body to enhance each other's overall absorption and utilization. Vitamin D increases the absorption of calcium. Calcium and magnesium are essential factors in the formation and maintenance of healthy bones, but they also play an important role in the contraction and relaxation of muscles, including the heart. When calcium flows into the muscle tissue cells they contract. When calcium leaves, magnesium replaces it and the muscle relaxes. They also work together to normalize the muscle tone of blood vessels.<sup>8</sup>

Jamieson Calcium Magnesium with Vitamin D<sub>3</sub> now contains increased vitamin D<sub>3</sub> (200 IU). Also known as "the sunshine vitamin", vitamin D helps calcium absorption, and promotes healthy bones, skin and teeth. Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of developing osteoporosis.<sup>1,2</sup> Magnesium helps to maintain proper muscle function, helps in tissue formation, and helps the body to metabolize carbohydrates, fats and proteins. It also helps to prevent magnesium deficiency at three caplets daily.

Jamieson Calcium Magnesium with Vitamin D<sub>3</sub> is formulated from natural sources and is pharmaceutically tested to guarantee full potency and absolute clinical purity.

What makes Calcium Magnesium with Vitamin D<sub>3</sub> from Jamieson Laboratories different...and why does that difference mean better?

- 1) Magnesium and calcium work together to enhance each other's absorption and utilization.<sup>9,10</sup> A 2:1 ratio of calcium to magnesium ensures maximal calcium absorption and prevents any adverse gastrointestinal side effects that can occur when these two minerals are taken in equal proportions.<sup>11</sup>
- 2) It is formulated using a highly absorbable natural complex of five magnesium sources including oxide, citrate, fumarate, malate, and succinate.
- 3) Formulated with vitamin D<sub>3</sub> as opposed to D<sub>2</sub>. This is a more bioavailable form of vitamin D, and helps to ensure calcium absorption.
- 4) Our premium formulations are manufactured using the 360 Pure process – a minimum of 360 quality tests that guarantee traceability and reliability of raw material, product safety, full potency and absolute clinical purity.

## INGREDIENT INFORMATION

Available as 100 caplets.

Each caplet contains:

Elemental Calcium.....	333 mg
(From a complex of carbonate, citrate, fumarate, malate, succinate)	
Magnesium.....	167 mg
(From a complex of oxide, citrate, fumarate, malate, succinate)	
Vitamin D <sub>3</sub> (Cholecalciferol).....	5 mcg / 200 IU

## EXCIPIENTS

Cellulose, vegetable stearic acid, vegetable magnesium stearate, water soluble cellulose, titanium dioxide, Brazilian palm tree wax, polysorbate 80, mineral oil, maltodextrin, purified magnesium silicate, citric acid, soy polysaccharides, triethyl citrate, crospovidone.

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## DIRECTIONS

Adults - Take 1-3 caplets daily with meals. Take a few hours before or after taking other medication. Store between 15°C-25°C, away from children.

## INDICATED BENEFITS

- Maintains strong bones and healthy teeth<sup>1,2</sup>
- Helps prevent osteoporosis to reduce the risk of fractures later in life<sup>1,2</sup>
- May help reduce high blood pressure<sup>4</sup>
- Plays a role in relieving symptoms of PMS<sup>5</sup>
- Supports colon health<sup>3</sup>
- Good for adolescents and post-menopausal women
- Aids function of nerves and muscles, including regulation of normal heart rhythm<sup>4,8</sup>
- Maintains steady metabolism<sup>12</sup>
- Conducts nerve impulses

## NUTRIENT INTERACTIONS

### Drug Interactions

Calcium, vitamin D, and/or magnesium can interfere with tetracycline antibiotics, anticoagulants, and calcium channel blockers. Consult your physician before use if you are taking any thiazide diuretics, as these can cause extremely high (potentially toxic) levels of calcium in the body. Magnesium can increase levels of diuretics in the body.

### Nutrient Depletions

Excess calcium can impair the absorption of the mineral iron.

Calcium, vitamin D, and/or magnesium may interact with or be depleted by corticosteroids, bronchodilators, anti-osteoporotics, cholesterol-reducing medications, anti-gout medications, anti-fungals, immunosuppressants, anti-malarial drugs, anti-tuberculosis drugs, histamine H2 blockers, oral contraceptives, biguanides, sulfonylureas, and sulfonamides.

Foods high in phosphorus (animal protein and soft drinks) promote urinary loss of calcium. High consumption of caffeine, and excess dietary fat and fibre can inhibit calcium absorption.

## Supportive Interactions

Vitamin D enhances calcium absorption. Garlic supplements along with calcium may help reduce high blood pressure.

## WARNINGS AND PRECAUTIONS

Some people may experience diarrhea.

## TOXICITY, ADVERSE REACTIONS, AND SIDE EFFECTS

Calcium carbonate may cause symptoms of gas, bloating, or constipation. If this occurs, supplement with calcium citrate.

Excess calcium can contribute to the development of kidney stones, and may cause calcium deposits in the body.

If you experience abdominal pain, appetite loss, diarrhea, irregular heartbeat, mood or mental changes, nausea, extreme fatigue, weakness, or vomiting, discontinue use and contact a physician.

## REFERENCES

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