

Hyperparathyroidism

Old Theory

The parathyroid glands maintain proper levels of both calcium and phosphorus in your body by turning the secretion of parathyroid hormone (PTH) off or on, much like a thermostat controls a heating system to maintain a constant air temperature. Vitamin D also is involved in regulating the amount of calcium in your blood.

Normally, this balancing act works well. When calcium levels in your blood fall too low, your parathyroid glands secrete enough PTH to restore the balance. PTH raises calcium levels by releasing calcium from your bones and increasing the amount of calcium absorbed from your small intestine.

When blood-calcium levels are too high, the parathyroid glands produce less PTH. But sometimes one or more of these glands produce too much hormone, leading to abnormally high levels of calcium (hypercalcemia) and low levels of phosphorus in your blood.

Complications of hyperparathyroidism are primarily related to the long-term effect of too little calcium in your bones and too much calcium circulating in your bloodstream. Common complications include:

Cardiovascular disease. Although the exact cause-and-effect link is unclear, **high calcium levels are associated with** cardiovascular conditions, such as **high blood pressure (hypertension)** and certain types of heart disease.

To reduce PTH levels and to prevent the loss of calcium from the bones (osteoporosis), the traditional approach has been to administer 500 mg to 1200 mg per day of elemental calcium.

New Theory / An Alternative Approach

PTH raises calcium levels by increasing the amount of calcium absorbed from your small intestine, reducing the daily calcium excreted in the urine and lastly in dire circumstances releasing calcium from your bones.

There is however another more potent method to achieve the lowering of PTH in a more natural way.

The body automatically maintains a ratio between magnesium and calcium levels. As magnesium levels rise, calcium levels automatically rise in order to maintain an ideal ratio.

This would be a natural method of maintaining high calcium levels to help lower PTH levels.

The most important aspect of the use of magnesium is that it is also a vasodilator, which means that it allows the expansion of blood vessels in the body, which automatically lower blood pressure.

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So administering magnesium supplements will not only lower blood pressure through vasodilation, but will also naturally raise calcium levels which in turn will help reduce PTH levels.

In addition, magnesium also helps to increase bone density. Magnesium results in flexible bones which help reduce the risk of fractures, which is the ultimate goal for management of osteoporosis.

The internationally accepted upper end of the normal reference range of magnesium is 3.0 mg/dL. So in most cases there is ample scope to continue administering magnesium supplements for a prolonged period - typical 6 to 12 months. Periodic monitoring of calcium and magnesium levels is however recommended.

Another important nutrient which will be helpful, would be silicon to help lower blood pressure. Silicon is responsible for maintaining the elasticity of blood vessels. With age, blood vessels harden, which results in increased blood pressure. Elastic blood vessels also help to lower blood pressure.

Both magnesium and silicon will help improve bone density which is a risk factor in case of hyperparathyroidism. Attached please see the graph of how bone density can be increased through the use of magnesium and bio-identical progesterone. For detailed case study done please visit: <http://www.space-age.com/BMD01.pdf>

For the latest on osteoporosis, calcium, vitamin D and bone mineral density please visit: <http://www.space-age.com/osteoporosis.html>

Nutrients administered at intracellular levels take time to show results. First step should be to take 2 capsules of 180 mg each of elemental magnesium twice a day for the next 90 to 180 days.

It would be prudent to stop calcium supplements on starting magnesium. Calcium and magnesium are antagonist. High dose calcium (elemental 500 mg and greater) will block the absorption of magnesium.

High blood pressure can be a result of trying to artificially raise calcium levels through high dose calcium therapy in the body in a bid to reduce PTH (Parathyroid hormone) levels.

There is a definite link between high dose calcium (in the range of 500 mg to 1200 mg elemental calcium per day) and high blood pressure. High dose levels of calcium result in lowering magnesium levels (as these are antagonists). Lowered magnesium levels result in high blood pressure due to the reduction in the vasodilation of all blood vessels.

Reverse Logic and Calcium Requirements of the Human Body Scope for Misdiagnosis

The reverse logic as to the connection between calcium and magnesium being antagonist to each other also applies.

When we see low serum calcium levels in a blood report, we tend to think that calcium is low and therefore recommend the patient to start taking calcium.

But as more calcium is added to the body, the magnesium levels sink still lower. In a bid to maintain adequate ratio of calcium to magnesium, the excess calcium determined by the body is now excreted in the urine.

As magnesium levels fall, the serum calcium levels sink still further and now we have put the patient on a life long supplementation of calcium with no results in sight.

On noticing low serum calcium levels, in spite of prior calcium administration, had we begun administering magnesium, the serum calcium levels would have automatically risen, as less calcium would have got excreted in the urine and PTH would have increase absorption of calcium from the intestines.

How Much Calcium Does an Adult Really Need ?

Let us try and understand how much calcium does the human body need.

Calcium concentration in mother's milk

Calcium concentrations, reported in various studies, vary from 25--35 mg/100 mL. From 1 month to 6 months, the intake of breast milk is about 750 mL. This means that the total calcium delivered to a baby's body through breast feeding is about $35 \text{ mg} \times 7.50 = 262.5 \text{ mg}$ approximately.

Assuming approximately 750 mL of mother's milk is required by a one to six month old baby, the daily intake of calcium is approximately 250 mg per day. With this amount of calcium in daily diet, the child is able to grow to double its size every few months and the baby's skeleton grows at a healthy rate.

In adults, where the body has stopped growing and the skeleton is fully formed, the requirement of calcium should automatically be far less, not far more. Excess calcium supplementation will only result in urinary excretion of calcium. If the calcium intake is too high and the kidneys are not able to cope with this extra load, it will result in the deposition of calcium in soft tissues, calcified arteries, calcified heart valves, kidney stones, osteophytes, heel spurs, etc. This is know as calcium toxicity or calcium poisoning.

We truly live in a calcium toxic society today, with rampant osteoporosis.

This is an example of the pitfalls of reading only highs and lows of a blood report without proper analysis.

It is obvious from the above, that in the case of full grown adult, the daily requirement of calcium will be far less.

Administering 500 mg or 1,200 mg of elemental calcium (in the form of calcium carbonate) will only result in calcium deposits being formed in various locations in the body as the kidneys will not be able to cope up with the load of this excess calcium.

The Standard Reference Range for 24 hour urinary excretion of calcium is 50 to 350 mg. From this we know that the kidneys of a healthy individual can excrete a maximum of 350 mg of calcium per day. High dose calcium of 500 mg to 1200 mg per day will definitely put a load on the kidneys, which they are not designed to cope up with. This will result in calcium deposits in various locations of the body.

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Blessings,
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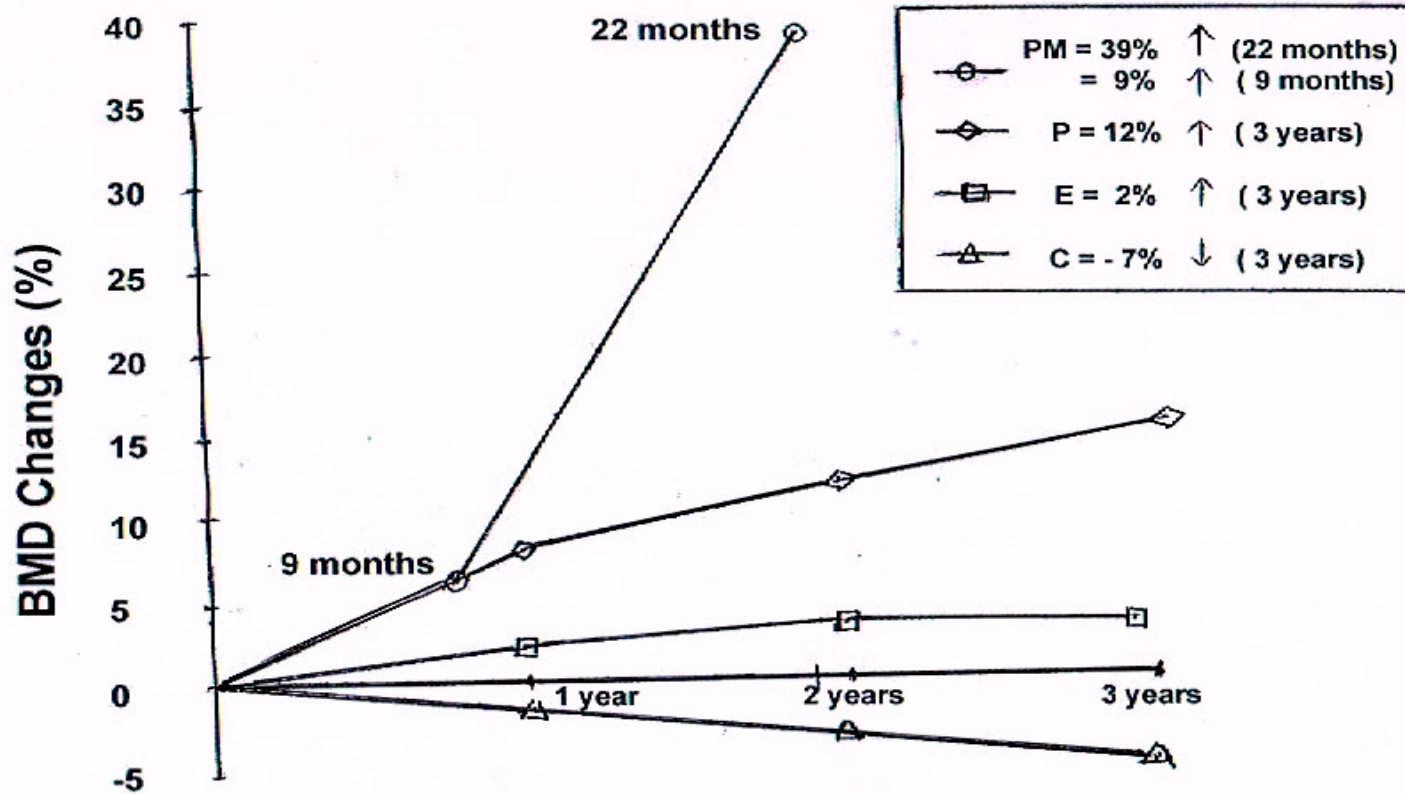


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[spaceage2010](#) (for video consultations by prior appointment)

Natural Progesterone + Magnesium Stimulates Bone Building



Typical 3 years Bone Mineral Density (BMD) changes using:

- Bio-identical Progesterone + Orthomolecular Magnesium (PM);
- Bio-identical Progesterone (P);
- Estrogen only (E); and
- Control (C) (i.e., without Bio-identical Hormone and / or Calcium Therapy)