NOTES ON MAGNESIUM

---Supplied by Dr. Nieper, quoting from many other sources.

The magnesium content in the heart muscles of coronary patients is normally distributed as in healthy hearts, but is considerably reduced in the hearts of victims of myocardial infarction. This shows that coronary sclerosis is not clearly associated with infarctions.

A cardiopathogenic diet, rich in cholesterol, vitamin D2, sodium and calcium given to rats caused infarctions within 8 weeks in 65% of the histologically examined animals. The addition of magnesium to this diet, lowered the infarction rate to zero. On the other hand, all animals were affected by infarctions when they were subjected to stress (light, sound, electrical shocks twice daily for 15 minutes, starting on the 26th day of the experiment) in addition to the cardiopathogenic diet. Addition of magnesium under these conditions had a highly protective effect and resulted in small myocardial necroses in only 20% of the animals.

There is a negative correlation between the hardness of drinking water and the incidence of myocardial infarctions. There is a particularly high infarction frequency in Celle, with soft drinking water, and a low infarction frequency in Braunschweig, which has hard water. (Lower Saxony, Germany). Statistics from other countries, especially Finland, confirm this. Otherwise, the percentage is fairly constant in Europe, except for a very low infarction incidence after the war, which is ascribed to the scarcity of food, and cigarette smoking which is a major risk factor with regard to myocardial infarctions.

The decrease in heart disease mortality in the U.S. can be explained in several ways.
One is by better treatment, (use of heparin early), and a reduced cholesterol intake. Undoubtedly another reason is that millions are now taking magnesium carbonate supplements (such as dolomite.)

In 1956, myocardial infarction mortalities were about 260 per 100,000 per year in the U.S. The rate has been more or less constant since then. At this time, other countries had much lower mortality rates. Japan 21, France 40, Italy 50, West Germany 70, Sweden 110, England 140. Since then, mortality rates have increased dramatically in the other countries. In 1972, it was 290 (200 men, 90 women) in West Germany for example.

In a report from the British Medical Journal: In a group of over a hundred patients with coronary heart disease, of whom at least one third had manifest mycardial infarctions, who were under continuous treatment with parenteral magnesium sulphate (4-5 times weekly, intramuscularly), there was only one death in the course of a year. On the other hand 60 of the 196 patients who had been treated routinely with coumarin, warfarin and marcoumar at the hospital the previous year, had died.

It is important to note, that these extremely good results were achieved through parenteral application of large magnesium sulfate doses—intramuscularly or intravenously. In order to achieve such results by means of a rational oral therapy, special magnesium transport substances are required. Magnesium orotate is essentially the only such substance which is satisfactory. It can be given in large doses, e.g. 4-6 grams daily, it is absorbed and well tolerated. Potassium orotate and potassium aspartate improve the necrosis preventing effect of magnesium orotate. The British Medical Journal reports on the synergism of parenteral magnesium sulfate and heparin. Magnesium orotate and bromelain also act synergistically. Bromelain, moreover can be administrated effectively orally.

Dr. Nieper gives us several reasons why our bodies are suffering from magnesium deficiency.

1. The refining of table salt, i.e. the elimination of magnesium chloride to avoid hygroscopic properties (absorbing of moisture from the air).

2. The increasing use of surface waters instead of well waters and spring water.

3. Unbalanced, overfertilization of our food crops with potassium, nitrogen and phosphates resulting in magnesium and trace element depletion in our foods.

4. The relatively high intake of carbohydrate (sugars, starches) foods, in breads and pastas. These are poor in magnesium, and also place a heavy demand on the phosphate pool.

5. The high intake of foods, such as cheese, which bind magnesium in the intestinal tract, so that it is excreted instead of being absorbed.

6. Certain medicines and food additives can cause mineral deficiency. Some diuretics for example can cause potassium and magnesium loss. Some attempts are made to replace the potassium, but the magnesium is usually ignored. Caffeine, is also a diuretic. It is known to increase the urinary excretion of calcium, which fact alone is reason enough to avoid it. Thiazides, on the otherhand may decrease calcium excretion. It is necessary to keep a proper mineral balance, as certain ions work together. Sodium depletion, for example, enhances lithium toxicity, so lithium carbonate is not given to patients receiving diuretics. Patients with hypomagnesemia may develop cardiac arrythmias when treated with digitalis, etc.

Note: An increased magnesium concentration relaxes the vascular walls and lowers the resistance in all vascular beds. It can however be toxic in high concentrations. It is the fourth most plentiful cation in the body. Magnesium, calcium and potassium metabolism is intimately related. The body can also be depleted by diarrhea, parenteral feeding and in nursing mothers.

Dr. Nieper also says:
Magnesium deficiency is not only involved in myocardial necrosis, it has also been long known in the development of hyperlipemias, that is hyper chlesterolemia as well as hypertriglyceridemia. Likewise, it has long been known that magnesium therapy has a corrective influence on elevated levels of cholesterol and triglycerides in the blood. However, I regard the effects of magnesium therapy particularly magnesium orotate, on the structure and function of blood vessel walls, as being considerably more important than the correction of elevated blood lipid levels.

We have found by visible light capillarography (amplified mediscope) that magnesium orotate treatment reversed sclerotic changes in the elasticity of arteries and arterioles in more than 90% of the cases. Lipostabil brought about improvement in 60% of the cases, but the improvement in vessel elasticity was less pronounced than the improvement achieved with magnesium orotate. Clofibrate proved to be ineffective in this investigation.