

Cover

# Calcify

- *By Tatiana Clébicar, Photos by Marco Antônio Teixeira*

The lack of this alkaline earth type mineral may be behind a series of life-threatening diseases which affect the modern-day society. Recent studies associate the lack of calcium with the epidemic of obesity, to the increase in the incidence of intestinal cancer and to memory-loss diseases. The slow ingestion of the mineral also makes men develop bone diseases that in the past only affected women. For this reason, doctors are reviewing the daily recommended doses of calcium. Currently it is 800 milligrams to one gram per day. But research reported the best results in the control of obesity in diets which included more than two grams of the mineral daily. In addition to this, nutritionists highlight that it is not enough to just take the nutrient; it is necessary to guarantee its absorption by the organism with accompanying foods.

## Cover

**F**ROM STUDIES ON calcium and obesity it is possible to build a hypothesis about the ideal diet. It took the lawyer Benedito Vasconcellos Patrão getting to 110 kilos and having a blood pressure of 17 over 11 in order to adhere to a strict diet.

Only legumes, vegetables and grilled chicken are allowed. He was never very keen on daily products.

- I hardly ever eat white cheese. But I do have coffee with skim milk every day – he says, which he believes ingesting calcium in portions of broccoli. – No doctor ever told me about the importance of calcium in weight control.

### Effects are more acute in women

But there are differences between the genders. The study that compares the BMI showed that in women, the reduction in the indexes link to the metabolic syndrome were more expressive. They also benefited in intestinal cancer prevention. Doctors from Brigham and Women's Hospital in England observed that the volunteers that drank half a liter of milk per day had a 15% less chance of having the disease compared with 10% of men. The research involved 500 thousand people, with 5 thousand of them having colon cancer. The results were favorable mainly with the ingestion of cow's milk.

For the proctologist, Lucia de Oliveira, one of the founders of the Association for the Prevention of Colon cancer, in addition to calcium, selenium and fiber are also important in the prevention of the disease.

- But it's not just enough to eat well, if there are symptoms such as weight loss and rectal bleeding, it is necessary to seek out a specialist, she alerts.

For the rheumatologist Rubem Lederman, a member of the International Osteoporosis Foundation, and ex-President of the Brazilian Association for Osteoporosis, a mother's actions such as enriching her child's diet with calcium aid in the imagination of a healthier future for boys and girls.

- The more solid the base, the greater the peak in bone mass during adolescence. This will guarantee healthier bones after the age of 55 – says the professor to whom pediatricians are allied, during childhood a series of diseases can be prevented in adulthood.



*The lawyer Benedito Vasconcellos Patrão is overweight. He hardly ever eats cheese, but his diet includes skimmed milk and broccoli.*

A diet rich in calcium and vitamin D is recommended from an early age and signifies an immunization guarantee against osteoporosis.

The doctor adds that certain foods hinder the absorption of calcium. Diets rich in proteins, mainly red meat, are counter-indicated. In the same manner, foods which have oxalate such as dark beers and soft-drinks, tomatoes and some cereals hinder the absorption of the mineral.

- When associated, calcium and oxalate become an insoluble compound which, in large quantities, may provoke renal concrements or other problems. People that have very low percentages of fat also present a low assimilation of calcium.

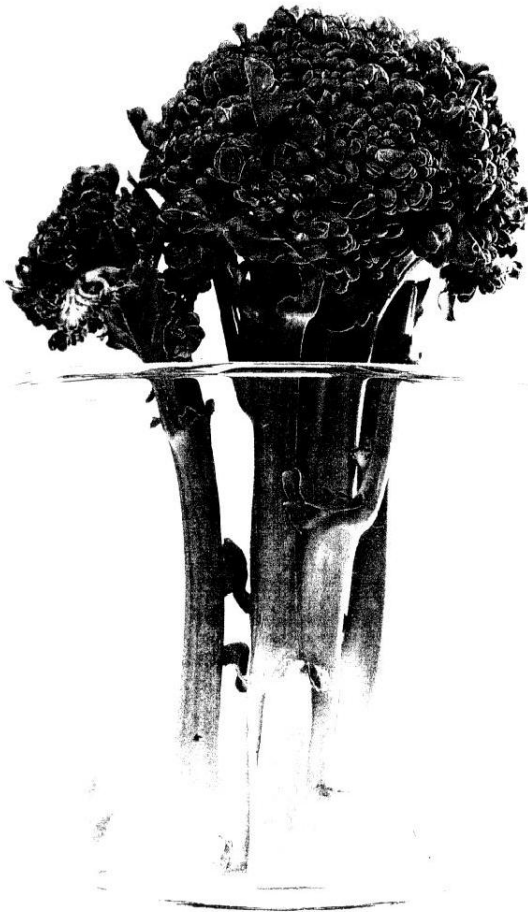
As a result of this, Doctor David Bushinsky of Rochester University published in the "New England Journal of Medicine" an article defending diets with 1.2 grams of calcium with a reduction in animal protein and salt. "Diets which are low in calcium should not be prescribed for the prevention of the incidence of concrements".

### How to get 1g of calcium:

50g of oats	=	180mg Ca
		+
100g of nuts	=	150mg Ca
		+
50g of curd	=	500mg Ca
		+
50g of milk fudge	=	90mg Ca
		+
30g of olives	=	40mg Ca
		+
50g of watercress	=	55mg Ca

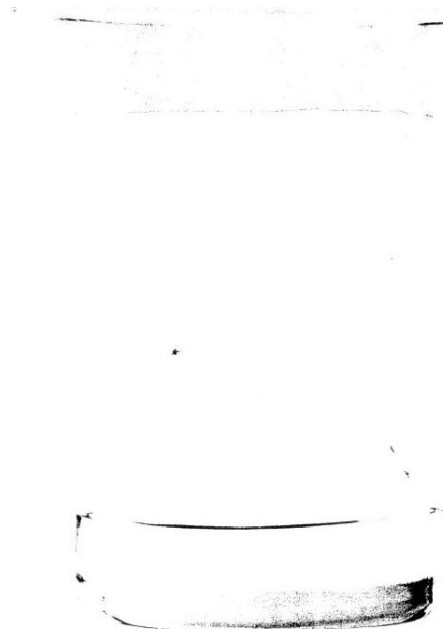
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*Total = 1.015mg Ca*



***60g of  
broccoli  
=  
250mg of  
calcium***

# ***Your Diet***



***1 glass  
of milk  
=  
250mg of  
calcium***

## Cover

**R**EGARDING THE WAVE OF obesity in the world, at least nine scientific articles have been published since April 2004. According to the endocrinologist Walmir Coutinho, the research compared two ways that a diet rich in calcium aids weight control.

- The data was fairly convincing. When the diets of thin and obese people were compared, it was noted that thin people ingest more calcium on a daily basis. In the same manner, but in an opposing process, it was noted that diets rich in calcium were chosen by thin people.

According to the doctor, it is still unclear why calcium interferes in weight gain, but one of the hypotheses rests on an increase in soft-drink consumption.

- First, because soft drinks take the place of dairy drinks during the meal, and secondly because soft drinks may hinder calcium absorption.

Coutinho adds that another factor is the preference given to skim milk, as the natural fat found in milk facilitates the good use of the mineral.

- Although skim milk may decrease calcium absorption it is still more recommended than whole milk due to related diseases. In these cases it may be more ideal to increase the amount ingested – says the endocrinologist, suggesting concentrated foods such as white cheeses, yogurts, and dark leaves such as broccoli.

### An increase in the recommended amount

The recommended amount of the mineral may also change. The current milligrams given as the recommended daily dosage may be increased. New studies show that a diet of 600 milligrams of calcium a day is weak. The best results in weight-loss control were achieved in menus totaling 2.5grams of the mineral.

- Low ingestion of magnesium is also detrimental to weight control - He says.

The journalist Rosa Muga had never heard of this relationship and

became extremely happy when she checked her three-year-old son's, João Pedro, daily menu. She, an ex-obese person, who was subjected to bariatric surgery, offers nearly 500mg of calcium only just the form of dairy products. The amount is sufficient for João's age range.

He drinks 400 milliliters of whole powdered milk every day. He also eats cream cheese, sliced white cheese, yogurt and sometimes, creamy ice-cream. After I found out about the research, I spoke with the daycare nutritionist. The children have two dairy drinks a week. They may increase the quantity.

One of the most telling studies of Australian men and women published in the "Asia Pacific Journal of Clinical Nutrition" demonstrated that people who ingested more than one gram of calcium a day, had a body mass index (BMI) and abdominal waist measurements less than those who consumed 600 milligrams to a gram, and even less with relation to those who consumed up to 600 milligrams. The patients were thin or obese, but never underweight.



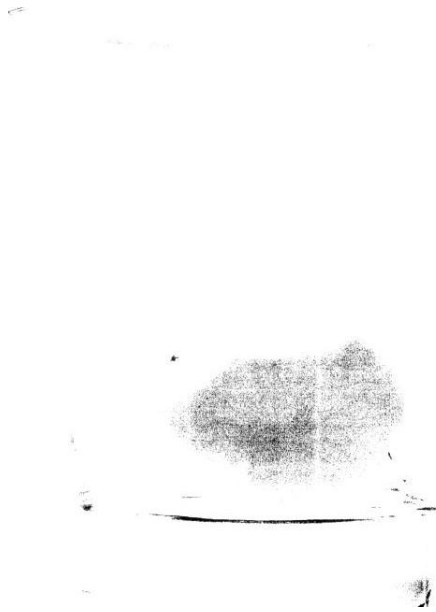
*João Pedro, 3 year's old, drinks whole powdered milk every day, in addition to consuming cheese, cream cheese and vegetables rich in calcium, such as broccoli.*

### How to get 1g of calcium:

2 glasses of milk =	500mg Ca
	+
100g of almonds =	300mg Ca
	+
50g of chards =	55mg Ca
	+
50g of broccoli =	200mg Ca

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**Total = 1.055mg Ca**



***7g of  
egg shell  
=  
250mg of  
calcium***

Cover

**W**OMEN ALSO COME OUT ON top when the subject is pre-menstrual syndrome (PMS). At study of the University of Massachusetts, in the United States, of three thousand women – a third with symptoms of the problem – observed that those that did not relate aggressiveness

and irritation before becoming menstruated adopted a daily menu rich in calcium and vitamin D, which also acts in bone development. The hypothesis of the researchers is that the mineral and the vitamin regulate the levels of estrogen in the female organism and in their opinion, hormonal variations would not be directly linked to PMS.

According to the researcher Elizabeth Bertine-Johnson, who coordinated the study, women who pass safe and soundly through the menstrual period ingest close to four daily portions of milk or dairy products of low fat content.

But doctors recommend caution when ingesting calcium, at 67 year's old, President of the Brazilian Society for Patients with Osteoporosis, affiliated with the International Osteoporosis Foundation, Miriam Hagen took calcium supplements totaling 1.2 grams per day. Despite using corticoids (which are associated with bone weakening), she does not have osteoporosis. Bone strength, therefore, could have caused her another problem.

- Up until I assumed the position at the Society, when I started immersing myself in the subject, I had no knowledge about taking care with one's diet. I was awarded with a stone in my left kidney, removed during an easy surgery. This is why I recommend for people to get informed by their doctors as the best diet for them to adopt - she says.

**Mineral solidifies the memory**

For the professor Ruben Carlos Guedes, who researches nutrition and neurology in the Nutrition Department at the University of Pernambuco, everything is a question of having a balanced diet:

- Recent studies indicate that formation and solidify of the memory depend upon the good functioning of certain synapses. Therefore, it may be concluded that calcium is important to the memory, because without it the synapses would not function properly.



*Miriam Hagen, 67 year's old, takes 1.2 grams of calcium daily in order to prevent osteoporosis. She had to undergo surgery to remove a renal concretment.*

If we ingest insufficient quantities of calcium, the organism will have to obey it and mobilize it of tissues where it is found in abundance, such as in the bone tissue. This may compromise the structure and the resistance of the bones leading to a condition known as rickets. If we ingest excessive quantities of calcium, the organism makes it possible to eliminate whatever exceeds our needs through feces or urine. The mechanisms which control the absorption of calcium that the organism needs, or the elimination of the calcium which in found in excess, depend upon the presence of another mineral: phosphor. It is impossible to talk about the regulating of one without mentioning the other. It means that there's little use in calcium without phosphor, and vice versa.

The process takes place in the following matter: calcium which is ingested with food is absorbed by the cells of the innermost layer of the intestine, called the "mucous membrane". From the mucous cells the calcium passes to the blood stream and is distributed throughout the entire organism, including the brain where it performs important functions in the synapses;

**How to get 1g of calcium:**

- 10g of cheddar = 80mg Ca
- +
- 1 ball of ice-cream = 150mg Ca
- +
- 100g of alfalfa = 500mg Ca
- +
- 50g of pumpkin = 70mg Ca
- +
- 10g of parsley = 20mg Ca
- +
- 10g of coriander = 12mg Ca
- +
- 100g of sardines = 250mg Ca

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**Total = 1.082mg Ca**

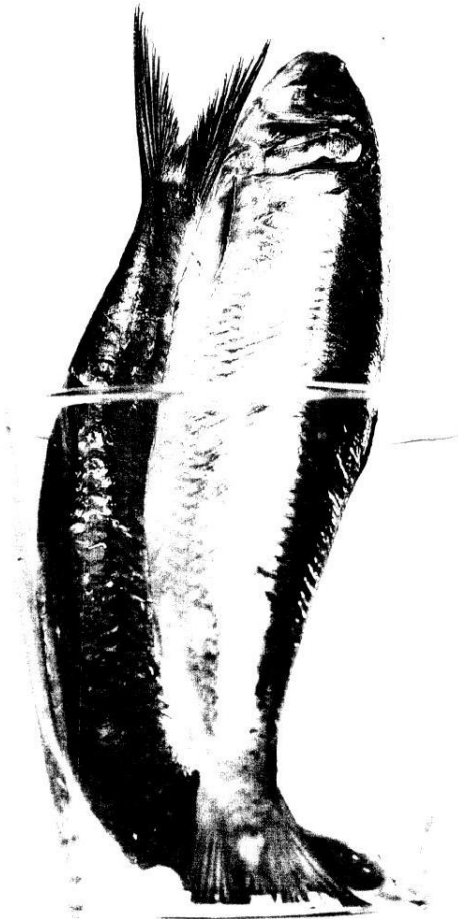
the contact points between two neurons, through which information is transmitted which guarantee the harmonic functioning of the nervous system. In the synapses calcium is fundamental in order for synthesized substances to be released by the neurons, and through them the neurotransmitters are stored.

According to the specialist, generally speaking, the brain is the last organ to be affected by the lack of calcium:

- The brain is relatively protected against deficiencies in ingestion of nutrients. This is also true for calcium. Curiously enough, in aging a tendency is observed in some individuals in the formation of small intra-cerebral deposits of calcium, which in the majority of cases to not create diseases. However, in some people, these cerebral calcifications may create functional deficiencies; including of the memory. Why does this happen in some people and not in others? Probably due to genetic factors and lifestyle. ■

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Graphics Production: Rita Moreno



**2**  
***sardines***  
**=**  
***250mg of***  
***calcium***