

# MAGNESIUM:

“THE CALCIUM BLOCKER”



## Magnesium (Mg) in the human body

The adult human body contains approximately 20 to 28g of Mg, of which approximately 60% is found in bone, 26% in muscle, and the remainder in soft tissues and body fluids. Gender difference, in the body content of Mg, begins at pre-puberty.

## Drugs that cause loss of body magnesium

- Alcohol
- Cocaine
- Beta-adrenergic agonists (for asthma)
- Corticosteroids (For asthma)
- Theophylline (for asthma)
- Caffeine
- Phosphates (found in Cola drinks)

## Other causes of Loss of Mg

- Physical and mental stress
- Dietary fat
- Dietary fibre
- Dietary calcium

Therefore high intakes of calcium, protein Vitamin D, and alcohol all increase the requirements for Mg, Physical and physiological stress may also increase Mg needs. Primarily your kidneys govern the control of Mg balance. They save magnesium efficiently, particularly when the intake is low. Supplementing a normal intake increases urinary excretion of Mg and the magnesium level in the body remains normal. Diets low in magnesium reduces urinary flow of magnesium. To meet the increased needs of lactating woman, urinary flow of magnesium tends to decrease.

## Food Sources and Intakes

Mg is abundant in many foods, and a balanced diet should provide adequate amounts of this element. Good sources are seeds, nuts, legumes, unmilled cereals grains as well as dark green vegetables. Milk is a moderately good source of magnesium, especially because milk and other dairy products are so widely consumed, in actual fact, milk is the major contributor of magnesium in humans. Fish, meat, and the most commonly eaten fruits (i.e. oranges, apples and bananas) are poor sources of magnesium.

## Functions of Mg

Magnesium plays a role in transmission of the nerve impulses and activity of muscles, working both in concert with and against the effects of calcium, depending on the system involved. In normal muscle contraction, calcium acts as a stimulator and magnesium acts as a relaxer. Magnesium acts as a physiological calcium channel blocker, and it has been called “Nature’s blocker”. Therefore the reactivity of vascular and other smooth muscle cells depend on the ratio of calcium to magnesium in blood.

## Why depend on Mg in water instead of Mg in food or tablets?

Although excess Mg can inhibit bone calcification, Mg excesses from dietary sources including supplements, are unlikely to result to toxicity. One reason for depending on Mg-in-water instead of issuing supplement tablet form is that the participation is certain with water, while tablets may often be discarded by subjects. Mg tablets may be useful as an addition to water with Mg, but cannot be relied on as a replacement for water because patients may spit out or discard tablets. Water-borne Mg effectively serves as a “divided dose”, consumed throughout the day. It is highly recommended that you consume at least eight glasses of water a day. Mg in water is 30% more bio-available than in food. Rand Water purifies the water through a conventional purification process, resulting in adequate Mg levels in your tap water (enough for your daily requirement), which is within SABS 0241 water specifications (70mg/l).

Visit [www.reservoir.co.za](http://www.reservoir.co.za) for further information on water quality in your area.

