



# ESSENTIAL MINERAL MAGNESIUM

During the last few years, magnesium (Mg) has been subject of research due to its functionality in the organism. It is one of the most important micronutrients, and therefore its role in biological systems has been extensively investigated. Particularly, Mg has a strong relation with the immune system, in both nonspecific and specific immune response, also known as innate and acquired immune response.

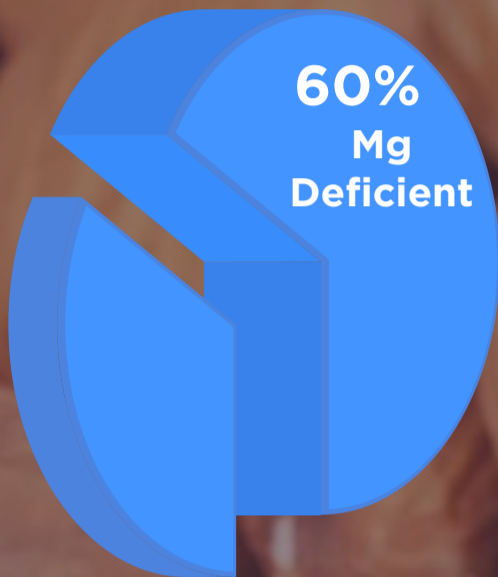


**T**he aim of this paper is to review the state of the art about the interactions between Mg and the immune system. We discuss the link between dietary Mg and inflammation, apoptosis and alterations in number and function of innate immune cell populations, described in animal models. Furthermore, the immune system can be compromised in human populations under certain circumstances, including athletes and elderly people.

The importance of a balanced Mg homeostasis and its interaction with the immune system in these groups has also been reviewed. Although emerging data support the relevant role of Mg in the immune response, further research is needed; and special efforts should be made to establish the most adequate dose in nutritional supplements to reach beneficial effects on health.

# Mg

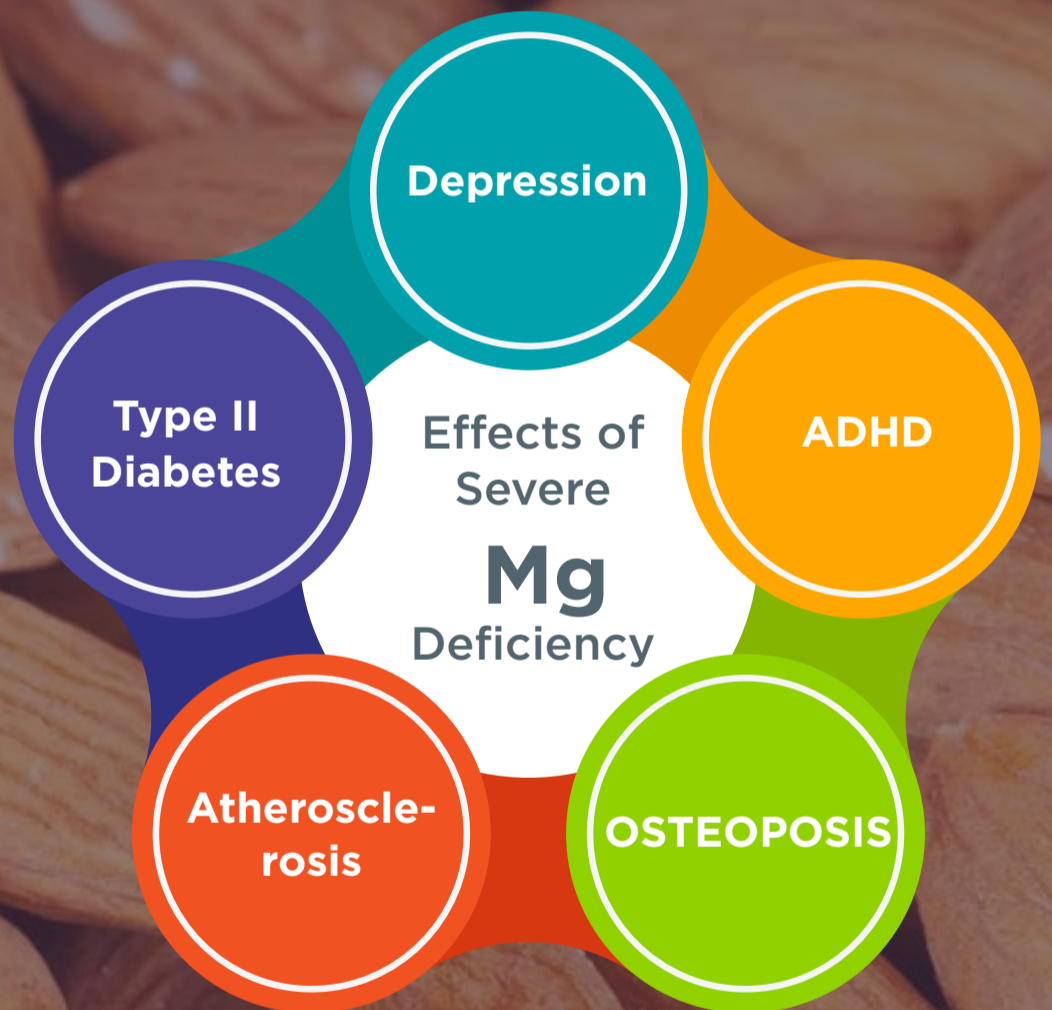
## Magnesium Deficiency



60% of U.S. Adults are Deficient in MG

### Signs of Mg Deficient

- Exhaustion
- Low energy
- Fatigue
- Weakness
- Confusion
- Nervousness
- Anxiouness
- Irritability
- Tantrums
- Poor digestion
- PMS/Hormonal imbalances
- Sleeplessness
- Muscle tension, spasm & cramps
- Abnormal heart rhythm





## Magnesium Food Sources

Foods High in Magnesium	Amount	Milligrams
Pumpkin seeds	1 cup	738
Watermelon seed, dried	1 cup	556
Sunflower seeds	1 cup	508
Cashews/Almonds	1 cup	400
Dark chocolate	1 bar	400
Spinach, frozen, cooked	1 cup	157
Chinook salmon	4 ounces	138
Black beans	1 cup	120
Brazil nuts	1 ounce	107
Lima beans, frozen, cooked	1 cup	101
Pinto beans, cooked	1 cup	86
Brown rice, long-grained	1 cup	84
Artichokes	1 cup	71

## Recommended Daily Amount

The RDA for magnesium is between 310 – 420 milligrams for adults  
 Many health experts suggest 1000 mg is what most people need.