



# Basic Health Info

## Does Calcium Supplementation Affect Iron Absorption?

By Chet Zelasko, PhD

One of the most frequent recommendations given by nutrition and health experts is to avoid taking calcium supplements with meals containing iron or with iron supplements. I've given that advice myself in the past. The recommendation is difficult for those people such as pregnant women who need both calcium and iron. But is it really necessary? I decided to examine the research to determine whether this advice is warranted.

### The Basis for the Recommendation

Nutrition studies are difficult to perform, especially those that examine absorption. The diet of the subjects must be rigidly controlled; the subjects are usually college students and the study takes a few days. This is traditionally the way these types of studies are done: one or two nutrients are introduced either by eating or a feeding tube; what ends up in the blood is compared with the amount excreted in the urine, feces, and sometimes the sweat after a period of time. Doesn't it sound like fun to collect and measure those variables? The difference between the amount ingested and the amount excreted is the amount absorbed.

Study after study clearly demonstrated that if you take a calcium supplement with food containing iron or an iron supplement, less iron would be absorbed (1-2). The problem is that the traditional study reveals only a snapshot of the immediate absorptive process, not long-term effects, but that research was the basis for the recommendation that if you're taking a calcium supplement, avoid taking with it iron.



### Current Research

There are two ways of testing calcium-iron interaction long term. First, simply observing subjects who took a calcium supplement is the simplest way to know whether it will affect iron status regardless of whether absorption is affected or not. Think of it this way: if a woman took a calcium supplement, and it did interfere with the absorption of iron, she would eventually become anemic due to the lack of iron. There have been no studies that confirm that observation (2). Serum ferritin, a measure of iron in the blood, is maintained even with high amounts of calcium intake.

Second, a couple of recent studies have examined whether calcium supplementation would negatively effect iron status in teenage girls in Europe (3) and teenage boys and girls in China (4). In both studies, researchers found no effect on iron status after one year of supplementation with calcium. These subjects were young and they had normal iron status to begin with; while people of varying ages who may start with lower iron status might be compromised by taking a calcium supplement, there's no evidence of that.

### The Bottom Line

Based on the available research, if you need to take a calcium supplement, it will not affect your iron status whether you take the supplement with food containing iron or with an iron supplement. One of my favorite quotes from *Jurassic Park* is "nature finds a way." So will your body—so take calcium and iron in a way that is convenient for you, and your body will find a way to absorb and utilize both.

## References

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**Dr. Chet Zelasko** is dedicated to helping men and women get healthy and fit. As a health and fitness consultant with a PhD in Exercise Physiology and Health Education from Michigan State University, he provides health information based on the most recent research and delivers it in a way that's easy to understand. Whether in person during seminars, in audio recordings, or in the written word, he makes sense out of the health news people hear so they can make better health choices and achieve optimal health. He's conducted research and been published in peer-reviewed journals. He is certified by the American College of Sports Medicine as a Health and Fitness Specialist and has taught in ACSM certification workshops throughout the United States; he also belongs to the American Society of Nutrition. Although Grand Rapids, Michigan, is home, he has presented seminars on health to groups all over North America, Mexico, and the Caribbean and has written extensively on the health benefits of a good diet, regular exercise, and targeted supplementation.

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