

## Calcium Supplementation

### Introduction:

I chose to research the topic calcium supplement because, I was interested in knowing how calcium supplement affect your body and your health. I have seen many television commercials advertising different calcium supplement and how the lack of calcium in your body can lead to osteoporosis. According to the National Osteoporosis Foundation, Osteoporosis is a disease characterized by low mass and structural deterioration of bone tissue, leading to fragile bones and increased in factures to the hip and spine and wrist. Calcium supplements is essential for many functions in the body, including regulating the heart beat, conducting nerve impulse, stimulating hormone secretions. Calcium is also important for clotting blood and building and maintaining healthy bones. The groups who are at risk for calcium deficiency are postmenopausal women, female athletes, vegetarians and people who are lactose intolerance.

### Section 1: Background and Problem Statement

**Web site#1: Dietary Supplements Fact Sheet: Calcium**  
<http://www.ods.od.nih.gov/factsheet/calcium>

This Web site provides important facts about calcium supplementation. In this article the National Institutes of Health discusses how calcium affects the human body, the recommend intake of calcium and calcium deficiency. Calcium is the most abundant mineral in the body, and is found in some foods and added to others, available as a dietary supplement and is present in some medicines. Calcium is required for muscle contraction, blood vessel expansion and contraction, secretion of hormones and enzymes. Calcium is also required for transmitting impulses throughout the nervous system. According to this article there are two main forms of calcium supplements - carbonate and citrate. This article was easy to understand and provided a lot of important facts regarding Calcium

**Web site #2: Calcium Supplement Guidelines**  
<http://ag.arizona.edu/pub/health/az1042.pdf>

In this article the University of Arizona gives an overview of calcium, and how much calcium the body needs as we age. The article also discusses how supplements work in the body through absorption. Calcium supplements are absorbed by the body in the small intestine. The amount of calcium depends on

the type of calcium you consume. The body absorbs calcium less efficiently as your intake increases; therefore, it is best to take your calcium in smaller doses throughout the day to help with absorption. People should not take more than 500 milligrams of calcium at one time and allow 4 to 6 hours between doses. When the calcium level in your blood is low a parathyroid hormones is released and increases calcium absorption. Lactose, the major carbohydrate in milk, helps calcium absorption. The health risk of excessive calcium, such as kidney stones, can reduce absorption of other minerals in the body, such as iron, zinc, magnesium and phosphorus. This article was very informative and provided a lot helpful information on the effects of calcium supplements in the body. The article was good and well written with different graphs.

**Web site #3:** The 2004 Surgeon General's Report on Bone Health and Osteoporosis

<http://www.surgeongeneral.gov>

This article discusses how the lack of calcium supplements can cause bone disease such as osteoporosis. Osteoporosis occurs when bones lose minerals like calcium; the bones become fragile and break easily. The article also talks about different ways to protect your bones from getting osteoporosis, such as getting enough calcium supplement and vitamin D in your diet. Be physically active. People should talk with their doctor about medicines that weaken bone and medicines that protect bone. Adults should maintain a healthy weight because being underweight raises the risk of fracture and bone loss. People should not smoke or use alcohol. This was a very good article. It provided a lot of useful information about osteoporosis.

## Section 2: Research

**Web site #1 Name:** Study: Calcium May Reduce Risk of Colon Cancer

<http://www.cancer.org/docroot/NWS/content/NWS21xSTUDY>

The article discusses a study by the American Cancer Society, which shows calcium may lower the risk of colon cancer for both men and women. They studied 60,000 men and 66,000 women between the ages of 50 and 74 years old. They were asked about their diet and their nutrient intakes such as calcium and vitamin. People who took calcium supplements had a 30% lower risk of developing colon cancer than people who did not take supplements. The article provided a good description of the study and the findings.

**Web site #2 Name:** Calcium for Prevention of Osteoporotic Fractures

**Web address:** [Journal of Bone and Mineral Research Volume 12, Number 9, 1997](#)

The article discussed a study was showed that increased calcium intake among postmenopausal women appeared to reduce the risk of fractures. The study show there was 30% reduction in fracture risk among people who took 1 gram of

calcium supplement every day. This article was a good article, it was informative and descriptive. The article used different graphs to show the findings.

**Web site #3 Name: Calcium and Vitamin D nutrition and bone disease of the elderly**

**Web address: <http://www.ncbi.nlm.nih.gov/pubmed>**

The article discusses a study which was done with the elderly in 19 towns of 10 European countries. The study shows that calcium and vitamin D reduced the rate of bone loss in osteoporotic patients. This article was very short and did not provide a lot information.

### **Section 3: Statistics**

**Web site #1 Name: Osteoporosis Fast Fact**

**Web address: <http://www.nof.org/osteoporosis/diseasefacts.htm>**

The article discusses how osteoporosis is a major public health threat for 44 million Americans who are at risk. In the U.S. today 10 million people have the disease and almost 34 million people are at risk to get the disease. Osteoporosis affects 8 million women and 2 million men. Eighty percent of those affected by osteoporosis are women and twenty percent of men. The article also talks about which ethnicities are affected more by osteoporosis: 20% of Caucasian and Asian women aged 50 and older; 7% of Caucasian and Asian men aged 50 and older. The article also states that five percent of black women over age 50 and older and four percent of African American men are affected, as well as ten percent of Hispanic women aged 50 and older. The article was very informative and provided a lot of statistics.

**Web site #2 Name: Facts and Statistics about Osteoporosis and its Impact**

**Web address: <Http://www.iofbonehealth.org/facts-and-statistics.html>**

In this article, the International Osteoporosis Foundation gives a good overview about how osteoporosis affects other countries such as Europe, Asia, Latin America and Oceania. The article states that in Europe, 4 million new fractures and 8 fractures each minute or one every 8 seconds occur. In Latin American countries, such as Brazil 10 million people have osteoporosis. In Mexico, one out of every four people have osteoporosis. In the Asia, 70 million Chinese over the age 50 are affected by osteoporosis. Osteoporosis is underdiagnosed and undertreated in Asia. In the Oceania countries, such as Australia, 2.2 million people are affected by osteoporosis. In New Zealand there are 84,000 people osteoporosis. This article gave a lot of good statistics about other countries.

**Web site #3: Improving the Clinical Use of Biochemical Bone Marker in Metabolic Bone Disease**

**Web address:** <http://www.cdc.gov/nceh/dls/osteoporosis>

In this article, medical costs are estimated to be \$12 to \$18 billion a year. The cost of medical care for people with osteoporosis has gone up because people are living longer and the U.S. population is aging. The article investigated factors affecting bone development and monitoring the efficacy of treatment. This article was very short. It did not provide enough information.

**Section 4: Consumer Information**

**Web site#1 Calcium Supplements: What to look for**

**Web address:** [www.niams.nih.gov/Health Info/Bone/Bonehealth/Nutrition/calcium supp](http://www.niams.nih.gov/Health_Info/Bone/Bonehealth/Nutrition/calcium_supp)

This Web site provided good information about calcium supplements. The article provides information about how calcium supplements affect the body and what to look for in calcium supplements. Calcium is a mineral found in many foods. Getting enough calcium in your body is important because the human body cannot make it. Calcium intake is important because the body loses calcium everyday through the skin, nails, hair and sweat, also through urine and feces. The article provided information on different types of calcium compounds. Calcium exists in nature only in combination with other substances. Calcium compounds that are used in supplements include calcium carbonate, calcium phosphate and calcium citrate. These compounds are important to know because they contain different amounts of elemental calcium, which is the amount of calcium in the supplement. The article was easy to read and understand. The article also gives consumers a lot of facts about calcium supplements.

**Web site #2 Name: Generic Name: Calcium Supplements- Oral**

**Web address:** [www.medicinenet.com/calcium-supplements-oral/article.htm](http://www.medicinenet.com/calcium-supplements-oral/article.htm)

The article discusses how to use calcium, precautions of calcium supplements and drug interactions. When taking calcium supplements take with a large glass of water during or after a meal. If you are using a chewable product, it must be chewed well before swallowing. If you are using an effervescent tablet, it must dissolve in a glass of cold water or juice before taking it. Calcium can interfere with the absorption of other drugs and do not take other medications within 2 hours of taking calcium. The side effects of calcium supplements are nausea, vomiting, and loss of appetite, constipation, stomach trouble, thirst, and dry mouth. Consumers who have health problems such as parathyroid disease, lung disease and kidney stones should consult their doctor before taking calcium supplements. Women who are pregnant should talk to their doctor before taking

calcium supplements. Calcium supplements are known to be excreted into breast milk. The article also informs consumers about how prescription and nonprescription medication drugs can affect the absorption of calcium supplements. Large amounts of bran or whole grain cereals and breads may reduce calcium absorption. Consumers should also watch their consumption of alcohol large amounts of caffeine and smoking. This article provides a lot of valid information for consumer on how to take calcium supplement.

**Web site #3: Calcium**

**Web address:** <http://rxlist.com/calciu/supplements.htm>

This article provides a lot important information on how effective calcium supplements are and dosing considerations for calcium supplement. Dosing recommendations to prevent low calcium levels is 1 gram daily. For heart burn, calcium carbonate can be used as an antacid. The article also informs consumers about the different types of calcium. This article would be very helpful to consumers because it provides a lot good information about calcium. The article is not long and it is an easy read.

### **Section 5: Solutions to the Problem (or Issue)**

**Web site #1 Name: What you should know about Calcium**

**Web address:** <Http://www.nof.org/prevention/calcium2.htm>

In this article, the National Osteoporosis Foundation gives information on how to prevent osteoporosis, such as eating foods high in calcium, like milk, cheese yogurt, and green vegetables. People should also exercise 30 minutes a day. The article also discusses how to read food labels to make sure you are getting enough calcium in your body. The article gives helpful tips on how to prevent the lack of calcium supplement in your diet.

**Web site #2 Name: The 2004 Surgeon General's Report on Bone health and Osteoporosis**

**Web address:** [www.surgeongeneral.gov](http://www.surgeongeneral.gov)

This article provides a lot of important facts about calcium and osteoporosis. The article also provides information on how to prevent osteoporosis, such as diet, exercise and what to discuss with your doctor. Some of the questions people should ask their doctor are to check your risk for bone disease. People should know their calcium and vitamin D intake. They should report their totals to the doctor. People should discuss their need for a bone density test. These questions are very important in preventing bone diseases.

**Web site #3: Health Journal Calcium-What you need to Know****Web address:**[Http:www.bodyandfitness.com/Information/Womenhealth/calcium.](http://www.bodyandfitness.com/Information/Womenhealth/calcium)

The article discusses facts about calcium and how it is important to maintain a good diet and exercise to prevent bone disease. People should do different types of exercises, such weight bearing exercise or resistance training and aerobics to strength exercises. This article provides good information to keep bones healthy.

In conclusion, calcium supplements are an important part of your diet. Many people are affected by lack of calcium in the body. It is important for people to be aware of the benefits and risk of calcium supplements. People should stay healthy by exercising and eating health foods to prevent bone disease.

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