

# Minerals: Essential Elements for Health and Wellness

Evelyn Martinez\*

Department of Nutritional Sciences, Boston University, United States

## INTRODUCTION

Minerals are vital nutrients that the body requires to maintain a wide range of physiological functions. Unlike vitamins, minerals are inorganic substances, meaning they do not come from living organisms but are essential for various bodily processes. Understanding the role of minerals, their sources, and their impact on health can help you make informed dietary choices to support your well-being. Minerals are classified into two categories based on the amounts required by the body: major minerals and trace minerals. These are needed in larger amounts and include calcium, phosphorus, magnesium, sodium, potassium, and chloride. They are crucial for maintaining key bodily functions such as bone health, fluid balance, and nerve transmission. Required in smaller amounts, trace minerals include iron, zinc, copper, manganese, selenium, and iodine. Despite their smaller quantities, they play significant roles in various biological processes, including enzyme function and immune response. Essential for building and maintaining strong bones and teeth. It also plays a role in muscle function, nerve signaling, and blood clotting. Dairy products, leafy green vegetables, fortified plant-based milks, and tofu. Can lead to weakened bones, increased risk of fractures, and conditions such as osteoporosis. Critical for the formation of hemoglobin, which carries oxygen in the blood. Iron also supports energy metabolism and immune function.

## DESCRIPTION

Red meat, poultry, fish, lentils, beans, and fortified cereals. Can cause anemia, leading to symptoms such as fatigue, weakness, and pale skin. Involved in over 300 enzymatic reactions in the body, including energy production, muscle function, and nerve transmission. Nuts, seeds, whole grains, leafy green vegetables, and legumes. May result in muscle cramps, fatigue, and irregular heart rhythms. Helps maintain fluid balance, nerve function, and muscle contractions. It also supports healthy blood pressure

levels. Bananas, oranges, potatoes, spinach, and beans. Can cause muscle weakness, cramps, and irregular heartbeats. Supports immune function, wound healing, and DNA synthesis. It also plays a role in taste and smell. Meat, shellfish, dairy products, nuts, and whole grains. May lead to impaired immune function, delayed wound healing, and loss of taste or smell. Inadequate consumption of nutrient-rich foods can lead to deficiencies. For example, a diet low in fruits, vegetables, and whole grains may lack essential minerals. Certain health conditions, such as celiac disease or Crohn's disease, can impair nutrient absorption, leading to deficiencies. Pregnant women, athletes, and elderly individuals may have higher mineral needs and might require supplements to meet their requirements. Include a variety of foods from all food groups to ensure adequate intake of essential minerals.

## CONCLUSION

Focus on fruits, vegetables, lean proteins, whole grains, and dairy or fortified alternatives. Some foods are fortified with minerals to help prevent deficiencies, such as iodized salt and fortified cereals. If you have a condition that affects nutrient absorption, work with a healthcare provider to manage your mineral intake. Minerals are indispensable for maintaining health and supporting various bodily functions. By understanding the role of essential minerals and incorporating a diverse range of nutrient-rich foods into your diet, you can help ensure you meet your mineral needs and support your overall well-being. Regular health check-ups and a balanced diet are key to preventing deficiencies and promoting long-term health.

## ACKNOWLEDGEMENT

None.

## COMPETING INTEREST

The authors declare that they have no competing interests.

**Correspondence to:** Evelyn Martinez, Department of Nutritional Sciences, Boston University, United States, E-mail: martinezevelyn@123.edu

Received: 31-July-2024, Manuscript No. jnfs-24-33764; Editor assigned: 02-August-2024, PreQC No. jnfs-24-33764 (PQ); Reviewed: 16-August-2024, QC No. jnfs-24-33764; Revised: 21-August-2024, Manuscript No. jnfs-24-33764 (R); Published: 28-August-2024, DOI: 10.35248/2155-9600.24.14.39

**Citation:** Martinez E (2024) Minerals: Essential Elements for Health and Wellness. J Nutr Food Sci. 14:39.

**Copyright:** © 2024 Martinez E. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.