

# Part one:

# Vitamins and Minerals



Vitamins and minerals are essential nutrients we require day to day because of the many roles they play inside the body. These essential nutrients can be obtained by eating a healthy and varied diet however due to several factors, supplements are required to fulfil the low nutrient intake.

#### Water Soluble Vitamins

- + Vitamin B
- + Vitamin C

*Absorbed directly into the bloodstream but only in limited amounts. Excess vitamins are removed in urine as waste.*

#### Fat Soluble Vitamins

- + Vitamin A
- + Vitamin D
- + Vitamin E
- + Vitamin K

*Enters the blood via carrier proteins and are stored in fats to be released once required.*

#### Major Minerals

- + Calcium
- + Chloride
- + Magnesium
- + Phosphorus
- + Potassium
- + Sodium
- + Sulphur

*Maintain the proper balance of water in the body.*

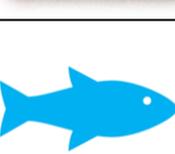
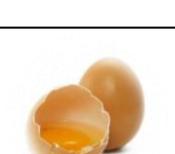
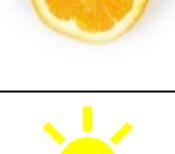
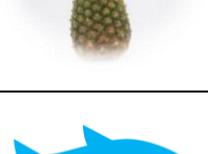
#### Trace Minerals

- + Chromium
- + Copper
- + Fluoride
- + Iodine
- + Iron
- + Manganese
- + Molybdenum
- + Selenium
- + Zinc

*Essential minerals only required in small amounts.*

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Vitamin	Function	Sources	
<b>A</b>	+ Growth and repair + Normal retina function + Immune function		
<b>B1</b> Thiamine	+ Acts as a co-enzyme in energy production and carbohydrate metabolism		
<b>B2</b> Riboflavin	+ Involved in oxidation-reduction reactions + Metabolism + Tissue formation + Energy production		
<b>B3</b> Niacin	+ Energy production + Metabolism + Brain health		
<b>B5</b> Pantothenic acid	+ Metabolism + Healthy nervous system		
<b>B6</b> Pyridoxine	+ Acts as a co-enzyme in the metabolism of amino acids		
<b>B7</b> Biotin	+ Converts food into glucose + Carbohydrate and lipid metabolism + Energy production		
<b>B9</b> Folate	+ Growth and development + DNA synthesis		
<b>B12</b> Cobalamin	+ Red blood cell production + Conversion of proteins, fats and carbohydrates into energy		
<b>C</b> Ascorbic acid	+ Assists the body to produce healthy white blood cells to fight off infection + Collagen production + Iron absorption		
<b>D</b> Calciferol	+ Assists with Calcium and Phosphorus absorption + Normal calcification		
<b>E</b> Tocopherol	+ Antioxidant (protects cells from damage)		
<b>K</b>	+ Maintains normal blood coagulation + Carboxylation of bone protein, osteocalcin (active) which regulates calcium in bone turnover and mineralisation		