POTTASSIUM: The normal level of potassium in the bloodstream is in the range of 3.5–5.0 mM, while levels of 6.3–8.0 mM (severe hyperkalemia) result in cardiac arrhythmias or even death due to cardiac arrest. Potassium is potentially quite toxic; however, potassium poisoning is usually prevented because of the vomiting reflex.

Deficiency: Not a result of insufficient dietary intake. Caused by protein wasting conditions. Diuretics can also cause excessive loss of potassium in the urine. Low blood potassium can result in cardiac arrest.

Toxicity: Occurs when the intake of potassium exceeds the kidneys capacity for elimination. Found with kidney failure and potassium sparing diuretics. Oral doses greater than 18 grams can lead to toxicity. Symptoms include tingling of extremities and muscle weakness. High dose potassium supplements may cause nausea, vomiting and diarrhea.

**Calcium**

Deficiency: Long-term inadequate intake can result in low bone mineral density, rickets, osteomalacia and osteoporosis.

Toxicity: Will cause nausea, vomiting, constipation, dry mouth, thirst, increased urination, kidney stones and soft tissue calcification.

**Magnesium**

Deficiency: Very rare due to abundance of magnesium in foods. Those with gastrointestinal disorders, kidney disorders, and alcoholism are at risk.

Toxicity: None identified from foods. Excessive consumption of magnesium containing supplements may result in diarrhea (magnesium is a known laxative), impaired kidney function, low blood pressure, muscle weakness, and cardiac arrest.

**chloride**

Deficiency: Does not result from low dietary intake. Low blood sodium typically results from increased fluid retention. One may notice nausea, vomiting, headache, cramps, fatigue, and disorientation.

Toxicity: Excessive intake can lean to increased fluid volume, nausea, vomiting, diarrhea and abdominal cramps. High blood sodium usually results from excessive water loss.

**Iron**

Consume iron rich foods with vitamin C rich foods to enhance absorption.Iron

Deficiency: Anemia with small and pale red blood cells. In children it is associated with behavioral abnormalities.

Toxicity: Common cause of poisoning in children. May increase the risk of chronic disease. Excessive intake of supplemental iron is an emergency room situation. Cardiovascular disease, cancer, and neurodegenerative diseases are associated with iron excess.

Iron toxicity is not unusual in small children due to the wide distribution of dietary supplements containing iron. A lethal dose of iron is in the range of 200—250 mg iron/kg body weight, meaning that a child who accidentally eats 20 or more iron tablets may die as a result of iron poisoning.