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### Mls

### Potassium : a normal range of potassium is between 3.6 and 5.2 millimoles per liter (mmol/L) of blood. A potassium level higher than 5.5 mmol/L is critically high, and a potassium level over 6 mmol/L can be life-threatening. Small variations in ranges may be possible depending on the laboratory.

### Certain conditions can cause potassium deficiencies, or [hypokalemia](/health/hypokalemia). These include:

### [kidney disease](/health/kidney-disease)

### overuse of [diuretics](/health/diuretics)

### [excessive sweating](/health/hyperhidrosis), [diarrhea](/symptom/diarrhea), and [vomiting](/symptom/vomiting)

### [magnesium deficiency](/health/hypomagnesemia)

### use of antibiotics, such as carbenicillin and [penicillin](/health/penicillin-v-oral-tablet)

### The symptoms of hypokalemia are different depending on how severe your deficiency is.

### A temporary decrease in potassium may not cause any symptoms. For example, if you sweat a lot from a hard workout, your potassium levels may normalize after eating a meal or drinking electrolytes before any damage is done.

### However, severe deficiencies can be life-threatening. Signs of a potassium deficiency include:

### extreme fatigue

### muscle spasms, weakness, or cramping

### irregular heartbeat

### constipation, nausea, or vomiting

### Hypokalemia is usually diagnosed with a [blood test](/health/potassium-test). Your doctor may also order an electrocardiogram of your heart and an arterial blood gas test to measure pH levels in your body.

### CALCIUM:Hypercalcemia occurs when serum calcium levels are 10.5 mg/dL (also expressed as 2.63 mmol/L) or greater depending on normative laboratory values. It can be induced by excess intake of calcium or vitamin D, but it is more commonly caused by conditions such as malignancy and primary hyperparathyroidism

### Hypercalciuria is present when urinary excretion of calcium exceeds 250 mg/day in women or 275-300 mg/day in men. Often, urinary calcium excretion is expressed as the ratio of calcium to creatinine excreted in 24 hours (milligrams of calcium per milligram of creatinine). Values above 0.3 mg/mg creatinine are considered to be within the hypercalcuric range.

### Because of the large amount of calcium in bones, deficiency is rare1. Hypocalcemia (low serum calcium levels in blood) can result in tetany (involuntary muscle contractions)2. In addition, calcium deficiency in children can lead to [rickets](https://med.libretexts.org/Bookshelves/Nutrition/Book%3A_Intermediate_Nutrition_%28Lindshield%29/12%3A_Blood%2C_Bones%2C_and_Teeth_Micronutrients/12.1%3A_Vitamin_D/12.1F%3A_Vitamin_D_Deficiency%2C_Toxicity_and_Insufficiency%22%20%5Co%20%2212.1F%3A%20Vitamin%20D%20Deficiency%2C%20Toxicity%20%26%20Insufficiency), which is a vitamin D deficiency. While not a deficiency, low calcium intake can lead to decreased bone mineral density and the conditions osteopenia and osteoporosis. How these differ from osteomalacia and normal bone is illustrated and described below. There are two different bone components that we will consider to understand what is happening in the bone. Matrix is the scaffolding onto which mineral is deposited. Mineral is at it sounds, the mineral that is deposited on the matrix.

### Osteomalacia - Bone mass is normal, but the matrix to mineral ratio is increased, meaning there is less mineral in bone.

### Osteopenia - Bone mass is decreased, but the matrix to mineral ratio is not altered from normal bone. This condition is intermediate in between normal and osteoporosis.

### Osteoporosis - Bone mass is further decreased from osteopenia, but the matrix to mineral ratio is not altered from normal bone3.

### Magnesium: Deficiency

### Symptomatic magnesium deficiency due to low dietary intake in otherwise-healthy people is uncommon because the kidneys limit urinary excretion of this mineral [[3](%22%20%5Cl%20%22en3)]. However, habitually low intakes or excessive losses of magnesium due to certain health conditions, chronic alcoholism, and/or the use of certain medications can lead to magnesium deficiency.

### Early signs of magnesium deficiency include loss of appetite, nausea, vomiting, fatigue, and weakness. As magnesium deficiency worsens, numbness, tingling, muscle contractions and cramps, seizures, personality changes, abnormal heart rhythms, and coronary spasms can occur [[1](%22%20%5Cl%20%22en1),[2](%22%20%5Cl%20%22en2)]. Severe magnesium deficiency can result in hypocalcemia or hypokalemia (low serum calcium or potassium levels, respectively) because mineral homeostasis is disrupted

### Symptoms of magnesium toxicity, which usually develop after serum concentrations exceed 1.74–2.61 mmol/L, can include hypotension, nausea, vomiting, facial flushing, retention of urine, ileus, depression, and lethargy before progressing to muscle weakness, difficulty breathing, extreme hypotension, irregular heartbeat

### Chloride is a salt compound resulting from the combination of the gas chlorine and a metal. Some common chlorides include sodium chloride (NaCl) and magnesium chloride (MgCl2). Chlorine alone as Cl2 is highly toxic, and it is often used as a disinfectant. In combination with a metal such as sodium it becomes essential for life. Small amounts of chlorides are required for normal cell functions in plant and animal life.

### Chloride in surface and groundwater from both natural and anthropogenic sources, such as run-off containing road de-icing salts, the use of inorganic fertilizers, landfill leachates, septic

### 1

### tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas (4).

### The mean chloride concentration in several rivers in the United Kingdom was in the range 11–42 mg/litre during 1974–81 (7). Evidence of a general increase in chloride concentrations in groundwater and drinking-water has been found (8), but exceptions have also been reported (9). In the USA, aquifers prone to seawater intrusion have been found to contain chloride at concentrations ranging from 5 to 460 mg/litre (10), whereas contaminated wells in the Philippines have been reported to have an average chloride concentration of 141 mg/litre (11). Chloride levels in unpolluted waters are often below 10 mg/litre and sometimes below 1 mg/litre (4).

### Chloride in water may be considerably increased by treatment processes in which chlorine or chloride is used. For example, treatment with 40 g of chlorine per m3 and 0.6 mol of iron chloride per litre, required for the purification of groundwater containing large amounts of iron(II), or surface water polluted with colloids, has been reported to result in chloride concentrations of 40 and 63 mg/litre, respectively, in the finished water (8).

### Food

### Chloride occurs naturally in foodstuffs at levels normally less than 0.36 mg/g. An average

### Hypochloremia is an electrolyte imbalance that occurs when there’s a low amount of chloride in your body.

### Chloride is an electrolyte. It functions with other electrolytes in your system, such as sodium and potassium, to regulate the amount of fluid and the pH balance in your body. Chloride is most commonly consumed as table salt (sodium chloride).

### Continue reading to learn the symptoms of hypochloremia as well as what causes it and how it’s diagnosed and treated.

### You often won’t notice symptoms of hypochloremia. Instead, you may have symptoms of other electrolyte imbalances or from a condition that’s causing hypochloremia.

### Symptoms include:

### fluid loss

### dehydration

### weakness or fatigue

### difficulty breathing

### diarrhea or vomiting, caused by

### IRON

### recommended daily iron intake for adults ages 19 to 50 are as follows:

|  |  |
| --- | --- |
| For men | 8 mg |
| For women | 18 mg |
| During pregnancy | 27 mg |
| While breastfeeding | 9 mg |

### Men and women over age 50 require only 8 milligrams (mg) of iron daily. A [supplement](/health/10-reasons-iron-supplements) may be needed if adequate iron levels can’t be acquired through diet alone.

### Anemia happens when the number of healthy red blood cells in your body is too low. Red blood cells carry oxygen to all of the body’s tissues, so a low [red blood cell count](/health/rbc-count) indicates that the [amount of oxygen](/health/normal-blood-oxygen-level) in your blood is lower than it should be.

### Many of the symptoms of anemia are caused by decreased oxygen delivery to the body’s vital tissues and orgmans.