

Foundations | Minerals

Chloride

by Anne C. Willis

Minerals are among the most important elements needed by the body. They are directly and indirectly involved in every bodily and skin process. Along with amino acids (protein), minerals are the basic building blocks of every cell in the body. RNA/DNA, the blueprints to each cell, does not function properly without certain minerals. Enzymes will not form nor function properly without the minerals they require to do so. Minerals are also required for the correct composition and ratio of body fluids, the formation of both our blood and our bones and the creation and maintenance of healthy nerve function.

The most effective way to support skin structure and function is with minerals. With over one million cells per square inch of skin, minerals are necessary for the protection and the integrity of the cell membrane. Once the cell membrane is compromised, toxins have a free invitation to enter the cell and cause cell abnormalities and death. The delivery of minerals both – internally as well as topically – provides nutritional stability, thus reducing the risk of a numerous health and skin problems.

Chloride

Chloride in particular has many health benefits to the skin and body. This amazing mineral compound plays a role in nutrient uptake in cells, cell growth and repair, cell control, and inhibition of cellular growth, as well as motor impulses and sensory impacts. Internally and externally, chloride is needed to keep the proper balance of body fluids, including blood. Chloride enhances the ability of the blood to carry carbon dioxide from respiring tissues to the lungs. As an electrolyte, it allows the transmission of electric signals between nerves.

Chloride plays an essential role in carrying on normal digestion, assimilation and excretion. Chloride ions are the building block of hydrochloric acid, digestive (stomach) juices, which is essential to our digestive system. Hydrochloric acid made in the stomach has two main purposes: to help destroy germs that arrived with the food; and to help pepsin (an enzyme) break down the proteins found in the food, ensuring that essential nutrients are made available to the body. Without proper levels of hydrochloric acid, skin cells will not have valuable nutrients to draw from, and thus become fatigued and die. Many bacterial skin conditions can be directly linked to inadequate levels of hydrochloric acid, such as acne, Candida and bacterial infections.

Chloride also helps keep the body's acid-base balanced. The kidneys excrete or retain chloride mainly as sodium chloride, de-

pending on whether they are trying to increase or decrease body acid levels. The skin, sometimes called the third kidney, also excretes sodium chloride through sweat. Chloride may also be helpful in allowing the liver to clear waste products, thus playing a significant role in detoxification and purification.

Immune System

Chloride is involved in the recruitment of immune cells and plays a role in the activation of these cells. The immune system, which is charged with fighting off the daily invasion of germs, also responds to debris from damaged tissue and cells. Chloride can activate a suppressed immune response and aid in cleanup of waste during such inflammatory skin conditions as rosacea, eczema, psoriasis and stage two and stage three acne.

Hydration

Sodium chloride literally keeps our bodies from drying up. Our body's cells exist in a seawater fluid. This extracellular body fluid is mostly water, along with the charged atoms (ions) of sodium and chloride. Chloride plays an essential role in a delicate balancing act: providing for the electrical neutrality and the correct pressure of body fluids as well as keeping the acid-base balance of the body. One result of this balancing act is that the amount of water we retain, and concentrations of salt in our bodies, remain relatively constant over time. We do not dry up nor do we bloat uncontrollably. When changes occur, the balance reasserts itself.

Deficiency of chloride may cause:

- Excessive alkalinity of the body fluids, low fluid volume (dehydration);
- Loss of potassium;
- Muscle weakness;
- Lowered blood pressure.

A deficiency of chloride can be caused by fluid loss as a result of excessive sweating, vomiting or diarrhea. Use of medications such as diuretics can also cause a deficiency.

Good sources of chloride are: Sea salts, Himalayan pink salts, Seaweeds (such as dulse and kelp), olives, rye, lettuce, tomatoes and celery. Chloride can also be found in carrot juice, pineapple juice and tomato juice.

Mineral Composition

Sometimes the two terms, "salt" and "sodium" are used interchangeably, but technically this is not correct. Salt is sodium chloride. By weight, it is 40 percent sodium and 60 percent chloride. Sodium is an essential nutrient, a mineral that the body cannot manufacture itself, but which is required for life itself and good health.

The main difference between potassium chloride and table salt is the sodium to potassium ratio. Table salt is almost purely sodium chloride because of the way it is collected and harvested. This process involves rapid drying, which effectively shunts off all the trace minerals including magnesium, potassium and calcium present in raw salt. Potassium chloride salt substitutes are made of an alternative salt that replaces sodium with potassium; these substitutes can have between 33 to 95 percent less sodium than table salt. Conversely, salt substitutes are comprised of between 33 and 95 percent potassium chloride.

Potassium chloride is an essential nutrient for human health and plays an important role in the functioning of organs, nerves and muscles. It can be found in a wide variety of foods such as dairy products, meats, fruits and vegetables. In addition, potassium chloride is important to the healthy growth of plant life. There are benefits to consuming potassium chloride salt, depending on your health condition; however, the best option is consuming a low-salt diet and taking advantage of the many spices, herbs and alternative ways to add flavor available without sodium.

Most of our salt comes from foods, some from water. Doctors often recommend replacing water and salt lost during exercise and working outside. Wilderness hikers know the importance of salt tablets to combat hyperthermia. Expectant mothers are advised to get enough salt. Increased salt intakes have been used successfully to combat Chronic Fatigue Syndrome. Dramatic deficiencies or excessive sodium intakes have been associated with other conditions and diseases, such as hypertension and stomach cancer.

Testing the salinity of perspiration is a good test for cystic fibrosis; scientists suspect a deformed protein that prevents chloride outside cells from attracting needed moisture causes cystic fibrosis.

Sodium Chloride Used as a Treatment:

- In cases of glandular problems causing obesity, for instance, salt baths are very useful, even in cases of hypo- or hyper-function of the thyroid.

- The application of dry or wet salt compresses reduces the excess fluid present in the tissues.
- For relief of swollen and sore feet, immerse them in a basin of warm water with a handful of salt.
- To reduce bags under the eyes, apply compresses soaked in a teaspoon of salt dissolved in four cups of warm water.
- When dissolved in water, gargling with salt and bicarbonate of soda disinfects the mouth, leaving a fresh breath.
- The inhalation of salt water steam through the nose can relieve bothersome cases of phlegm or of inflammation of the respiratory mucosa.

Eight Ways Salt Hydrotherapy Heals:

1. Bathing in salt hydrotherapy gradually increases the temperature of the body, thus killing harmful germs and viruses.
2. Salt bathing increases hydrostatic pressure on the body, thus increasing blood circulation and cell oxygenation. The increase in blood flow also helps dissolve and eliminate toxins from the body.
3. Salt bathing increases the flow of oxygen-rich blood throughout the body, bringing improved nourishment to vital organs and tissues.
4. Bathing in salt water increases body metabolism, including stimulating the secretions of the intestinal tract and the liver, aiding digestion.
5. Repeated salt bathing (especially over a three to four week period) can help normalize the functions of the endocrine glands as well as the functioning of the body's autonomic nervous system.
6. Trace amounts of minerals found in salts are absorbed by the body and provide healing effects to various body organs and system. These healing effects can include stimulation of the immune system, leading to enhance immunity physical and mental relaxation the production of endorphins and normalized gland function.
7. Salts contain high amounts of negative ions, which can help promote feelings of physical and psychological well-being.
8. The direct application of mineralized thermal waters can have a therapeutic effect on diseases of the skin, including psoriasis, dermatitis and fungal infections. Some mineral waters are also used to help the healing of wounds and other skin injuries.

Nutrition is important to good health. Salt is part of a healthy diet, a fact increasingly recognized by the public. Salts also play a significant role in skin therapies. Learning to incorporate salts into treatments can bring a natural holistic approach to your therapies.