

CHELATED FORM OF MINERALS

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Abstract. Minerals are no less important for maintaining health than vitamins. They act as carriers of nutrients, participate in energy metabolism, activate the work of enzymes, promote cell renewal, prevent inflammatory foci, and maintain oxygen balance.

However, not all forms of minerals are absorbed equally effectively. Chelated minerals are minerals bound to a chelating agent, which is the form with the best bioavailability.

Aim of the study. To identify and highlight the relevance of chelated forms of minerals and their digestibility by the body.

Materials and methods. The materials, articles, and studies provided on the topic "Chelated forms of minerals"; analysis of the information obtained; statistical methods.

Results. In nature, minerals occur in an inorganic state (i.e., they do not contain carbon).

When an inorganic mineral combines with an amino acid molecule (such as a protein), it forms an amino acid chelate. Today, chelates (organic forms) are considered one of the most easily absorbed forms.

The bioavailability of chelated forms of minerals exceeds 90% without causing side effects. Meanwhile, the maximum absorption rate of inorganic minerals is only 40%, and this can be accompanied by side effects such as mineral deposits in blood vessels, joints, and kidneys, as well as digestive disorders. All readily absorbable minerals are called chelates.

The word "chelate" comes from the Greek word "chele," meaning "claw," referring to the compound of an amino acid and a mineral, which externally resembles a crab's claw. The small intestine is unable to absorb individual mineral ions on their own; the transport of trace elements across cell membranes is only possible when combined with an organic substance, including an amino acid. The chelated form is the closest to our body's natural state, which is why, when necessary, the body can tolerate even larger dosages without harm.

Chelates do not cause digestive disturbances or bloating and do not affect the acidity level of the stomach. Minerals in this form are permitted for pregnant and breastfeeding women as prescribed by a doctor.

Conclusions. It is now clear what the chelated form of minerals is. It is, in essence, a symbiosis of a mineral and certain amino acids. In this case, the latter play the role of a transport system, delivering minerals to the body's cells.

The body does not need to spend additional resources converting this compound into other forms. It is similar to protein, which also contains amino acids — but protein must be broken down to obtain amino acids, whereas minerals in chelated form are already active and begin to be absorbed by the body immediately.

This is precisely why the chelated form can be considered the best and most effective of all the forms presented. If you are choosing between a regular form of minerals and a chelated one, choose the chelated form.