



## Hair Mineral Analysis

### Your hair: a reflection of your health.

The hair mineral analysis provides clarity.

- What is stressing you: stress, environment, heavy metals?
- Which minerals and trace elements are missing?

In cooperation with:

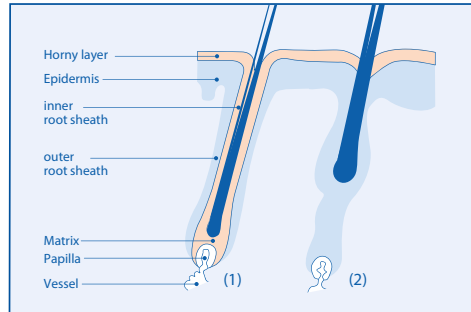


# The hair as examination material

Your hair: a reflection of your health.

## Structure and growth

The hair is composed of two sections, the visible hair shaft and the hair root (hair follicle), which is located under the scalp.



The hair follicle contains the cells that build up the hair. These cells, like all other cells in the body, are supplied with nutrients by the blood, but are also loaded with toxic metals that are in the blood for a short time (1). Unlike other cells in the body, once the hair cell is fully grown, it becomes keratinised and is „expelled“ (2). In this keratinised part (the actual hair), minerals, trace elements and toxic metals are retained in the same way as the cell was supplied or loaded at the time of its growth.

Hair stability is used in pathology and criminology. For example, years after Beethoven's death, it was possible to prove lead intoxication, and Napoleon was poisoned with arsenic. Forensic medicine uses hair analysis to prove drug and alcohol consumption.

In contrast to the blood analysis, which reflects the condition of the organism just in the phase in which the blood sample was taken, the hair mineral analysis allows an overview of the supply in that time span in which the hair has grown (3 cm hair length corresponds to approx. 3 months).

## Possible causes for imbalances as well as for exposure to toxic metals

The hair mineral analysis not only reveals deficiencies of minerals and trace elements, it also serves for the early detection of chronic exposure to toxic metals. Such metals are not only found in the food chain, but also in many everyday substances and articles (e.g. paints, candles, jewellery, piercings, etc.). If these environmental toxins enter the body, they are partly deposited in the tissues and organs. There they can lead to disorders and tissue damage.

## For whom is the hair mineral analysis useful?

- In the case of unspecific symptoms that cannot be assigned to a specific disease.
- For the prevention of chronic complaints that can be caused by toxic metals or mineral/trace element deficiencies (e.g. migraine, osteoporosis, rheumatism, etc.)
- In individual need situations, e.g. for:
  - Children and adolescents with concentration disorders
  - Persons with increased susceptibility to infections
  - Athletes to support their performance

## Hair mineral analysis also for your animal friends

The coat of dogs, cats, horses & co says a lot about the well-being of your faithful companion. You can send in a coat sample via your vet and have the reasons for complaints analysed.

## What is needed for the hair mineral analysis?

For the analysis, a max. 4cm long, pencil-thick strand of hair from different parts of the back of the head is sufficient. Apart from this painless collection, no other samples are needed.

## What do you get?

After 10 to 14 working days you will receive a clear and concise analysis report on 20 minerals and trace elements as well as on 18 toxic metals.

### Minerals and trace elements

Calcium	1381	µg/g	400-2500	
↑ Magnesium	130.6	µg/g	25.0-130.0	
Phosphorus	121	µg/g	115-180	
Zinc	203	µg/g	145-220	
↓ Chromium	0.03	µg/g	0.04-0.30	
Manganese	0.26	µg/g	0.07-0.40	
↓ Molybdenum	0.01	µg/g	0.02-0.20	
Copper	18.0	µg/g	10.0-27.0	
Iron	9.2	µg/g	6.0-14.0	
Selenium	0.57	µg/g	0.45-1.40	

### Other minerals and trace elements

Sodium	62.3	µg/g	2.0-100.0	
Potassium	30.9	µg/g	1.0-50.0	
Sodium/potassium quotient	2.0	Quotient		

Na:K > 4 : relative potassium deficiency

Na:K < 1 : often associated with food allergies or gluten intolerance

↓ Silicon	5.5	µg/g	20.0-100.0	
Cobalt	0.157	µg/g	0.020-0.300	
Strontium	3.6	µg/g	0.7-7.0	
Barium	0.63	µg/g	0.30-3.00	
Vanadium	0.021	µg/g	0.005-0.100	
Boron	0.15	µg/g	0.14-3.50	
Germanium	n.n.	µg/g	<0.40	
Lithium	n.n.	µg/g	<0.200	

n.n. = nicht nachweisbar, not detectable, non détectable, non rilevabile

### Toxic elements

Aluminium	1.8	µg/g	<12.0	
Antimony	n.n.	µg/g	<0.20	
Arsenic	n.n.	µg/g	<0.20	
Beryllium	n.n.	µg/g	<0.100	
Bismuth	n.n.	µg/g	<0.50	
Lead	0.18	µg/g	<3.30	
Cadmium	n.n.	µg/g	<0.12	
Gold	n.n.	µg/g	<0.30	
Nickel	0.10	µg/g	<0.80	
Palladium	n.n.	µg/g	<0.10	
Platinum	n.n.	µg/g	<0.10	
Mercury	0.36	µg/g	<1.00	
Silver	0.01	µg/g	<1.20	
Thallium	n.n.	µg/g	<0.10	
Titanium	n.n.	µg/g	<8.00	
Uranium	0.02	µg/g	<0.20	
Tin	n.n.	µg/g	<1.20	
Zirconium	0.00	µg/g	<0.50	

n.n. = nicht nachweisbar, not detectable, non détectable, non rilevabile



The heavy metal index indicates the cumulative toxicity. A detoxification is generally recommended from an index of 10.

## Why a hair mineral analysis?

Many people - but also animals - suffer from unspecific health complaints. The causes could be heavy metal pollution or an imbalance in the trace element or mineral balance, whereby important metabolic steps are disturbed or blocked. A hair mineral analysis can reveal these connections.

## Did you know that ...

- Frequent infections, skin diseases and delayed wound healing can be caused by zinc deficiency?
- Learning difficulties, hyperactivity and behavioural disorders in children are often caused by an excess of aluminium and lead?
- Osteoporosis can be caused by calcium deficiency and many other trace element deficiencies?
- Cigarette consumption is associated with high cadmium exposure?
- Cardiac dysfunction and stress are associated with magnesium deficiency?

A balanced mineral balance is an essential prerequisite for health, performance and well-being.

## Get advice from your pharmacy!

### **Burgerstein GmbH Österreich**

[www.burgerstein.at](http://www.burgerstein.at)

Währinger Straße 20/12, A-1090 Wien

E-Mail: [service@burgerstein.at](mailto:service@burgerstein.at)

Info-phone:: +43 (0)1-309 33 25-0

**Stay healthy!**

## Ortho-Analytic

Ortho-Analytic was founded in 1998 as a spin-off of the company „Burgerstein Vitamins“ in Rapperswil (SG). At that time, the focus of analytics was hair mineral analytics, which was prudently built up by Birgit and Hugo Schurgast - both pharmacists.

Over the years, the spectrum has expanded to include orthomolecular medicine with additional disciplines in environmental medicine (drinking water and soil analysis). In the following years, the range of services was again expanded with stool diagnostics (cultivation methods) and the comprehensive clarification of food intolerances.

With the acquisition by the Medisupport Group in 2015, new accents were set in integrative medicine. After this integration into the large Swiss laboratory network, investments were made in state-of-the-art analytics (next generation sequencing, ICP-MS) and the business was focused on four main areas - functional stool diagnostics with microbiome analytics, trace elements and heavy metal analytics (hair mineral analytics), acquired mitochondriopathies and food intolerances.



*„It is not the illness, but the health  
that we must care for!“*

Dr. Lothar Burgerstein (1895-1987)

Stamp pharmacy: