

Zinc And Its Use In Homeopathy

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INTRODUCTION

The elemental mineral Zinc plays an important role in well being. Studies shows that zinc effects our sense of smell, the skin, the nervous system and mental faculties. Medical research shows zinc as a key element in the treatment of a range of diseases, for example type 2 diabetes, prostate cancer and Alzheimer's disease.

The importance of zinc for normal growth and the survival of plants and animals was recognized a long time ago. Yet the existence of its deficiency in humans was doubted because of the element's ubiquitous distribution in the environment and the lack of obvious clinical signs of deficiency. Nevertheless, evidence of human deficiency began to emerge during the 1960's, when cases of zinc-responsive dwarfism and delayed sexual maturation were first reported in Egyptian adolescents [1]. Since then, a number of intervention trials have been carried out to assess the impact of zinc supplementation, particularly in low-income populations who are likely to suffer from zinc deficiency [2]. Results of these studies have shown that zinc supplementation increases growth among stunted children and reduces the prevalence of common childhood infections.

BIOLOGICAL FUNCTIONS OF ZINC

As previously stated, zinc is the most pervasive of all trace elements involved in human metabolism. More than one hundred specific enzymes require zinc for their catalytic function [3]. If zinc is removed from the catalytic site, activity is lost; replacement of zinc restores activity. Zinc participates in all major biochemical pathways and plays multiple roles in the perpetuation of genetic material, including transcription of DNA, translation of RNA, and ultimately cell division [[click to tweet](#)]. When the supply of dietary zinc is insufficient to support these functions, biochemical abnormalities and clinical signs may develop. Studies in individuals with acrodermatitis enteropathica, a genetic disorder with zinc malabsorption resulting in severe deficiency, have provided much insight into the functional outcomes of zinc deficiency [4]. These include impairments of dermal, gastrointestinal, neurologic and immunologic systems.

ZINC AS AN IMMUNITY BOOSTER

Zinc affects both non-specific and specific immune functions.

In terms of **non-specific immunity**, it affects the integrity of epithelial barrier and function of neutrophils, monocytes and macrophages. With regard to specific immunity, both lymphopenia and declined lymphocyte function occur in zinc deficiency. Although most of these effects are derived from experimental animals, studies in human subjects have also shown that altered zinc status can affect immune competence. For example, elderly subjects who received supplemental zinc demonstrated improvement in delayed cutaneous hypersensitivity, number of circulating T cells and serum **IgG antibody** response to tetanus toxoid. In other studies of experimentally induced mild zinc deficiency among adults, a reduction in serum thymulin and specific subpopulations of lymphocytes occurred during zinc depletion, and these returned to normal levels following zinc repletion. Although specific links between altered immunity and different infections are not well understood, changes in immune functions are clinically important because decreased rates of infections have been observed following zinc supplementation in community based studies.

ZINC METABOLISM

Zinc is released from food as free ions during digestion. These liberated ions may then bind to endogenously secreted ligands before their transport into the enterocytes in the duodenum and jejunum [3]. Specific transport proteins may facilitate the passage of zinc across the cell membrane into the portal circulation. With high intakes, zinc is also absorbed through a passive paracellular route.

The portal system carries absorbed zinc directly to the liver, and then released into systemic circulation for delivery to other tissues. About 70% of zinc in circulation is bound to albumin, and any condition that alters serum albumin concentration can have a secondary effect on serum zinc levels. Although serum zinc represents only 0.1% of the whole body zinc, the circulating zinc turns over rapidly to meet tissue needs.

Loss of zinc through gastrointestinal tract accounts for approximately half of all zinc eliminated from the body. Considerable amounts of zinc is secreted through the biliary and intestinal secretions, but most of it is reabsorbed and this process is an important point of regulation of zinc balance. Other routes of zinc excretion include the urine and

surface losses (desquamated skin, hair, sweat).

ZINC DEFICIENCY

Symptoms of zinc deficiency include:

- Frequent infections
- Hypogonadism in males
- Loss of hair
- Poor appetite
- Problems with the sense of taste
- Problems with the sense of smell
- [Skin sores](#)
- Slow growth
- Trouble seeing in the dark
- Wounds that take a long time to heal

Zinc supplements in large amounts may cause diarrhea, abdominal cramps, and vomiting, usually within 3 – 10 hours of swallowing the supplements. It is a good thing that symptoms go away within a short period of time after the stopping the supplements.

People who use nasal sprays and gels that contain supplemental zinc may have side effects such as losing their sense of smell.

Homeopathic zinc would not incur these effects, unless used unnecessarily and unhomeopathically on a continual and unwarranted basis. Symptoms go away after stopping the use of homeopathic zinc.

What a substance can cause in a healthy individual can be cured in a sick person with the same symptoms. Thus, we can see the above side-effects match the homeopathic zinc. For example

Bonninghausen lists inward pressure in the eyes, with fiery flakes on looking upward. Painful soreness on canthi with paralysis of upper lid. Could this be a more complete description of eye symptoms?

ZINC RESEARCH

In a new study, Prof [Mike Watkinson](#), Dr Stephen Goldup and Dr Caroline Brennan, from Queen Mary's School of Biological and Chemical Sciences, have focused their efforts on the development of a sensor for zinc to be used in studies on zebrafish [5].

Clinical manifestations of frank zinc deficiency may vary at different ages. In early infancy, diarrhea is a prominent symptom. Zinc deficiency leads to impaired cognitive function, behavioral problems, impaired memory, learning disability and neuronal atrophy [2]. Skin problems become more frequent as the child grows older. Alopecia, growth retardation and recurrent infections are common in school-age

children. Chronic non-healing skin ulcers and recurrent infections are common among the elderly. These effects are derived from controlled clinical trials showing positive response to supplemental zinc.

RECOMMENDED DIETARY ALLOWANCE

The government provides a [Recommended Dietary Allowance](#) (RDA) for vitamins and supplements. Many factors help decide how much will be needed, however these variables must be tailored individually to the needs of the person.

Infants

0 – 6 months: 2* milligrams per day (mg/day)

7 – 12 months: 3* mg/day

*Adequate Intake (AI) Children

1 – 3 years: 3 mg/day

4 – 8 years: 5 mg/day

9 – 13 years: 8 mg/day

Adolescents and Adults

Males age 14 and over: 11 mg/day

Females age 14 to 18 years: 9 mg/day

Females age 19 and over: 8 mg/day

SOURCES OF ZINC

- 1 High-protein foods contain high amounts of zinc. Other good sources of zinc are nuts, whole grains, legumes, and yeast.
- 2 Zinc occurs in a wide variety of foods, but is found in highest concentrations in animal sources, particularly beef, pork, poultry and fish, and in lesser amounts in eggs and dairy products. Zinc content is relatively high in nuts, legumes and whole grain cereals and is lower in fruits and vegetables. Fruits and vegetables are not good sources. Low-protein diets and vegetarian diets tend to be low in zinc.
- 3 Zinc is in most multivitamin and mineral supplements. These supplements may contain zinc gluconate, zinc sulfate, or zinc acetate. It is not clear whether one form is better than the others.
- 4 Zinc is also found in some over-the-counter medicines, such as cold lozenges, nasal sprays, and nasal gels.
- 5 The industry includes traces of zinc in processed foods.

ZINCUM METTALICUM (Homeopathic Zinc)

Boenninghausen provides the mental picture of one in need of homeopathic zinc. Moroseness especially in evening. Very sensitive to noise. Easily frightened, and long continued trembling after every

emotion. Inclination to vehemence which greatly affects him. Extraordinarily changeable mood, in the morning buoyant, and in evening sad.

And generalities include tearing rheumatic pains. Worse from physical exertion or when becoming heated. Violent throbbing throughout the body, and jerks at night. Painful soreness both within and externally on the body. Spasms from fright. The location of pain appears between the skin and underlying tissue. Like Nux-v and Chamomilla, worse for wine, which intensifies symptoms, especially the keynote of restlessness at night.

Dr Allen says of zinc, when people suffer from cerebral and nervous exhaustion with defective vitality, inability of brain function, like loss of comprehension and memorization difficulty, zinc covers these symptoms.

The immune system may be too weak to develop a skin rash that typically accompanies a disease or fever. The body may not have the strength to carry on menstrual function, to expectorate, or even to urinate.

Every homeopath recognizes the constant, violent fidgety of feet or lower extremities, which wears out the nervous system. The restless leg syndrome in bed often seizes with zinc. Like agaricus and ignatia, tics, twitching and jerking of single muscles may be seen.

Like the snake remedies, zinc patients feel better in every way as soon as the menses begin to flow, relieving the patient.

Historically, zinc has been used in the cerebral affections in impending paralysis of brain; where the vis medicatrix naturae is too weak to develop exanthemata (Cup., Sulph., Tub.); symptoms of effusion into ventricles.

Childhood Observations

Child repeats everything said to it. Child cries out during sleep; whole body jerks during sleep; wakes frightened, starts, rolls the head from side to side; face alternately pale and red. Convulsions: during dentition, with pale face, no heat, except perhaps in occiput, no increase in temperature (rev. of Bell.); rolling the eyes; gnashing the teeth. Automatic motion of hands and head, or one hand and head (Apoc., Bry., Hell.).

Neurological Disorders

Chorea from suppressed eruption or from fright, repeating Boeninghausen. The individual has a ravenous appetite around 11 or 12 a. m. (Sulph.) and what Allen calls, "great greediness"

(insatiability) when eating. In fact, it seems the person cannot eat fast enough, especially with these neurological disorders.

Skin and Perspiration

With the above symptoms and sweaty smelly feet and toes, after suppressing the perspiration, great nervousness. Cannot tolerate any coverings during perspiration. The necessity for zinc, covers a wide spectrum of skin disorders due to poor circulation, poor nutrition, anemia, and hormonal changes and when taking certain drugs [beta-blockers] the reduced circulation results in chillbains. These small, itchy, painful swellings, worse from rubbing, generally appear on the skin after several hours of exposure to cold temperatures.

Sexual Organs

Sexual Organs effected with pain. Scrotum and testes painful and sore. Great incitation to coition with seminal discharge.

Nymphomania in lying in women, with great sensitiveness of sexual organs. Grasping at the genitals.

Nervous System

Spinal affections; burning whole length of spine; backache much < from sitting > by walking about (Cobalt., Puls., Rhus). Spinal irritation; great prostration of strength. Cannot bear back touched (Chin. s., Taren., Ther.).

Strange, rare and peculiar symptom: The ability to urinate only while sitting bent backwards.

Relations – Compare: Hell., Tuber., in incipient brain diseases from suppressed eruptions.

Aggravation – Of many symptoms from drinking wine, even a small quantity (Alum., Con.).

Amelioration – Symptoms: of chest, by expectoration; of bladder, by urinating; of back, by emissions (< by Cobalt.); general, by menstrual flow. Is followed well by, Ign., but not by Nux, which disagrees.

Inimical – Cham., and Nux; should not be used before or after.

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