



# **ARE YOU ON COPPER OVERLOAD?**

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Believe it or not heavy metals can even bring down civilizations.

Think of this this way. Lead was the heavy metal culprit of the ancient Romans, and it led to mental retardation as well as infertility among the Roman upper classes. According to noted researcher Dr. Jerome O. Nriagu, the consumption of wine alone may have contributed to the heavy doses of lead to which the Romans were exposed. The Romans flavoured their wine by simmering the grape juice in lead pots or lead-lined copper kettles. The acidic nature of the grapes extracted large amounts of lead from the utensils. Lead has a very sweet taste and so enhanced the natural sweetness of the wine. Thus, lead has earned the reputation as the “sweet poison.”

So, what does this have to do with copper and our modern-day society?

Copper is to America today what lead was to ancient Romans. Both were unsuspected toxins in their respective societies. Today, copper may very well be a fundamental cause of debilitating and aging biochemical imbalances.

It's believed that copper toxicity can occur because of environmental exposure, dietary excess, and endocrine imbalance. The environmental copper sources include copper plumbing, copper cookware, naturally occurring copper in water, birth control pills, copper IUDs, copper intrauterine devices, dental amalgams (copper fillings and crowns), and fungicides for swimming pools and foods. Those whose hair analyses show copper overload should eat only limited amounts of copper-rich foods. If a hair analysis shows you are copper-toxic, seek out copper-free vitamin and mineral preparations (such as [Uni Key Health's Female Multi](#)). Also avoid copper-rich foods such as soy products, shellfish, tea, chocolate and wheat bran. It is interesting to note that the typical vegetarian menu contains a high-copper and low-zinc assortment of foods. Add to this a diet high in phytate-rich grains (such as whole grains) known to lower zinc levels, and the trouble becomes twofold. Zinc supplements act to balance out copper because zinc is the primary mineral antagonist to copper.

Adrenal gland exhaustion also contributes to copper toxicity because of a series of biochemical adaptive processes which depresses the production of the copper-binding protein, ceruloplasmin, in the liver. This ultimately results in the accumulation of excess or bio unavailable copper in various tissues and organs.

Common symptoms which are associated with copper toxicity include depression, insomnia, anorexia nervosa, compulsive behaviour, anxiety, hyperactivity, various skin disorders, hair loss and allergies. The “copperhead” personality types are distinguished by their highly charged nervous systems, which cause compulsive and sometimes addictive behaviours. These individuals are highly creative and intensely hyperactive.

Many years ago I worked with a nutritionally oriented psychiatrist at Deepbrook Associates in Newtown, Connecticut who systematically took hair samples from every new patient. Unbelievably, he would find that many of the children he was treating who were suffering from learning disabilities and hyperactivity were suffering from a copper imbalance. Once the copper was in check, the hyperactive symptoms disappeared.

Many female disorders such as PMS, endometriosis, fibroid tumours and other menstrual

irregularities may be linked to excess tissue copper. Likewise, many male disorders, such as sexual impotence, over aggressiveness and hair loss can be attributed to copper toxicity.

There are a number of metabolic functions which are dependent upon balanced copper metabolism. These include the formation of the myelin nerve sheaths, synthesis of neurotransmitters, formation of keratin and melanin, fertility and the synthesis of the body's connective tissue. For more information on copper overload, please refer to my book [Why Am I Always So Tired?](#)

## **Copper Overload and Hypothyroidism**

Besides being affected by iodine, your thyroid can be suppressed by an elevated copper level. Copper, like iodine, can also inhibit the conversion of the thyroid hormone thyroxin, resulting in a slowdown of metabolism. In my experience with tissue mineral analysis ([TMA](#)) over the past two decades, I have observed that an elevated tissue level of copper is frequently linked with hypothyroidism, especially when the zinc-to-copper ratio is higher than ten to one (ideal is eight to one in favour of zinc). In fact, women with low zinc levels also tend to have high copper, a connection that I've found in 70 to 80 percent of women. Zinc is typically very deficient in vegetarians, individuals under stress, and those who don't eat zinc-rich sources of foods such as red meat, eggs, and pumpkin seeds.

A copper-zinc imbalance also affects the liver's ability to detoxify. Copper and zinc are both needed to activate key liver enzymes; if they are out of balance, your liver is out of balance. This leaves the liver less able to eliminate toxins, including excess copper. The result is a cycle of high copper and poor liver function.

Copper levels seem to rise and fall in tandem with estrogen levels. If you are deficient in zinc, the balancing mineral to copper, and/or lacking in progesterone, the hormone that balances estrogen, copper levels tend to rise. Weight gain as well as frontal headaches, menstrual irregularities, food cravings, mood swings, fatigue, depression, and yeast infections are all common symptoms of copper overload.

Lowered adrenal gland activity is another key culprit behind high copper levels. Interestingly, [TMA](#) test results from my clinical experience show that seven out of ten women have weak adrenal glands. Adrenal gland activity is required to stimulate the liver's production of ceruloplasmin, the leading copper-binding protein. With diminished adrenal activity, unbound copper starts to gather in various tissues, organs, and glands—such as the thyroid.

## **How much copper do we need?**

The truth is we need only a pinch of copper in our bodies. The average person ingests 2.5 to 5.0 milligrams of copper per day; those who eat a vegetarian diet typically take in more. The range that is considered safe and adequate to meet our needs is 1.5 to 3.0 milligrams per day; the recommended dietary intake for adults is 2.0. In light of the copper overload from the environment, controlling dietary copper is paramount.

The following will give you a better idea of dietary copper culprits.

## Selected Foods with a High Copper Content, in milligrams per 100 grams:

- Yeast, dried–4.98
- Regular tea, bag–4.80
- Cocoa powder–3.87
- Wheat germ–2.39
- Chocolate (bitter)–2.67
- Sunflower seeds–1.77
- Sesame seeds–1.59
- Brazil nuts–1.53
- Coffee (ground)–1.26
- Soybeans–1.17
- Curry powder–1.07

## The Copper Quiz

If you think you are an unsuspecting victim of copper overload, take this quiz and find out:

- Do you eat frequent light meals but still lack energy? Yes No
- Does your mind tend to race, even your body is exhausted? Yes No
- Do you consider yourself a highly creative person, but one who is frequently anxious and drained of energy? Yes No
- Do you tend to daydream and live in your head? Yes No
- Do you frequently experience insomnia because your mind simply won't calm down? Yes No
- Are you prone to emotional and physical highs and lows? Yes No
- Do you have frequent colds and flus, slow wound healing, lack of taste or appetite, or white spots on your fingernails? Yes No
- Do you suffer from any of the following conditions–migraine headaches, hyperactivity, panic attacks, mood swings, depression, premenstrual tension, or skin problems–for which no underlying cause has been identified? Yes No
- Do you have high estrogen levels or use the birth control pill, estrogen replacement therapy, or a copper IUD? Yes No
- Do you either crave or adversely react to high-copper foods such as chocolate, nuts, avocados, and soy products? Yes No
- Does your hair have a natural orange-red tint or copper-colored highlights? Yes No
- Do you have dark areas of pigmentation or skin blotches on your face? Yes No

If you have three to give affirmative answers, you probably have some degree of copper overload.

If you have six to eight affirmative answers, it's likely you have copper overload.

If you have nine to twelve affirmative answers, you almost certainly suffer a strong or long-standing case of copper overload.

## Understanding the Indicators

1. If you feel that you're eating a healthy diet but are still tired, assume that you're not following the right advice for you. No one health regimen works for everyone. In my experience, the main group of people for whom frequent, light, mostly plant-based meals are not right are women who have copper overload. Meals consisting of legumes, whole grains, nuts, and especially soy products are healthy for some people, but not for those with copper overload. Because these foods are high in copper, they can cause or exacerbate copper buildup, thereby diminishing energy.

2. The combination of overactive mind and tired body is a tell-tale sign of copper overload. Here's why: copper is a brain stimulant. It speeds up mental processing, so high levels usually lead to racing thoughts. But high levels also stress the thyroid and adrenals, which are the glands most responsible for giving us get-up-and-go. When their functioning falters, energy is zapped. The result is a person who has all sorts of ideas racing through his or her mind but is too chronically exhausted to act on them.

3. Tissue mineral experts have noted that individuals who have high tissue copper levels tend to be right-brain dominant; in other words, they're intuitive, emotionally oriented, and artistically inclined. These individuals often have careers that involve creativity – careers in art, theatre, music, and writing, for example. There are many advantages to being right-brain dominant as long as copper levels are kept in check, but if copper levels rise too high, right-brainers often feel overemotional and anxious.

4. Copper excess can lead to mental overactivity. Indeed, people with copper overload sometimes are so wrapped up in their thoughts and daydreams that they're considered "spacey." According to some health professionals who've worked with copper overload, high copper levels may serve as a defence mechanism that helps a sensitive individual cope with stress by allowing him or her to detach slightly from reality. This characteristic can inspire artistic creation and work well – as long as the copper doesn't rise too high.

5. Insomnia – especially hard-to-treat insomnia – is often an indicator of copper overload. As we saw earlier, copper is a brain stimulant, so excess copper typically interferes with sleep: people with copper overload often have trouble both falling asleep (because the mind won't relax) and staying asleep (because stimulating thoughts plague them in the middle of the night). These sleep problems can be particularly pronounced with a person is under a lot of stress, which causes copper levels to rise in the body and zinc levels to fall, thus exacerbating the tendency of a person with copper overload to have difficulty getting a good night's sleep.

6. Copper stimulates both mental and emotional overactivity, so those of us with high copper tend to be bright and creative but also prone to emotional highs and lows. Often people with copper overload are so stimulated by their creative ideas that they become emotionally and physically hyperactive for a while, drawing on borrowed energy despite their fundamental fatigue. When that fatigue catches up with them, they tend to come crashing down to a low in which they feel physically and emotionally wiped out.

7. Frequent colds and flus, slow wound healing, lack of taste or appetite, and white spots on fingernails are all typical signs of zinc deficiency a common factor that leads to the development of copper overload. Zinc is copper's primary antagonist, so without adequate zinc in the body, copper tends to build up simply because there's nothing to stop it. If you have any of these common zinc deficiency symptoms, the chances are good that you have copper overload (or at least a copper-zinc imbalance).

8. Migraine headaches, hyperactivity, panic attacks, mood swings, depression, premenstrual tension, and skin problems are all symptoms frequently experienced by women, and each of these conditions has been associated with high levels of copper in the body. If you have any of these symptoms and haven't been able to find a cause for or relief from them, it's very likely that copper overload is involved.

9. High estrogen levels of use of the birth control pill, estrogen replacement therapy, or a copper IUD are strong risk factors for developing copper overload. Estrogen and copper levels tend to go hand in hand in the body; as the level of one rises, the level of the other tends to rise too. Researchers don't know exactly why there's such a close relationship between the two, but the current thinking is as follows: high copper levels diminish liver function, and a healthy liver is needed to break down estrogen each month to prevent estrogen build up; high estrogen levels also diminish liver function, and a healthy liver is needed to excrete excess copper and prevent copper build up. If you're on the pill or estrogen replacement therapy, or if you use a copper IUD, I urge you to have your copper levels checked regularly with tissue mineral analysis and avoid excessive copper in your diet.

10. Individuals with copper overload tend to either crave foods high in copper or have adverse reactions to them. Although it's a bit difficult to understand, many people who have high copper in their tissues have difficulty utilizing that stored copper. As a result, they become somewhat deficient in copper in their blood. Because of that deficiency, they often crave high-copper foods to give them a temporary energy level. The new copper they ingest can't be utilized properly either, however, so instead of being circulated in the bloodstream, it's simply stored away, contributing further to the overload problem. This scenario is especially common among women right after their period. They often crave something like chocolate because they get a temporary emotional and physical lift from it, but then a while later they feel worse, experiencing a headache, lethargy, anxiety, or depression – conditions brought on by the additional copper.

11. Tissue mineral experts have noticed that people who have high copper levels often have red hair or a natural red or copper tint to blond or brown hair. (I know this sounds odd, but professionals who work with copper overload have definitely found it to be the case!) The exact details of how copper affects hair color are not known, but we do know that copper has a role in the formation of melanin, a pigmentary substance that influences the color of hair. Many of my clients report that when they look back to the onset of their copper overload symptoms, they remember that their hair color developed an uncharacteristically orange-red or copper tint.

12. Just as copper-dependent melanin influences the color of hair, so too does it influence the color of skin. Dark areas of pigmentation of skin blotches on the face often are signs of hidden copper overload. This unusual pigmentation is most likely to occur during pregnancy, when estrogen and copper levels rise. During this time, some women develop what doctors call a

“pregnancy mask” – dark areas on the face, especially above the lip and on the lower forehead. The dark pigmentation also can be seen occasionally in nonpregnant women who have high estrogen and copper levels.

It’s important to understand that copper build up is much more common in women than men: the higher estrogen levels women have increase the likelihood of copper build up. Women also usually have slower metabolisms than men, and the slower the metabolism of an individual, the less efficient the body is at eliminating excess copper. So women are much more likely to experience copper overload. Statistics show that females between 30 and 48 years of age who send their hair in for analysis have high copper levels or low zinc-to-copper ratios about five times more often than males of the same age.

In closing, the RX (supplements) I suggest for copper overload include:

- [Bile Builder](#) (from Uni Key Health) – to help detoxify and escort excess copper from the system.
- [Female Multiple](#) - copper free (from Uni Key Health)
- Vitamin C (500-3,000 mgs) – which helps to neutralize copper.
- Molybdenum (500-2,000 mcgs) – a trace mineral which helps to clear copper from the system.
- You can also try boosting your sulfur reserves with a daily dose of 50 to 150 mgs of R-lipoic acid.

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