

SHEDDING LIGHT ON COMMON MISCONCEPTIONS SURROUNDING COPPER TOXICITY

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Over the past half century we have seen a growing reliance on nutritionally depleted food, the proliferation of birth control usage, copper tainted drinking water, vegan diets, and ever increasingly fast paced stressful lifestyles. These factors, among others, have been major contributors to a widespread yet poorly understood epidemic known as copper toxicity. With each successive generation the problem is growing, and will continue, if not addressed. Both the physical and mental wellbeing of the present population, and even more so our children's generation, is being affected. Though men are certainly affected, our women are most at risk due to copper's connection with estrogen. Without a massive wakeup within the current medical system on how minerals operate within the body and affect health, and how our lifestyle choices affect those minerals, we are doomed to see ever increasing cases of adrenal exhaustion, Alzheimer's, digestive disorders, brain fog, broken relationships, and mental health issues.

Though the field of health care is in an ever-evolving state of learning, there are few conditions today that come with as much misunderstanding and lack of awareness as copper toxicity. Misconceptions are perpetuated by a seemingly endless number of articles that abound written by those who promote the benefits of 'more copper', yet without understanding the science fail to grasp the serious and damaging implications of such a message. For over 40 years, beginning with the early work of Dr. Carl Pfeiffer, MD, PhD, we have known of the danger that excess copper causes to both physical and mental health. Yet despite the millions of HTMA tests that have since validated his findings, the truth continues to be swept under the rug. The multiple reasons behind the great copper misunderstanding is the focus of the remainder of this article. These reasons include:

i. Practitioners continue to improperly test and diagnose patients using blood serum tests which fail to show the true extent of copper's accumulation in the body.

Perhaps the most damaging of all reasons why the effects of copper are misunderstood is the reliance doctors have placed on blood testing as the primary means to diagnose. Most practitioners still invariably turn to standard blood serum tests to measure a patient's copper level if a toxicity issue is suspected. For this reason, most individuals with copper toxicity who have a blood test are told they are fine, especially once the direct source of copper exposure has been eliminated. The reason is that blood is homeostatic by nature, and must maintain a tight mineral balance. Excess copper gets either excreted from the body or stored in the body's tissues. Large amounts of bio-unavailable copper can become tightly stored in tissue causing all sorts of both physical and mental symptoms, yet the blood test can show a 'normal' level of copper. It is astounding that such a foundational

concept as the homeostatic nature of blood is so widely ignored by most practitioners.

ii. The ignorant dismissal of Hair Tissue Mineral Analysis as an effective screening tool.

Practitioners who rely on blood serum tests are usually the same ones who fail to understand the powerful information that a Hair Tissue Mineral Analysis (HTMA) test offers. Through HTMA we can gain direct evidence of the stored bio-unavailable levels of minerals (not to mention an excellent assessment of the individual's stress and energy profiles). Excess bio-unavailable copper that is not excreted gets stored in the body's soft tissues, including the hair. This is why we'll so often see high levels of copper in the hair even when, as mentioned, a blood test can show the level to be normal, or even low! Unfortunately, the complex nature of HTMA interpretation leads even many of those who provide HTMA service to misinterpret the results. They'll then dismiss HTMA as not being accurate while in fact they are simply discarding perhaps the most valuable screening tool of mineral levels available in modern medicine simply because of their own ignorance and lack of training/understanding. Only as more and more practitioners come to be properly trained in HTMA will the medical community begin to realize the true extent of the problems created by excess copper in the body.

iii. There exists a plethora of studies and articles which incorrectly promote the idea that the body is able to self-regulate the copper level and therefore that toxicity is not a common concern.

The Internet is saturated with articles that perpetuate the concept of the body being able to self-regulate copper. Many of these articles are even written by well respected doctors, including celebrity doctors - these people having a wide and trusting audience. The tragedy is, despite their power to positively influence and educate, much of their writing on this topic is void of real science and evidence. Of course, much of their "evidence" is based on studies that show how the copper level in the blood "miraculously" returns to normal after exposure, completely ignoring where excess copper goes. The copper does not magically disappear, nor does all of it get excreted. As we've already mentioned, much of the excess copper gets stored in a bio-unavailable form in the body's tissues, and this does not present itself in standard blood testing. The authors of such articles are completely ignoring the decades of research undertaken by those who have devoted their lives to understanding mineral imbalances and the copper toxicity problem, including such researchers as Dr. Carl Pfeiffer Ph.D, Dr. Paul Eck, Dr. David Watts Ph.D, Dr. Lawrence Wilson, and Dr. Rick Malter Ph.D.

iv. The argument that Ayurveda, for thousands of years, promoted the health benefits of drinking water from copper vessels - therefore it must be healthy!

What was healthy for people hundreds/thousands of years ago does not necessarily make it healthy today. Why would this be? The answer is easily understood when one examines the changes that have occurred to the mean levels of minerals across the population over the past 50-100 years alone. Most people, hundreds of years ago, were fast oxidizers, with lower levels of calcium, magnesium and copper relative to higher levels of potassium and sodium. Due to the reasons stated at the outset of this article, perhaps the most

influential of all being the advent of birth control, we have seen a shift in mineral patterns to the point where today 80% of the population are slow oxidizers (higher levels of calcium, magnesium and copper relative to lower sodium and potassium). Copper cookware and vessels in ancient times would have benefited most people by improving their copper level. However the situation today is quite the reverse. Artificially raising one's copper level through copper piping / vessels / cookware / bracelets etc is damaging to the typical slow oxidizer, which today is the majority of the population. Yet this science gets blatantly ignored by manufacturers of such products and those promoting their benefits.

v. On a similar parallel to the two previous points, the vast majority of articles written on copper point to the problems of copper deficiency, without understanding that the deficiency (and corresponding negative symptoms) in most cases is caused by an excess of copper!

Most of the misguided literature on copper, often the same articles which espouse the incorrect 'self-regulating nature' of copper, go on to promote the idea that copper deficiency is behind most copper-associated health problems, thereby advising the reader to eat more copper rich foods. Such thinking is ludicrous, especially when we have seen, in a majority of cases, that vegetarians (those with the highest copper-rich diets), are the ones suffering the most from copper deficiency! True dietary copper deficiency is very rare in the West. What people need to understand is that the symptoms of deficiency are a direct result of too MUCH copper! As the body is not able to fully self-regulate the copper level, excess copper consumption or exposure will build up. As it builds it weakens the adrenals, which in turn lessens production of ceruloplasmin (a copper binding protein necessary to make copper bio-available), which in turn creates more bio-unavailable copper, and the cycle continues to spiral. The result is a person flooded with copper, yet very little of it is usable. A deficiency condition is thus created. It can be likened to that of being stranded in the ocean surrounded by water, yet none of it is drinkable. Eating more copper in this case is not the answer, and in fact will only worsen the problem. What is needed is the addition of copper-antagonistic minerals (i.e.: zinc) and a focus on re-strengthening the liver and adrenals through a structured and HTMA-monitored nutritional balancing program.

vi. OB/GYNs are not being trained to understand the effect birth control methods such as the pill and IUD have on mineral levels, and consequently prescribe birth control without the patient having fully informed consent.

Almost no woman, when she has her doctor prescribe the pill or IUD, is warned about what it will do to her level of copper, or how the increase in estrogen increases the retention of copper. Yet the health consequences can be devastating, and may take years or decades to correct. We have heard countless accounts from women who, after having their copper IUD inserted and subsequently experiencing disturbing physical and mental symptoms, being told by their OBGYN that there is now way that the IUD could be connected to those symptoms; that the copper level in an IUD is completely harmless. Education in the interrelationship between copper sources / hormone levels / mineral

imbalances along with the resulting physical and psychological disorders that can manifest should be mandatory training for all OB/GYNs. Sadly, this is not the case. Until it is, countless women will continue to fall victim to birth control methods they have willingly accepted without being given properly informed consent.

vii. Copper, due to its reference as an 'emotional mineral', has in some cases led individuals to believe that their feelings of love were attributed to their excess copper level, influencing their decision to break up as their copper level rises further and they no longer feel as much.

The misunderstanding and lack of awareness surrounding copper toxicity has needlessly damaged countless relationships. Copper at a healthy level, does help in the release of endorphines that contribute to normal feelings of love and euphoria. Additionally copper has a warming quality, adding to a person's emotional warmth. However, what is widely misunderstood is that when copper accumulates in excess, the opposite traits are created - the numbing of emotion, the loss of romantic feeling, and an increase in hostility and irritability. As Dr. Eck points out in the book *Energy: How it affects your emotions, your level of achievement, and your entire well-being*, "An adequate copper level is what gives a woman her 'warmth'. Women who lack 'AVAILABLE' copper tend to be cold and sometimes either secretly or openly hostile to men." Women who are copper toxic lack available copper - their copper is stored in a bio-unavailable form in their body's tissues. As their bio-unavailable level of copper increases, calcium rises as a defense against stress, creating what's referred to as a 'calcium shell'.

"As excess copper and calcium increase in the cells and tissues, a calcium "shell" will build that will tend to block more and more feelings until the person no longer is aware of what is being felt and experienced. Such a person often talks of "not person's perception and awareness diminish. The overall psychological effect of excess copper is a loss of emotional control and awareness accompanied by diminished feelings and numbness." ~Dr. Rick Malter, Ph.D

In addition, the lowered level of zinc which occurs as a result of high bio-unavailable copper in turn lowers NGF, and this directly impairs the intensity of romantic love. While the feelings of love become suppressed or disappear altogether, what rises to the surface are the emotions of fear, depression, anxiety and anger.

"Copper toxicity reduces the ability to cope normally with stress and the inability to respond adequately can provoke many fearful emotions, including anxiety and panic. In many cases, the body over-reacts to nearly any stress rather than under-reacting. This constantly puts the body into a full fight or flight defensive reaction which normally includes the aforementioned emotions of anger and fear. This is why chronic stress and adrenal fatigue are often associated with anxiety, panic, phobias and compulsions... depression, irritability, mood swings, poor concentration, poor memory, dizziness, fatigue and sleepiness." ~Theresa Vernon, L.Ac.

Increasing apathy toward one's partner and relationship withdrawal are normal, and even

more so when adrenal burnout is experienced, as these negative emotions are part and parcel of burnout. The copper toxic individual at this stage is rigid and may be out of touch with their emotional truth, yet due to the calcium shell, they will be unaware of this and will instead blame their partner or relationship. Ultimately, *"Anyone who becomes highly copper toxic will begin to experience a deadening of his/her feelings."* ~Dr. Malter.

viii. The recent referencing to copper toxicity as copper dysregulation (or hypercupremia), terms that discount both the seriousness and true nature of copper toxicity.

Copper, at excessive levels, truly is toxic on the body and mind. Just a few of the many symptoms include fatigue, exhaustion, headaches, mood swings, depression, paranoia, joint pains, digestive issues, concentration and memory problems, high anxiety, emotional apathy, insomnia, increased PMS, and schizophrenia. It is also linked to conditions including Alzheimer's and cancer. Copper toxicity is a serious condition that must be taken seriously. The term dysregulation (an 'abnormality' in the copper level) perpetuates the suppression of the true extent of the problem by failing to convey the seriousness of the 'toxic' effects on both body and mind. Meanwhile, hypercupremia literally means "high blood copper". As we've already addressed, an individual may have extremely high levels of copper yet their blood tests can show normal. Using a term such as hypercupremia misses one of the most fundamental indicators of copper toxicity - high levels of bio-unavailable copper stored in the tissues, not the blood.

vix. The belief that one automatically becomes better upon beginning detox.

The difficulty and length of the detoxing process will vary depending on the extent of the toxicity problem, the detox protocol used, the strength of individual's detox pathways, and the extent of commitment the individual has toward following their balancing program. It is to be expected that the individual will become worse as they begin detox before they become better. It is also to be expected that a person detoxing copper will experience many waves of feeling better and feeling worse before true and lasting improvement is realized. The detoxing process often brings about some of the worst symptoms of copper toxicity. If not properly monitored through HTMA and counseled by the practitioner, the individual may, in some cases, believe themselves to be fine when they reach the first 'peak' of feeling better and quit the program. Conversely, they may quit the program due to the intensity of the dumping symptoms. An initial detox that includes adrenal support can improve how the individual feels. However, if detoxing (or the mobilization of copper) occurs too quickly, it can further increase the copper level in the brain and further accentuate the calcium shell, numbing a person even further to their emotions and awareness.

When detoxing copper, two key time factors should be considered. First, the balancing of minerals usually requires a commitment of 6 months to a year or more. Second, if the toxicity accompanies adrenal burnout and the adrenals need to be healed, one should not expect more than a 10% improvement per month at best - in the adrenals. According to Dr. Eck, adrenal restoration can take 9-15 months for a fast oxidizer and 15-36 months for

a slow oxidizer - and most copper toxic individuals are slow oxidizers. In cases of tightly stored copper, Dr. Eck has seen cases where it has taken three years on a nutritional correction program before the person even *starts* to release their copper!! Patience, ultimately, is paramount, with an understanding that you may not be yourself until all your macro minerals come into better balance and any calcium shell that has formed has been dissolved. When the calcium shell dissolves, there is then an often overwhelming awakening and flooding back of emotions that had been previously buried outside of awareness.

x. Some practitioners focus too much on ceruloplasmin production at the expense of mineral balancing.

Increasing ceruloplasmin (Cp) production, by way of strengthening the adrenals, is an important goal in the detox process, for without Cp the copper remains in a harmful bio-unavailable state. Cp is one of two main transporter proteins that bind to copper to make it bioavailable. When Cp is low, copper will accumulate in the liver and eventually the brain. So while Cp production must occur, it should not be done under the single focus of 'increasing Cp' while ignoring other mineral levels. The most important part of a healthy detox process is re-regulating the various mineral ratios. When the focus is on re-regulating these mineral levels, then the adrenals will strengthen, Cp production will occur naturally, and negative side effects both physical and psychological can be minimized. When the sole focus however is on adrenal strengthening and Cp production, this can lead to a worsening of certain symptoms as mineral ratios may further go out of balance. As an example, adrenal support, though it may boost Cp, can simultaneously drop zinc, magnesium and potassium, while increasing calcium and sodium - in effect increasing the numbing effects of a calcium shell and the intensity of stress placed on the body through a heightened Na/K ratio. Too many people spend time and energy on blood tests to measure their Cp in order to determine how well they're progressing. But really, what is that going to tell you? Even if you see your Cp levels increasing, this gives no information as to what is happening with your various mineral levels, whereas an HTMA paints the whole picture. So, in conclusion, while increasing Cp production is important, it should only be pursued while having mineral levels regularly monitored through HTMA and adjusted as necessary.

xi. Many copper toxic individuals are not even aware of their condition.

Many individuals suffering with copper toxicity symptoms are completely unaware that excess copper is the source of their plight, in large part due to practitioners who have not been trained to recognize or properly test the condition. However, in addition, there are also those who have been diagnosed with copper toxicity, yet reach a point in their condition where their awareness diminishes. This can happen when too much copper accumulates in the brain, affecting memory and perception, combined with the numbing affect of the calcium shell, which can completely block awareness of what has happened to the individual. The individual may very well believe they are fine, or that they have healed, when in reality they are simply living a pseudo-reality based on the numbing and perception-altering effects of greatly unbalanced mineral and neurotransmitter levels. Compounding this is the state of denial that's created as copper reduces the magnesium

level, along with the person's inflated "Judge" which rules their thinking, making it very difficult for others to reason with them.

xii. There exists a disconnect between the fields of mental health and nutritional health, with very few counselors and psychiatrists understanding that many of the mental health issues they encounter daily are nutritionally based, in many cases copper being a primary contributor.

It has become far too commonplace for mental health practitioners to treat patients with anti-depressants and other potentially dangerous psychotropic drugs - drugs which in turn alter the individual's mineral levels even further and lead to a necessity for even further pharmaceuticals. All the while being ignored is the direct connection between mineral imbalances and mental health disorders. Studies show that half to two thirds of schizophrenics have elevated copper. We know that high levels of copper-toxicity-induced-bio-unavailable calcium adds to depression and apathy. We know that many relationship struggles are the result of excess bio-unavailable copper. We know that excess copper alters neurotransmitter levels which can alter perception and even create paranoia. So why aren't more practitioners looking at the issue of copper toxicity and the mineral connection and serving their patients through a more holistic, nutritionally based approach? Quite simply because most medical schools are void of educating on the relationship between nutrition and health (both physical and mental). Sadly too, the profits are in selling pharmaceuticals, not healthy nutritionally balanced diets. As far back as the 1970s the brilliant doctor Carl Pfeiffer, PhD, wrote about the intimate connection between minerals/diet and mental health in his book "Mental and Elemental Nutrients"; and with the advent of HTMA we can see today more clearly than ever how mineral patterns and mineral toxicities affect one's emotional state, ability to handle stress, mental health, even personality. Yet it continues to be a struggle to educate those to whom we entrust our health the most.

It is my hope, for this and future generations, that a greater understanding of copper toxicity is reached so that those affected may receive the support and guidance they need, and so that greater prevention can be achieved.