**Hair Analysis – The Real Story**

**(Not the Quack-Watch Version)**

Gregory H. Tefft., M.S., D.C., N.D. author of “Your Personal Life—Measuring What Your Specific Body Needs to Live Lean Long, Strong and Better”

Visit his website at <http://www.pncscience.com/html/home2.php>

# Message From The Author:

I was asked by Josh Trentine (Natural Mr. Olympia) and Brian D. Johnston Director of Education and President, I.A.R.T., to analyze, discuss and rebut (if necessary) certain questionable remarks regarding Hair Tissue Mineral Analysis (a.k.a. HTMA or hair analysis) as appearing on the Quack-Watch website for the following reasons:

1- The IART is interested in the true benefits of HTMA procedures as they pertain to the personal trainers they are certifying.

2- A more complete elucidation is required for various credibility issues regarding information presented in this website, as well as it’s author.

3- Josh Trentine with the help of myself and my group of Ortho-Molecular Nutrition specialists (listed on my [www.PNCScience.com](http://www.PNCScience.com) website) has achieved supreme fitness and bodybuilding success by utilizing the benefits of Ortho-Molecular Bio-Medicine or OM for short. HTMA is medically approved and a necessary OM procedure and it is difficult to understand why the credibility of HTMA is even being challenged..

4- As an OM specialist, I am considered by my fellow scientists and clinicians as an authority on this topic, I am known in the media as “America’s Leader in Personalized Nutrition”. With 36 years of personal and clinical experience, I have utilized the science of applied nutrition being honored with three Natural Mr. America titles and have also been honored with other national rankings in three other sports including swimming, track and field, power-lifting. Dedicated to helping numerous “athletes and actors” as seen in Fox news, achieve their ultimate goals with this bio-technology I have been the head clinical Nutritionist for the Malibu Health and Rehabilitation Center, and on the sports med staffs of the Olympic Team, US National Swim team and Race Across America.

# Brief Historical Overview of HTMA:

HTMA is deeply entrenched within investigative animal and human sciences which has been routinely utilized for almost 100 years. According to **(1G)** Harvey W. Wiley (first director of the Department of Agriculture, Bureau of Chemistry, and then the FDA), the original HTMA technology was developed in the early 1900s around 1912. Farm, sport, and zoo animal metabolisms were analyzed for mineral content in order to engineer more nutritious feeds and supplements for bigger, healthier, and more fit animals such as thorough-bred racehorses including Seabiscuit. Today, this same bio-technology, now much more technically advanced, is applied for the health management of animals—even pets such as dogs and cats.

# In the 1940s, (1) Dr. Roger Williams, P.hD., credited with discovering Vitamin B5 and Genotrophic Disease, began an extensive research project at the University of Texas (Institute of Biochemical Individuality). Dr. WIlliams examined ways that humans could use this same “animal-directed technology” to refine applied nutrition on a highly individualized basis. This would enable one to measurably and reliably resist disease, improve health, accelerate fitness attainment, and promote overall well-being. Dr. Williams took over directorship of the Clayton Biochemical Institute at the University of Texas which is credited for making more discoveries about vitamins/minerals than any other institution in the world!

Dr. Williams expansive research projects and subsequent numerous publications instigated a 21 year government-sponsored research project from1950 to 1971 by the Department of Agriculture (USDA) as compiled by Edith Weir, Ph.D,. in conjunction with every State College and Land Grant College within the U.S. investigating the true root cause of all disease. This mammoth research project, **(1S)** “An Examination of Human Nutrition Research in the United States” made the amazing prediction that people in the U.S. were about to suffer a huge epidemic of diet-related disease unless we take a more individualized approach to the way each of us manages the nutrients within our bodies. This epidemic was to include **223 disorders** from heart attacks to cancer, obesity, fatigue, diabetes, and neurogenic disorders such as Alzheimer’s and autism. This science-based prediction obviously came true! The growth of certified personal training (PT’s) is directly related to this upsurge of degenerative-chronic-lifestyle-stress-environmental disease epidemic altogether known as “diet- related” disease which all benefit from regular exercise.

Furthermore, it was concluded in this study that “all disease is diet-related and that the solution to illness can be found in nutrition..” Nutrition was further defined as testing for the nutrient composition of a given food before one ate it followed by measuring which of the nutrients and in what amounts are left behind in the specific person’s body, and then which nutrients are eliminated from the body. This approach provides **a scientific picture** of how well a body utilizes (or metabolizes) food person by person. From testing millions of people **using hair, blood, urine, saliva, feces, biopsy**, etc), extremely wide variations were found in terms of how well we each actually digest/absorb/utilize/distribute nutrients (body retention of minerals, vitamins, amino acids, fatty acids, organic acids, sensitivities, toxicants, etc., and their byproducts were fully analyzed) and how we eliminate waste.

This new scientific finding completely displaced the idea that “you are what you eat and that your body simply takes what it needs from food and eliminates the rest automatically putting itself in to perfect balance,” and determined this now obsolete theory to be an absolute fallacy! This conclusion was formulated after utilizing the “old” farm tests which are based on hair/fur-(for minerals/drugs), saliva (IgA allergies, insulin resistance, interactive and tissue-receptive hormones), urine (water soluble vitamins and organic acids/Krebs cycle derivatives), breath (intestinal overgrowth/stomach function), blood(fat soluble vitamins, hormones, fatty acids/eicosanoid ratios and hidden allergies), and stool (over-all digestive system function and pathogenic profile of all known germs/parasites/fungus/etc.). On humans, it was discovered that absolutely **no two people** **tested** have the same exact nutrient/toxic/cell regulator composition—not even twins! And, most surprisingly, variations of nutrient retention could vary by thousands of percent—all of this never known before about humans—only farm/zoo animals!

Also discovered from this special “unconventional-for-humans” testing was that the amount of these nutritional/toxic/cell regulation disturbances are greater in individuals with slower metabolic rates and in progressively poorer health. In other words, sick, unfit, fatigued and prematurely aging people (as determined by conventional medical analysis) were found to have many **more nutritional disturbances** seen as excesses and deficiencies, while those who were found to have less nutritional disturbances as nutrient excesses and deficiencies were always in better shape all around.

Highly specific nutrient disturbances as nutrient deficiencies and excesses were then statistically being **linked with every known symptom**, disease (people having more nutrient balance, always adapt faster/completely to exercise, and also recover from colds/infectious problems more rapidly and with less symptoms overall) , and even one’s ability to respond to fitness conditioning or a given infectious organism!

By 1972, the new scientific saying became “you are what you retain from what you eat, which varies from person-to-person” and which can be successfully manipulated by applying **(1G)**12 quantum physics, physio-chemical, and certain laws of mass action in regards to everything eaten or absorbed! **Super-humans** were now possible!

The world of the newly labeled OM nutrition fell into the “German Model of Medicine” philosophy already being applied to all conventional drug-mediated (allopathic) medicine. **(2G)** It similarly requires tests/measurements to determine exactly what a body is actually retaining in the way of nutrients first, and then according to **what is retained**—specifically alter the nutrient input by using controlled variables (supplements/foods) followed by re-testing the outcome and then refining the program until maximum balance is achieved! This is the same approach doctor’s use – only with drugs, not nutrients.

In this way, nutrients became corrective (FDA termed) biomedicines to be used in place of the conventional medicine’s way of using drugs to correct body problems, only at a much more deep-rooted level. **Drugs merely manage symptoms** while measuring outcomes, while Biomedicines target/correct the biochemical process underlying a symptom.

Subsequently, if a conventional M.D. will test your cholesterol to be high, they give you a drug like Lipitor to lower it, and then retest for cholesterol to see in time if it’s working or not.. In orthomolecular medicine, if one is measured to have a low calcium level, they will be given **biomedicines** in the form of calcium and calcium friendly nutrient synergists in order to restore balance while retesting later on to determine if in fact the calcium retention improved or not, then changing nutrient input it until it does.

Because of this government study, it was suggested that all the medical laboratories that are already performing “conventional or crisis management” tests (150 in all) for doctors in practice, now begin to apply these “other” farm-origin tests upon humans in order to troubleshoot the impending disease epidemic running rampant.

“Human” medical laboratories proceeded to initiate this project taking from 8 to 12 years to validate their procedures as “official” **for humans**—according to the standards and practices rules of the In Health and Human Service Department of the United States under CLIA lab registration. These are the same labs which perform all of our “regular” medical tests**.(1G)**

As an important point, in 1978, **(?)** hair testing for humans became perhaps the first official medical nutrition test with over **1,650 “Ortho-Molecular Tests**” now fully regulated by the same standards in practice CLIA division of the Health and Human Services Department governing every licensed medical lab in existence in this country.

Going back to 1972, Senate oversight committees wanted more from the USDA than this analogy of nutrition testing by medical labs. Maybe some more statistics from Dr. Weir et al. could be formulated to help the average US citizen. The USDA and Dr. Weir subsequently impacted on the “Food and Nutrition Council” originally formed in 1961 in order to come up with some even more helpful statistical backdrops to aid citizens in preventing the most **obvious nutrient deficiency** states such as scurvy, Beri Beri, pellagra Kwashikorr, Marasmus and others. By collecting some **farm test statistics** and after compiling a few **tests done on humans**, the council projected the so-called “Minimum Daily Requirements” (MDR’s).

However, this report clearly stated in 1972 that MDR’s have nothing to do with the actual nutrient status of any one individual therefore these highly generalized statistics can never be used to formulate an individuals supplement/diet intake accurately without testing each person on a case by case basis to measure exactly what they need.

This “test first and then add the right vitamins/minerals” approach is practiced widely amongst nutrition-minded scientists/clinicians, but not many conventional medical doctors such as **(?YPL)**Dr. Herbert Sever, MD, known for his strenuous complaints against alternative health care, and nutrition books, defining it all as fraud and quackery. Dr. Sever’s undying criticism for the ***Dietary Supplement Health and Education Act of 1994*** is because he wants to make all vitamins/supplements by prescription only and take any choice away from the consumer.

These same MDR’s gave the supplement industry a basis to grossly expand sales without applying the necessary testing. The potency of MDR’s were upgraded into RDAs/DV’s and continued to be promoted on the theoretical basis of, “if a little is good more is better ” which still totally ignores accurate testing to measure the exact nutrient needs of any one given individual. This has inadvertently created a generation suffering with an **extreme epidemic of nutrient excesses (and deficiencies) underlying all degenerative disease(USDA).**  That’s right—too little or too much of any essential mineral, vitamin, amino, etc. is unhealthful! Furthermore, statistical and/or or theoretical generalizations about nutrition are just compounding the problem according to the medical labs that have tested millions of people.

In effect, the prevailing “one-size-fits all” mentality about diet and supplements, the outdated “you are what you eat” fallacy, and the “if a little of one vitamin is good more is better” mega-dosing approach, has been proven by every scientific authority including the HANES government studies for actually **causing more diet-related disease** (including fatigue, fatness, sexual dysfunction, and premature aging) **than it prevents!** Therefore, prevailing scientific authority has withdrawn it’s support and the validation for the indiscriminate use of vitamin supplements and fad diets to promote wellness—unless tests, such as the HTMA, are used to uncover and control their effects scientifically.

Not surprisingly, \*“Human Labs” continue to reveal huge incidences of deficiencies and excesses as well as toxics found in nutritionally-tested Americans! This is why over **98% of all Americans(CS)**, when given any medical nutrition test such as the HTMA, **demonstrate multiple deficiencies, numerous nutrient excesses, dangerous levels of toxics (like Mercury or Aluminum), and cell regulator imbalances** such as endocrine/hormone dysfunction**,** **more so than any other population in the world**! Scientists are vehemently blaming our complete lack of applied-personally nutrition science (aka orthomolecular testing) on each individual as the primary reason this easily avoidable absurdity occurs! This “imbalance” phenomenon is further compounded by undesirable changes in our environment, our sedentary and stressful lifestyles, constant stress, and a food supply gone awry with nutrient dilutions and “additive-mania”. (\*By the way most of the same medical nutrition laboratories are in over 60 countries throughout the world testing and correcting imbalances found in millions of people while publishing/comparing research constantly).

Unfortunately, the medical community has decided **not** to present these the study of these nutrition tests in medical school inasmuch as the average physician-to-be is already overloaded with work learning about the **150 conventional lab tests**/diagnostic technologies required to become a doctor. Subsequently, using the scientific method to apply nutrition correctively/effectively is seriously lacking in standard medical practice. Those doctors who do want to become educated in OM **need another four years** for proper specialization. The amount of physicians actually willing to pursue this avenue according to the Senator Hatch -backed Cornell(**YPL**) report is less than 1/10 of 1%.According to Dr. James Braly MD(15) over 90% of the published research regarding the latest scientific findings. And as the Harvard Health Letter, Vol. 20, No.3, January 1995 postulates “…today’s physicians perform just 20-60% of the preventative health services recommended by expert groups.” By the way, this 20-60% is in regards to only conventional prevention, not even scratching the surface of OM-mediated prevention.

Therefore, OM specialization is mostly left to qualified “drugless physicians” including naturopaths, chiropractors, osteopaths, and homeopathic doctors with very few MDs who are even aware it exists, or care to participate.Those doctors who do want to become educated in OM **need another four years** in which to properly specialize. The amount of physicians actually willing to pursue this avenue according to the Sen. Hatch -backed Cornell (**YPL,12**) report is less than 1/10 of 1%.

In fact, there are over 16 scientific/medical/clinical journals on the OM subject headed by the “Journal of Orthomolecular Medicine” whose editor in chief – Dr....—Abram Hoffer M.D., Ph.D., is not only head of my advisory board—officially endorsing my company, the Personalized Nutrition Consultants ([www.realpnc](http://www.realpnc).com) but is also the leading “**Einstein”** of this scientific body, and quite in fact the famous (double) **Nobel Prize Double Laureate** who happens to be Dr. Linus Pauling’s mentor! Few conventional physicians, except specialists, have the time and interest to follow these journals and **do not** participate in this advanced scientific arena, leaving OM lab tests mostly to non M.D. clinicians. **In the OM scientific community, HTMA is a very necessary tool!**

# Now—Let’s talk Quack watch:

As you can see from the previous discussion, there is huge body of scientific and medical knowledge devoted to uncovering previously overlooked health-related “unknowns” so critical to wellness that OM is considered the “only” way out of the most serious, rapidly growing health dilemmas today. Corrective nutrients can now be applied to each and every one of us more practically, effectively, and more precisely than ever before! Through this prevention intervention, wecan eliminate errors of metabolic inefficiency by controlling the way that nutrients are put into the body, retained, measured, and reorganized for the best health and fitness levels genetically attainable. (OM tests even also can even include gene-testing).. It should now be evident that most physicians such as the previously mentioned Dr. Herbert Sever, M.D., and the author of the **Quack-Watch** web site, Dr. Stephen Foster, M.D., are **not** educated in this area of orthomolecular medicine. So, it is amazing that they can even**find fault with EVERY** **licensed health profession (even other M.D’s)** that utilize ANY—procedural alternative,complementary,holistic– health approach outside of “conventional” MD protocol (including HTMA, of course).

Hair analysis, an integral component of the entire 1,650 OM test battery which is completely beyond the “mere” 150 conventional medical tests taught in Medical school, can be used to help every one of us troubleshoot the deepest physiochemical problems **not targeted in standard medical tests** and then reliably correct them. Medical laboratories and their licensors, the **Health and Human Services Department of United States**, classify hair to be a reliable indicator of certain substances, most particularly, drug residues, and the nutritional/toxic mineral status of the body – end of story! Whosoever wants to disagree with a fully licensed and proven medical procedure brings into question their own credibility on the subject no matter what degree(s)/accolades they possess! (Of course with our freedom of speech initiatives, there are plenty of those seemingly qualified heretics who continuously confuse the public due to their own experiential shortcomings, agendas, biases).

In an effort to defraud laboratories, there are several heretics who have purposely tricked labs for monetary or political reasons by sending in falsified samples, or by utilizing **licensed labs in probationary status due to the questioning of their licenses**, or even targeting farm ,industrial and commercial labs which are not officially regulated as human medical reference labs in order to discredit this lab procedure. ———

This, in fact, is the case for certaintechniquestechniquestechniquesmonetary or political reasons by sending in falsified samples, or by utilizing **incompletely licensed** labs/lab procedureThe studies cited on the QW website are effectively **“old news”** and were further negated/updated by another (approx.) **25,000** or so other updated hair analysis studies worldwide since the 1980’s which go on to fully elaborate HTMA’s medical and wellness implications worldwide – all of which demonstrate undeniable the clinical value of hair analysis! Right out of the **Required Laboratory Text for Orthomolecular Speicialists (3)** in reference to the most lucid of all “HTMA bashing articles” as appearing in JAMA 20001(4) **, “…the conclusions of such reports should be evaluated in context of the approximately 3,000 reported studies of hair elemental analysis that have demonstrated it’s strong potential as a useful clinical tool.”**

Then there are the 10’s of millions of people who have benefited from this lab. procedure in the US and worldwide, and the **thousands of labs** who now employ it –(not just 18 like Foster says).

Furthermore there is **one more thing** that Foster forgot to tell us! A certain percentage (over 5% according to Dr. Boutros of BioTech Inc.) of conventional medical tests samples as processed are **completely inaccurate**. This is due to deceptive practices, human error, and technical or equipment calibration **errors** which are a constant cause for many **“repeat” lab tests** by doctors. These “acceptable” medical laboratory mistakes are a highly common phenomenon that nobody seems to criticize openly when it comes to conventional medical tests for fear of alarming patients and causes many people to be incorrectly diagnosed and wrongly advised medically. This is of growing concern of Insurance Companies who have to insure MD’s in the face of a rising epidemic of misdiagnoses amongst MD’s.

When a test sample is taken, oftentimes the inaccurate result found is called either a false positive or a false negative, or **quantity insufficient** (**QI or QNS**). Those of us whose physician asks us for another sample to double-check because the first sample was questionable are actually the lucky ones inasmuch as not all of these mistakes are caught!

# Who is the Quack and who REALLY needs to be watched?

If Dr. Foster was presenting fair and balanced HTMA arguments, he would mention medical lab inaccuracies as a backdrop to all laboratory tests including OM tests such as HTMA. But, based on the **limited knowledge** of the subject that **he exhibits** on the web site along with a tiny reference base, and trying to give him the benefit of any other doubt, I do believe that he’s totally ignorant of the advancements of OM and Bio-Medicine science!

thatIf **Dr. Foster’s** ignorance of OM specialties is due to the fact that he **has not performed** “due diligence” in his research on the topic! If he had done his homework, he would not have taken such a “cheap shot” at this medically established procedure.—On a more negative cant, I ask, “Is Dr. politically motivated and/or protective over those who that stand behind him will lose professional credibility or financial standing from having the REAL truths about HTMA dispersed amongst the masses? Does he and his cohorts (if any) really want to **inhibit the advancement** of Orthomolecular Medicine in people’s minds knowing full well that this final frontier of (bio)medicine is about to change the face of all medicine and pharmaceutical industries?

The nature of Dr. Foster’s comments throughout the website about **governmentally licensed professions** and proven health sciences are highly questionable and mostly unwarranted.

# Medical History Revealed – Origin of “Quack”

As a point of medical history, it is imperative to mention the actual legally tested origin of the word “Quack” in the official Superior/District Court case known as the “Wright Case” involved 4 defendants who brought suit against the AMA. **Judge Susan Getzandanner** was featured in an LA Times article (1984) called “Judge Says AMA Tried to Destroy Chiropractors”. She described the actual conspiracy by the AMA as a “systematic, long-term wrong-doing and the long term intent to destroy a licensed profession.” In this particular case, the chiropractic profession (the largest drugless healing profession in the world) was targeted although this was really only the tip of the iceberg in this startling conspiracy **against non-MD’s**.

Further investigation of this particular case and its related information reveals that during the 1960s there was an attempt by the organized medical profession to bring the Chiropractic and the Osteopathic professions under the wing of conventional medicine whereby the chiropractors **would give up their schools** to the ACME (American Council for Medical Education) which governs and sets the requirements for a medical doctorate in school curriculums.

Unfortunately the discussions disintegrated for the chiropractors simply because there was no guarantee given that **chiropractic/osteopathic techniques** would be a requirement within the medical curriculum as a **primary focus**. The osteopaths on the other hand, did accept these terms, which is why modern-day osteopaths are generally considered to be extremely poor spinal adjusters as compared to chiropractors. But again, unfortunately, this incident triggered a new attitude with in the governing bodies of conventional medicine and the pharmaceutical industry that “if they won’t join us – let’s **just get rid of them**.”

Just prior to these events, as James Harvey Young, Ph.D., noted on the QuackWatch website, in 1961 the AMA had hastily formed a “Committee on Quackery” whose mission became one to discredit all licensed or unlicensed health professions and all medically unconventional procedures (such as using nutrients in place of drugs) outside of the limited scope of conventional medical doctors. The **Wright Case** showed **chiropractics** as **one primary target** of many. According to the Wright Case, literally billions have been spent on campaigns to discredit chiropractors leading to the stereotypes that many medical doctors hold to this day. MD’s routinely stereotype chiropractors as being a lesser profession even though they are given the same standards of education and practice as MD’s and are therefore considered primary physicians by law.

Although the Chiropractors won this landmark lawsuit, by the written terms ,“supposedly” the illegal discrimination by this committee and the entirety of the medical profession was supposed to completely cease! In actuality, these same **discriminatory practices** continue to this day not only against chiropractors, but all those other numerous alternative professions and techniques (including HTMA, and nutrition-minded MD’s) and all nutrition at large. **Dr**. **Foster and Dr. Sever** are obviously part of this **conspiracy**!

The perpetuation of this discrimination by **seemingly credible** authorities continues to this day in many less “**AMA-obvious**,” sometimes very subtle formats such as “Quack watch” and others which attempt to confuse people about the validity of complementary and alternative medicine practices. It seems to me that the author is apparently attempting to disparage chiropractic, nutritional consultants and physician’s utilizing alternative and preventive medicine in their practice while each of these groups has contributed greatly to the health and welfare of a vast number of educated/enlightened individuals who seek them out (hopefully before but usually after) traditional/conventional medicine has failed them.

On an international note “The New Zealand Report” **a 4 million word government-sponsored research document** investigating the validity of Chiropractics, actually found it to be a far superior form of therapy than “conventional medicine’s” therapies for over 100 painful conditions, just as hair analysis is classified standard or elective medical procedure in over 68 countries (to date). This is again the **“tip of the iceberg”** when it comes to the overwhelming validation of all “alternative/complementary therapies” on the international (and national scale). Perhaps the **world is still flat** to some people despite all the scientific proof and governmental acceptance to the contrary, or perhaps the earth is better off being flat in people’s minds for the benefits to certain seemingly credible special interest groups who profit continuously from this misnomer.

My conclusion about Quack-Watch on a more facetious note is that perhaps **Dr**.— **Foster is the “Quack**” who needs to be watched and that the website’s existence provides inherent values to the public who needs a good comparative example of unbridled, un-evolved medical heresy. After all, what is being said on this site is what a politically motivated “modern day” quack would say in the spirit of the AMA’s original “Committee on Quackery” referenced in the “Wright” case and in defiance of scientific truths.

# Back to HTMA – An Even Closer Look

**Definitions**: The Quackwatch website defines Hair-Analysis as follows;

*“Hair analysis is a test in which a sample of a person’s hair—typically from the back of the neck—is sent to a laboratory for measurement of its mineral content. This discussion concerns multielemental hair analysis in which a single test is used to determine values for many minerals simultaneously. This type of analysis used by chiropractors, “nutrition consultants,” physicians who do chelation therapy, and other dubious practitioners who claim that hair analyses can help them diagnose a wide variety of diseases and can be used as the basis for prescribing supplements.”*

#### Analysis of Proponent Claims

Furthermore, “Proponents of hair analysis claim that it is useful for evaluating a person’s general state of nutrition and health and is valuable in detecting predisposition to disease. They also claim that hair analysis enables a doctor to determine if mineral deficiency, mineral imbalance or heavy metal pollutants in the body may be the cause of a patient’s symptoms. These claims are false.”(according to the website). (The Roman numerals I-IX indicate the appearance of rebuttals in the ensuing discussion).

Excerpted from the Quack-Watch website as downloaded, followed by a simple analysis of proponent claims from the web site page regarding hair analysis in order of appearance on the site as bullet-points :

* *“Although hair analysis has limited value as a screening device for heavy metal exposure, it is not reliable for evaluating the nutritional status of individuals. In 1974, the AMA Committee on Cutaneous Health and Cosmetics noted:* “*The state of health of the body may be entirely unrelated to the physical and chemical condition of the hair . . . Although severe deficiency states of an essential element are often associated with low concentrations of the element in hair, there are no data that indicate that low concentrations of an element signify low tissue levels nor that high concentrations reflect high tissue stores. Therefore . . . hair metal levels would rarely help a physician select effective treatment*.” *[1]*

**Response I:** --Keep in mind that the 1974 AMA committee on “Cutaneous Health and Cosmetics” was in existence before HTMA was officially sanctioned as a medical lab test for humans. Also, the AMA is not an educational institution or sanction, rather it’s a political union dedicated to the advancement and preservation of the medical profession, and only a minority of medical doctors do officially belong to the AMA.. Subsequently, **it cannot be trusted** **as a purely** **unbiased** authority. First, we would have to assume that this committee formed their opinion without having any data of it’s own, and I think it would also be safe to say that they did not look for any additional data. Second, I would assume from the title of this committee that they are composed of a group of dermatologists, and if so, again a group with virtually no knowledge of the utilization of HTMA. However, once again we do not argue with their rights to express their opinion. But, thisopinion has **no relevance** as this committee has **no power** to evaluate, suggest, control, or regulate any clinical test or clinical laboratory.

Futhermore, it is well accepted that blood tests in many cases don’t reflect the body’s state of health, and actually “can be entirely unrelated to the physical and chemical condition of the body. Even though severe deficiency states of an essential elements (and other nutrients) are often associated with low concentrations of the element in blood, it does not indicate that low concentrations of an element signify low tissue levels nor that high concentrations reflect high tissue stores. Therefore, by this committee’s own standard, blood testing would rarely help a physician select effective treatment.”(**4**)

* *Most commercial hair analysis laboratories have not validated their analytical techniques by checking them against standard reference materials. The techniques typically used to prepare samples for analysis can introduce errors for many of the elements being determined.* ***(II)***

**Response II:** This second statement is **completely untrue** inasmuch as this particular laboratory’s license in question was not as a full status \*commercial reference lab, which would have been the case if this infraction was anything other than what was tolerated by the licensing/sanctioning bodies of the government. In other words, this lab was purposely **not prosecuted** by the related government agencies because it did not violate CLIA (\*probationary status).

As a matter of fact, commercial HTMA laboratories and combination specimen (hair-blood-saliva-feces-urine etc.) testing labs, like their commercial blood lab counterparts are governmentally required to validate each and every test before releasing a single result to the physician. Every licensed and certified clinical laboratory in accordance with established guidelines as set forth by the accrediting and reviewing agencies—follow strict quality control and quality assurance protocols for all test methodology and procedures. Non-compliance with these requirements can result in loss of licensure as a clinical laboratory, whether the lab performs tests using hair, blood, urine, stool, breath, miscellaneous biopsy, or a combination of these.

* *Hair mineral content can be affected by exposure to various substances such as shampoos, bleaches and hair dyes. No analytic technique enables reliable determination of the source of specific levels of elements in hair as bodily or environmental.* ***(III)***

**Response III: Not true** inasmuch as analytical mass spectrometry combined with proper microwave digestion technology sorts these variables out precisely which is why labs were governmentally licensed to perform this analysis upon humans in the first place. **Plus**, I have first-hand experience working with Perkins-Elmer-(who perfected this and other lab technologies)- in the preparation of a multi-specimen lab project for our company-(PNC-www.realPNC.com)- to put into operation in the near future. (Actually the Perkins-Elmer Lab Techs. actually **laughed about Quack-Watch** as some kind of **strange joke** in our first meeting).

Additionally, the contribution of elements from the environment and certain hair preparations are already known. Lab precautions for obtaining a valid representative sample is well known in the literature and standard practice within the industry. This data has been routinely provided to clinicians from reputable laboratories for many years.

* *The level of certain minerals can be affected by the color, diameter and rate of growth of an* individual’s *hair, the season of the year, the geographic location, and the age and gender of the individual.* ***(IV)***

**Response IV**—**Already known about**, accounted for and taken into consideration by licensed labs according to Federal HHS/CLIA and state agency specifications. Accurate test results are resultant from several important factors, such as; “the clinician obtaining specimen from several different locations of the scalp, collecting the proper weight and length, and finally the chemists and technicians adhering to established and accepted laboratory methods and procedures. Adherence to these generally accepted guidelines for sampling will reduce any significant effect of color, diameter and rate of growth. In addition, seasons do not significantly affect mineral levels found in the hair except in cattle whose entire food supplies are changed seasonally. Geographic location can and will affect an individual’s or group’s nutritional mineral status. This is quite obvious as individuals living near polluted lakes, streams and factories can have elevations of specific toxic metals compared to groups and individuals not living near the pollutants. In fact, the very nature of local soils and water would naturally result in differing mineral patterns in the individual. This would therefore result in disease predisposition in geographic regions of a country, making HTMA very useful in evaluating communities as well as individuals.”(**4**)

* *Normal ranges of hair minerals have not been defined.* ***(V)***

**Response V: Not entirely false**, because at this moment no U.S. government agency has established an “official” standardized set of reference values for all of the elements available for testing. In the absence of HHS standardized reference values, “HTMA labs, like all other clinical laboratories testing blood, urine, etc., are directed by and held responsible by the agencies which inspect and license them to establish laboratory-specific reference ranges for each and every assay that is performed. This is accepted standard clinical laboratory procedure.”(4)

Interestingly, some labs have further defined certain **interventional ranges** within the acceptable ranges. (This special science is called Balascopy whose focus is to explain small deviations from the mean found in all testing for **enhancing therapeutic insights**). Other labs who perform standard lab tests vary their own reference ranges within certain normative ranges according to the scales they utilize. (This is something that Dr. Foster fails to mention purposely for confusion’s sake).

* *For most elements, no correlation has been established between hair level and other known indicators of nutrition status. It is possible for hair concentration of an element (zinc, for example) to be high even though deficiency exists in the body.* ***(VI)***

**Response VI**—This is a **true statement**, which has been clinically correlated to a very precise degree. A good example of this is in the case of an HTMA analysis for the mineral Calcium. Calcium may be **(4)** found in excess in a hair tissue sample while blood and urine levels are also high or low (either urine/blood finding applies), yet there is actually a deficiency present. How does that work? Simply, comparative testing for Calcium from cadaver resection/Xray/MRI/CT/blood-urine-stool-saliva/biopsy analysis demonstrated under these conditions that the Calcium deficiency showing in HTMA turns out to be found only in bone while there is a corresponding excess of Calcium found in soft or non-bone tissues as calcium deposits in joints, plaque in blood vessels/brain, gall stones, kidney stones to mention a few. In effect/ you have a nutrient excess in 1 tissue-(non-bone) with a deficiency in another (bone itself). If the minerals. Potassium and Phosphorous, are in deficiency status at the same time a high HTMA Calcium appears, this represents a very rapid loss of calcium from bone aka osteopenia/osteoporosis inasmuch as these 2 minerals stabilize soft tissues from Calcium penetration and stimulate the specific enzymes in osteoblasts which synthesize calcium-rich bone tissue. In fact, this scientific finding is the provocation for 2 pharmaceutical prescription drugs: Phos-a-Max for Osteoporosis and Calcium channel blockers for heart disease. PhosaMax is a drug form of Phosphorous given to push soft tissue calcium from soft tissue back to bone while stimulating Osteoblastic activity while calcium channel blockers prevent Calcium leakage into heart muscle causing cramps (aka heart attacks). The naturopathic course for this dilemma is to **nutritionally build up Phosphorous and Potassium in soft tissues** while reducing overall calcium intake. It works every time in approximately the same time period as the drugs but with no side effects. There are—only numerous health benefits and improvements. And as one-up on any drug—it fully addresses the root cause of the problem which the drugs only cover up.

In regards to **zinc specifically**, endless numbers of reports confirm HTMA to be useful in evaluating a person’s general nutritional status and health. Dr. A. Prasad, as example, is widely known for studying zinc deficiency in patients suffering from **dwarfism**. Dr. Prasad discovered very low zinc levels in hair for those affected. He found that supplementing with zinc effected increased production of growth hormones which directly contributed to notably increased growth and development in the affected group. Note that the hair zinc levels in those subjects were found to have increased as well. (AMA Arch. Intern. Med., 1963. J. Lab. Clin. Med., 1963.) Low hair zinc levels have also been found in children who have growing and health problems. Supplementation of zinc again resulted in increased growth rates, **elevated growth hormones**, and **increased hair zinc levels**. (Dev. Pharmacol. Thera., 1983). HTMA has also been documented as extremely useful in detecting nutritional disturbances in many other disease states. These include cystic fibrosis (Kopito, 1972), acrodermatitis enteropathica (Pfeiffer, 1975) , cirrhosis (Gupta, 1977), sickle cell disease (Olatunbosum, 1976), PKU (Lines, 1977), Kaschin-Beck and Keshan Disease (Hsu, 1980) cardiovascular disease (Basco, 1978, Klevay, 1975), diabetes (Bio. Trace Elem. Res. 62,1998) (Am.J.Clin.Nutr. 1989), emotional disturbances ( Nutr. and Behav. 1982. J. Learn. Dis., 1983.), and many more.

* *Hair grows slowly (1 cm/month), so even hair closest to the scalp is several weeks old and thus may not reflect current body conditions for purposes of health diagnosis.* ***(VII)***

**Response VII**—Hair analysis is **not a health or disease diagnostic modality**, rather it’s a nutritional analysis of the **body’s retention of minerals** and/or drugs.. The time that it takes hair to grow gives hair a more precise and longer “metabolic foot print” than urine or blood reveals by indicating **overall** levels of minerals. In the case of urine, those minerals measured reflect the ones being excreted (not metabolized aka used/absorbed as fuel)- from the body. Blood only yields information about mineral levels in it-(not necessarily the rest of the body) at the time of the test. Example-if you’ve just eaten a banana your blood test can indicate a **high potassium** level which will change dramatically and quickly as blood carries it around the body for deposition into other tissues subsequently lowering potassium levels .

Subsequently, this is exactly what makes HTMA such a valuable test for the clinician. Mineral concentrations of the hair represents **time-weighted exposure values** which makes it **much more useful** for epidemiological and nutritional studies. Blood serum or urine testing on the other hand gives an indication of the status of the body only at a specific time - the time the sample was obtained.

* *The use of a single multielemental hair analysis test as the sole means of diagnosis violates basic tenets of medical practice that laboratory findings should be considered together with the* patient’s *history and physical examination, and that the practitioner should keep in mind that laboratory errors occur.”* ***(VIII)***

**Response VIII**—HTMA is **not really concerned about a primary diagnosis of disease** but rather a biochemical footprint of metabolic activity in relation to body functions. It does yield preventive trouble-shooting insights to over 1400 diet-related/degenerative/chronic/environmental/genetic/epigenetic diseases which have been linked to specific patterns of nutrient disorders as appearing in the voluminous scientific literature and laboratory publications. **In other words**, thanks to an over **1800 item variable specimen comparative orthomolecular** (OM) test bed of vitamins/minerals/amino/acids/organic acids/fatty acids/hormones/allergies-(all 7 classes)/metabolic rate/digestive profiles/genetic polymorphisms – all compared to the entire test bed of 150 conventional lab tests and multiple diagnostic modalities (like x-rays, angiograms, scans, sonigrams etc.) **specific patterns of nutrient disturbances** will always appear before disease does or as a direct or indirect consequence of some diseases. Example: excess soft tissue calcium in the face of deficient potassium levels as determined by HTMA (and other comparative tests) is always found in subjects with a lot of calcium deposits on the inside of blood vessel walls called arteriosclerosis with no exceptions in studies**(4)**. The excess calcium in soft tissues accumulates over time in blood vessels leading to arteriosclerosis when left uncorrected with appropriate nutritional therapy. This is a prime example of a degenerative disease which is detectable in it’s earliest stages and reversible before a heart attack occurs using with HTMA insights.

As with any test, however, a purely medical diagnosis using one single laboratory test, whether hair, blood, urine, saliva, etc., is **not recommended** and this is stressed by all reputable laboratories and health care professionals. Pinpointing nutrient disturbances is, however another matter all together.

***(IX)****—“For these reasons, multi-elemental analysis of human hair is not a valid technique for identifying an individual’s current bodily excesses or deficiencies of essential or nonessential elements. Nor does it provide a valid basis for recommending vitamins, minerals, or other dietary supplements [2,3]”*

**Response IX**—This final comment is **absolutely not true** from any scientific standpoint unless you believe that these 2 faulty studies/conclusions (referred to) out of many thousands more with **contrary conclusions** are the only valid ones, and that numerous governments, Lab Manuals, medical labs and health authorities **were mysteriously incorrect** in their research efforts which have officially validated, accepted, and licensed this specific spectroscopic technology and it’s subsequent biomedical ramifications. Check my references listed below and get ready to **catch-up to reality**.

Apparently the author again has done little research on this subject and/or chooses to ignore the fact that HTMA is also used by researchers at universities and private institutions along with federal and state agencies such as the EPA, AEC, and USDA. **Many Doctors** of homeopathy, chiropractics, nutrition, medicine (allopathy) and other health care professionals do in fact use HTMA **routinely in clinical practice**, because they are interested in preventive medicine. Howeverthey also use other clinical tests in conjunction with the history of the patient when making a complete evaluation. It is common knowledge amongst reputable professional’s that HTMA should only be considered as a screening tool, just as blood and urine tests are considered **screening tools**. Remember clinical tests are merely tools for patient assessment patients used to help form a basis for diagnosis. The tests themselves are certainly not diagnostic.

Unfortunately, there are some companies, healthcare professionals and individual’s masquerading as health care professionals that **truly overstep boundaries** and make unsubstantiated claims. I do not believe (nor should anyone) that this occurrence negates the obvious benefits of this clinical test. HTMA by itself or in conjunction with other clinical data is a **very good nutritional screen!** It is far better to make dietary and nutritional recommendations based upon HTMA and other factors than merely guessing about what a person may or may not need for nutrition and health needs.

*In 1983 and 1984, I sent hair samples from two healthy teenagers to 13 of the commercial laboratories [4]. In 1985, I sent paired samples from one of the girls to five more labs. The reported levels of most minerals varied considerably between identical samples sent to the same laboratory, and from laboratory to laboratory. The laboratories also disagreed about what is “normal” or “usual” for many of the minerals, so that a given mineral value might be considered low by some laboratories, normal by others and high by others***.(X)**

**Response X**: These results would be expected in Dr. Foster’s above tiny study for several reasons;

1. The author used his daughter and a girlfriend to obtain a sufficient amount of sample in order to submit 26 specimens in all. He cut one extremely long set of strands from each girl, cut these into smaller segments, mixing the proximal hair (closest to the scalp) with the distal hair (furthest from scalp) and then dividing into the 26 samples. This first step by the author **violated a cardinal rule for obtaining a proper hair specimen**. Simply, the hair specimen should always be taken within the first inch and one-half closest to the scalp. The available scientific literature demonstrate that significant variations in test results of longer specimens will occur as even the author himself has acknowledged in the past. Subsequently, CLIA laboratories inform physicians about the proper technique to obtain a representative sample.
2. His procedure **actually assures** **that none of the hair samples will be representative** of recent hair growth! The “assumed” fact by Dr. Foster is that some of the test results between several laboratories did not agree is **of absolutely no surprise** since the samples could not have possibly been identical. Also important to note is that if a given hair sample was truly homogenous, a reputable researcher could distribute specimen to a number of laboratories with an expectation of obtaining similar results. This works for a standard blood lab or any other specialized clinical laboratory for any specimen. However, despite Dr. Foster’s seemingly apparent effort to obtain significant variations in the results, an actual statistical review of the author’s data **actually revealed a great number of similarities** that were (purposely?) neglected or overlooked by the author in his conclusion. The view that the **author was biased** and displayed many faults common to statistical conclusions is also supported in a critical review of the author’s study by Stephen J. Schoenthaler, Ph.D., in The International Journal of Biosocial Research (Volume 8(1): 84-92, 1986). In it Dr. Schoenthaler concludes the author’s , “... hair samples are: (1) unreliable; (2) fail to develop a test hypothesis; (3) do not offer a two-sided literature review; (4) create the possibility of receiving invalid interpretations from the lab by using a faulty cutting procedure; (5) state that he converted his ordinal level data back to raw interval level scores before calculating his test statistics; and, (6) considers only his own data when writing his conclusions.”

*In the mid-1980s, about 18 laboratories were doing commercial hair analysis in the United States. Today there are fewer. Some laboratories have belonged to the American Society of Elemental Testing Laboratories (ASETL). In 1982, ASETL began a program in which a well-known proficiency-testing service received and tabulated the data from analyses of identical hair samples sent to seven member laboratories. However, at the end of the year, the testing service refused to continue because the data were inconsistent and appeared to have no clinical significance.(XI)*

**Response XI**: This fragment of out-dated history was put in to the discussion in order to confuse the reader further. Please keep in mind that the Health and Human Services Department of the United States intervened to sort these discrepancies out to the point of validating licensure qualifications which is the primary reason why ASETL was disbanded. The number of laboratories doing HTMA analysis is far greater than this although there is a leading world lab that the others find it hard to compete with due to over 58 separately published studies that validated its procedures, interpretations, and suggested interventions.

*Most of the reports contained computerized interpretations that were voluminous and potentially frightening to patients. The nine labs that included supplement advice in their reports suggested them every time, but the types and amounts varied widely from report to report and from lab to lab. Many of the items recommended were bizarre mixtures of vitamins, minerals, nonessential food substances, enzymes, and extracts of animal organs. One report diagnosed 23 “possible or probable conditions,” including atherosclerosis and kidney failure, and recommended 56 supplement doses per day. Literature from most of the laboratories suggested that their reports were useful in managing a wide variety of diseases and supposed nutrient imbalances. I concluded that commercial use of hair analysis in this manner is unscientific, economically wasteful, and probably illegal, and that even if hair analysis were a valuable diagnostic tool, it is doubtful whether the laboratory reports themselves were reliable.(XII)*

**Response (XII)** --This is probably some of the most twisted information I’ve spotted on QW. The logarithmic expansion of HTMA to include millions of people now certainly hasn’t scared anybody away. Most of the rest of what is that would be something that one who truly doesn’t understand the workings of clinical nutrition would say. Cross comparative statistical sciences have demonstrated extremely accurate relationships between nutrient and toxic imbalances in developing diseases, and the specific vitamin/mineral algorithmic recipes given are considered the only controllable variables in a truly scientific study on the individual. Time – sensitive retests provide quantitative/qualitative accountability of progress and provide the insights with which to both interpret progress as compared to others on the program and to refine or just further nutritional recommendations and modifications. This is not unlike a medical doctor who will test a patient who then exhibits high cholesterol readings in the blood, and then prescribe a cholesterol-lowering drug with a follow-up retest to determined if the drug and/or the amount of the dosage of the drug is actually working or not, after which it will be changed if necessary. This process is also known as cause-and-effect medicine, or the “German Model of Medicine” which is the basis for applying science to the human body for health restoration purpose.

*In 1985, the public affairs committee of the American Institute of Nutrition/American Society for Clinical Nutrition issued a position paper on hair analysis. The paper concluded that although hair analysis may have some value for comparing population groups as to status of various minerals or assessing exposure to heavy metals, assessment of individual subjects appears to have “almost insurmountable difficulties.” For this reason, said the paper, hair analysis might best be reserved for experimental studies designed to evaluate its potential as an indicator of nutrition status and perhaps for some public health surveys. Noting that about 100 articles a year were published on hair analysis, one nutritionist who reviewed the position paper suggested that the test’s inherent limitations made much of the research useless [5].(XIII)*

**Response XIII**: What might have appeared to this group as insurmountable difficulties in 1985 have been completely overcome thanks to laboratories technological advancements in high resolution, the huge upsurge of correlational studies amongst health authorities and interlaboratory test comparisons to out the world, governmentally mandated maximization of in-house QA/QC-(quality assurance/quality-control) sensitivity/reference standards, and huge computer refinements which deliver digital pushbutton efficiency today—all not possible in 1985.By the way, a hundred articles per year is now about 6500 to 7000 articles/research documents per year.

*The AMA’s current policy on hair analysis—adopted in 1984 and reaffirmed in 1994, is:*

*The AMA opposes chemical analysis of the hair as a determinant of the need for medical therapy and supports informing the American public and appropriate governmental agencies of this unproven practice and its potential for health care fraud [6].(XIV)*

**Response XIV:** This is a trick statement in as much as the analysis of hair was never meant to be considered day “medical therapy” because it was never meant to be used as a diagnosis for disease. Quite to the contrary it is a nutritional screening tool designed to pinpoint naturopathic biomarkers of disease and correct them by modifying nutritional inputs and analyzing the outcomes using further refinements until a reasonable metabolic balance can be achieved. It’s only potential for health fraud is in attempting to diagnose an active disease from it and from it alone without comparative testing and diagnostic modalities. This is exactly why it is so commonly found throughout this country and the world and is substantiated as completely legal by governmental authority.

*Some hair analysis proponents claim that hair analysis can detect allergies. The claim is completely senseless. In 1987, the* Lancet *published a study in which the ability to diagnose allergic disease was studied in 9 fish-allergic and 9 control subjects, who provided specimens of blood and hair for testing. All fish-allergic subjects had previously been shown at Guy’s Hospital to have a positive skin prick test to fish. The specimens were submitted as coded, duplicate samples to five commercial laboratories that offered to test for allergy. All five laboratories were not only unable to diagnose fish allergy but also reported many allergies in apparently non-allergic subjects and provided inconsistent results on duplicate samples from the same subject [7].(XV)*

**Response (XV):** by lining up different laboratory test side by side, such as for minerals, vitamins, amino acids, fatty acids, organic acids, and high/low grade histamine related allergies, hidden allergies such as IgA’s, delayed onset allergies such asIgG’s, certain relationships have been found between the nutrients and allergies and publish to such in OM journals the correlations have been found to be very high to date compared with what was known in 1987.

*A subsequent 2-year study of students exposed to fumes from metal welding found that hair analysis did not consistently reflect blood levels of 11 heavy metals [8].(XVI)*

**ResponseXVI:** if the author had any idea of the relationships between the hair, blood, urine, saliva, and stool in relation to any nutrient retention or functionalization within the body, he would never have made this statement. It has got to be the most embarrassing statement he makes yet demonstrating that he is completely ignorant of Molecular Medicine’s scientific body of knowledge.

*In 1999, researchers from the California Department of Health located nine laboratories and sent identical samples to six of them. The reported mineral levels, the alleged significance of the findings, and the recommendations made in the reports differed widely from one to another. The researchers concluded that the procedure is still unreliable and recommended that government agencies act vigorously to protect consumers [9](XVII).*

**Response XVII:** Mercury and other mineral reproducibility was 6.3% or less in variance as tested by different labs which is so close to the usual and customary 5% for any laboratory. That’s why no government action was taken as a result of this when the other agencies reviewed it

------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

CDC – detecting and eliminating mercury is a health objective

FDA – same as above

These are committees that are ineffective, it’s all in the specificity of sampling & technological advances, blood assays, opinions without data

## ASETL was defunct in the 1980s.

* vitamins are applied only after results
* there are no disease correlation is being made
* is a reliable diagnostic tool in the overall clinical picture of anybody
* 1984 HTMA report
* can predict allergies as compared to pin prick tests
* who cares about blood levels?
* 1999, CDC of health

## Government actions:

* no actions taken against licensed Labs
* Fuhrman, Arthur, Ethel lab was not legal
* 96 ARL – New York is the last state to hold out against OM lab technology in the world by taxing it unfairly.
* 1986 Doctor’s data – New York permit problems – unreasonable
* We have certain favorite labs all of which utilize Perkin-Elmer equipment.

**Government Actions**

Hair analysis was involved in a case prosecuted in 1980 by the Los Angeles City Attorney’s Office. According to the official press release, Benjamin Colimore and his wife, Sarah, owners of a health-food store, would take hair samples from customers in order to diagnose and treat various conditions. Prosecution was initiated after a customer complained that the Colimores had said she had a bad heart valve and was suffering from abscesses of the pancreas, arsenic in her system, and benign growths of the liver, intestine, and stomach-all based on analysis of her hair. Two substances were prescribed, an “herbal tea” which turned out to be only milk sugar, and “Arsenicum,” another milk-sugar product that contained traces of arsenic. Another sample of hair was taken when the customer returned to the store five weeks later. She was told that the earlier conditions were gone, but that she now had lead in her stomach. A government investigator received similar diagnosis and treatment. After pleading “no contest” to one count of practicing medicine without a license, the Colimores were fined $2,000, given a sixty-day suspended jail sentence, and placed on probation for two years.

In 1985, in response to a petition by the Federal Trade Commission (FTC), a federal judge issued a permanent injunction against Arthur, Ethel and Alan Furman and any business through which they might act. The order forbids “holding themselves out . . . to persons other than health professionals, as being able, on the basis of hair analysis, to measure accurately the elemental content of a person’s body or to recommend vitamin, mineral or other dietary supplements which can correct chemical excesses and deficiencies in a person’s body.” [10] As a result of the FTC action, the Furmans’ laboratory closed and, until the Internet became popular, direct advertising to the public was rare. However, the FTC has ignored the laboratories that serve practitioners because it feels that practitioner misconduct should be regulated by state agencies.

In 1986, Analytical Research Laboratories (ARL) of Phoenix, Arizona signed a consent agreement with the New York State Attorney General to stop “soliciting and accepting hair specimens for laboratory examination where the purpose is to determine possible excesses of deficiencies in nutrient mineral levels or toxic metal levels in the body.” The Attorney General acted because a health food store proprietor had been using hair analysis as the basis for recommending vitamin and mineral supplements. ARL had not been licensed to operate within New York State, and hair analysis for the purpose of determining nutrient levels is not legal there.

In 1986, [Doctor’s Data](http://www.doctorsdata.com/), a Chicago-based laboratory agreed to stop accepting human hair specimens from New York State unless it can obtain a permit from the New York State Department of Health. The company also agreed to pay $25,000 in costs and penalties. Action was taken because a bogus “nutrition consultant” had been using the test as a basis for prescribing vitamins, minerals, and other supplements.

*In the mid-1980s, about 18 laboratories were doing commercial hair analysis in the United States. Today there are fewer. Some laboratories have belonged to the American Society of Elemental Testing Laboratories (ASETL). In 1982, ASETL began a program in which a well-known proficiency-testing service received and tabulated the data from analyses of identical hair samples sent to seven member laboratories. However, at the end of the year, the testing service refused to continue because the data were inconsistent and appeared to have no clinical significance.*

---------------------------------------------------------------------------------------**Response**: This fragment of out-dated history was put in to the discussion in order to confuse the reader further. Please keep in mind that the Health and Human Services Department of the United States intervened to sort these discrepancies out to the point of validating licensure qualifications which is the primary reason why ASETL was disbanded. The number of laboratories doing HTMA analysis is far greater than this although there is a leading world lab that the others find it hard to compete with due to over 58 separately published studies that validated its procedures, interpretations, and suggested interventions.

*Most of the reports contained computerized interpretations that were voluminous and potentially frightening to patients. The nine labs that included supplement advice in their reports suggested them every time, but the types and amounts varied widely from report to report and from lab to lab. Many of the items recommended were bizarre mixtures of vitamins, minerals, nonessential food substances, enzymes, and extracts of animal organs. One report diagnosed 23 “possible or probable conditions,” including atherosclerosis and kidney failure, and recommended 56 supplement doses per day. Literature from most of the laboratories suggested that their reports were useful in managing a wide variety of diseases and supposed nutrient imbalances. I concluded that commercial use of hair analysis in this manner is unscientific, economically wasteful, and probably illegal, and that even if hair analysis were a valuable diagnostic tool, it is doubtful whether the laboratory reports themselves were reliable.*

This is probably some of the most twisted information I’ve spotted on QW. The logarithmic expansion of HTMA to include millions of people now certainly hasn’t scared anybody away. Most of the rest of what is that would be something that one who truly doesn’t understand the workings of clinical nutrition would say. Cross comparative statistical sciences have demonstrated extremely accurate relationships between nutrient and toxic imbalances in developing diseases, and the specific vitamin/mineral algorithmic recipes given are considered the only controllable variables in a truly scientific study on the individual. Time – sensitive retests provide quantitative/qualitative accountability of progress and provide the insights with which to both interpret progress as compared to others on the program and to refine or just further nutritional recommendations and modifications. This is not unlike a medical doctor who will test a patient who then exhibits high cholesterol readings in the blood, and then prescribe a cholesterol-lowering drug with a follow-up retest to determined if the drug and/or the amount of the dosage of the drug is actually working or not, after which it will be changed if necessary. This process is also known as cause-and-effect medicine, or the “German Model of Medicine” which is the basis for applying science to the human body for health restoration purpose.

*In 1985, the public affairs committee of the American Institute of Nutrition/American Society for Clinical Nutrition issued a position paper on hair analysis. The paper concluded that although hair analysis may have some value for comparing population groups as to status of various minerals or assessing exposure to heavy metals, assessment of individual subjects appears to have “almost insurmountable difficulties.” For this reason, said the paper, hair analysis might best be reserved for experimental studies designed to evaluate its potential as an indicator of nutrition status and perhaps for some public health surveys. Noting that about 100 articles a year were published on hair analysis, one nutritionist who reviewed the position paper suggested that the test’s inherent limitations made much of the research useless [5].*

Response: What might have appeared to this group as insurmountable difficulties in 1985 have been completely overcome thanks to laboratories technological advancements in high resolution, the huge upsurge of correlational studies amongst health authorities and interlaboratory test comparisons to out the world, governmentally mandated maximization of in-house QA/QC-(quality assurance/quality-control) sensitivity/reference standards, and huge computer refinements which deliver digital pushbutton efficiency today—all not possible in 1985.By the way, a hundred articles per year is now about 6500 to 7000 articles/research documents per year.

*The AMA’s current policy on hair analysis—adopted in 1984 and reaffirmed in 1994, is:*

*The AMA opposes chemical analysis of the hair as a determinant of the need for medical therapy and supports informing the American public and appropriate governmental agencies of this unproven practice and its potential for health care fraud [6].*

**Response:** This is a trick statement in as much as the analysis of hair was never meant to be considered day “medical therapy” because it was never meant to be used as a diagnosis for disease. Quite to the contrary it is a nutritional screening tool designed to pinpoint naturopathic biomarkers of disease and correct them by modifying nutritional inputs and analyzing the outcomes using further refinements until a reasonable metabolic balance can be achieved. It’s only potential for health fraud is in attempting to diagnose an active disease from it and from it alone without comparative testing and diagnostic modalities. This is exactly why it is so commonly found throughout this country and the world and is substantiated as completely legal by governmental authority.

*Some hair analysis proponents claim that hair analysis can detect allergies. The claim is completely senseless. In 1987, the* Lancet *published a study in which the ability to diagnose allergic disease was studied in 9 fish-allergic and 9 control subjects, who provided specimens of blood and hair for testing. All fish-allergic subjects had previously been shown at Guy’s Hospital to have a positive skin prick test to fish. The specimens were submitted as coded, duplicate samples to five commercial laboratories that offered to test for allergy. All five laboratories were not only unable to diagnose fish allergy but also reported many allergies in apparently non-allergic subjects and provided inconsistent results on duplicate samples from the same subject [7].*

Response: by lining up different laboratory test side by side, such as for minerals, vitamins, amino acids, fatty acids, organic acids, and high/low grade histamine related allergies, hidden allergies such as IgA’s, delayed onset allergies such asIgG’s, certain relationships have been found between the nutrients and allergies and publish to such in OM journals the correlations have been found to be very high to date compared with what was known in 1987.

*A subsequent 2-year study of students exposed to fumes from metal welding found that hair analysis did not consistently reflect blood levels of 11 heavy metals [8].*

**Response:** if the author had any idea of the relationships between the hair, blood, urine, saliva, and stool in relation to any nutrient retention or functionalization within the body, he would never have made this statement. It has got to be the most embarrassing statement he makes yet demonstrating that he is completely ignorant of Molecular Medicine’s scientific body of knowledge.

*In 1999, researchers from the California Department of Health located nine laboratories and sent identical samples to six of them. The reported mineral levels, the alleged significance of the findings, and the recommendations made in the reports differed widely from one to another. The researchers concluded that the procedure is still unreliable and recommended that government agencies act vigorously to protect consumers [9].*

**Response:** Mercury and other mineral reproducibility was 6.3% or less in variance as tested by different labs which is so close to the usual and customary 5% for any laboratory. That’s why no government action was taken as a result of this when the other agencies reviewed it

CDC – detecting and eliminating mercury is a health objective

FDA – same as above

These are committees that are ineffective, it’s all in the specificity of sampling & technological advances, blood assays, opinions without data

## ASETL was defunct in the 1980s.

* vitamins are applied only after results
* there are no disease correlation is being made
* is a reliable diagnostic tool in the overall clinical picture of anybody
* 1984 HTMA report
* can predict allergies as compared to pin prick tests
* who cares about blood levels?
* 1999, CDC of health

## Government actions:

* no actions taken against licensed Labs
* Fuhrman, Arthur, Ethel lab was not legal
* 96 ARL – New York is the last state to hold out against OM lab technology in the world by taxing it unfairly.
* 1986 Doctor’s data – New York permit problems – unreasonable
* We have certain favorite labs all of which utilize Perkin-Elmer equipment.

**Government Actions**

Hair analysis was involved in a case prosecuted in 1980 by the Los Angeles City Attorney’s Office. According to the official press release, Benjamin Colimore and his wife, Sarah, owners of a health-food store, would take hair samples from customers in order to diagnose and treat various conditions. Prosecution was initiated after a customer complained that the Colimores had said she had a bad heart valve and was suffering from abscesses of the pancreas, arsenic in her system, and benign growths of the liver, intestine, and stomach-all based on analysis of her hair. Two substances were prescribed, an “herbal tea” which turned out to be only milk sugar, and “Arsenicum,” another milk-sugar product that contained traces of arsenic. Another sample of hair was taken when the customer returned to the store five weeks later. She was told that the earlier conditions were gone, but that she now had lead in her stomach. A government investigator received similar diagnosis and treatment. After pleading “no contest” to one count of practicing medicine without a license, the Colimores were fined $2,000, given a sixty-day suspended jail sentence, and placed on probation for two years.

In 1985, in response to a petition by the Federal Trade Commission (FTC), a federal judge issued a permanent injunction against Arthur, Ethel and Alan Furman and any business through which they might act. The order forbids “holding themselves out . . . to persons other than health professionals, as being able, on the basis of hair analysis, to measure accurately the elemental content of a person’s body or to recommend vitamin, mineral or other dietary supplements which can correct chemical excesses and deficiencies in a person’s body.” [10] As a result of the FTC action, the Furmans’ laboratory closed and, until the Internet became popular, direct advertising to the public was rare. However, the FTC has ignored the laboratories that serve practitioners because it feels that practitioner misconduct should be regulated by state agencies.

In 1986, Analytical Research Laboratories (ARL) of Phoenix, Arizona signed a consent agreement with the New York State Attorney General to stop “soliciting and accepting hair specimens for laboratory examination where the purpose is to determine possible excesses of deficiencies in nutrient mineral levels or toxic metal levels in the body.” The Attorney General acted because a health food store proprietor had been using hair analysis as the basis for recommending vitamin and mineral supplements. ARL had not been licensed to operate within New York State, and hair analysis for the purpose of determining nutrient levels is not legal there.

In 1986, [Doctor’s Data](http://www.doctorsdata.com/), a Chicago-based laboratory agreed to stop accepting human hair specimens from New York State unless it can obtain a permit from the New York State Department of Health. The company also agreed to pay $25,000 in costs and penalties. Action was taken because a bogus “nutrition consultant” had been using the test as a basis for prescribing vitamins, minerals, and other supplements.

#### A Sampling of Internet Claims

Biochemical Laboratories, of Edgewood, New Mexico, claimed that abdominal pain, hypertension, anemia, hypoglycemia, anxiety, impotence, depression, infertility, diarrhea, joint pain, learning, disorders, fatigue, headache, and premenstrual syndrome all result from “chronic metal imbalances,” which, presumably, can be diagnosed with hair analysis and treated with dietary supplements.

[Trace Elements, Inc](http://www.traceelements.com/)., of Dallas, Texas, has promoted “balancing body chemistry through hair tissue mineral analysis.” The company claims to have developed “a precise nutritional therapeutic approach based on the recognition of eight individual biochemical types using elemental analysis of hair.” It has also sold “metabolic supplements synergistically formulated” for each of these types. It markets primarily through chiropractors.

Trace Mineral Systems, of Alexandria, Virginia, touted its hair analysis as “the test that helps body chemistry” and markets it directly to the public. A recent magazine ad claimed that its test reports would show “the body’s excesses, deficiencies & toxicities and the diseases associated with them.” [11]

Doctor’s Data reports the level of a “toxic mineral” as high when the amount is near the top of its “reference range.” This merely means that the specimen contained more than most other specimens handled by the lab. It does not mean that the level is abnormal or that the level within the patient’s body is dangerous. In a recent paper, the company acknowledged that “compared to interpretation of commonly measured analyses in blood or serum, interpretation of elemental analyses from hair seems primitive.” Despite, this, the authors claimed that it would be prudent to “adopt a reference range consistent with what is observed in 95% of a healthy population.” [12]

#### The Bottom Line

*Hair analysis is worthless for assessing the body’s nutritional status or serving as a basis for dietary or supplement recommendations. Should you encounter a practitioner who claims otherwise, run for the nearest exit!*

This conclusion is an example of outright professional idiocy in the face of overwhelming scientific information to the contrary of statements within QW! It is an overtly unacceptable attempt by a politically corrupted and/or completely ignorant individual(s) to discourage readers from what is described in OM as the “final frontier of wellness”, which is progressively filling in the gaps between modern medicine’s shortcomings and failures. The worst insult to any doctor of any kind is that the honorable title of MD is being misused as a false authority –“physician do ye no harm” – I do not think so!

My advice to the reader – do not be fooled by this contemptible ruse!

Is used proof very profusely in epidemiological, archaeological, forensic, biochemical, nutritional fields. Still many people with credibility, who are biased from a lack of specific knowledge

**Best Website Learning Resource:** [**www.pncscience.com:**](http://www.pncscience.com:) **History of Natural Medicine, Medical Advisory Board, KPNC, Say Know To Prescription Drugs**

**1-*Your Personal Life-* Measuring What Your Specific Body Needs to Live, Lean, Long, Strong and Better,**

**2-*For Your Body Only***

**3-*Laboratory Evaluations in Molecular Medicine, Laboratory Evaluations For Integrative and Functional Medicine***

**4-*Trace Elements and Other Essential Nutrients***

**5-Commonly Asked Questions about Hair Mineral Analysis**

### References:

Beach, Rex. “Modern Miracle Men,” United States Government Printing Office Washington, 264 (1936)

Beasley, J.D., M.D. and Swift, Jerry, M.A. The Kellogg Report: The Impact of Nutrition & Lifestyle on the Health of Americans. New York: Annandale-On-Hudson, 1989

Bland, Jeffrey, Ph.D*. Trace Elements in Human Health and Disease*. Bellvue: Washington: Northwest Diagnostic Services, 1979

Bralley, J. Alexander, PhD., C.C.N., and Lord, Richard S., Ph.D., *Laboratory Evaluations In Molecular Medicine,* Norcorss, Georgia: The Institute For Advances In Molecular Medicine, 2001

Braly, James, M.D.  *Dr. Braly’s Food Allergy & Nutrition Revolution.* New Canaan, Connecticut: Keats Pubishing, 1992

Bucci, Luke R., Ph.D., C.C.N., C(ASCP). “Role of Individualized Convenient Assessment,” *CCA Journal*, 19:3 (March, 1994)

DeRoeck, Richard E., D.C.  *The Confusion About Chiropractors*. Danbury, Connecticut: Impulse Publishing, 1989

Feuer, Elaine.  *Innocent Casualties: The FDA’s War Against Humanity.* Pittsburgh: Dorrance Publishing Co., 1996

Guyton, Arthur C., M..D*. Textbook of Medical Physiology*. Phildelphia: W. B. Saunders Company, 1981

Herbert, Victor, M.D. “What You Should Know About Vitamins - The Case Against Supplements,” Bottom Line, 15:23 (December, 1994)

## Klafs, Carl E., Ph.D., F.A.C.S.M. and Arnheim, Daniel D., D.P.E., F.A.C.S.M.,

Liebman, Bonnie, M.S. “Non-Trivial Pursuits: Playing The Research Game,” *Nutrition* *Action Health Letter*, 21:8 (October, 1994)

Liebman, Bonnie, M.S. “M.D. = Mediocre Diet?” *Nutrition Action Health Letter*, 21:3 (April, 1993)

Malter, Rick, Ph.D. “Trace Mineral Analysis and Psychoneuroimmunology,” *Journal of* *Orthomolecular Medicine*, 9:2 (1994)

Mendelsohn, Robert, M.D.  *Confessions of a Medical Heretic*. New York: Warner Books, 1979

## Metropolitan Life Insurance Company Statistical Bulletin, July - September 1992

Napier, Christine, K. “What Is A Good Checkup?” *Harvard Health Letter*, 20:3 (January, 1995)

National Center for Health Statistics, First Health & Nutrition Examination Survey, DHEW Pub No. (PHS) , U.S. Public Health Services, 1984

National Center for Health Statistics, Data from the National Health Survey, Series II, No. 231, Department of Health & Human Services, 1984

National Academy of Sciences Recommended Dietary Allowances, 9th Edition, National Academy of Press, Washington, D.C., 1980

## Nussbaum, Bruce. Good Intentions. New York: Penguin Books, 1990

Pauling, Linus, Ph.D. *How To Live Longer and Feel Better.* New York: Harper Collins, 1986

Pennington, J.A. and Young, B.E. “Nutritonal Elements in U.S. Diets: Results From The Total Diet Study, 1982 - 1986,” *Journal of the American Dietary Association,* 89:659 (1989)

Personal Health Response, “*The Metabolic Health Map - Professional’s Guide”.* San Francisco, California, The Human Technologies Group, Inc. and Personal, 1996

Robbins, Stanley, M.D*.* and Cotran, Ramzi S., *M.D. Pathologic Basis of Disease.* Philadelphia: W.B. Saunders, 1979

## Schwartz, Bob, Ph.D. Diets Don’t Work. Houston, Texas, 1996

VINIS: Vitamin Nutrition Information Service (2:2). New Jersey: Hoffman-LaRoche, Inc., 1981

Wallach, Joel D., B.S., D.V.M., N.D. “Exercise: Without Supplementation is Suicide,” *Health Consciousness*, 15:3 (February, 1995)

## Watts, David, D.C. Ph.D., CCN Trace Elements and other Essential Nutrients, Texas: Watts, 1995

Weir, Edith C., Ph.D., et al. An Evaluation of Research in the United States on Human Nutriton: Report No. 2: Benefits from Nutrition Research. Washington D.C.: U.S. Department of Agriculture, 1971

Williams, Roger, Ph.D. A Physician’s Handbook on Orthomolecular Medicine. Keats, 1979

## Williams, Roger J., Ph.D. Nutrition Against Disease. New York: Bantam Books, 1971

## Williams, Roger J., Ph.D. Biochemical Individuality. New York: Wiley & Sons, 1956

Williams, Roger J., Ph.D. The Wonderful World Within You: Your Inner Nutritional Environment. Bio-Comm. Press, 1987

Williams, Roger John, Ph.D. and Lansford, Edwin M. *The Encyclopedia of Biochemistry.* New York: Reinhold, 1967