

WHAT IS A HAIR TISSUE MINERAL ANALYSIS?

Hair tissue mineral analysis has been used throughout the world as a very sensitive measure of the body's long term metabolic and nutritional status and balance. It studies the effects of diet and stress on the body. It also maps and measures heavy metal toxicity in the body.

Minerals are very important to the body and to life itself! They are involved in almost all enzyme reactions in the body. Many imbalances in the body can result from altered relationships of minerals within the body. If your pet has enough imbalances form in the body then a state of stress develops and eventually symptoms of dysfunction and *dis-ease* occurs. Hair analysis not only studies both *dis-ease* AND stress in the body but also serves as a blueprint of all resultant physiologic and metabolic changes in the body.

Hair (fur) analysis provides information about the mineral deposition in the cells over a 3 month period of time. It is non invasive. A small clean sample of fur is combed or shaved from your pet, that is it. It is a useful screening tool to understand why your pet is sick. **** It is an exceptional screening tool to prevent the future formation of health problems.** When performed and interpreted properly, a hair analysis can be useful in all wellness programs. For pets with health issues, monitoring mineral balance and ratios between minerals is a key tool for making well planned nutritional supplementation programs. For example, did you know that in recent published studies, it had been shown that 94% of dogs were found to have chronic inflammation in the body reflected by high sodium to potassium levels with low calcium and magnesium levels? Did you know that these specific mineral imbalances have been shown to contribute to the poor health of a dog's ligaments and is in part responsible for the astronomically high rate of cruciate ligament tears in dogs? Imagine if you had a way to identify these imbalances and correct them before a cruciate ligament was torn?

WHY USE HAIR MINERAL TESTING?

In your pet's body, there are thousands of biochemical processes that control everything the body does. These processes control metabolism, digestion, regeneration of body tissues, determine the health of all body systems and also determine the emotional balance of the mind. The vast majority of these processes depend on not only the presence and bioavailability of trace minerals in the body but also greatly depend on the balance between these trace minerals as a whole. If these trace minerals are not present to fuel these processes, then the body cannot function properly and imbalances WILL result in time.

Blood tests are important, don't get me wrong. Blood tests are helpful in acute health situations when your pet is sick. And because animals cannot speak, blood tests also help to give a representation of your pet's health at the time the blood sample was taken. They are however incapable of providing the valuable and more sensitive information that hair mineral analysis reveals. **Did you know that mineral levels in the blood on average are ten times LESS than they are in the hair?**

Hair analysis is a more accurate indicator of the overall metabolic trends in the body. A single blood sample reflects the mineral status in the blood ONLY, not the whole body, and for a single moment in time ONLY. Mineral levels fluctuate daily due to several factors such as what food is eaten, how well one's immune functions, what vaccines have been given and when, and what the emotional and physical stress on the body is.

Minerals in the fur or hair will not vary from day to day. Hair analysis provides a long term picture of metabolic status and nutritional status that far supercedes what is found in a blood test. While a blood test may reflect the metabolic status of a single day, hair analysis will reflect on average what has been happening in the body for the past three months. Importantly, all animals are stressed by the mere act of walking in to a veterinary hospital, wagging tails or not. Add in the restraint necessary for your pet to be examined and for a blood sample to be taken and it is easy to understand how acute changes in the blood can occur due to stress and how that would not be the most accurate reflection of your pet's overall health.

It is important to understand that a body wants to maintain levels of minerals and metabolic factors as constant state as possible in the blood, keeping them within very narrow limits by the body. Components of the blood must remain fairly stable at all times or quite frankly death can ensue. Take calcium for example. The body will rob calcium from bones and teeth to support a major organ and keep blood levels up. So overall mineral levels may be abnormally low in the body as a whole but in the blood may very well measure within the "normal" reference range until extreme end point derrangements have occurred. For obvious reasons this is not the ideal time to diagnose a problem! Because of this, blood samples are not the most accurate assessment of the true overall mineral and metabolic balance in the body.

Levels and ratios of tissue minerals relate to the activity and balance of specific organs and glands in the body. By calculating mineral ratios through hair analysis, the function of major glands and organs can be assessed, often long before abnormalities appear on blood tests and radiographs.

WHY USE HAIR MINERAL TESTING TO DESIGN NUTRITIONAL PROGRAMS?

Yes, What your pet eats is important for optimal health. What is more important however is what nutrition is reaching the cells and even more important HOW WELL nutrition can reach the cells. Nutritional physiology takes place at the cellular level, not inside the blood or anywhere else and a large percentage of cellular health depends on vital mineral balance within the body.

Some animals burn food at a more rapid rate than normal and some at a slower rate. This is called the oxidation rate. Knowing a pet's oxidation rate can help decide which type of food is best suited for your pet (raw, gently cooked or kibble), which foods are most needed and which nutrients would be most helpful to restore balance to the body. *Giving the wrong nutrients can make your pet's health issues worse.* Hair analysis can be utilized to determine your pet's individual oxidation rate.

HOW HAIR ANALYSIS CAN HELP WITH BEHAVIORAL ISSUES

Biochemical and mineral imbalances can be the root cause of some common behavioral problems seen in animals. Hair analysis is an excellent tool to predict, explain and suggest nutritional solutions for common behavior issues such as anxiety, aggression, depression, hyperactivity, fears and phobias. Treating emotional stress with specific minerals can not only improve behavior but can improve the overall health of your pet.

HAIR MINERAL ANALYSIS TO DIAGNOSE HEAVY METAL TOXICITY

Hair analysis can measure the level of heavy metals in the body and diagnose toxicity. Mineral therapy can help remove toxic metals from the body. Toxic metals are a serious problem and contribute to many metabolic disorders. Most resulting symptoms of heavy metal toxicity are wrongly diagnosed as their own disease phenomena such as infections, high blood pressure, heart disease, diabetes and cancer to name a few.

Routine blood tests cannot detect chronic heavy metal poisoning in the body because once exposure has occurred the blood will remove toxins and deposit them into different storage areas in the body so they will not always be seen in a blood test. Hair analysis is a more accurate reflection of heavy metals in the body because hair is a storage area for heavy metals.

Any pet that has been vaccinated, any pet that comes from generations of ancestors having been vaccinated, has heavy metal toxicity in their body (and likely suffers from vaccinosis but that is another discussion). If your pet eats kibble or drinks tap water, there is a good chance that your pet is ingesting heavy metal toxins on a daily basis. In all my years of veterinary school, internship and general practice, I don't recall a single mention amongst peers of the dangerous effects heavy metal exposure has on a body.

HOW TO COLLECT HAIR SAMPLES FOR HAIR ANALYSIS

Clean, dry hair is necessary for hair analysis so bathing your pet is necessary. Hair that has not been washed is more prone to environmental contamination. Therefore, a bath given within 2 days is ideal before sampling. If hair samples are taken the same day as a bath they should not be taken within 6-8 hours of the bath. Pets that swim in the ocean will need to be kept from swimming for at least 4 days before testing and as above, should be bathed within 2 days of hair sampling.

For animals treated with topical flea and tick insecticides and pesticides, it is recommended to sample the hair for analysis the last week of the treatment cycle or 1 week before reapplication. Pets should be bathed as above and hair sampled as above.

The hair is collected by clipping a small patch of hair as close to the body as possible. You will need to provide at least a tablespoon size of hair for testing and place it in a ziplock bag labeled with your pet's name and mail to the office. Alternatively, you may obtain testing materials through the office which includes a small scale to ensure the proper amount of hair is sampled and collection envelope.

After hair samples are obtained, they are sent to the lab for testing. It usually takes approximately 3-4 weeks to get the results. Once results are in, a phone or in office consultation (without your pet) will be scheduled where the doctor will interpret the results, review them with you and an individualized nutritional and supplement plan for your pet will be created.

HOW OFTEN IS HAIR ANALYSIS DONE?

Once initial hair analysis is done and recommendations made, this regime will be followed for the next 3-4 months after which time the hair will be tested again as above to track your pet's progress and make any necessary adjustments to the nutritional and supplement regime. Once stable, yearly hair analysis will be done for both preventative and therapeutic monitoring.

For new puppies, we tend to think that they come in to this world pure with clean body systems and picture perfect health. This can be far from the truth. Puppies are born with whatever the mother has or doesn't have for that matter. So, if the mother had heavy metal toxicity, so will your brand new puppy, only in most cases you won't see it manifest for quite a while. Starting hair analysis early screens for toxicities and imbalances the mother may have had. Early screening can serve to prevent future conditions by addressing the issues and correcting them *before* they become a problem.

FINAL WORDS...

Mineral imbalances in the body directly impact your pet's health. Hair analysis is an unparalleled testing modality to detect these imbalances, understand why they occurred, understand how to fix them and most importantly know how to bring the body back in to balance.

As a veterinarian, I have decades of knowledge and experience taking care of animals. But only in my knowledge and experience as a *holistic* veterinarian have I come to appreciate that there truly is no such thing as a disease. Simply put, I now understand that *dis-ease* within the body is not a phenomenon that happens to the body out of nowhere and it most certainly is not a normal progression of life. *Dis-ease* occurs when the body's homeostasis or balance is disrupted. In conventional medicine, this is what a general veterinarian diagnoses as a "disease":

"Your pet has allergies"

"Your pet has arthritis"

“Your pet is old and has age related issues.”

“Your pet has diabetes”

“Your pet has cancer

Your pet does not have a disease of “...”. Your pet has *dis-ease* resulting from imbalances in the body, likely many many years of imbalances that eventually led to the formation of symptoms in the body. *Remember the medical establishment coined the terms allergies, arthritis, old age, diabetes and cancer as a diagnosis, they didn't just appear as such in the body one day.* The medical establishment coined these terms bases on a collection of symptoms... those symptoms based on a collection of imbalances in the body. Imagine a practice of medicine that looks for and identifies these imbalances in the body BEFORE they turn in to a conventionally medically diagnosed disease. Imagine a practice of medicine that CORRECTS these imbalances BEFORE they turn in to a conventionally medically diagnosed disease. This practice of medicine is hair tissue mineral analysis.

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