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| Title: AN270 | GallBladder Stones. | 15 Pages |
| Natural Support for all species and ages. | | |
| Last Updated: 13-02-17 | | |

Gallbladder blockages or obstructions can be seen when a Feline or Canine has suffered from Pancreatitis conditions (digestion issues) or unknown to you that your pet may have one or both conditions. Symptoms of vomiting with abdominal pain is often seen as gastric upsets. Felines can be know to vomit off and on, but really this is not natural thing for them to display.

Usually an underlying condition has not yet been diagnosed.

Felines are often dismissed as having anything wrong with them.

Canines may already have been diagnosed with **Pancreatitis**, but are still having **acute colic (pain) attacks.**

If this sounds familiar it is a good idea to try the homeopathic **Gallbladder formula** which may assist or protect.

Or

If your pet does not have blockages or stones, then help your pet recover by treating her/him with the natural formulas for the pancreas e.g **HAMPL Pancreas formulas DROPS (AN072)**

The **HAMPL Gallbladder 270-1 formula** gives support from bacterial infection, gallbladder stones, bilious colic, stone colic, spasms, obstructions or inflammation. Also of possible renal calculus and colic, kidney stone protection or natural solution, liver and kidney support of cholelithiasis conditions.

Note: Add the **Choline supplement** to daily meals will **help increase bile flow.** Bile neutralizes the oxalates. (available from places like iherb.com)

GALLBLADDER HERBS

HAMPL Herb Liver Gallbladder 270-2 50ml

Contains herbal liquid extract: Astragalus, Globe Artichoke, Schizandra, Red Root, Yarrow, Withania.

Herbal Medicinal Uses

Globe Artichoke herb - are particularly high in antioxidants, in the form of vitamin C and phytonutrients, which are thought to protect cells against the attack of free radicals. Cynarin and Silymarin - The two major phytonutrients found in Globe Artichokes are **Cynarin** and **Silymarin**. These are of particular interest for their ability to lower cholesterol, protect and support liver function, increase bile production and prevent gallstones. Standardized supplements of Globe Artichoke extract with stated minimum amounts of active ingredients are available in tablets, capsules, gels and liquids. The notable side-effect of everything tasting sweet after eating an artichoke can be attributed to **Cynarin**.

Lowers cholesterol - High cholesterol and triglyceride levels, particularly of the small particle LDL form of cholesterol, are strongly associated with heart disease. Globe Artichoke consumption has been linked to lowering cholesterol and triglycerides in the bloodstream and increasing the relative level of high density lipoprotein (HDL), also known as the "good" cholesterol. The liver makes bile acids from cholesterol and stores them in the gallbladder. By increasing the production of bile acids, Artichoke extract helps the liver reduce the amount of cholesterol in the bloodstream. The cynarin contained in an Artichoke "**increases bile production**", which in turn helps the body digest fats more efficiently and receive greater benefit from the fat-soluble vitamins. Bile works by emulsifying the fats consumed, rendering them more easily absorbed and processed by the small intestine.

Most gallstones are created when high concentrations of cholesterol in the gallbladder crystallize.

Gallbladder or biliary disease is diagnosed when gallstones cause pain by stretching or blocking the bile duct. People or pets who have had gallstone symptoms in the past should be aware that increasing bile production can push existing stones into the bile duct. This is why we have use in conjunction with the homeopathic Gall Bladder Bile Duct support.

Withania - High cholesterol. There is some evidence that ashwagandha might reduce cholesterol levels in patients with high cholesterol.

Yarrow - Native Americans used yarrow for wounds, infections and bleeding. Chinese medicine gives it praise for the ability to affect the kidney, spleen, liver and energy channels throughout the body. **The bitter parts and fatty acids encourage bile flow out of the gallbladder, known as the cholagogue effect.**

The free-flowing action improves digestion and prevents gallstones from forming. Decongestant. Yarrow contains a drying effect and seems to improve coughs and sinus infections with sputum formation. Astringent. **Promotes digestion. Helps in the secretion of enzymes and digestive juice and increases appetite; both help in digestion.**

Astragalus - an immune system builder and strengthener, this herb is a deep tonic that replenishes bone marrow. Anti-fungal / diuretic / expels toxins / pus / aids adrenal. One of the best known herbs used in Chinese medicine, astragalus strengthens the digestion and stimulates the immune system. It also aids adrenal gland function, acts as a diuretic and dilates blood vessels. Astragalus can be used to boost the immune system in people who frequently suffer from infections such as colds. It can also be used in convalescence and to aid in cancer treatment and recovery from chemotherapy.

Red Root - ceanothus has been found to be a useful gastric, hepatic, and splenic stimulant, and it is in splenic troubles that its action is most favorable. Scudder (*Spec. Med.*), states that it is indicated by *splenic enlargement*, with sallow, doughy skin, and expressionless face. Webster gives as indications, deep-seated splenic pain, though no enlargement be detectable, and for the pain of splenic hypertrophy, as well as for sympathetic, painful conditions depending upon splenic wrong. Its action is compared to that of *carduus marianus*, influencing the hepatic, and more so the splenic vessels, overcoming congestion. *Hypertrophy of the spleen* and *splenitis* of malarial origin are met with it. The cases of splenitis to which it is specially adapted are not acute, but rather sub-acute, after the active symptoms have passed, and when pressure does not markedly aggravate the pain. It was much used during the Civil War for malarial splenitis. *Copious catarrhal profluvia* in non-inflammatory conditions are benefited by its astringency. For hepatic and splenic disorders

Schizandra - Lowers Inflammation, increases hepatic glutathione levels and glutathione reductase activities, down regulates inflammatory cytokines, activates the eNOS pathway, inhibits apoptosis (death of harmful cells), and enhances cell proliferation. Adaptogenic herbs and superfoods have been used for thousands of years to naturally raise the body's resistance to environmental stress, anxiety, toxin exposure, emotional trauma, mental fatigue and mental illnesses. Because schisandra helps nurture the adrenal glands and turns down an overproduction of "stress hormones" like cortisol, it's linked with better mental capabilities, physical endurance and metabolic health. Improves Liver Function & Digestive Health.

MINERALS

How important is the Mineral "Magnesium" ?

Magnesium also makes up bone health. It is also a important relaxant for muscles. As well magnesium stimulates the hormone calcitonin, which helps to preserve bone structure by drawing calcium out of the blood and soft tissues back into the bones. This action helps lower the likelihood of osteoporosis, some forms of arthritis, heart attack and kidney (calcium oxalate stones). So, if you're taking lots of calcium and not much magnesium or none, you are then high susceptible to these conditions. In fact it is advise not to take oral calcium supplements with or without magnesium, as we obtain calcium in many types of foods, but magnesium is lost very quickly, from stress, drugs, and calcium.

We actually only need to take oral Magnesium with its **co factors (B6-PHP Cap, Zinc Picolinate Cap and Boron Capsules (Or ReMyte liquid))** to aid good absorption.

Calcium actually depletes magnesium in the body. Most of us (and pets) are storing calcium in the blood and soft tissues, so we do not need anymore calcium, it is magnesium levels that we need to build up.

Note: RBC magnesium blood test are the only type of test that will revile what is in the cells. Serum Magnesium tests only measure 1% of magnesium in the blood, not the cells of the body.

A review of nutrition and bone health published by the American College of Nutrition, it was noted that among four unique population studies each found a positive correlation between magnesium and bone mineral density.

These studies are backed up by research demonstrating that magnesium deficiency results in:

- **Decreased bone strength**
- **Decreased bone volume**
- **Poor bone development**

Excess release of calcium from bone into the blood without accompanying bone formation.

Even mild magnesium deficiency is reported to be a leading risk factor for osteoporosis. Similarly, the use of calcium supplements in the face of a magnesium deficiency can lead to calcium deposition in the soft tissues, such as the joints, where it can promote arthritis, or in the kidney, contributing to kidney stones.

Which as you can compare many of the above symptoms also fall under a the "POOR LIVER" function SYMPTOMS.

The following are all symptoms associated with poor liver health. Is your dog doing any of these things?

- Circling, running into walls and acting confused after meals
- Stumbling and walking like "drunk"
- "Star gazing" or staring off into space
- Learning disabilities (difficult to train)
- Sluggishness (lethargy) and/or drowsiness or sleepiness
- Disorientation
- Aimless wandering
- Compulsive pacing
- Head pressing
- Desire to get into small, tight spaces
- Blindness related to brain abnormality
- Seizures
- Coma
- Sudden aggression
- Vocalizing
- Lack of appetite
- Increased urination or lack of urination (inability to urinate often seen in male dogs)
- Frequent voiding of small volumes
- Orange-brown urine (often seen in male dogs)
- Increased thirst
- Excessive salivation
- Vomiting
- Diarrhea
- Stunted growth
- Prolonged recovery from sedation or anesthesia (as all chemical drugs affect the liver)

PREVENTION:

We suggest the **(AN088) HAMPL Liver tonic 88 formula 100ml** (herbal liver tonic), and puree foods (or small meals throughout the day) with supplements. We will be providing information sheet on what to add to meals each day.

After years (all there life) our dogs may have had alot of chemical exposure to chemical vet products, vaccines, insecticide poisons - heartworm, worming, flea products - chemical foods – catches up the them – causing acute liver damage, inflammation or congestion. So to help prevent any further damages, use and look for natural non chemical drugs and remedies.

So How Does The Liver Work?

As most of you are aware, the liver is an amazing organ. It performs a whole host of important functions in the body, among them:

- The liver acts as a giant filter that removes blood borne toxins
- It synthesizes and distributes proteins for use by the body
- It stores sugar in the form of glycogen

So the liver is a phenomenal organ which requires a consistent flow of blood to and through it to do its job effectively.

Supplements highly recommended that can be added to your pet's daily meals :

1. Magnesium LIQUID (ReMag Solution) or Magnesium Glycinate powder
10 drops twice daily - small size pets Add a pinch to a little water and add to meals twice a day.

20 drops once daily to twice daily - medium size pets
 40 drops twice a day - large size pets.

2. Choline Supreme with Uridine Capsules * A natural cognitive enhancer.

Dosage: add 100mg to your mixture (Med side dog eg weighs approx. 50lbs) open caps (add powder only) or (Small dog or cat) 1 open cap (add powder only) to sardines / pink salmon mixture with the herbs (Cognitive Support formula) or main meals on going, can reduce on improvement.

3. Activated Vitamin B6 capsules (P5P form)

(works on nervous system and adrenal support) Dosage: Add to your mixture. (Med side dog) open 3 caps (add powder only) (Small dog or cat) 1 open cap (add powder only) to sardines / pink salmon mixture with the herbs (Cognitive Support formula) or main meals. For 3 months then reduce to half the amount.

Liver

Liver Assistance program

The liver is perhaps the hardest working organ of the body. It has hundreds of tasks to perform, including detoxification of the blood. A sluggish liver means fatigue and toxemia and a high risk of various chronic diseases. **All Drugs have side affects**, by giving your pet the heartworm drug, flea pills, heart drugs, cortisones, antibiotics, arthritic injections, and so on, all cause long term damage to major organs like the liver which the blood filters through. Studies show that St. Mary's thistle (HERB) alone protects the liver from damage caused by carcinogens as well as cytotoxic drugs. Other herbs promote liver regeneration. Since liver cells live about 18 months, a good liver program might take two years, but the major gains are in the first weeks and months so relatively rapid improvement is possible. Even when pet is feeling better, you need to continue the program because there is a huge difference between liver cleansing and liver regenerating. Cleansing can be reasonably thorough in 2 - 6 months, but regenerating takes longer. Therefore if your animal is taking herbs, at a certain point, ie 3 months, the herbs consumed should be changed, so that they are become more building and less detoxifying.

When you have finished you may need to go onto the AN088 Herbal Liver Tonic (if you have a dog)

Optimize Your Pets Gut Flora

Yours and your pets gut is a "second brain," and this gut bacteria transmits information to the brain via the vagus nerve, the tenth cranial nerve that runs from our brain stem into your enteric nervous system (the nervous system of your gastrointestinal tract). There is a close connection between abnormal gut flora and abnormal brain development, and just as you have neurons in your brain, you also have neurons in your gut -- including neurons that produce neurotransmitters like serotonin, which is also found in your brain and is linked to mood. Feeding (or eating) food high in sugar and calories, taking repeated antibiotic drugs are things that will impair our gut flora.

Herbal liver tonic for longer term liver support.

NOTE: Commonly, vets will diagnose with liver disease, when in fact it is pancreatitis (inflamed Pancreas) condition causing high liver enzymes. If my cat needed help, I would use both the **homeopathic HAMPL Liver detox 36 drops as well as the homeopathic (AN72-2) HAMPL Acute Pancreas formula.**

Where do these Toxicities come from?

Mercury - Insecticides, pesticides and chemical fertilizers and from canned fish.

Medical drugs and latex paints: Eg. Copper from water pipes, meat (feed Additives) copper pots, hormones and water-softening chemicals.

Medical drugs including anaesthetics, antibiotics, sulfa type drugs, diuretics, anti-convulsants and steroids, heart worm, flea, wormer and mange drugs (are all insecticides that poisons the blood) – all these toxins cause Liver damage, not just from short term, but many animals have an overuse, Or overdosing on more than one type of drugs at the same time.

Lead - found in canned commercial food, tap water, plus drug insecticides poisons are in (i.e. **wormer, flea, heartworm, mange**).

Aluminium - Aluminium cans, cookware and food bowls, foil and tap water.

CANCER in Pets starts at the liver (damaged/weakened Liver)

COMMERCAIL ARTIFICIAL FOODS are: Known Carcinogenic foods which have food additives, dyes, preserves, by product meats, which ALL contain Liver damaging chemicals FOUND in our pet tin food. Be safe and home prepared meals – inexpensive way. EG. Ethoxyquin is used as a preservative. (EG. IAMS & UKANUBA BISCUITS) and BHA/BHT and excessive copper in pet foods have been implicated in Liver damage and Liver cancers, as have nitrites/nitrates, sodium benzoate (highly toxic to cats Liver) and propyl gallate.

Many commercial dog foods are high in copper: Some breeds (terriers and Dobermann "pincher" means "terrier") cannot metabolize Copper, they may acquire "**Copper toxicosis**" which is related to the liver and excess copper accumulating in the organ because it is not metabolized. Dogs that continue commercial diet and do not get alternate treatment can die because too much copper in the system is toxic. ie. Cereals which is high in copper is found in commercial foods as well as kibble(dry foods) are often used as a binder or filler.

Tap water: The use of **copper pipes** may also add copper to the dog's drinking water. Always give your pets filtered water, whether they are Terriers or not.

Commercial Diets too low in protein, high in ash, phosphors, fats and sugars (tooth plaque), also causing liver and Kidney damage. Change diet and see the health changes! Reduce your vet bills.

DOGS Liver support diet

Diet for dogs with liver disease is controversial. I have often seen low protein diets recommended, but recent studies indicate that too little protein can actually make liver problems worse. Low fat is also often recommended, but is only needed for dogs having problems with fat malabsorption. Dogs need fat for energy, and again, too little can cause problems.

In general if your dog is already on a home prepared foods, no diet changes are needed. **But if your dog has** - seizures, hepatic encephalopathy (HE), Chronic Active Hepatitis (CAH), Cirrhosis of the liver, fat malabsorption, liver shunt and Liver Cancer also, but see Cancer Sheet to include in healing.

Dogs with acute, severe or chronic liver disease will benefit from dietary changes, supplements and herbal and homeopathic medicines (all non toxic natural), but dogs with mildly elevated liver enzymes do not require a change in diet.

Good Liver Health

supportive supplements, herbs and homeopathy can be given at any stage if desired. We recommend using a liver tonic at least twice to three times a year for optimum health and prevention from liver conditions. Especially needed for dogs over 6 years of age. When digestion absorption, organs and circulations starts to slow down and toxins accumulate.

Please remember that **mildly elevated liver enzymes** do not necessarily indicate liver disease. Elevated liver enzyme readings can sorted with either using the Herbal Liver Health Tonic or / and Homeopathic Liver Detox. Keep in mind to protect the liver and kidneys use alternative products to chemical ones.

In general if our pets (or ourselves) have symptoms of foods not digested properly can cause indigestion, constipation, diarrhea and bloating. They are also signs that the body is trying to detoxify itself. This is why when you want to improve liver and kidney health, the number one system to work on is your dog's intestinal tract. First thing to help the liver is to regain a normal healthy digestive system through a healthy diet and whole food supplements. This is because the digestive system is the body's first line of defense and if it is not working properly, the burden will fall on the second line of defense which is the liver..

Allergy reactions

The skin is the body's largest organ and is used as a backup system for eliminating toxins.

So we can see itchy skin, red skin and even breaking in little sores on the skin. The endocrine glands have to take over some of the cleansing process, especially the thyroid if the liver and kidney function is compromised and as a result the skin becomes the alternative way to get the daily toxins out until the liver and kidneys start to function well. Itching and other skin issues will only stop when the natural channels of elimination (liver, kidneys and intestinal tract) function normally through a real food diet and good whole food supplements.

So what about the FOOD we feed our pets:

The so called balanced canned and dried foods made to feed dogs today and touted by pet food companies and health professionals as being healthy is the main cause for bladder, liver and skin ailments facing our pet population today. The nutrients in these foods don't even come close from a chemical point of view to what the complex configuration of nutrients in real foods are. So is it any wonder that our dogs livers and kidneys are failing in epidemic numbers today? But if your dog is on a raw or cooked meat veg diet **they may be eating too much animal protein. A lot of acidic in red meat as well. Canines and humans need to be on the alkaline pH system, compared to felines who thrive well on a more acidic system, this is why they are meant to eat mostly all meat.**

By changing your dogs diet to an easily digested real food diet and by giving him real food supplements to support the digestive tract and liver, you are addressing the causes of digestive, kidney, bladder and liver stress. **Dogs need a real food diet. This is what his body is designed to thrive on. But it also must be the RIGHT foods and include raw veggies and raw fruits. 100% real food home made diet of simple ingredients like meat/fish, raw vegetables, raw fruits, raw nut butters, etc in proper ratios for liver healing and a lifetime of health.**

In general the diet your dog has been on may be causing too much acidity - cooked or processed foods -in his body so when we change the diet, we make sure that the diet is an acid/alkaline balanced one. The concept of acid alkaline is such an important concept when it comes to dogs' health and yet it is not being addressed at all by health professionals. We will email you an article so you can read more on this topic if you wish. Also the diet has to be an enzymatically alive diet and that's something you'll learn more about in the future as we help you change his diet. **This principle is the number one cause of degenerative disease and a shortened lifespan. To summarize, the solution is to change the diet to a real food diet full of active enzymes, and organic nutrients. Dogs with liver and bladder problems must have their digestive system supported fully with enzymes and probiotic supplements. They also must eat a real food diet because the protein in real foods is easy to digest and with enough veggies and fruits, dogs liver enzymes and bile acid levels cannot go out of balance, and their urinary tract remains at the proper pH to avoid infection and bladder stones.** Also the production of ammonia is kept low to avoid problems and so that detoxification can happen and neurological symptoms disappear.

AVOIDING chemicals that affect the liver

CHEMICAL DRUGS (TOXINS)

For example lets look at "Heartworm" - A realistic Look

Heartworm is of concern to all dog owners. It is not, however, the unavoidable scourge that many vets and pharmaceutical companies would have us believe. Most people do not have any idea what is involved in a dog getting infected with the Heartworm larvae. This article should educate you on the life cycle of this larvae and ways to prevent any effects if your dog is infected.

If your dog is reasonably healthy, eating a proper real food diet, is vaccine free, is not currently on any Heartworm "preventives" or monthly chemical flea and tick preventives, their immune system should be strong enough to fight off a heartworm infestation with none of the larvae reaching adulthood. In the event that some of the larvae should manage to get past your dog's immune system defenses and survive to adulthood, it is still far from a death sentence. They will be much weakened, and the truly healthy dog will make a less hospitable host.

Even at the adult stage, a healthy dog, possibly with some veterinary assistance, should be able to fight them off with no lasting ill effects to their health.

Nor are the currently available medical cures (arsenic drugs) for Heartworm more dangerous than the monthly "preventives," as the veterinary and pharmaceutical industries would have us believe.

Mosquitoes are the only known carrier of the infective stage of the heartworm larvae. In some parts of the country mosquitoes are a problem all year round, while in others this problem is limited to the warm months.

There are many sites out there on the internet with lots of "information" on heartworm. The problem with much of it is that it is either wrong or incomplete. **Much of it is intended to mislead and frighten you.** One site says simply that a mosquito bites an infected dog then bites another dog and infects it.

While that, to some extent, in the most general of ways, is true, it is very misleading because the entire process is much more complicated and time consuming than this "explanation" would lead one to believe. Another explanation says that the mosquito injects the heartworm into your dog. This is simply false.

When Is A Preventive Not A Preventive

The most popular heartworm "preventives," Heartgard, Interceptor, Sentinel, Trifexis, Advantage, Revolution etc. are not really preventives at all; rather they act by killing the microfilariae, L3, and/or L4 larvae in an infested dog. Interceptor kills the L3s, and L4s, while Heartgard will kill the L4s and some of the youngest L5s.

In other words they're poisons, as are all of the other popular Heartworm "preventives." None of them kills the fully adult or L6 heartworms in the dosages prescribed for "prevention." At higher doses, however, some of them will but this becomes even more toxic to your pet, meaning more liver damages. **There are basically two standard tests for heartworm.** One is called the antigen or occult test which tests for the antigens produced by the adult female heartworm. This test does not show the presence of microfilariae. The other is the microfilaria test. This test, of course, tests for microfilariae. Both Heartgard and Interceptor kill microfilariae. Therefore, **if one's dogs have been on either of these products, they will test negative for heartworm when given the microfilaria test, even though they may be infested with adult heartworms. It is not common, but it does happen.** There have been many reports of dogs having very bad reactions to all of these products. **Giving one's dog doses of poison month after month to kill something which probably isn't there anyway, doesn't make an awful lot of sense to us.**

Dr Martin Goldstein, in his book, "The Nature Of Animal Healing" says: "Only a small percentage of dogs who get heartworm die of it, especially if they're routinely tested twice yearly for early detection or have long fur or sleep indoors at night or live indoors. Even in untreated dogs, after a period of uncomfortable symptoms, the adult worms die... The chances of a microfilaria-infected mosquito biting your dog the first time are slim. Of it happening to the same dog twice? Very slim..."

Dr Goldstein would see and treated hundreds of cases of heartworm disease, most with routine medication, yet witnessed only three deaths (the last was in 1979). By comparison, we're seeing, cancer kill dogs on a daily basis. To his mind, the likelihood that **toxicity from heartworm pills is contributing** to the tremendous amount of immune suppression now occurring, especially in cases of liver disease and cancer, is far greater and more immediate than the threat of the disease they're meant to prevent..." "As a precaution, we recommend that all dogs be tested twice a year for heartworm. Or a active form of prevention, we suggest doses of **HAMPL HeartWor Free 177 drops** (contains black walnut) given two to three times a week, as we and many other practitioners have actually reversed clinical heartworm with it..."

Alternative non chemical preventives are available.

“Congestion” of the Liver

Having a “Congested Liver” is also common in Pets & Humans.

Weak liver function and resulting congestion leads to a rise in the level of internal toxins, as toxic metabolites remain unprocessed and thus unable to be broken down into less harmful metabolic byproducts for excretion out of the body. There are no blood tests that show that we have a congested liver or poor liver function.

Signs and Symptoms of Liver Congestion

Accumulation of such toxins within the liver can be responsible for a myriad of symptoms.

They include **fatigue,**

anger,

psoriasis,

neck and back tension,

acne,

acidosis,

skin allergies

eczema,

joint and muscular pain of unknown origin,

cramps,

dizziness,

pulsating headaches,

insomnia,

depression,

anxiety,

hormonal imbalance,

brain fog,

food sensitivity,

intolerance or sensitivity to drugs and nutritional supplements.

A weak liver may also weaken the kidneys and contribute to digestive problems, including lowered vitamin B12 absorption.

When the liver is chronically congested, sediment often settles out of the bile and accumulates in clumps that **resemble stones or sand in the gallbladder.** As a result, the gallbladder can become clogged as well.

Pre-existing stones can further aggravate the situation as they become lodged in the bile duct leading to the small intestine.

Congested Liver is common in Lyme patients and other chronic illness.

TREATMENT: Taking **HAMPL Liver Health Tonic** drops to help cleanse and repair liver function. Starting with min dose and slowly build up to recommended dosing.

Chronic Active Hepatitis (CAH)

liver inflammation causing early death if not treated with home prepared diet and nutrition and supplements.

This condition is often seen in Dobermann

CAH is a progressive inflammation state that cause the liver to break down to the point of liver failure and death. Females are prone than males, and it can show up at any age. The average age however is middle aged, 4 to 6 years old. Most likely this is a genetically inherited disease which results in toxic levels of copper to be stored in the liver. It is not an infection disease, it is hereditary. If the disease is in one of the parents, it may or may not be in the litter.

CAH Symptoms

Symptoms usually show up when almost half the liver has already been destroyed.

With CAH, the liver cells die and are replaced by scar tissue. Proteins are release as well, that will elevate ALT values. It largely effects the blood vessels leaving the liver (the liver is a major filtering organ).

- Intermittent recurrent abdominal or gastrionintestinal upset:
 - Loss of Appetite
 - Vomiting
 - Diarrhea
 - Constipation
- Lethargic
- Fluid Accumulation in the Abdomen, Abdominal distension
- Pale or Gray Feces
- Orange Urine
- Jaundice to skin, gums and white of eyes

- Abdominal Pain
- Weight Loss and loss of body condition
- Excessive (Increased) Thirst and Urination
- Anorexia

One of the first symptoms to show is, excessive drinking. It may be intermittent. The next common symptom to show is lack of appetite. Vomiting and weight loss may soon follow. As the disease progresses, the gums may begin to turn yellowish in color. It is easy to see in the white's of the eyes.

This jaundice stage is brought when the liver is dys - functioning and allowing bilirubins (bile pigments) to accumulate in the blood stream. Weight loss will begin to increase, and body condition will lessen. Fluid will behind to distend the abdomen.

The goal is to not wait, excessive drinking (not to be confused with Cushings Syndrome or kidney Condition) is enough to talk to your vet about. CAH is nothing to wait on. The earlier it is caught, less damage has been caused to the liver.

Annual testing after you Doberman is 2 years old is advised if you are not providing a liver diet and supplements.

Foods to avoid:

HIGH AMOUNTS COPPER Organ meats (esp beef liver), commercial pet food.

Lamb, pork, duck, and salmon are high in copper

MODERATE AMOUNTS - Turkey, Chicken and other fish have moderate amounts

LOW AMOUNTS - Beef and eggs

AVOID these minerals – which are found in commercial wet and dry foods. - Potassium, Sodium, Copper

Feed Your Dog More Alkaline Than Acidic Foods

(unlike a cat who needs a more acidic system – more raw meat)

Your dog's body is filled with fluids both inside and outside the cells in the muscles, the brain, bones, the bloodstream, the spine, saliva, in urine, etc.

All fluids have a certain level of acidity or alkalinity. This level is measured by the pH value. The pH scale runs from zero to 14. A pH of 7 is considered neutral, while a pH higher than 7 is considered alkaline and a pH lower than 7 is considered acidic. The body wants to maintain a pH of 7.4 in the blood. Most other fluids in the body, except for the fluid in the stomach and bladder, is also slightly on the alkaline side.

Why is this important to know? It is important to know because the cells of the body in health are alkaline. In disease the cell pH is below 7.0. The more acidic the cells become, the sicker your dog is and the worse they feel. How does the pH develop and how can you help the fluids in the body maintain their alkalinity in order to stay healthy?

Here's how pH develops. Your dog's body takes the food they eat, breaks it down into tiny pieces, then burns it to produce energy. The ash that is left makes the body's fluids (blood/urine/saliva) acidic or alkaline. This acidity or alkalinity level, known as pH, has a tremendous affect on the health of your dog.

The sicker the dog the more acidic the fluids in her/his body. You can help your dog regain their health by helping to reduce the acidity in the fluids of their body.

The main determining factor for maintaining a pH level on the alkaline or acidic side in the dog's body is the food he/she eats. Foods are of two types, acid or alkaline. This refers to the ash value of a food or the type of residue that remains after the food is digested and processed. If the food leaves an acid residue, the body must neutralize this acid to keep the blood from becoming acidic. The acid is neutralized with alkalinity (minerals).

Ideally there is adequate alkalinity (minerals) in the diet to do this. However, if there is not, the body must extract alkalinity (minerals) from its cells to neutralize the acid. Perpetuating this condition over a period of time causes the cells to become acidic, and eventually diseased.

All canned and dried foods fed to dogs today are highly acidic. They do not contain the alkaline minerals found in live and natural foods. This is why dogs with compromised liver and kidneys must be fed a diet high in fresh fruits and vegetables. Fruits and vegetables are generally metabolized to yield ash residues which result in alkaline potentials for the body fluids. The majority of mineral elements found in fruits and vegetables are alkaline in solution including potassium, calcium, sodium and magnesium.

Because a dog's body is an alkaline entity, in order to maintain health, the majority of the diet should consist of alkaline ash foods (fruits and vegetables). The more alkaline foods are consumed, the healthier a dog will become.

An ideal balance for a dog with health problems would be 30% acid producing foods and 70% alkaline producing foods. As your dog becomes healthy the ratio may be adjusted to 50% / 50%.

Today the typical dog's diet is usually nearly 100% acid producing foods. It is also not unusual for the average dog today to very rarely eat any alkaline foods (fruits and vegetables) at all, especially when they are on a commercial food diet. Is it any wonder that degenerative diseases are on the rise?

In a Nutshell

Many conditions related to poor liver and kidney health are caused by, or worsened by an overly acidic diet.

These can include, recurring urinary tract infections, bladder/kidney stones or crystals, Hypoglycemia, seizures and neurological problems, and hepatic encephalopathy (cognitive syndrome disorder)

Magnesium

This critical mineral is actually responsible for over 300 enzyme reactions and is found in all of your tissues — but mainly in your bones, muscles, and brain. You must have it for your cells to make energy, for many different chemical pumps to work, to stabilize membranes, and to help muscles relax.

That is why the list of conditions that are found related to magnesium deficiency is so long. In fact, there are over 3,500 medical references on magnesium deficiency! Even so, this mineral is mostly ignored because it is not a drug, even though it is MORE powerful than drugs in many cases. That's why we use it in the hospital for life-threatening and emergency situations like seizures and heart failure. Magnesium deficiency has even been linked to inflammation in the body and higher CRP levels. In our society, magnesium deficiency is a huge problem. By conservative standards of measurement (blood, or serum, magnesium levels), 65 percent of people admitted to the intensive care unit — and about 15 percent of the general population — have magnesium deficiency. But this seriously underestimates the problem, because a serum magnesium level is the LEAST sensitive way to detect a drop in your total body magnesium level. So rates of magnesium deficiency could be even higher! The reason we are so deficient is simple: Many of us eat a diet that contains practically no magnesium — a highly-processed, refined diet that is based mostly on white flour, meat, and dairy (all of which have no magnesium).

When was the last time you had a good dose of sea vegetables (seaweed), nuts, greens, and beans? If you are like most Americans, your nut consumption mostly comes from peanut butter, and mostly in chocolate peanut butter cups. Much of modern life conspires to help us lose what little magnesium we do get in our diet. Magnesium levels are decreased by excess alcohol, salt, coffee, phosphoric acid in colas, profuse sweating, prolonged or intense stress, chronic diarrhea, excessive menstruation, diuretics (water pills), antibiotics and other drugs, and some intestinal parasites.

In fact, in one study in Kosovo, people under chronic war stress lost large amounts of magnesium in their urine. This is all further complicated by the fact that magnesium is often poorly absorbed and easily lost from our bodies. A recent scientific review of magnesium concluded, "It is highly regrettable that the deficiency of such an inexpensive, low-toxicity nutrient results in diseases that cause incalculable suffering and expense throughout the world." (ii) I couldn't have said it better myself. It is difficult to measure and hard to study, but magnesium deficiency accounts for untold suffering — and is simple to correct. So if you suffer from any of the symptoms I mentioned or have any of the diseases I noted, don't worry — it is an easy fix!! Here's how.

MAGNESIUM "CO-FACTORS"

Supplementing magnesium alone is not as effective in raising magnesium levels in your body, as when you take it along with its co-factor. **Your body requires co-factors** which will enable it to effectively utilize magnesium in all the processes and functions that require it.

The THREE MOST IMPORTANT co-factors needed whilst taking Magnesium are:

B6 (P5P) activated
BORON trace mineral
BICARBONATE powder

Other co-factors that can be added are:

SELENIUM (mineral)
TAURINE (amino acid)
ZINC (mineral)

Vitamin B6 (P5P)

B6 helps magnesium **get inside the cell.**

Recommended source is local bee pollen, starting with a small amount and working up to 1 teaspoon.

Boron is a trace mineral (ReMyte Minerals liquid)

Boron helps **keep magnesium inside the cell.**

Recommended sources are Boron that is called Borax powder (found in the laundry aisle of your local grocery store) or a regular boron supplement (for those less brave).

Bicarbonate

Bicarbonate helps get the **magnesium inside the mitochondria.**

Recommended source is magnesium bicarbonate as you will consume both bicarbonate and magnesium at the same time. Sodium bicarbonate (baking soda/bicarb soda) can also be added to your bath.

Selenium, Taurine and Zinc

These three all help your body with its ability to intake and retain magnesium.

Different types of Magnesium available.

| | |
|--|--|
| <p>Magnesium Glycinate powder or liquid is a chelated form of magnesium that tends to provide the highest levels of absorption and bioavailability and is typically considered ideal for those who are trying to correct a deficiency.</p> <p>* This form of magnesium will NOT cause DIARRHEA "IF" needing to take a lot of Magnesium for therapeutic benefits.</p> | <p>Magnesium Oxide powder is a non-chelated type of magnesium, bound to an organic acid or a fatty acid. Contains 60 percent magnesium, and has <u>stool softening properties</u>.</p> <p>* Avoid - poorly absorbed (and the cheapest and most common forms found in supplements).</p> |
| <p>Magnesium Chloride / Magnesium lactate powder contain only 12 percent magnesium, but has better absorption than others, such as magnesium oxide, which contains five times more magnesium.</p> | <p>Magnesium Sulfate / Magnesium hydroxide (milk of magnesia) are typically used as a laxative. Be aware that it's easy to overdose on these, so ONLY take as directed * Avoid - poorly absorbed (and the cheapest and most common forms found in supplements)</p> |
| <p>Magnesium Carbonate powder, which has antacid properties, contains 45 percent magnesium. * Avoid - poorly absorbed (and the cheapest and most common forms found in supplements)</p> | <p>Magnesium Taurate powder contains a combination of magnesium and taurine, an amino acid. Together, they tend to provide a <u>calming effect on your body and mind</u>.</p> |
| <p>Magnesium Citrate powder is magnesium with citric acid, which has <u>laxative properties</u>. * Use for constipation issues if required.</p> <p>Magnesium Aspartate – not recommended.</p> | <p>Magnesium Threonate is a newer, emerging type of magnesium supplement that appears promising, primarily due to its superior ability to penetrate the mitochondrial membrane, and may be the best magnesium supplement on the market.</p> |

Magnesium (mineral supplement) as well as work on home prepared foods, with some (human grade) Colostrum or Probiotics powders in coconut milk or water for a least a month for both yourself and your older or young animals and pets.

I use the below three types for myself and my pets. (Along with Magnesium oil spray for myself)

POWDER ~ Magnesium glycinate powder

Add approx. ¼ to ½ teaspoon of Magnesium Glycinate powder (small dog or pet) or ½ teaspoon for med to large dogs and horse * Magnesium Glycinate powder is a chelated form of magnesium that tends to provide the highest levels of absorption and bioavailability and is typically considered ideal for **those who are trying to correct a deficiency. (do not use other magnesium's as there are several other types)** Can dilute in some water and give orally or in meals.

Because Magnesium needs co factors to help absorb into the cells of the body, we can take either supplements or foods.

Signs of Magnesium Deficiency

The classic physical signs of low magnesium are:

| | |
|--|---|
| <p>Neurological: Behavioral disturbances Irritability and anxiety Lethargy Impaired memory and cognitive function Anorexia or loss of appetite Nausea and vomiting Seizures Insomnia hyperactivite</p> | <p>Metabolic: Increased intracellular calcium Hyperglycemia Calcium deficiency Potassium deficiency</p> |
| <p>Muscular: Weakness Muscle spasms (tetany) Tics Muscle cramps Hyperactive reflexes Impaired muscle coordination (ataxia) Tremors Involuntary eye movements and vertigo Difficulty swallowing reflux</p> | <p>Cardiovascular: Irregular or rapid heartbeat Coronary spasms</p> |

You or your pet might be magnesium deficient if you have any of the following symptoms:

Insomnia
Irritability
Sensitivity to loud noises
Anxiety
Autism
ADD
Palpitations
Angina
Constipation
Anal spasms
Headaches
Migraines
Fibromyalgia
Chronic fatigue

Asthma
Kidney stones
Diabetes
Obesity
Osteoporosis
High blood pressure
Menstrual cramps
Irritable bladder
Irritable bowel syndrome
Reflux

Constipation – is often a deficiency of minerals. Constipation is often misinterpreted as a lack of fiber, but that is not the case – it reflects failed transition to healthy bowel flora and mineral deficiencies. People have been using magnesium to treat constipation, but not all magnesium's work that way, so here are a couple types of magnesium supplements that will help with constipation issues.

Guide line to start using this mineral supplement

Magnesium Citrate powder is magnesium with citric acid, which has laxative properties.

Cat, toy dog, small animal, infant animal: ... try adding a "pinch" of magnesium citrate (mineral) powder.

Dog: try adding ½ a teaspoon of magnesium citrate powder supplement.

AUSTRALIA <http://au.evitamins.com/magnesium-citrate-powder-now-5182?>
USA <http://www.evitamins.com/magnesium-citrate-powder-now-5182>

And Magnesium Oxide powder is a non-chelated type of magnesium, bound to an organic acid or a fatty acid. Contains 60 percent magnesium, and has stool softening properties.

The ones HAMPL sell are well absorbed and do not cause loose stools e.g. But its worth trying the above ones. If you already have the ones we supply that is fine to continue with this also to help bring up the low magnesium levels your pet / animals is displaying.

There are many different types of magnesium as discussed on previous pages, however there are also different forms magnesium comes in:

Oral supplements - capsule or tables or liquid.

Magnesium oil or cream

Magnesium baths (using Epsom salts – magnesium sulphate) * if you have a sulphur intolerance, avoid using Epsom salts but rather use the Magnesium Chloride flakes instead.

Oral supplements

I will mention some of the oral supplements. Magnesium is available in chelated (bound to) combinations such as alpha-ketoglucuronate, aspartate, glycinate, lysinate, orotate, taurate and others.

Chelated magnesium is far better absorbed than magnesium oxide but is more expensive. Complementary medicine practitioners rely on chelated magnesium, such as magnesium glycinate, taurate and orotate (magnesium plus amino acids) to treat serious cases of magnesium deficiency. These kind of magnesium's have less laxative effect on the intestines than magnesium citrate, so they are recommended if you tend to have loose stools.

Magnesium Taurate is a combination of the Amino acid Taurine and magnesium that has special properties for the heart. Taken together in this combination, magnesium and taurine have a synergistic effect, stabilizing cell membranes, making this form of magnesium highly absorbed. Magnesium Taurate does not have great laxative effect and is the recommended form of magnesium for people with heart problems. It appears that the amino acid Taurine is important for heart health and may prevent arrhythmias and protect the heart against the damage caused by heart attacks. Magnesium taurate requires oral supplementation for six to twelve months to restore intracellular levels.

Magnesium citrate is probably the mostly widely used magnesium supplement because it is inexpensive, easily absorbed and only has a **mild laxative effect**. The best form is magnesium citrate powder mixed in water that can be taken everyday.

Magnesium malate combines magnesium with malic acid, a weak organic acid found in vegetables and fruit, especially apples. The weak bond with magnesium makes it readily soluble in the body. Malic acid is a key component of several energy making chemical reactions in the body. Researchers have used magnesium malate successfully to treat the chronic fatigue, pain and insomnia of fibromyalgia.

Dimagnesium malate increases the amount of magnesium available to the body; it has the same properties as magnesium malate.

Magnesium oxide appears to have high amount of elemental magnesium. One 500 mg capsule of magnesium oxide contains 300 mg of elemental magnesium. But little of that amount is available to the body because it is not absorbed and therefore not biologically available. One recent study reported 4 percent absorption rate of magnesium oxide. This means 12 mg of 500 mg capsule are absorbed and 288 may stay in the intestines, acting like a laxative. Imagine how much favorable the result would be if a more absorbable form of magnesium were used.

“Type” of Magnesium to avoid - Avoid magnesium glutamate; it breaks down into the neurotransmitter glutamic acid, which without being bound to other amino acids is neurotoxic. Glutamic acid is a component of aspartame, which should also be avoided. Avoid magnesium aspartate; it breaks down into the neurotransmitter aspartic acid, which without being bound to other amino acids is neurotoxic. Aspartic acid is a component of aspartame, which also should be avoided.

How to take magnesium

Take your first dose of magnesium when you wake up in the morning and the last dose at bedtime. Magnesium is most deficient in the early morning and late afternoon. Most people find magnesium as good as a sleeping pill to help them get a good night's rest.

Magnesium can be taken with or without meals, but it is preferable to take it between meals for better absorption. Magnesium requires stomach acid to be absorbed. After a full meal, your stomach acid is busy digesting food and may not be available to help absorb magnesium. Also magnesium is an alkaline mineral and acts like an anti-acid: taken with meals, it may neutralize stomach acid and impair digestion. If you develop loose stools while taking magnesium, it does not necessarily mean you are absorbing enough and losing the rest; it may mean you are taking too much at one time.

CORTISOL (adrenal function - stress hormone)

If you have low cortisol output – second or third stage Adrenal fatigue, it is best to only do min amounts of magnesium, as magnesium can lower cortisol's if you take a lot of it. If you have a done a Saliva Hormonal Stress test, you could take a magnesium supplement at the points were you are highest of cortisol output. But stay at low dosing of capsule once a day and over a period of months to 6 months increase to another capsule at bed time.

NEVER TAKE YOUR DAILY MAGNESIUM ALL AT ONCE.

Spread it out through the day; four times a day is best if you have been experiencing diarrhea. If that does not do the trick, you probably need to cut back the amount you are taking or switch to another type or brand of magnesium.

8 ways that Magnesium Rescues your Hormonal System

- 1) **Magnesium regulates cortisol.** Magnesium calms your nervous system and prevents excessive cortisol. Your stress hormonal system (called HPA, or hypothalamic-pituitary-adrenal axis) is your central hormonal system. When it is better regulated, then your other hormonal axes - thyroid and sex hormones - will function better.
- 2) **Magnesium lowers blood sugar.** Magnesium is so effective at sensitizing the insulin receptor that I refer to it as our 'natural metformin'. Better insulin control means fewer sugar cravings. Healthy insulin sensitivity is important for weight loss and PCOS, and it also prevents osteoporosis.
- 3) **Magnesium supports thyroid.** Magnesium is essential for the production of thyroid hormone. It is also anti-inflammatory, which helps to quiet the autoimmune inflammation that underlies most cases of thyroid disease. (Other ways to address thyroid autoimmunity include gluten-elimination and a selenium supplement.)
- 4) **Magnesium aids sleep.** As I've written here before, magnesium is the great sleep-promoter, and sleep is crucial for hormone production. Sleep is when we should have a surge in anabolic hormones like DHEA and growth hormone. If you know that you have a Catabolic system compared to an Anabolic one (it is best not to take magnesium at night) As Magnesium is a catabolic inducer.
- 5) **Magnesium fuels cellular energy.** Magnesium is so intricately involved with glycolysis and the Krebs cycle (ATP energy production), that we can safely say: "There is no cellular energy without magnesium." Glandular tissue like thyroid, ovaries and testes is metabolically very active, so requires even more cellular energy and more magnesium than other tissue.
- 6) **Magnesium makes hormones.** Magnesium is involved in the manufacture of steroid hormones such as progesterone, estrogen and testosterone. Magnesium has been shown to reduce hot flashes by 50%.
- 7) **Magnesium activates vitamin D.** Without enough magnesium, vitamin D cannot do its job. Conversely, too much vitamin D supplementation can cause magnesium deficiency.
- 8) **Magnesium is anti-aging.** The mineral has been shown to prevent telomere shortening, reduce oxidative stress, and enhance the production of glutathione.

Magnesium is powerful medicine.

Magnesium is a big player in emergency rooms, where it treats heart arrhythmias, heart attack, migraine and the toxemia of pregnancy. But why should magnesium be restricted to acute care emergency medicine? It is time - past time - for magnesium to take up its role in treating chronic conditions.

Can you test for magnesium deficiency?

Yes. As the majority of magnesium is *inside* your cells, having a Serum Magnesium test is useless as only detects 1% in your. However, if you have a RBC Magnesium blood test this will show how much magnesium is in your cells. Not many doctors test RBC Mag test, so you most likely will need to request this rather than Serum Mag test.

Optimum range is 6 – 7 Which Magnesium Supplement is Best?

The best supplement is Magnesium Glycinate (or bisglycinate) a magnesium joined to the amino acid glycine. This is the least laxative of all the magnesiums, and the most absorbable. Glycine has its own beneficial calming effect on your GABA receptors.

Most people start off at one capsule (100mg) once to twice a day. Then over 3 weeks go up to three capsules once a day

am and evening. Then go up to 2 capsules twice a day. Then over a period again, if needing, go up to 3 capsules twice a day. Some people also combine other sources of magnesium as well. Having a Epsom Salt baths (mag sulphate) three times a week, and topically using magnesium cream or magnesium oil on sore muscles or anywhere to absorb the magnesium daily. Taking 600mg to 1,000mg a day is good

Magnesium Thirst Magnesium Hunger

We thirst for magnesium rich water.

Magnesium deficiency is often misdiagnosed because it does not show up in blood tests – only 1% of the body's magnesium is stored in the blood.

With vitamin B6 (P5P) (the activated B6 form), magnesium helps to reduce and dissolve calcium phosphate kidney stones.

Magnesium deficiency may be a common factor associated with insulin resistance.

Symptoms of MS that are also symptoms of magnesium deficiency include muscle spasms, weakness, twitching, muscle atrophy, an inability to control the bladder, nystagmus (rapid eye movements), hearing loss, and osteoporosis. People with MS have higher rates of epilepsy than controls. Epilepsy has also been linked to magnesium deficiencies.^[1]

Another good list of early warning symptoms is

Suggestive early warning signs of magnesium insufficiency:

Physical and mental fatigue

Persistent under-eye twitch

Tension in the upper back, shoulders and neck

Headaches

Pre-menstrual fluid retention and/or breast tenderness

Possible manifestations of magnesium deficiency include:

Low energy

Fatigue

Weakness

Confusion

Nervousness

Anxiousness

Irritability

Seizures (and tantrums)

Poor digestion

PMS and hormonal imbalances

Inability to sleep

Muscle tension, spasm and cramps

Calcification of organs

Weakening of the bones

Abnormal heart rhythm

Severe magnesium deficiency can result in low levels of calcium in the blood (hypocalcemia). Magnesium deficiency is also associated with low levels of potassium in the blood (hypokalemia).

Magnesium levels drop at night, leading to poor REM (Rapid Eye Movement) sleep cycles and unrefreshed sleep. Headaches, blurred vision, mouth ulcers, fatigue and anxiety are also early signs of depletion.

We hear all the time about how heart disease is the number one health crisis in the country, about how high blood pressure is the "silent killer", and about how ever increasing numbers of our citizens are having their lives and the lives of their families destroyed by diabetes, Alzheimer's disease, and a host of other chronic diseases

Signs of severe magnesium deficiency include:

Extreme thirst
Extreme hunger
Frequent urination
Sores or bruises that heal slowly
Dry, itchy skin
Unexplained weight loss
Blurry vision that changes from day to day
Unusual tiredness or drowsiness
Tingling or numbness in the hands or feet
Frequent or recurring skin, gum, bladder or vaginal yeast infections

But wait a minute, aren't those the same symptoms for diabetes?

Many people have diabetes for about 5 years before they show strong symptoms. By that time, some people already have eye, kidney, gum or nerve damage caused by the deteriorating condition of their cells due to insulin resistance and magnesium deficiency. Dump some mercury and arsenic on the mixture of etiologies and pronto we have the disease condition we call diabetes.

Magnesium deficiency is synonymous with diabetes and is at the root of many if not all cardiovascular problems. Magnesium deficiency is synonymous with diabetes and is at the root of many if not all cardiovascular problems.

Magnesium deficiency is a predictor of diabetes and heart disease both; diabetics both need more magnesium and lose more magnesium than most people. In two new studies, in both men and women, those who consumed the most magnesium in their diet were least likely to develop **type 2 diabetes**, according to a report in the January 2006 issue of the journal Diabetes Care. Until now, very few large studies have directly examined the long-term effects of dietary magnesium on diabetes.

Dr. Simin Liu of the Harvard Medical School and School of Public Health in Boston says, "Our studies provided some direct evidence that greater intake of dietary magnesium may have a long-term protective effect on lowering risk," said Liu, who was involved in both studies.

The thirst of diabetes is part of the body's response to excessive urination. The excessive urination is the body's attempt to get rid of the extra glucose in the blood. This excessive urination causes the increased thirst. But we have to look at what is causing this level of disharmony. We have to probe deeper into layers of cause. The body needs to dump glucose because of increasing insulin resistance and that resistance is being fueled directly by magnesium deficiency, which makes toxic insults more damaging to the tissues at the same time.

When diabetics get too high blood sugars, the body creates "ketones" as a by-product of breaking down fats. These **ketones cause blood acidity which causes "acidosis" of the blood**, leading to Diabetic Ketoacidosis (DKA),

This is a very dangerous condition that can lead to coma and death. It is also called "diabetic acidosis", "ketosis", "ketoacidosis" or "diabetic coma". DKA is a common way for new Type 1 diabetics to be diagnosed. If they fail to seek medical advice on symptoms like urination, which is driving thirst they can die of DKA.