

CAT & KITTEN NUTRITIONAL INFORMATION MANUAL



None of these statements have been evaluated by a country's veterinarian's association. The Cell Wellbeing Cat and Kitten Epigenetic report is not intended to diagnose, treat, cure or prevent any disease or condition, it is intended to provide nutritional food information. The digital process does not provide reproducible indicators as it reflects the changing epigenetic environment at the quantum biological level. Nutritional Food Optimization should only be considered every 45 days. It is NOT recommended that a new Nutritional Food Plan be created within this period.

OVERVIEW

THE CAT & KITTEN EPIGENETIC REPORT

The personalized cat report highlights individual epigenetic markers which are intended to provide useful indicators to optimizing the well-being of feline pets.

The nutritional diet you provide to a cat, combined with environmental influences, is often expressed in the functionality of a cat. Correcting environmental influences and nutritional imbalances may have a positive effect on the wellbeing and, often, on the emotional state of cats and kittens.

ENVIRONMENTAL CHALLENGES

Some of the cat's communicated stressors may be connected to natural issues such as toxins or electro magnetic frequencies, which may cause affectability issues with a pet. If you live in a more urban setting, exposure to poisons is often caused by family supplies, which may be harmful to a number of creatures. In a more rural setting, exposure to toxins may be the result of pesticides.

The more your cats are exposed to environmental toxins, the higher the likelihood that your cat will have gastrointestinal, mental stress, behavioral or hyperactivity issues.

Not only can your cat get harmful exposures from radiation and frequencies, they can also be challenged by exposures to daily household items such as detergent, rat trap or cleaning supplies.

We have included several environmental factors into the cat and kitten report in order to assist any professionals in gauging potential challenges created by these modern day stressors.

The overall results of the report are not intended to pinpoint specific diseases, pesticides or industrial chemicals that could be causing expressed symptoms, for these a specific blood test is required.

Nonetheless, the report's epigenetic overview may provide underlying information which may assist in the prevention of a future issue by using a step by step approach that could be considered by a professional veterinarian.



OVERVIEW

Review of the importance of protein

Although everyone needs protein, cats and kittens need more protein than many mammals. A cat's metabolism breaks down amino acids at a faster rate which means it needs more protein in its daily diet. The body of other animals can adjust the rate of protein breakdown but cats cannot do it as effectively.

Most cats need about 30% of their meal calories from protein to fuel their body and unique nervous system, to keep their hair growing and to enhance their immune system.

Protein is your cat's primary energy source. Without it, serious health problems can occur. Deficiencies of certain amino acids, which are the building blocks of proteins, can lead to certain types of disease..

Proteins are components of cartilage and tendon hair, skin, blood, and, of course, organs and tissues that extend to the muscles and heart. They can also function on enzymes, hormones and antibodies. It's important to remember that consuming more protein doesn't necessarily mean better health.

Protein is a powerful part of good nutrition but the balance of other essential nutrients and protein quality are important for optimal health.

Cats are carnivores and need to get certain nutrients, but they can efficiently use protein from plant proteins. The protein in their diet should be a high-quality source of animal and plant protein, provided in the right combination to perfectly provide your cat with the essential amino acids.

If your cat has been diagnosed with a food allergy, your veterinarian will advise you on a new protein regime.

Foods suitable for cats should include the correct and healthy balance of all essential amino acids and high quality digestible protein and other nutrients that help achieve and maintain overall health.

Talk to your veterinarian if you have any questions about the specific requirements of your cat or about the protein in your cat's food.





OVERVIEW

OVERALL WELLBEING FOR CATS

Everyone wants the very best for their cats and kittens. In fact, there are many ways of ensuring that your cat is healthy without going to the vet.

- ❖ Eyes: Should be bright and clear with no redness or soreness.
- ❖ Ears: Should be clean and free of discharge, itchiness, odor and redness. Untreated ear problems can lead to pain and may cause hearing loss.
- ❖ Nose: Should be clean, wet and without discharge or sores.
- ❖ Mouth: Should smell fresh. Gums should be pink. Teeth should be free of tartar or plaque. Mouth and lips should be free of sores or growths.
- ❖ Coat: Should be shiny and clean.
- ❖ Weight: Active, playful cats are rarely overweight. Do not over feed older cats.
- ❖ Bladder/Bowel: Urine - color of transparent yellow (straw yellow, pale gold, amber, clear yellow) is a sign of robust wellness. Healthy bowel/stool movements will be absent of blood, mucus, worms, eggs, a chalky white discoloration, a black, tarry appearance, a greasy coating or diarrhea.

OVERALL WELLBEING FOR SENIOR CATS

As cats get older, it's likely that there could be complications from obesity, weak joints and changes in behavior. There are many ways to extend the wellness years of our cats including providing a balanced nutritional diet, encouraging gentle exercise or offering love and attention.

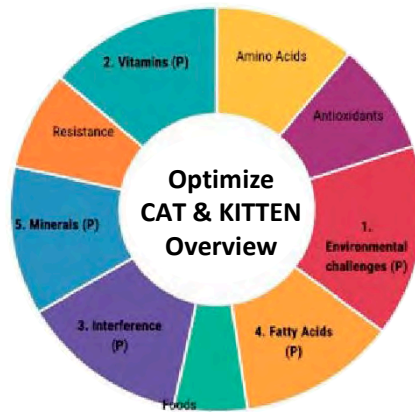
The immune system of our senior cats slows down with age, therefore, it is extremely important to use natural foods which contain a variety of vitamins, minerals, fatty acids, amino acids and antioxidants to strengthen their wellness for ongoing years.

Here are some things to look out for when having a senior cat:

- ❖ Notice how much your cat is eating as you want to keep them from being overweight.
- ❖ Keep an eye on the litterbox.
- ❖ Notice the changes in your cat behavior as they might not be feeling their best.
- ❖ As they get older, there is a high chance of them expressing more pain symptoms.

When in doubt, it is advised that you visit a local vet who will advise on these issues.

OVERVIEW OF THE REPORT PAGES



KEY OPTIMIZATION OVERVIEW PAGE

This report page was developed in order to provide a quick overview of individual page highlights detailed in the other 30 + report pages.

The Pie Chart indicates the report's nutritional priority values. The priorities are listed in sequence in the tables beneath and associated with the relevant detailed page number. There are two other table charts shown on this page, The Food Restrictions Summary and the Additives to Avoid Summary. Nether chart is based on an allergy but on underlying energetic indicators that may well be stressing the cat's system.

The Food Restrictions Summary

When cats are battling against unpleasant nourishments they ingest, systems will expend vitality from one source to address the source of stress in another area. This leads to a compensation process, which leads to less optimal performance and impedes wellness. In this manner, it is pivotal for cats to eat natural nourishment that bolsters their functionality. You should be able to provide alterations to their dietary plan to improve wellbeing.



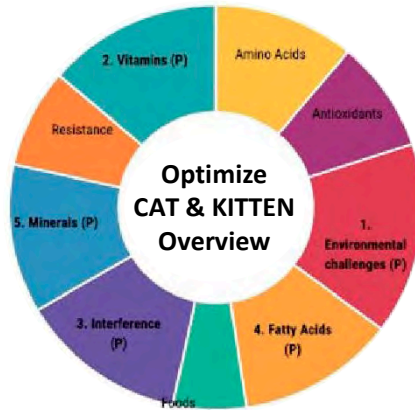
There are numerous distinctive levels at which nourishments can impact a cat, from the extreme to the exceptionally gentle, but all have the capacity to influence their wellness. A cat's nourishment restrictions list is based on epigenetic significance markers and does not demonstrate an allergy or hypersensitivity. If it's not too much trouble, avoid nourishments that you know have a negative physical influence on your cat or cause an unfavorable susceptible response. If it's not too much trouble, consider abstaining from utilizing these nourishments for the following 48 hours. In that time, you should see any changes within the cat's exhibitions. If so, proceed for the another 45 days.

Additives to Avoid Summary

These listed items are not allergies but epigenetic indicators that may be considered in recommending nutritional plans. The best natural food choices often lead to optimized wellness. Natural, unprocessed food is, in our considered opinion, the superior approach for optimized wellness of cats.

Understanding how food additives may affect wellness is crucial in reaching wellness goals. Further information can be found on page 11 of the report.

OVERVIEW OF THE REPORT PAGES



IMMUNITY SYSTEM SUPPORT PAGE

There is extensive research linking nutrition with the immune system. For cats and kittens, food regimen can play a prime position in assisting the immune system. The position that the food regimen performs on a kitten's immunity is extraordinarily important for their future wellbeing.

With a poorly balanced diet, many nutritional deficits can disrupt the immune function. It can be caused by highly refined food which can lead to inflammation, further burdening the immune system.

It is some times difficult to control the environment we live in, however, we do have the ability to influence the nutritional and lifestyle factors of our cats. With a good immune system, your cat is found to be more happy and active. It will also allow it to better fight off any unwanted bacteria and infection.

The indicators in the list are once again are not deficiencies but reflect a demand for these nutrients at an epigenetic level. This may be due to environmental factors or an imbalance in the diet.

It is wise to not feed cats or kittens any chocolate or nuts as there are many side effects to it. Grown up cats shouldn't be drinking milk either, as not many know, but the majority of fully grown cats are lactose intolerant.



OVERVIEW OF THE REPORT PAGES



GUT SUPPORT INDICATORS PAGE

The health of a cat or kitten's intestine directs the stream of sustenance to the other parts of the body. Great microbes in a cat's intestine play an imperative part in keeping them in optimal physical condition.

The potential expressed side effects of an ineffectively working intestine include: uncomfortable absorption, intestinal stretch, decreased supplement assimilation, negative rest designs, temperament swings, fatigue and decrease of coat condition.

The gut microbiome is established in the early years of life. It is particularly important to support a kitten's gut microbiome to allow them to thrive while they're growing. This is also a great time to build a strong and healthy gut flora in a cat!

Most nutritional foods consumed by a cat are 'activated' in the gut and GI tract. The gut contributes to more than 85% of the cat's functionality. Therefore, the gut's wellbeing is of significant value in optimizing the functions of the: Immune System, The Brain, Growth, Stamina as well as the cat's coat and most other functions.

The internal environment of a cat's gut is dictated by the environment they live in and what is put in their mouth! The foods and nutrients you choose to give a cat are crucial components in maintaining gut wellbeing and performance. It has not been easy, until now, to recognize epigenetic "Gut stress", which is often overlooked when considering a specific personalized plan for each individual cat.

Nutritional food is of fundamental importance in the state of wellness and wellbeing of any animal. There is a popular saying that states "They are what they eat" but this is not the case at all. In fact, **THEY ARE WHAT THEY ABSORB.** The rest of the food a cat eats can become toxic waste which needs to be eliminated via feces, urine and sometimes vomiting. The toxins that are not discarded through the process of elimination accumulate in their body, which overtime can cause organs to become impaired.

It is, therefore, wise to seek Veterinarian advice when changing food sources or diets.



OVERVIEW OF THE REPORT PAGES



OPTIMIZED GROWTH INDICATORS PAGE

During a kitten's developing prime years, under-nutrition in dietary supplements or disproportion within the diet can influence physical development, body weight and, eventually, stature. Moreover, these same dietary errors can affect the kittens vitality levels which can adversely impact cognitive development.

The wholesome pointers on this page are known to be related to development and ideal advancement. Whereas this data isn't a conclusion or treatment, it does permit the professional to consider a variety of recommended treatment conventions.

Another form of nutritional imbalance can be obesity or being underweight. It happens frequently when nutrient levels are below where they should be, as well as levels for fat or carbohydrates.

There are growing concerns regarding cat obesity levels, as they can lead to diabetes and osteoarthritis. Veterinarian professionals understand the role of nutrition in the growth and development of cats. Once identified, it may be easier to implement changes through dietary interventions using the personalized charts for each individual cat.

By doing so, it can help prevent and protect your cat from sorts of disease and infections and to keep them remain healthy and happy.

THE NUTRITIONAL INDICATORS PAGE

These page pointers are expecting to invigorate a cat's physical self. The value of each supplement shifts depending on the general mapping results. Generally, nutrition for cat is based on characteristic nourishments which give a adjusted sum of vitamins, minerals, carbohydrates, proteins and fat. These are typically imperative for long term development.



Nutrition Information

VITAMINS



- **Vitamin A** – is essential for your cat's night vision, bone and tooth growth and reproduction. It maintains mucous membranes, promotes a healthy skin and coat along with strong muscles and nerves. It is also needed in supporting the immune system which protects their body from bacteria, pollution and other diseases. It is especially important for pregnant females and kittens because growing kittens require it for growth, muscle and neurological development.
- **Vitamin B1 -Thiamine** is essential as it aids your cat's carbohydrate metabolism and energy.
- **Vitamin B2 – Riboflavin** is important for your cat's body growth, it helps in red blood cell production, aids in the release of energy from proteins and supports their metabolism of amino acids and carbohydrates in the body.
- **Vitamin B3 - Niacin** is needed to support and help with the processing of your cat's metabolism of carbohydrates and proteins. In addition, it also helps to maintain your cat's digestive system.
- **Vitamin B5 - Pantothenic acid** is needed for your cat's energy metabolism processes of carbohydrates, fats and some amino acids, when operating normally. It can also be taken by both active and pregnant cats.
- **Vitamin B6 - Pyridoxine** is taken by your cats to support amino acid metabolism and may also help reinforce proper bladder health.
- **Vitamin B7 – Biotin** is added to your cat's diet as it can help them maintain healthy skin, a shiny coat and strong nails. It protects their liver and nervous system and sustains their brain health as it boosts their energy & mood. It also helps make fatty acids, some amino acids and DNA/RNA.
- **Vitamin B9 - Folic acid** can play a part in your cat's healthy diet. It also supports the growth of red blood cells in your cat and protects the cardiovascular health. It's needed for synthesis of DNA and the amino acid methionine.
- **Vitamin B12 – cobalamin** is important for your cat as its needed for a healthy nervous system and brain function, as well as for the formation and growth of blood cells. It is also involved in intestinal health and is required for fat and carbohydrate metabolism.
- **Vitamin C** - enables your cat's body to manufacture collagen. Collagen is a vital tissue that secures the body's ligaments, tendons, organs, muscles and bones. It also manages cognitive aging and it reduces inflammation. It fights harmful free radicals as well as tissue growth and maintenance, amelioration of oxidative stress and immune regulation
- **Vitamin D** - is another alternative of going under the sun, both approaches facilitate the right balance of minerals like calcium and phosphorous in supporting growth and maintenance of bones.
- **Vitamin E** – is an essential antioxidant that defends your cat's resistance against oxidative damage. Furthermore, this vitamin is necessary for fat metabolism and cell function. It also protects essential fatty acids and blood cells.
- **Vitamin K** - helps your cat with normal blood clotting processes and it also promotes bone and health development.
- **Vitamin B8 - Inositol** plays a role in helping your cat's liver process fats, as well as contributing to the function of muscles and nerves. It promotes the growth of hair, reduces cholesterol levels, contributes to the function of muscle and nerves and has a calming effect.

Nutrition Information

MINERALS



- **Calcium** - is an essential mineral that is necessary for your cat's normal bone development, as well as numerous metabolic functions, providing rigidity to bones and teeth, aiding in normal blood coagulation and controlling passage of fluids through cell walls. It is necessary for nerve excitability as well.
- **Chloride** - is one of the main electrolytes present in your cat's body. Electrolytes are minerals that are present in the body as electrically charged ions and particles. Thus, these electrolytes play a crucial role in maintaining your cat's fluid balance. It helps with hydration, acid-base balance, transmitting nerve impulses and muscle contraction.
- **Chromium Picolinate** - improve blood sugar metabolism, blood lipid concentrations and reduces body fat. When sulphate and chromium picolinate are combined together, they act to improve the body's sensitivity to the hormone insulin which reduces the risk of diabetes.
- **Cobalt** - is needed for blood cell formation. It is also essential for healthy brain and nervous system function, as well as in DNA synthesis, fatty acid synthesis and energy metabolism.
- **Copper** - is needed for the formation of red blood cells, plays a role in iron absorption and transport, normal pigmentation of skin and hair and skeletal growth for your cat.
- **Iodine** - is needed for your cat to help with thyroid hormone synthesis, cell differentiation, growth and development of kittens and to regulate their metabolic rate.
- **Iron** - is one of the most necessary minerals for your cat's body. It plays many roles, but it's most crucial function is transporting oxygen throughout the body. Oxygen transport is mainly carried out by myoglobin and hemoglobin and iron is an essential part of these pigments. It also helps strengthen the immune system. Magnesium - is needed for your cat to maintain their muscle contraction, cellular function, nerve conduction, acid base balance, fluid balance, and their skeletal structure and is important for enzyme function and the metabolism of carbohydrates, protein and fats.
- **Manganese** - is needed for your cat's bone growth and thyroid hormone production. It enhances the condition of bone and cartilage while playing a significant role in the mitochondria function. Important for metabolism, immune function and bone formation, as well as acting as an antioxidant.
- **Molybdenum** - is an essential mineral that activates enzymes that help break down harmful sulfates and prevents toxins from building up in your cat's body.
- **Potassium** - is one of the main electrolytes present in your cat's body. Electrolytes are minerals that are present in the body as electrically charged ions and particles. Thus, these electrolytes play a crucial role in maintaining your cat's fluid balance which is important for nerve function, muscular contraction and heart rhythm.
- **Phosphorus** - like calcium, it is an essential mineral that is necessary for your cat's normal bone development, as well as numerous metabolic functions, providing rigidity to bones and teeth, aiding in normal blood coagulation and controlling passage of fluids through cell walls. It is also necessary for nerve excitability and vital to normal metabolism.
- **Selenium** - performs in the metabolism of thyroid hormones and antioxidant protection for your cat and also protects their immune system. An important antioxidant that works in conjunction with vitamin E.
- **Silicon** - is needed for your cats to maintain and give them beautiful hair, skin and nails. Prevents bacteria with crystals that absorb urine and help dehydrate feces, making your cat's litter box too dry to sustain any growth. This helps prevent kidney problems and UTIs in cats. Environmentally, silica litters will biodegrade and are non-toxic, making them a better choice than clay.
- **Sodium** - is one of the main electrolytes present in your cat's body. Electrolytes are minerals and are present in the body as electrically charged ions and particles. Thus, these electrolytes play a crucial role in maintaining your cat's fluid balance, helps with hydration, acid-base balance, transmitting nerve impulses, and muscle contraction.
- **Sulphur** - is needed for your cat to relief the symptoms associated with the skin – such as mange, ear mites, greasy skin, dandruff, scabs, dry flaky skin or itchy skin where symptoms and itching are made worse by heat.

Nutrition Information

FATTY ACIDS



- **Arachidonic acid (AA)** - is an omega-6 that's essential for your cat as it involves the cell membrane structure and cell function. They are required for your cat's normal reproduction, growth, immune function, and skin and coat health. Lastly, just like Omega-3 fatty acids, Omega-6 fatty acids are a type of fat and also contribute calories to your cat's diet.
- **Alpha-linolenic acid (ALA)** - Is an omega 3 that's needed to help support the brain development of kittens, helps your cat with arthritis by reducing inflammation, improves your cat companions ability to fight cancer and eyesight, benefits their immune system, boosts the heart and kidney health, Improve their skin and coat health, it also helps your cat by reducing anxiety, depression and hyperactivity.
- **Docosahexaenoic acid (DHA)** - is important for your cat's development of healthy nervous system and proper development of the retina and visual cortex in fetuses and new-born kittens.
- **Eicosapentaenoic acid (EPA)** - Is an omega 3 that's needed to help support the brain development of kittens, it also helps your cat with arthritis by reducing inflammation, improves your cat companions ability to fight cancer, benefits their growth system, boosts the heart and kidney health, Improves their skin and coat health and also helps your cat by reducing anxiety, depression and hyperactivity.
- **Gamma linolenic acid (GLA)** - is an omega-6 that's essential for your cat as it involves the cell membrane structure and cell function. They are required for your cat's normal reproduction, growth, immune function, and skin and coat health. Lastly, just like Omega-3 fatty acids, Omega-6 fatty acids are a type of fat and, thus, contribute calories to your cat's diet.
- **Linoleic acid (LA)** - is an omega-6 that's essential for your cat as it involves the cell membrane structure and cell function. They are required for your cat's normal reproduction, growth, immune function and skin and coat health. Lastly, just like Omega-3 fatty acids, Omega-6 fatty acids are a type of fat and, thus, contribute calories to your cat's diet.

Nutrition Information

ANTIOXIDANTS



- **Alpha-Lipoic Acid** - Is an omega 3 that's needed to help support the brain development of kittens, also helps your cat with arthritis by reducing inflammation, improves your cat companions ability to fight cancer and eyesight, Benefits their immune system, boosts the heart and kidney health, Improve their skin and coat health, it also helps your cat by reducing anxiety, depression and hyperactivity.
- **Beta Carotene** - is crucial for kittens as it optimizes the types of cells present in your cat's blood, supports the immune system, increases the antibody levels in the blood and scavenges free radicals. As your cat gets older, this antioxidant is the key for your cat's diet.
- **Co – Enzyme Q10** - is used as a supplemental therapy for heart and neurological conditions in cats. Since it's an antioxidant, it is also used as a supplemental treatment for inflammatory conditions and some cancers, gum disease and high blood pressure.
- **Flavonoids** - helps your cat regulate cellular activity and fight off free radicals that cause oxidative stress in your cat's body.
- **Polyphenols** - helps to prevent the development of diseases, from cancers to cardiovascular diseases, osteoporosis to diabetes, and keeps your cat healthy. Very helpful for senior cats who have less protection against serious disorders.
- **Selenium** - helps protect from and reduce the risk of getting cancer, it protects them against heart disease, supports the immune response, mercury in cats, helps their cognitive function, supports thyroid health and reduces asthma symptoms.
- **Superoxide** - is one of the most important and effective antioxidants in your cat's body and is the first line of defense against free radicals that damaged cells.
- **Sulforaphane** - Is essential for your cat as it reduce seizures, improves gastrointestinal health, protect joints and prevents brain disorders while improving their heart health.
- **Vitamin B** - is responsible for glucose generation, red blood cell and nervous system function, hormone regulation, immune response, niacin synthesis and gene activation. It also helps your cat to regulate energy and carbohydrate metabolism, and activates ion channels in neural tissue.
- **Vitamin C** - is an important antioxidant. It scavenges potentially harmful free radicals in your cat's body and helps reduce inflammation and cognitive aging. Cats can actually synthesize vitamin C on their own in their livers, but in some cases, supplementation may offer health benefits.
- **Vitamin D** - or the "sunshine vitamin," allows your cat's body to balance minerals like phosphorous and calcium for healthy bone growth. Without it, your cat would not be able to develop properly or maintain healthy muscles and bones.
- **Vitamin E** - is one of your cat's defenses against oxidative damage. This fat-soluble vitamin is also essential for cell function and fat metabolism. **Zinc** - is essential for your cat as it promotes healthy skin and coat, strengthens their immune system, assists in cell division, DNA and RNA replication, improves their eyesight, boosts their cognitive function, learning and memory and helps them to produce a variety of hormones.

Nutrition Information

AMINO ACIDS



- **Arginine** – is needed as it is involved in removing ammonia (the waste product of protein breakdown) from the body. If cats cannot remove the ammonia from their bodies, they can suffer weight loss, vomiting, neurological signs and even death.
- **Asparagine** - is an amino acid required by cells for the production of protein. It is used as a treatment for cancer.
- **Glutamine** - helps to energize the body by aiding the normal digestive system function and can help treat leaky gut and prevent and treat stomach and intestinal damage or inflammation of the pancreas.
- **Glycine** - is essential for your cat as it maintains lean muscle mass into old age, Supports improved joint health and function, Aids digestion and gut health, boosts immunity, improves brain function and accelerates recovery from injury or surgery.
- **Histidine** - plays a key role for your cat in oxygen exchange, protects and keeps immune function and vasodilation healthy. It also maintains hemoglobin, improving oxygen circulation to the whole body.
- **Isoleucine**, Leucine and valine are able to stimulate the synthesis of proteins and slow protein degradation in muscles in your cat. Those three combine are essential because they are able to undergo reversible transamination to enrich the organism's nitrogen pool. It is also involved in healthy muscle development and protein synthesis.
- **Leucine**, isoleucine and valine are able to stimulate the synthesis of proteins and slow protein degradation in muscles in your cat. Those three combine are essential because they are able to undergo reversible transamination to enrich the organism's nitrogen pool. It is required for healthy muscle development and protein synthesis.
- **Lysine** - helps halt the replication of herpes virus in your cat. It aids in protein synthesis for growth and development in your cat.
- **Methionine** - is important for your cat as it aids in keratin synthesis to promote healthy skin and coat, eye health, heart health. In addition, they help to acidify urine.
- **Phenylalanine** - is an essential amino acid that is used to produce proteins and signaling molecules and is required for your cat's normal growth and to prevent cancer. In addition, it is also required for thyroid and adrenal gland function.
- **Proline** - plays important roles in your cat's protein synthesis and structure, metabolism and nutrition, as well as wound healing, antioxidative reactions, and immune responses.
- **Threonine** - is a component of structural proteins. The hydroxyl group on the side chain of threonine often serves as the site for phosphorylation and de-phosphorylation reactions that control the activities of many proteins and enzymes. It controls the activity of your cat's normal physiologic function, such as insulin release or cellular apoptosis. It plays a role in energy production.
- **Tryptophan** - important as it can help to reduce stress and aggression in your cat during stressful situations. It is also necessary for hormone production like serotonin and melatonin.
- **Taurine** – is essential for cardiac function, eye health, immune system function.
- **Valine** - is essential for your cat as it helps stimulate muscle growth and regeneration and is involved in energy production and protein synthesis.

Vitamin NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Vitamins	Functions	Deficiency Possible challenges	Food Source
Choline	is a key nutrition that helps your cat's brain to develop properly, ensure optimal liver health, maintain hydration	weight-loss, vomiting, liver dysfunction, and hemorrhagic (bleeding) tissue.	salmon, chicken, eggs, beans, broccoli, peas, wheat germ, beets, corn and flaxseeds.
Vitamin A1	is essential for night vision, bone and tooth growth, reproduction, maintains mucous membranes, and promotes healthy skin and coat along with strong muscles and nerves, supports immune system.	night blindness, unhealthy skin coat and muscles will deteriorate which causes weakness	carrots, spinach, liver, pumpkin, sweet potatoes, fish oil, eggs, and turnip greens.
Vitamin B1	essential as it aids your cat's carbohydrate metabolism and energy.	anorexia, vomiting preceding neurological signs which include fairly rapid onset of impaired vision, dilated pupils, ataxia, vestibular signs, tremors and seizures.	whole grains, nutritional or brewer's yeast, liver, beans, green vegetables, spirulina.
Vitamin B2	important for body growth, helps in red blood cell production, aids in the release of energy from proteins and supports their metabolism of amino acids and carbohydrates	anorexia, weight loss, periauricular alopecia, bilateral cataracts, testicular hypoplasia, fatty accumulation in the liver and death	found in eggs, organ meats (kidneys and liver), lean meats and green vegetables.
Vitamin B3	support and help with the processing metabolism of carbohydrates and proteins, maintain good digestive system.	anorexia, fever, erythema of oral mucosa and tongue with eventual ulceration, weight loss and possible death.	chicken, liver, salmon
Vitamin B5	is needed for energy metabolism processes of carbohydrates, fats and few amino acids operating normally	antibody to reduce its function, gastrointestinal sign, changes in growth convulsions, rapid heart rates and respiratory functions, coma or sudden prostration and Indifferent food intake.	salmon, shellfish, whole grain, egg yolk, milk, lentils, split peas and soybeans
Vitamin B6	support amino acid metabolism and may also help reinforce proper bladder health.	muscle weakness, failure of growth, emaciation, convulsions, anemia and oxalate nephrocalcinosis.	fish, turkey, beans, wheat germ

Vitamin NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Vitamins	Functions	Deficiency Possible challenges	Food source
Vitamin B7 (Biotin)	maintain healthy skin, a shiny coat and strong nails, protects liver and nervous system and maintaining it healthy and sustain their brain health and to boosts their energy & mood, helps make fatty acids, some amino acids, and DNA/RNA.	very poor coat condition, dry skin and Intestinal problems and weight loss.	meat, fish, and eggs, green leafy vegetables and brewer's yeast.
Vitamin B8 (Inositol)	Helps liver process fats as well as contributing to the function of muscles and nerves, promotes the growth of hair, reduces cholesterol levels, contributes to the function of muscle and nerves.	hair loss, weak muscles.	kelp, strawberries, blueberries, spinach, eggs. broccoli
Vitamin B9	play a part in a healthy diet, supports the growth of red blood cells in your cat and protect the cardiovascular health. It's needed for synthesis of DNA and the amino acid methionine.	anemia, reduction in hemoglobin concentration, small intestinal disease or pancreatic insufficiency and weight loss.	kelp, strawberries, blueberries, spinach, eggs. broccoli
Vitamin B12	needed for healthy nervous system and brain function, as well as for the formation and growth of blood cells and is also involved in intestinal health. It is required for fat and carbohydrate metabolism and nerve.	weight loss, lethargy, diarrhea, or vomiting.	spinach, kelp, broccoli, strawberries, blueberries, liver, sunflower seed, beans
Vitamin C	to manufacture collagen, Fights harmful free radicals as well as Tissue growth and maintenance, amelioration of oxidative stress, and immune regulation.	bone marrow changes, anemia, undernutrition, lack of WBC and appetite loss.	meat (especially organ meat), fish, poultry, eggs.
Vitamin D	facilitates the right balance of minerals like calcium and phosphorous, securing calcium, Increases blood calcium and phosphorous levels to support growth and maintenance of bones.	tooth growth, rickets, the maintaining or development of healthy bones or muscles, brittle and weak hair, dehydration, soft tissue calcification, vomiting, diarrhea, weakness and anorexia.	liver, fish, egg yolks, beef and natural sunlight
Vitamin E	defends resistance against oxidative damage, necessary for fat metabolism and cell function protects essential fatty acids and blood cells.	cause retinal degeneration, reproductive failure and deterioration of skeletal muscles.	eggs, salmon, trout, spinach, safflower oil, sunflower oil, and soybean oil.
Vitamin K1	helps for normal blood clotting process, and it also promotes bone and health development	weak blood clotting ability and can cause hemorrhaging.	Egg yolk, liver, leafy vegetables, meat.

Mineral NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Minerals	Functions	Deficiency Possible challenges	Food Source
Calcium	for normal bone development, metabolic functions, to provide rigidity to bones and teeth, aid in normal blood coagulation, controlling passage of fluids through cell walls and for nerve excitability	to restlessness, stiffness, weakness, irritability, muscle tremors and hypersensitivity (exaggerated responsiveness) to touch and sound, generalized muscle twitching, leading on to uncontrolled muscle spasms, seizures.	tofu, sardines with bones, raw bones, bok choy, green beans, broccoli, and cauliflower.
Chloride	play a crucial role in maintaining fluid balance, helps with hydration, acid-base balance, transmitting nerve impulses, and muscle contraction.	vomiting, diarrhea, chronic respiratory disorders, dehydration or diuretic administration.	strawberries, blueberries, vegetables.
Chromium picolinate	improve blood sugar metabolism, blood lipid concentrations and reduce body fat.	diabetes and obesity.	lean meat, vegetable oils, and brewer's yeast.
Cobalt	is needed for blood cell formation, essential for healthy brain and nervous system function, as well as in DNA synthesis, fatty acid synthesis and energy metabolism.	poor brain function and poor digestive system.	liver, kidney, fruit, and vegetables
Copper	is needed for the formation of red blood cells, plays roles in iron absorption and transport, normal pigmentation of skin and hair and skeletal growth.	Irregular heartbeat, anemia, low body temperature.	seafood, whole grains, seeds, and legumes.
Iodine	- is needed for your cat to help with thyroid hormone synthesis, cell differentiation, growth and development of kittens and to regulate their metabolic rate.	fatigue, constipation, dry skin, weight gain, muscle weakness and elevated blood cholesterol levels.	iodized salt, seafood and kelp.
Iron	crucial function is transporting oxygen throughout the body. Oxygen transport is mainly carried out by myoglobin and hemoglobin and iron is an essential part of these pigments. It also helps strengthen the immune system.	decreased growth rate, loss of appetite (anorexia), gets weak, depression, rapid breathing, increased susceptibility to disease, dark-coloured tarry stools.	red meat, chicken liver, fish, eggs, legumes, poultry and shellfish
Magnesium	maintain muscle contraction, cellular function, nerve conduction, acid base balance, fluid balance and their skeletal structure, for enzyme function and the metabolism of carbohydrates, protein, and fats.	lack of coordination, malnutrition, intestinal disease, diabetes, failing kidneys, hyperthyroidism, muscle trembling or twitching, severe pain, convulsions and weakness.	spinach, broccoli, green beans, tofu, tomato juice, beans, and seafood.

Mineral NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

<i>Minerals</i>	<i>Functions</i>	<i>Deficiency Possible challenges</i>	<i>Food source</i>
Manganese	needed for bone growth and thyroid hormone production, ensures the quality of bone and cartilage, role in the mitochondria function, Important for metabolism, immune function, and bone formation, as well as acting as an antioxidant.	slow birth growth, shortening and bowing of the forelimbs, lameness and enlarged joints.	leafy vegetables.
Molybdenum	mineral that activates enzymes that help break down harmful sulfates and prevent toxins from building up in your cat's body.	brain damage, toxins in body.	legumes, cereals, organ meats.
Phosphorus	for normal bone development, numerous metabolic functions, provide rigidity to bones and teeth, aid in normal blood coagulation, controlling passage of fluids for nerve excitability and vital to normal metabolism.	weak bones, poor immune system, and chronic starvation.	animal tissues, eggs, fish..
Potassium	crucial role in maintaining fluid balance which is important for nerve function, muscular contraction and heart rhythm.	muscle weakness, an inability to raise the head and arrhythmias.	fruits, vegetables.
Selenium	performs in the metabolism of thyroid hormones and antioxidant protection , protects their immune system.	skeletal myodegeneration, fatal, myocardial necrosis.	seafood, meat, brown rice, and vegetables.
Silicon	maintain beautiful hair, skin and nails, prevents bacteria, helps dehydrate feces, prevent kidney problems and UTIs.	infection, abnormal iodine metabolism, Interference with normal cell, diarrhea, crusted and cracked footpads and multiple infections.	vegetables, beans and peas.
Sodium	main electrolytes present in the body that play a crucial role in maintaining fluid balance, helps with hydration, acid-base balance, transmitting nerve impulses and muscle contraction.	vomiting, diarrhea, chronic respiratory disorders, dehydration or diuretic administration.	fruits, vegetables.
Sulphur	relieve the symptoms associated with the skin –such as mange, ear mites, greasy skin, dandruff, scabs, dry flaky skin or itchy skin where symptoms and itching are made worse by heat.	anemia, poor skin condition.	all protein foods (meats, fish, poultry, eggs, legumes.
Zinc	promotes healthy skin and coat, strengthens immune system assists in cell division, DNA and RNA replication, improves eyesight, boosts cognitive function, learning memory and helps them to produce a variety of hormones.	Lack of protection from infection, abnormal iodine metabolism, Interference with normal cell, diarrhea, crusted and cracked footpads, and multiple infections	spinach, broccoli, beef, poultry, and vegetables.

Fatty Acid NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

<i>Fatty Acids</i>	<i>Functions</i>	<i>Deficiency Possible challenges</i>	<i>Food source</i>
Alpha-linolenic (ala) (3)	Supports the brain development, helps with arthritis by reducing inflammation, benefits immune system and digestive system, boosts the heart and kidney health, improves skin and coat health, helps reducing anxiety, depression and hyperactivity.	cancer, anxiety, depression, hyperactivity.	found in flaxseed oil, canola, soy beans, navy or kidney beans, plus green leafy veggies.
Arachidonic (AA) (6)	involved in cell membrane structure and cell function, normal reproduction, growth, immune function and skin and coat health, contributing calories to the diet	poor skin and hair coat, abnormal growth and weakened immune systems.	found in the body fat of poultry, lean meat, egg yolks, some fish oils.
Docosahexaenoic acid (DHA) (3)	develop healthy nervous system and proper development of the retina and visual cortex. Support digestive and immune system, shiny fur coat, growth and blood circulation.	neurologic abnormalities.	found in cold-water fish and their oil, eggs from chickens fed omega-3.
Eicosapentaenoic acid (EPA)(3)	support the brain development, helps arthritis by reducing inflammation, benefits immune system, boosts the heart and kidney health, improve skin and coat health, helps by reducing anxiety, depression and hyperactivity.	cancer, anxiety, depression, hyperactivity.	found in cold-water fish and their oil.
Gamma Linoleic (GLA) (6)	Involved in cell membrane structure and cell function, required for normal reproduction, growth, immune function, and skin and coat health. Contributes calories to the diet, blood circulation and digestive system.	poor skin and hair coat, abnormal growth and weakened immune systems.	found in blackcurrant seed oil, borage oil and evening primrose oil.
Linoleic acid (LA) (6)	Involved in cell membrane structure and cell function, required for normal reproduction, growth, immune function and skin and coat health. Contribute calories to the diet.	poor skin and hair coat, abnormal growth, and weakened immune systems.	found in corn, canola, sunflower oils and body fat of poultry.

Antioxidant NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Antioxidants	Functions	Deficiency Possible challenges	Food source
Alpha lipoic acid	support the brain development, helps arthritis by reducing inflammation, benefits immune system, boosts the heart and kidney health, improves skin and coat health, helps by reducing anxiety, depression and hyperactivity.	poor skin and hair coat, abnormal growth, and weakened immune systems.	spinach, broccoli, yams, potatoes, carrots, beets, and rice bran and red meat.
Anthocyanins	joint health which reduces inflammation and pain, improves and boosts immunity and protects against free radical damage, brain health which crosses the blood-brain barrier and provides essential nutrients. Improves eye, maintains and improves heart health	inflammation , hearth disease.	found in wild pacific sockeye salmon.
Beta carotene	optimizes cells present in the blood, supports the immune system, increases antibody levels in the blood, scavenges free radicals	damaged cells, cancers, heart disease, cataracts.	found in liver, eggs, sweet potato, spinach and broccoli.
Colostrum	relieves joint pain, increases mobility, improves digestive system, promotes wound healing, healing skin conditions, ear infections, helps fight cancer, destroy bacteria and fights viruses, promotes a healthy immune system, digestion and oral cavity.	cancer, poor digestive system, bad immune system can easily get virus and bacteria in the body.	found in mother's first milk or powdered form.
Co – Enzyme Q10	therapy for heart and neurological condition, treats inflammatory conditions and some cancers, gum disease and high blood pressure	muscle weakness and fatigue, high blood pressure, and slowed thinking, chest pain, heart failure and seizures.	found in fatty fish, soybeans, kelp, leafy vegetables.
Chondroitin	maintain synovial fluid viscosity, aid joint support, building block for cartilage, soothes stiff joints, aids mobility and flexibility,	osteoarthritis	found in fish

Antioxidant NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Antioxidants	Functions	Deficiency Possible challenges	Food source
Flavonoids	regulate cellular activity and fight off free radicals that cause oxidative stress in/on the body.	cardiovascular disease. chronic pain and Inflammation, viral infections.	strawberries, blueberries, spinach, kelp, leafy vegetables.
Lactoferrin	fight against viruses and bacteria, treats and prevents cancer.	cancer, blood infection (sepsis).	found in milk.
Polyphenols	prevents the development of diseases from cancers to cardiovascular diseases, osteoporosis to diabetes and helps keep it healthy.	chronic diseases, diabetes, cancer	strawberries, blueberries, cooked yellow squash, carrots, sweet potatoes, steamed broccoli, spinach, kale, green beans.
Selenium	protect and reduce the risk of cancer, heart disease, helps their cognitive function, supports thyroid health, and reduces asthma symptoms. Promote shiny fur, good immune and digestive system, healthy heart circulation.	skeletal degeneration, fatal, myocardial necrosis.	beef, turkey, chicken, fish, shellfish, and eggs.
Superoxide dismutase	fight against free radicals that damage cells. important for good heart circulation, immune system and their growth.	disabling neurodegenerative disorder affecting specific breeds of cats characterized by progressive motor neuron loss and paralysis until death, or more common, euthanasia.	strawberries, blueberries, cooked yellow squash, carrots, sweet potatoes, Steamed broccoli, spinach, kale, green beans.
Sulforaphane	reduce seizures, Improve gastrointestinal health, protect joints, prevent brain disorders and improve heart health.	Brain disorder, cancer, inflammation in joints, heart issues.	Broccoli, sprouts.

Antioxidant NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

Antioxidants	Functions	Deficiency Possible challenges	Food source
Vitamin B1	essential as it aids your cat's carbohydrate metabolism and energy.	anorexia, vomiting preceding neurological signs which include fairly rapid onset of impaired vision, dilated pupils, ataxia, vestibular signs, tremors and seizures.	beef liver, leafy greens, eggs, chicken, oat, fish, beans
Vitamin C	to manufacture collagen, fights harmful free radicals as well as tissue growth and maintenance, amelioration of oxidative stress, and immune regulation.	bone marrow changes, anemia, undernutrition lack of WBC and appetite loss.	potatoes, strawberries, broccoli, peppers.
Vitamin D	facilitates the right balance of minerals like calcium and phosphorous, securing calcium, Increases blood calcium and phosphorous levels to support growth and maintenance of bones.	tooth growth, rickets, the maintaining or development of healthy bones or muscles, Brittle and weak hair, Dehydration, Soft tissue calcification, Vomiting, Diarrhoea, Weakness and Anorexia.	liver, fish, egg yolks, beef and natural sunlight.
Vitamin E	defends resistance against oxidative damage, necessary for fat metabolism and cell function, protects essential fatty acids and blood cells.	cause retinal degeneration, reproductive failure and deterioration of skeletal muscle.	eggs, salmon, trout, spinach, cauliflower oil, sunflower oil and soybean oil.
Zinc	promotes healthy skin and coat, strengthens immune system assists in cell division, DNA and RNA replication, improves eyesight, boosts cognitive function, learning memory and helps them to produce a variety of hormones.	lack of protection from infection, abnormal iodine metabolism, interference with normal cell, diarrhea, crusted and cracked footpads and multiple infections	spinach, broccoli, beef, poultry, whole grains, and vegetables.

Amino Acids

NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

<i>Amino Acid</i>	<i>Functions</i>	<i>Deficiency Possible challenges</i>	<i>Food source</i>
Arginine	is needed as it is involved in removing ammonia (the waste product of protein breakdown) from the body.	decreased food intake and hyperammonemia resulting in vomiting and ptyalism, with an increase in urinary orotic acid excretion and muscle tremors, weight loss, vomiting, neurological signs and even death.	seeds, meats, and dairy product such as cottage cheese.
Asparagine	required by cells for the production of protein. It is used as a treatment for cancer.	emesis, excessive salivation and muscle tremors and hyperammonemia, cancer.	milk, whey, beef, poultry, eggs, fish, seafood, asparagus, sweet potatoes, legumes, seeds, soy and whole grains.
Glutamine	energize the body, aid normal digestive system function, help treat leaky gut, promote immune system, growth, heart circulatory, digestive system.	energize the body by aiding normal digestive system function and can help treat leaky gut.	meat, fish, beans.
Glycine	maintains lean muscle mass into old age, supports improved joint health and function, aids digestion and gut health, boosts immunity, improves brain function and accelerates recovery from injury or surgery.	slow healing, poor digestion system, weak muscles.	legumes, meat, fish,.
Histidine	key role in oxygen exchange, protect and keep immune function and vasodilation healthy, maintains hemoglobin, improving oxygen circulation to the whole body.	develop lethargy and food refusal, decrease in weight, serum albumin, and serum hemoglobin concentrations.	meat, fish, poultry, seeds, and whole grains.
Isoleucine	it is essential for good digestive system, immune system, shiny skin and fur and growth for the cat.	skin rashes, hair loss, and fatigue, weak, muscle loss, decreased food intake and weight loss.	meat, fish, poultry, eggs, cheese, lentils, and seeds.
Leucine	it is essential for good digestive system, immune system, shiny skin and fur and growth for the cat.	skin rashes, hair loss, and fatigue, weak, muscle loss, decreased food intake and weight loss.	milk, soy, beans, and legumes.

Amino Acids

NON DIAGNOSTIC

Potential Nutritional Deficiency Indicators

<i>Amino Acid</i>	<i>Functions</i>	<i>Deficiency Possible challenges</i>	<i>Food source</i>
Lysine	helps halt the replication of herpes virus, aids in protein synthesis for growth and development.	depressed food intake and weight loss, slow growth development	meat, eggs, soy, black beans, quinoa.
Methionine	aids in keratin synthesis to promote healthy skin and coat, eye health, heart health. Not only that they help to acidify urine.	decreased food intake, weight loss, evidence of dermatitis, hyperkeratotic, necrotic foot pad lesions	eggs, grains and seeds.
Phenylalanine	to produce proteins and signaling molecules for normal growth and to prevent cancer. Additionally, it is required for thyroid and adrenal gland function.	decreased food intake and weight loss, develop a reddening of the hair coat, cancer	meat, poultry, soy, fish, beans.
Proline	plays important roles in protein synthesis and structure, metabolism and nutrition, wound healing, antioxidative reactions, and immune responses.	slow healing, low immune system, unfit, poor digestive system	meat, fish.
Threonine	controls the activity of your cat's normal physiologic function such as insulin release or cellular apoptosis. It plays a role in energy production.	decreased food intake and weight loss	wheat germ
Taurine	helps to reduce stress and aggression in your cat during stressful situations, necessary for hormone production like serotonin and melatonin.	heart disease called dilated cardiomyopathy (DCM)	chickenn liver, beef liver, beef, chicken, turkey , lamb.
Tryptophan	reduce stress and aggression during stressful situations, hormone production like serotonin and melatonin. Promotes good immune system, shiny skin and fur, as well as digestive system.	aggression, depression and moodiness, anxiety	wheat germ, chicken, and turkey.
Valine	stimulate muscle growth and regeneration, involved in energy production and protein synthesis. Promotes good heart circulatory system, shiny skin and fur coat, and growth.	skin rashes, hair loss and fatigue, weak, muscle loss, decreased food intake and weight loss.	soy, and vegetables..

Potential Environmental Challenges

Environmental Challenges	Source	Possible challenges	Food Sources
Chemicals	Antifreeze, battery acid, drain cleaner, glue, fertilizer, bleach, household cleaners and detergents, motor oil, paint, varnish, lacquers, sealants, stains, paint thinner, rat poison, pesticide	caustic to the skin, mucous membranes, and gastrointestinal tract, ulcerate, experience toxic effects, harm and is deadly to pets, toxic and poisonous	activated charcoal, broccoli, asparagus, probiotics, digestive enzymes
Hydrocarbons	glue, lacquer, paint thinner, fast-drying paint, bath oil, sunscreen, kerosene, Gasoline, motor oil, mineral oil, crude oil, tiki torch fluid, transmission Fluid, brake fluid, fuel.	red blood cell damage (benzene), severe neurological damage (toluene), lung tissue damage (gasoline and kerosene).	activated charcoal, antibiotics, berries, citrus, red bell peppers, fish, grass- fed beef and beef liver, free- range chicken, egg.
Toxic metals	lead weights, newspaper dyes, certain inks, paint, plumbing materials, lead foil, golf balls, linoleum tiles, and solder.	seizures, running around in circles or running aimlessly, blindness, ataxia (loss of muscle coordination), and changes in behavior. Typical gastrointestinal problems include abdominal pain, vomiting, lack of appetite, and either constipation or diarrhea.	turmeric, rains, seeds and their oils, wheat germ oil, liver, eggs, oily fish like sardines, mackerel, salmon, red meat, poultry, antibiotic, pro-biotic.

OPTIMIZED NUTRITION IS THE KEY TO WELLNESS



WHAT COULD BE STOPPING FELINES FROM BEING NUTRITIONALLY OPTIMIZED

NUTRIENT INTAKE

Many soils are depleted of key nutrients. Fast growing plants from an inferior soil lack the nutritional value. So even a "healthy" FRESH FOOD diet may not provide you with enough nutrients.

LIFESTYLES

A lifestyle with high stress levels depletes a cat's body of many nutrients, and when combined with other factors, leave many cats malnourished of micro-nutrients.

PROCESSED FOODS

These foods have very low nutritional value as they often have lower absorption of calories or carbs. This could actually create a deficit of key nutrients for the body.

CONVENIENCE

We like convenience in foods but it comes at a cost—the convenient options often have very low nutritional value compared to natural foods.

