

Consequences of a food imbalance in cats

Essential nutriment	Utility	Consequences in case of deficiency or excess
Animal proteins	growth, development, structural make up, immune system, energy source, can be converted to and stored as fat	deficiency : heavy health-related problems
Taurin	bile formation, health of the eye, and functioning of the heart muscle	deficiency : dilated cardiomyopathy, retinal degeneration, reproductive failure, and abnormal kitten development
Arginin	elimination of ammonia in urea	deficiency : salivation, vocalization, ataxia, and even death can result from the high ammonia levels after a 2 to 5 hours
Methionin		deficiency : perturbed growth or dermatitis in kittens
Fats	supply energy, transport some vitamins, contribute to palatability	deficiency : impaired reproductive efficiency, impaired wound healing, dry dull coat, scaly skin, increase in skin infection, developmental problems and deformities by kittens excess : obesity
Linolic acid	produce an inflammatory response, regulate skin growth, blood clotting, functioning of the reproductive and gastrointestinal systems	excess : pancreatitis
Arachidonic acid		
Calcium	bone constitution, muscular contraction, nerve impulse	deficiency : bone demineralization and increase of the fracture risk excess : increase of the osseous density
Phosphore	proper function of metabolism	excess : renal hurts, deformations of the skeleton
Magnesium	absorption and proper use of certain vitamins and minerals, proper bone growth, functioning of many enzymes, production of protein	deficiency (rare) : muscle tremors and weakness
Sodium	balance between fluids inside and outside individual cells of the body, transfer of nutrients to cells, removal of waste products	excess : seizures, blindness, dehydration, loss of appetite, and death within 24 hours
Potassium	proper functioning of enzymes, muscles, and nerves, fluid balance throughout the body.	deficiency : often because of diarrhea or vomiting : cardiac arrest, nervous disorders, loss of appetite, poor growth, and weakness
Chlore	proper acid/alkali balance in the body, production of hydrochloric acid (HCl) in the stomach which helps in the digestion of protein	excess : seizures, blindness, dehydration, loss of appetite, and death within 24 hours
Iron	formation of hemoglobin (with copper and protein), functioning of many enzymes	deficiency : anemia, constipation

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Copper	formation of collagen, bone and connective tissue, absorption of iron, development and maturation of red blood cells, antioxidant, development of pigment in hair	rare
Zinc	activator of more than 200 enzymes, skin, coat	deficiency : hair loss and excessive shedding
Manganese	proper use of protein and carbohydrate by the body, reproduction, action of many enzymes in the body responsible for the production of energy and making fatty acids	rare
Iodin	functioning of the thyroid gland, production of thyroid hormones	
Selenium	antioxydant	excess : hair loss, lameness, anemia, and liver cirrhosis
Vitamin A	vision, skin, hair, mucous membranes, and teeth health	deficiency : night blindness, retarded growth, poor quality skin and hair excess : calcification of the articulations, spinal fusion
Vitamin D	regulating the calcium and phosphorous levels	deficiency : rickets, poor eruption of permanent teeth excess (rare) : abnormal amounts of calcium deposited within the heart, various muscles, and other soft tissues
Vitamin E	antioxidant, reproduction	deficiency : reproductive failure, brown bowel syndrome
Vitamin K	blood functions	deficiency : increased clotting time and hemorrhage
Vitamin B1 thiamin	normal function of muscles and nerves	deficiency : loss of appetite, loss of reflexes, loss of nerve control, weakness
Vitamin B2 riboflavin	normal growth, muscle development, and hair coat	deficiency : poor growth, eye abnormalities, heart failure
Vitamin B3 niacin	helping enzymes to function properly	deficiency : loss of appetite and weight, inflamed gums, and hemorrhagic diarrhea
Vitamin B5 pantothenic acid	enables the body to create usable energy from carbohydrates, fats, and proteins	deficiency : hair loss, diarrhea, premature graying
Vitamin B6 pyridoxine	utilization of amino acids	deficiency : anemia, poor growth, skin lesions, kidney stones, tooth cavities
Vitamin B9 folic acid	production of red blood cells	deficiency : hypoplasia of bone marrow, macrocytic anemia
Vitamin B12 cyanocobalamin		deficiency : macrocytic anemia

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Biotin	maintainance of healthy skin and hair, growth, digestion, and muscle function	deficiency : poor hair, dry skin, diarrhea
Vitamin C	bone formation, prevention of urinary tract infections	deficiency : slowed healing, possible increased susceptibility to disease
Glucosamine et chondroitin	healing of skin wounds, stomach ailments, joint problems, osteoarthritis	
Water	Essential to smooth running of the body	deficiency : mortal after 3 days
<i>Sources : Philippe Bocion from vet-bocion.ch, catcentric.org and peteducation.com</i>		

