

PetPeople Pet Care Center

Pet Nutritional Supplements

The Benefits of:
Multivitamins
Omega Fatty Aids
Glucosamine
Probiotics



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Good. Healthy. Fun.



There are a huge variety of supplements for pets available on the market today. There are every day multivitamins, skin and coat supplements, joint supplements, digestive supplements, and a myriad of others to choose from. Choosing which supplement may benefit your dog or cat can be confusing - there are many options and your pet may benefit from one or several.

START WITH A SOLID FOUNDATION

First and foremost, you should be feeding your pet a premium quality pet food. Low quality pet foods often contain little nutritional value to begin with, and many of the naturally occurring vitamins and minerals are destroyed by heat during the manufacturing process. For information on how to choose a high quality pet food, please see our brochure *Pet Centered Nutrition*. Most high quality foods often include added minerals to ensure that the food meets the recommended standards for companion animal nutrition. There is some controversy as to whether all these vitamins and minerals are readily absorbed by the body, so some owners choose to supplement their pet's food accordingly. In addition, if feeding a high quality homemade diet, vitamin and mineral supplementation is vital. A good



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multi-vitamin supplement can help you appropriately balance your own healthy pet food.

All mammals, including dogs, cats, and humans, require vitamins and minerals in their diet. Although the nutritional needs of a companion animal are very different from that of a human, there are also many similarities. Each requires calcium, sodium, potassium, vitamins B, C, D, and many other vitamins and minerals that naturally occur in our food. Besides starting with a healthy pet food, there are many options to make sure your dog or cat is getting the best nutrition possible.

A pet utilizes the vitamins and minerals in foods that use high quality whole food ingredients better than a food that has lesser quality ingredients and adds synthetic vitamins. For example, eating a high quality diet with supplementation is healthier than eating fast food and taking a multivitamin every day!

MULTIVITAMIN SUPPLEMENTS

Vitamins can improve the quality of your pet's life - they help regulate body processes, protect the body from environmental toxins, and break down nutrients such as carbohydrates, proteins, and fats so they are usable by the body. Vitamins work in conjunction with minerals and enzymes for digestion, reproduction, muscle and bone growth, and skin and coat health. Vitamins are necessary

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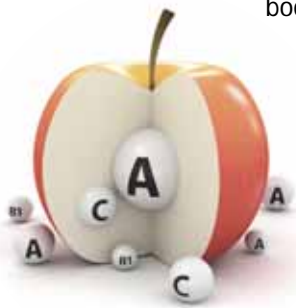
for literally tens of thousands of different chemical reactions in the body - they usually work in conjunction with minerals and enzymes to ensure normal digestion, clotting of blood, and the assimilation of fats, proteins, and carbohydrates by the body.

Water Soluble Vitamins	Fat Soluble Vitamins
Vitamin C	Vitamin A
The 'Bees', Vitamins B1, B2, B3, B5, B6, B12	Vitamin D
Folic Acid	Vitamin E
Biotin	Vitamin K

Breaking it Down

Vitamins are organic substances required to regulate proper functioning of cells. Vitamins are classified into two groups based on how they are stored in the body. Water-soluble vitamins are stored only in very small quantities by the body, and need to be taken in daily or deficiencies can occur over time. If excess is consumed, they are passed by the body each day. Fat-soluble vitamins are stored by the

body over a longer period of time in the liver and fatty tissue - because the body stores these vitamins, it is possible to overdose them. More vitamins are not always better!



Minerals are inorganic substances required by organisms for growth,

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reproduction, and normal body function. Minerals are NOT made by the body and must be obtained through the diet - examples of minerals include calcium, phosphorus, and iron.

Should I Give my Pet a Multivitamin Supplement?

To ensure your dog is in optimum health, feed a healthy, high quality pet food, and supplement when necessary. Many owners feel they see an improvement in their pet's attitude, energy level, and skin and coat health by adding a multivitamin supplement. It is generally best to choose one complete supplement rather than combine multiple different choices to help avoid over-supplementation. There are several types of pets that may especially benefit from additional supplementation -

🐾 **Senior Pets** - Older animals tend to absorb fewer vitamins, minerals, and electrolytes through the intestinal tract. Their bodies are simply less efficient at using these things as they age. Increasing their daily vitamin intake can bring the amount of vitamins they absorb back to a proper amount.



🐾 **Canine Athletes** - Just like human athletes, working dogs who participate in agility, flyball,



herding, or police/ protection work may benefit from additional supplementation as they put a higher level of stress on their bodies.

- **Overweight Pets** - To aid in weight loss, many people cut back on the amount of food they feed their pets. When you cut back on food, you are also cutting back on vitamins and minerals. To make up for those vitamins lost without increasing calories, a multivitamin supplement is a good option.
- **Ill or recovering pets** - Pets who don't feel well may have a poor appetite, and are a good candidate to be given a vitamin/mineral supplement since they are not receiving their daily requirement through the food they eat.

Can I Give my Pet Too Many Vitamins?

There are always many opinions regarding vitamin supplementation. Many people feel vitamins are necessary - that even when feeding a high quality food, some of the effectiveness of the vitamins have been destroyed by heat processing or by the long shelf life of foods. Pet owners who feed a homemade diet or a diet high in table scraps should give their pet a high quality vitamin/mineral supplement to help appropriately balance the diet, and since these diets are not already fortified it is less likely that adding a supplement would result in a excess amount.

In cases of severe over-supplementation, the



possibility of vitamin toxicity can occur, particularly with fat-soluble Vitamins A & D. Symptoms of toxicity do not occur if you give your pet the recommended dosage of a high quality, commercially prepared vitamin mineral supplement. However, if you give a variety of supplements, each containing Vitamins A & D, overdoing it is more likely. Supplements should be chosen with care and a large variety of supplements should not be used together unless prescribed by a veterinarian.

What Kind of Multivitamin Should I Choose?

There are many commercially available multivitamin supplements to choose from. They come in liquid, powder, and tablet form. A good supplement should -

- Provide a detailed guaranteed analysis - a company must only stand behind what they guarantee on their label. Even if they make claims about different ingredients, the only things that the supplement must contain is what's in the guaranteed analysis.
- Use whole food sources - many experts believe vitamins are better absorbed from whole food sources rather than their synthetic counterparts
- Be palatable - the best vitamin in the world doesn't do any good if your pet won't eat it!





OMEGA FATTY ACID SUPPLEMENTS

Besides a basic multivitamin, there are a variety of more specialized supplements available on the market today. One of the most popular and versatile supplements is fish oil. Fish oil can be used for a variety of different reasons - for many years pet owners have given these fatty acids to their pets to improve skin and coat health. More recently, research has shown that fatty acids play important roles in other areas of body function, including controlling inflammation, reducing allergy symptoms, reducing joint pain, and improving function of other organs in dogs and cats.

What Are Fatty Acids?

There are two main categories of fatty acids - omega-3 and omega-6 fatty acids. Omega-3 fatty acids include ALA, EPA, and DHA.

Omega-6 fatty acids include LA, GLA, DGA, and AA. Both types of fatty acids are important, but most pet foods contain far more omega-6 fatty acids than omega-3.

There is some question as to the correct ratio of omega-6 to omega-3 fatty acids. Previously, it was thought the ratio should be approximately 15:1, but due to the health benefits of omega-3 fatty acids, it is now thought that a ratio of 10:1 or 5:1 is more



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beneficial.

Some pet food companies have added omega-3 fatty acids to their foods to increase the ratio of omega-3s - adding a supplement is another easy way owners can increase the amount of omega-3 fatty acids in their pet's diet.

Animals can produce some of the fatty acids they need, but not all of them. The fatty acids they cannot produce themselves are called essential fatty acids, and must be obtained through their diet. Interestingly, what is 'essential' for one species of animal is not necessarily essential for another - for example, arachidonic acid is essential for cats but not for dogs. These fatty acids must be consumed, since animals do not make them themselves. Most pet foods today add fatty acids, but in processed foods they are subject to degradation. Overcooking, improper storage, or a sub-optimum level of antioxidants in dry food can result in rancidity and a subsequent deficiency in fatty acids. Because of the possibility that the diet may not provide adequate amounts of fatty acids, as well as the benefits of increased fatty acid intake, many owners choose to supplement their pets diet with a fatty acid supplement.



Sources of Fatty Acids

The type of fatty acid depends on its source - for example, beef fat has a higher level of omega-6 fatty acids, whereas fish oil has a higher level of omega-3. Marine oils are good sources of omega-3 fatty acids EPA and DHA. Since most pet's diets are far higher in omega-6 fatty acids, it is these omega-3 fatty acids that are supplemented. The best source of omega-3 fatty acids is fish body oil - it can be given in a liquid oil form, or a fish oil capsule. Caution should be used

with cod liver oil - though a good source of omega-3 fatty acids, it can contain high doses of vitamin A, which if over-supplemented can lead to toxicity.



How Fatty Acids Help Decrease Inflammation

Fatty acids are involved in many functions of the body, including their function in cell membranes. Both AA and EPA can be incorporated into cell membranes. When a cell is damaged, AA (an omega-6 fatty acid) is released from the cell membrane and is metabolized by enzymes into substances which can increase inflammation and itching. EPA (an omega-3 fatty acid) is also released when a cell is damaged - and uses the same enzymes that AA does. Since they are



competing to use the same enzymes, less are available for use by AA, and less of an inflammatory response occurs. Thus, omega-3 fatty acids can decrease the harmful effects of omega-6 fatty acids and reduce associated inflammation.

Conditions Improved Through Fatty Acid Supplementation

By supplementing omega-3 fatty acids, we may be able to decrease the effects of inflammation. There are many

diseases that create an inflammatory response in the body, and supplementing these fatty acids has shown to decrease many of these disease symptoms.



- 🐾 **Dull and Dry Hair Coat** - Because of the high concentration of fatty acids in skin cells, it has long been known that an increase in omega-3 fatty acids has improved dull and dry hair coats. Haircoats which are dull, dry, and brittle often respond to supplementation with both omega-3 and omega-6 fatty acids. Decreased shedding is one welcomed side effect!
- 🐾 **Allergies and Autoimmune Conditions** - These conditions occur because the immune system over-reacts. Fatty acids can lessen the harmful effects of these inflammatory responses.
- 🐾 **Arthritis** - Research is showing that omega-3 fatty acids, especially EPA, may be helpful in reducing



the inflammation associated with arthritis, therefore decreasing the pain.

- 🐾 **Inflammatory Diseases** - Other diseases which are accompanied by inflammation such as ulcerative colitis, inflammatory bowel disease, and rheumatoid arthritis may respond to the anti-inflammatory effects of certain fatty acids
- 🐾 **Yeast Infections** - Fatty acids have been shown to slow down the growth of common yeast infections in dogs and cats.
- 🐾 **Cancers** - Omega-3 fatty acids have been shown to slow the development and metastasis of certain cancers. Omega-6's, on the other hand, have been shown to stimulate tumor development.
- 🐾 **Brain and Eye Development** - In addition to their effects on the developing immune system, omega-3 fatty acids, especially DHA and EPA, have proven essential for proper development of the retina and visual cortex.

In some animals, fatty acids alone can decrease inflammation or itching to an acceptable level. More often, fatty acids are used in conjunction with other therapies. Fatty acids have a synergistic effect with both antihistamines and steroids, and the use of a fatty acid supplement can often decrease or eliminate the necessary dose of other medications.

Since fatty acids need to be incorporated into cell membranes, they usually do not have an immediate



effect. Supplements must be given daily, as they take time to build up in the body - a single dose will not offer relief. Many veterinary dermatologists recommend that fatty acids be used for 9-12 weeks to see optimum results.

Side Effects of Fatty Acid Supplementation

There are few side effects to supplementing fatty acids. At extremely high doses, the most serious, but rare complication, is pancreatitis. Acute pancreatitis is the sudden onset of pancreatic inflammation and can cause dehydration, pain, vomiting and diarrhea.

Because they are indeed fats, they do also add calories. If pets are on large doses of fatty acids, owners must monitor calories intake to prevent weight gain. Also because of the fatty component, some pets may develop diarrhea from over supplementation. Often, starting at a low dose and gradually working up to a therapeutic dose can prevent this problem.



Why Supplement?

Fatty acids have been shown to be important in the health of skin, coat, joints, and other body systems. They have also been shown to reduce symptoms of arthritis and other inflammatory diseases, even slowing the progression of some types of cancers. The different fatty acids have different effects and the choice of supplements may vary. For dry skin and dull hair coats, supplements high in LA are recommended. For allergies and any other inflammatory process, supplements with the omega-3 fatty acids EPA, DHA, and omega-6 GLA are most effective. From the average pet whose owner may want to decrease shedding to dogs with severe inflammatory conditions, omega fatty acid supplementation has many benefits.

GLUCOSAMINE & CHONDROITIN

Glucosamine and chondroitin sulfate supplements are fast becoming the most widely used supplements in pet's diets. The reason? Arthritis in dogs is one of the most common health problems seen by veterinarians. Unfortunately, owners and vets rarely notice the early warning signs of arthritis because animals have the inherent ability to mask soreness or discomfort until the arthritic changes in the joints have progressed significantly. The use of glucosamine and chondroitin have proven to show significant improvement in easing the pain and discomfort associated with arthritis.



Causes of Arthritis

There are a variety of causes of arthritis - some of the most common are:

- Genetic malformation of bone structure that can cause misalignment - for example, hip dysplasia
- Trauma or infection to joint surfaces
- Torn supporting ligaments or tendons
- Poor nutrition
- Overweight puppy during the growth process
- Auto-immune diseases
- Normal wear and tear through the aging process

The end factor of all of these is that the joint does not work properly, and the nerve endings in the supporting joint structures are irritated. These irritated nerve endings send pain and discomfort signals to the brain, resulting in a dog that limps, rests often, has trouble getting up or



going up and down stairs, and is otherwise reluctant to move in a normal fashion. These changes can occur rapidly, such as after a fracture and improper healing, or over time as with subtle damage in hip dysplasia or age related changes. Since there are no blood vessels or sensory nerves in joint cartilage, damage to cartilage can be quite advanced before the surrounding supportive tissues become inflamed and sore.



How Glucosamine and Chondroitin Work

Glucosamine is a naturally occurring compound composed of sugar and an amino acid - it is made in the joint cartilage and is involved in the body's production of joint lubricants necessary to maintain healthy cartilage and joint function. Any degeneration or injury to joint cartilage can result in the failure of the joint to produce sufficient cartilage repair and maintenance



substances - the result with time is the wearing down of the joint cartilage to the point where pain and swelling can significantly reduce joint function. This is commonly called degenerative joint disease or osteoarthritis. Glucosamine can help increase cartilage production and reduce inflammation, and may also aid in the rebuilding of damaged cartilage, thus reducing the pain associated with arthritis.

Chondroitin is a naturally occurring product found in animal cartilage, and aids in keeping cartilage



tissue from dehydrating and assists in cushioning impact stress. Chondroitin may actually help the body to repair the damaged cartilage and help restore joint integrity, and also may help protect existing cartilage from premature breakdown. Because chondroitin production by the body decreases with age, supplementation with this compound may be especially helpful for older dogs with arthritis due to age related changes.

Unlike pain killers which simply mask the pain, glucosamine and chondroitin address the disease process itself.

Sources of Glucosamine and Chondroitin

These nutritional supplements are extracted from shellfish sources such as crab, lobster, or shrimp, and from animal cartilage, particularly cow cartilage. Be sure to choose a product with an easily identifiable ingredient list, and with guaranteed levels of glucosamine and chondroitin. A therapeutic dose is considered to be about 50 mg/kg, or about 1000 mg/day for a 50 lb dog.

But my dog's food has glucosamine added - isn't that enough?

Most foods do not add nearly enough to be a therapeutic dose. The average pet food contains only about 100 mg of glucosamine and chondroitin in a dog's daily amount of dog food - which is only about 10% of what a medium size dog would need in a day.



Are Glucosamine and Chondroitin Safe?

These substances are considered 'nutraceuticals', which are substances consumed orally as an addition to the normal diet. These are generally much safer than traditional 'drugs' in that they can be considered a form of food or nutrient. They are rarely toxic when used in reasonable amounts, and have no known side effects.

Most pets who need to be on this therapy need to continue treatment for the rest of their lives. Studies have shown that cartilage degeneration will reoccur about four to six months after the product is discontinued. It is also something that needs to be given continuously - a single dose will not help a dog having a rough day. Also, keep in mind that glucosamine and chondroitin are not preventative - there is no indication that these products slow the progression of any diseases, such as hip dysplasia. However, many animals that have chronic disease like hip dysplasia benefit from being on these supplements because it helps maintain the cartilage and reduce the pain associated with the disease.

PROBIOTICS

Probiotics are microorganisms that improve the microbial balance of the pet's intestine. They are live bacteria which contain microorganisms such as *Lactobacillus acidophilus*, or *Lactobacillus casei*, similar to the active cultures found in some yogurts.



There are two types of bacteria which colonize our pet's bodies - beneficial and harmful bacteria. Good bacteria ensure good health - they normally inhabit the intestine and are critical in maintaining the correct balance of intestinal microflora. However, to achieve this balance these good bacteria must be present in optimal numbers, types, and ratio - about 85% beneficial to 15% non-beneficial.

Probiotics are live and beneficial bacteria, which maintain and restore a healthy gut. Probiotics are necessary to help:

- Regulate and stimulate many aspects of the immune system
- Increase anti-oxidant activity
- Regulate hormone levels
- Remove toxins ingested through foods
- Absorb nutrients, antioxidants, and minerals from the diet
- Reduce inflammation
- Inhibit the growth of some yeasts



Friendly bacteria like these are your pet's body's first line of defense against all of the potentially harmful microorganisms that your pet inhales or ingests. Having sufficient numbers of these beneficial bacteria in your pet's system can help prevent a wide range of health problems.

Probiotics can be given as a supplement to aid in digestion and improve immune and other body functions. Often times the ideal ratio is not met - supplementing with additional probiotics can help your pet's gut reach that optimum balance.

What Pets Benefit From Probiotics?

All pets can benefit from supplementation with probiotics! However, there are some cases that would especially benefit from the addition of probiotics. If your pet exhibits one of the following, supplementation is recommended-

- Digestive problems
- Chronic diarrhea
- Skin problems
- Chronic ear infections
- Food intolerances
- Excess gas



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- Yeast infections
- Inflammation of gastrointestinal tract
- Dietary change or poor diet
- Exposure to a pathogenic virus or bacteria
- Stress due to changes in environment
- Compromised immune system
- Prescribed antibiotics - remember, they kill all bacteria, good and bad

Any of these situations can create a change in the delicate balance of good vs. bad bacteria, and supplementing can help get the good bacteria back in charge.

Sources of Probiotics

There are many sources available for probiotic supplementation. They can come in capsule, powder or tablet form. The best probiotics are live bacteria which are made to withstand the acidity of the stomach and get to the small intestine where they are effective - the good bacteria are only beneficial if they can be utilized by the body. Dosages can also vary - follow label directions accordingly.



Can I just give my dog yogurt? The short answer is yes, some yogurt does contain live beneficial bacteria. However, dogs are lactose intolerant. Thus, the quantity of yogurt you would have to give to get a therapeutic level of beneficial bacteria would more than likely upset their stomach

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because of the amount of dairy. A non-dairy probiotic supplement is usually a better option.

Geneflora for Pets contains the beneficial bacteria, *Bacillus coagulans* (*Lactobacillus sporogenes*) which is a hardy, naturally heat-resistant bacteria that are able to easily survive the stomach acid and reach the intestines where they can thrive and help to correct digestive imbalances.

Geneflora also contains enzymes to help reduce inflammation and aid in digestion along with Fiber Acacia, a soluble fiber that feeds the good bacteria (also known as a "prebiotic") and helps regulate bowel movements.



Probiotics vs. Prebiotics

Prebiotics are a specialized form of fiber often known as FOS, which naturally occur in foods such as chicory, asparagus, artichokes, garlic, honey, and oats. Prebiotics are the nutrients that act as the energy source or 'food' for probiotics. They help the beneficial bacteria thrive! They not only help supplemental probiotics flourish, they help the probiotics naturally made by the body thrive as well. By giving a supplement that contains both pre and probiotics, maximum results are seen.

For Life. For Health. For Love. For Pets.

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Are They Safe?

There are no known adverse reactions to pre or probiotics.

CHOICES, CHOICES

Many factors, including low quality foods, preservatives, chemical additives, stress, and genetics can impact your pet's health. Commercially produced pet foods often claim they are a 'complete and balanced' formula, but recent research has shown supplements can hold extra benefits for our beloved pets. There are a huge variety to choose from, and while some pets may not need any, others may thrive on a specific regimen. Partner with your veterinarian, and research which supplements may most benefit your dog or cat.



For Life.
For Health.
For Love.
For Pets.



We at PetPeople are a group of dedicated and passionate pet people. We are so enthusiastic to engage our customers, exchange information, and work together to solve common pet problems. We hope you will continue to come to us with questions, problems or situations regarding your pets' care. It is our goal to be a partner with you and your veterinarian in the health and well-being of your pet.

We Care

While we are happy to advise you and share our knowledge with you, we would never propose that our recommendations be used instead of consulting with your veterinarian about any concerns or issues. You know your pet better than anyone, and should always use your best judgement regarding obtaining the best care for your pet.



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