

The BARF DIET™
Getting down to natural ingredient specifics and benefits...

By Dr. Ian Billinghurst
www.barfworld.com

BONES

For millions of years, dogs have cleaned up the remains of other animal's bodies, including the bones. That ability remains with modern dogs that easily and joyfully tackle bones. A dog's whole system is designed for and in fact needs bones to function properly. Bones are living tissue composed of living cells. Because bones are living tissue, just like any other part of the body, they are a complex source of a wide variety of nutrients. Bones contain minerals which are embedded in protein. They also contain fat. If the bone is from chicken or pork, then that fat will be very high in the essential fatty acids. Along with the fat are fat-soluble vitamins. The central parts of most bones contain marrow, which is a highly nutritious mix of blood forming elements, including iron. Raw bones also provide natural antioxidant/anti-ageing factors including enzymes.

**"It is not hard to pick the dogs that eat bones. They look and act healthy.
The acid test however, is to look in their mouth and smell their breath."**

Bones are nature's storehouse of minerals for your dog. If meat is added to bone, then methionine and most of the B vitamins are supplied. Puppies and adult dogs fed bone rarely if ever suffer from indigestion or diarrhea. They produce smaller quantities of solid minimally offensive stools. It is highly probable that bones play a similar role to fiber, that is, a role of bulking out the food, thereby removing toxins and promoting general bowel health. Bone eating dogs are long lived healthy dogs. They seem to be particularly free of the degenerative diseases of old age.

MEAT

Many people assume that a dog's natural diet is a meat only diet.

Unfortunately this is untrue as a meat only diet is highly unnatural and unbalanced. Meat should form only a part of the over-all healthy diet, which should include bone, fruits, vegetables, offal and other supplements as well. For example, the muscle meat eaten by wild dogs forms a small part of the diet that consists of a wide variety of other foods, including bone.

What nutrients are in meat?

Meat supplies protein

That is its major role in healthy nutrition. It also supplies varying amounts of fat, water, and some vitamins and minerals. Because it supplies fat and protein, it also supplies energy. Meat is first class protein. That is, it contains all the essential amino acids necessary for dogs of all ages, including growing dogs, pregnant dogs, female dogs feeding puppies and of course not-doing-so-much-dogs.

Meat supplies energy

There are no carbohydrates in meat. That is no starch, sugar or fiber. As the fat content rises, the

percentage of water drops and so does the protein. As the fat content of the meat rises so does the energy it can supply to your dog. The fat in different types of meat varies in the levels of essential fatty acids present. Chicken and pork have the highest levels while lamb and beef are both low. Lamb usually contains more essential fatty acids than beef, but only because it has more fat.

Meat supplies some minerals

Raw meat is low in sodium and high in potassium. That is good news for dogs with heart problems. The meat with the lowest sodium is beef, with pork also being fairly low. The meat with the highest potassium is pork, with chicken having the lowest potassium levels. This makes pork a good all round meat for heart patients. Beef, lamb, chicken and pork meat are all very low in calcium and moderately low in magnesium. This means they are great foods for dogs prone to bladder stones. However, this lack of minerals requires bone material in your dog's diet. Beef and lamb meat are relatively well endowed with zinc, making them good foods for dogs with a deficiency of zinc. Chicken has low zinc levels with pork containing more than chicken but not as much as lamb and beef. Of the meats, beef is the best source of iron.

OFFAL

In the wild, dogs eat the stomach content and organ meat from the animals they prey upon. In fact, internal organs form a vital part of the wild dog's diet. Modern dogs have similar requirements. Dogs consuming these foods as part of a sensible diet have superior health to dogs that do not eat them. Although organ meats are valuable dog food, they are not required in huge amounts. They are a concentrated source of many essential nutrients and are particularly valuable during times of growth, reproduction and stress as a source of concentrated nutrients.

Liver

In this one product is a vast range of important nutrition. Liver is the most concentrated source of vitamin A and should be fed in small amounts on a regular basis. It also contains vitamins D, E, and K in substantial quantities. Liver is an excellent source of the minerals zinc, manganese, selenium and iron. It also contains all the B vitamins, particularly B2, B3, B5, biotin, folacin, B12, choline, and inositol. It contains B1 in adequate or smaller amounts and is a good source of vitamin C. Liver provides a source of good quality protein and the essential fatty acids, both the omega-3 and omega-6 type. It's a fantastic food for your dog!

Kidneys

Not unlike liver, kidney supplies good quality protein, essential fatty acids and many vitamins including all the fat soluble vitamins A, D, E and K. Kidneys are a rich source of iron and all the B vitamins. They also have good levels of zinc.

Heart

Like liver and kidneys, heart as dog food is an excellent source of protein, B vitamins and iron. They do contain some essential fatty acids and a little vitamin A. Heart contains appreciable levels of taurine which is important food... for the heart!

Unbleached Green Tripe

Green tripe is the edible lining and accompanying content of a cow or other ruminant's first or

second division of the stomach. Paunch tripe comes from the large first stomach division and honeycomb tripe comes from the second division. Both wild canids and domestic dogs benefit from eating tripe as it contains a very diverse profile of living nutrients including enzymes, omega- 3 and 6 fatty acids, probiotics, and phytonutrients. It has long been quoted as being "the finest of natural foods".

VEGETABLES

Dogs have actually eaten vegetables the whole period of their evolution, and that's a long time! As such, vegetables, particularly green leafy vegetables should form part of the domestic dog's healthy diet. Dogs need vegetables because they contain many important health promoting nutrients. The fiber your dog obtains from raw vegetables includes both soluble and insoluble fiber. Vegetables supply many other nutrients. Many of those nutrients are the ones that have been found to be in short supply in the modern dog's "civilized" diet. This includes difficult to obtain omega 3 essential fatty acids, most of a dog's vitamin needs, masses of enzymes and various anti-aging factors, including antioxidants and phytochemicals.

Broccoli

Broccoli is one of the most nutrient dense foods. It is dense in vitamin C, beta carotene, folic acid, calcium and fiber. It is also a good source of chromium. Like other members of the cabbage family, broccoli has demonstrated remarkable anticancer effects. Broccoli contains several important phytochemicals: beta carotene, indoles, and isothiocyanates and over thirty-three cancer preventative compounds. Research suggests that phytochemicals prevent carcinogens from forming, stop carcinogens from getting to target cells and boost enzymes that detoxify carcinogens.

Spinach

Spinach contains twice as much iron as most other greens. Like other chlorophyll and carotene - containing vegetables, it is a rich source of antioxidants. Besides beta-carotene, it also supplies two other carotenes, lutein and zeaxanthin. Spinach has long had a reputation of being very high in nutrients. It is a good source of fiber, calcium, potassium and vitamins A, B6 and K.

Celery

Celery is rich in calcium, potassium, phosphorus, sodium and iron, as well as vitamins A, B, C. The phytochemical 3-n-butyl phthalide, one of the components that gives celery its characteristic smell and taste, is especially potent as an anti-tumor agent. Along with the compound sedanolide, an aromatic ingredient also found in celery, 3-n-butyl phthalide significantly reduces the incidence of tumors in laboratory animals. It is said to decrease nervousness, and is used as an acid neutralizer.

Carrot

The carrot is the king of the vegetables. It is the richest source of pro-vitamin A carotenes among commonly consumed vegetables. But unlike vitamin A, beta carotene and other carotenes in carrots do not cause toxicity. Beta carotene is also a powerful antioxidant. Carrots also contain vitamins B, C, D, E, K, riboflavin, niacin, calcium, potassium, phosphorus, sodium, and iron. Carrots have repeatedly shown to nourish the optic nerve and significantly improve eyesight.

Capsicum

This is an excellent source of many essential nutrients. By weight, red peppers have three times as much vitamin C as citrus fruit. Moreover, red peppers are a very good source of beta carotene, and they offer a good amount of fiber and vitamin B6. Because capsicum stimulates circulation and enhances blood flow, it is considered food for the circulatory system and as a digestive aid. Red peppers are one of few foods that contain lycopene, a phytochemical that may help prevent various forms of cancer.

FRUIT

Yes, dogs can and do eat fruit. Wild dogs - domestic dogs, they all do it! Remember dogs are omnivores. They can eat almost anything. Fruits are mostly water. After that, the major nutrient in fruit is soluble carbohydrate. That is simple sugars. Energy foods. Fruit contains lots of fiber. It also contains vitamins, enzymes and antioxidants. Because fruit is a whole food, it also contains minerals, small amounts of protein and small amounts of fat. Two nutrients present in most raw fruits, vitamin A as carotene and vitamin C, make fruit a valuable food for your dog. The enzymes present in raw fruit, also make it important as part of your dog's diet, particularly if your dog is past middle age and showing the beginnings of degenerative disease.

Is it essential that dogs eat fruit?

No. All of the nutrients present in fruit can be obtained from other sources. However, by adding fruit to the diet, we ensure a wide variety of healthy foods. This gives the greatest chance of providing a balanced diet with plenty of longevity and immune system promoting nutrients. Any fruit can be fed to dogs, however tropical fruits are a particularly valuable food as they contain lots of antioxidants. Scientists have discovered that the enzymes and antioxidants present in fruit, many of which have not yet been identified, keep the skin and indeed the whole body free of degeneration and old age diseases.

Whole Apple

Unpeeled apples are especially high in non-pro-vitamin A carotenes and pectin. Pectin is a remarkable type of fiber that has been shown to exert a number of beneficial effects. Due to its gel forming fiber, it can improve the intestinal muscle's ability to push waste through the gastrointestinal tract. Pectin also binds to and eliminates toxins in the gut. Apples are also rich in beta carotene and vitamin C as well as several B complex vitamins including vitamin B6, folic acid and lots of potassium.

Whole Pear

Pears are an excellent source of water-soluble fiber, including pectin, which makes them useful in toning the intestines. Fresh pears contain potassium, which is necessary for maintaining heartbeat, muscle contraction, nerve transmission, and carbohydrate metabolism. Pears also contain Vitamin C. An important antioxidant, Vitamin C is essential for helping prevent free radical damage.

Whole Grapefruit

Grapefruit is a good source of flavonoids, water soluble fibers, potassium, vitamin C, and folic acid. Grapefruit, like other citrus fruits has been shown to exert some anticancer effects in both human and animal studies. Grapefruit pectin has been shown to possess similar cholesterol

lowering action to other fruit pectins. The whole fruit contains more pectin than the juice. Recently, grapefruit has been shown to normalize hematocrit levels. The word hematocrit refers to the percentage of red blood cells per volume of blood. Low hematocrit levels usually reflect anemia. High hematocrit levels may reflect severe dehydration or an increased number of red blood cells. Grapefruit seeds are well known as an anti-fungal agent in that their consumption kills many different types of parasites and assists the body in producing beneficial bacteria. A biologically active natural ingredient found in the seeds kills strep, staph, salmonella, e.coli, candida, herpes, influenza, parasites, fungi and traveler's diarrhea, and is used as an antibiotic, anti fungal, antiprotozoan and antiviral.

Whole Orange

Everyone knows that oranges are an excellent source of vitamin C, but they have more to offer nutritionally than just this nutrient. One orange contains generous levels of folate (folic acid), potassium, and thiamin, as well as some calcium and magnesium. Equally important to the nutritional value of oranges is their supply of flavonoids, making oranges a valuable aid in strengthening the immune system, supporting connective tissues, and promoting overall good health. Oranges have been shown to protect against cancer, and fight viral infections.

WHOLE EGG

Eggs are absolutely brilliant nutrition for your dog. Eggs are a whole food, and often regarded as being the perfect protein source. It is the one against which all other proteins are measured. Eggs contain a full compliment of minerals, including excellent levels of calcium (mostly in the yolk), all the vitamins except vitamin C and a range of high quality saturated and unsaturated fatty acids, the nutrient lecithin and the whole range of enzymes and other longevity factors always present in raw foods. The shell is removed in order to balance the calcium requirements in a natural diet. Egg yolks are an essential food for a dog with skin problems. They contain sulphur containing amino acids, biotin, vitamin A, essential fatty acids and zinc.

FLAX SEED

Flaxseed has been used for more than 10,000 years. The oil of the seed is a rich source of Essential Fatty Acids. Essential Fats, or Essential Fatty Acids (EFAs) are essential nutrients that the body can't produce itself. The only way to obtain these nutrients is through diet. EFAs are polyunsaturated fats, which are considered "good" fats. EFAs contribute to the healthy functioning of cell membranes, and are also critical for the synthesis of eicosanoids, a family of hormone-like substances that help in cell maintenance on a minute-to-minute basis. Just like other essential vitamins and minerals, EFAs are necessary for good health.

Flaxseed contains bioactive compounds called lignans, which have been proven to prevent cancer. Once consumed, lignans found in flaxseed are converted by bacterial action in the colon to mammalian lignans. They are then circulated through the intestinal tract and liver where their action is potentiated. In the body, mammalian lignans have estrogen-like and anti-estrogen effects. Scientists believe the effects of lignans on estrogen metabolism, in addition to their antioxidant properties, may explain why diets rich in lignans have a lower incidence of cancer. Evidence suggests that lignans may also be antioxidants, although the strength of their antioxidant activity is not yet clear. Other studies indicate flax lignans reduce cholesterol and prevent diabetes in animals. So far, scientists have isolated at least three flaxseed components

with potential health benefits. The first is fiber, valuable for intestinal health. The benefits of the other two substances, alpha-linolenic acid (a type of omega-3 fatty acid) and lignans, suggests that these components may be helpful in prevention of heart disease and perhaps in treatment of chronic kidney disease.

GARLIC

Garlic is nature's antibiotic and often called nature's wonder drug. There is no doubt that garlic does confer some health advantages. Garlic has been found to have effective antimicrobial properties, inhibiting the growth of both bacteria and fungi. Garlic helps stabilize blood pressure and gives a good solid boost to the immune system, keeping at bay infections of various sorts particularly upper respiratory tract infections. Much of its success is due to various compounds of sulphur. Garlic is a health building and disease preventing herb. It is rich in potassium, zinc, vitamins A and C, and selenium. It also contains calcium, manganese, copper, vitamin B1 and some iron.

KELP

Kelp contains over 60 minerals and elements, 21 amino acids and simple and complex carbohydrates, which promotes glandular health, especially the pituitary, adrenal and thyroid glands. Kelp supplies a natural source of iodine and acts as an antibiotic to kill germs.

ALFALFA

Alfalfa helps the body assimilate protein, calcium and other nutrients. This herb is a body cleanser, infection fighter and natural deodorizer. It is the richest land source of trace minerals and contains vitamins A, C, E, K, B and D. Alfalfa also contains bioflavonoids, and eight digestive enzymes to promote proper assimilation of foods.

COD LIVER OIL, VITAMIN E, ZINC OXIDE AND MANGANESE OXIDE

Recently we had added further supplementation of these four additional ingredients. Scientific studies and recommendations from our staff nutritionist have influenced us to add these important and natural ingredients to the diets. Although these healthy ingredients are added in nominally small quantities, they support the new evidence that these ingredients are needed to form a more complete and fully nutritionally based product. We will always make changes when scientific evidence supports the change as beneficial to the needs of the animals we serve. We feel that the addition of these natural ingredients have made our products even better.

Cod Liver Oil - Natural

An excellent source of vitamin A and D and the omega-3 fatty acids. Proven to be an excellent source for improving coat quality.

Vitamin E

Important vitamin's main function in the diet and in the body is as a potent antioxidant.

Zinc Oxide

This ingredient is important to promote good hair coat and promotes optimal growth and better activity levels.

Manganese Oxide

This micromineral functions as a component of several cell enzymes that catalyze metabolic reactions. Benefits in the diet include Increased growth, aids in reproduction and helps to balance lipid metabolism.