

# Magnolia House Veterinary Clinic

## FEEDING GUIDELINES FOR DOGS AND CATS

It can be difficult to determine what the best diet for our pets might be these days, with so many choices in front of us, and so much information (and misinformation!) available especially on the internet. The bottom line when it comes to diets is that *there is no one perfect diet* that will suit every single dog or cat!

The important factors to consider when choosing a diet are:

- age of your pet
- any underlying health or lifestyle concerns (e.g. kidney disease, pregnancy)
- your pet's activity levels
- whether your pet is neutered or entire (neutering decreases calorie requirements by about 25%)
- your pet's preferences (dry, canned, pouches, flavours)
- diet ingredients
- quality control of that diet

### HOW TO ANALYSE FOOD LABELS

The European Pet Food Industry Federation (FEDIAF) is the body which sets out the nutrient requirements for pet food. These are the requirements for all major (protein, fat, carbohydrates) and minor (vitamins and minerals) nutrients which the diet must contain in order to be considered complete - that is, a diet which will meet all the animal's nutritional needs and not cause any deficiencies. UK Pet Food (previously Pet Food Manufacturers Association, PFMA) is the UK member of FEDIAF.

Any pet food manufacturer who is a listed member of UK Pet Food or FEDIAF has to meet these nutritional requirements. In addition, they have to have strict quality controls in place, which include regular checks for contaminants or sources of infection. However, UK Pet Food and FEDIAF membership is voluntary, and there are a number of pet food manufacturers who are not members. This does not automatically mean their food is not adequate, but it makes it much more difficult and not always possible to verify.

#### **Pet food labels are legally required to contain the following:**

- name and product description (including intended species), whether the food is complete or complimentary, and the intended lifestage (e.g. adult vs puppy or kitten)
- composition (ingredients list)
- analytical constituents (information about nutrient levels)
- information about additives
- best before date and batch number
- the name of the producer or the distributor and how to contact them for further information
- feeding instructions
- weight and/or quantity statement

Some words on pet food labels have no legal meaning - for example: premium, holistic, hypoallergenic, natural. There is nothing to stop a particular manufacturer from having those words on the label, and they often do not mean very much. *There is NO commercially available pet food that is actually hypoallergenic* in the medical meaning of the word - there are some medically hypoallergenic prescription diets however.

Ingredients on the food label are listed in the order of wet weight, from highest to lowest. For healthy dogs and cats of all ages, a named meat protein should be the first listed ingredient.

Carbohydrates are sometimes not listed, but their proportion can be worked out by subtracting the other ingredients (usually protein, fat, moisture and ash - ash is minerals) from 100%. Carbohydrates include sugars, starches and fibre.

Amount of water in the food needs to be considered. Analytical constituents are listed on "as fed" basis, including the water. Most dry foods will have approximately 5-8% water, and most wet (cans, pouches) food will have 75-80% water.

For example, compare a canned diet that has 10% protein, 8% fat, 4% fibre and 78% water; with a dry diet that has 38% protein, 25% fat, 32% fibre and 5% water.

At first glance, you could easily think that the wet food is not very good - it has less protein, less fat, less carbs. However, they have to be compared on dry matter basis - water is not a nutrient as no calories come from water, so it has to be excluded.

And now for some maths - in case you thought this would be easy!

*Wet diet*

1. Take the water out, so from 100% subtract 78% - we are left with 22% dry matter, or 0.22.
2. To obtain the ingredient analysis on dry matter basis, we now take each ingredient and divide the number by 0.22.
3. Protein =  $10/0.22 = 45.4\%$ . Fat =  $8/0.22 = 36.4\%$ . Fibre =  $4/0.22 = 18.2\%$

*Dry diet*

1. Subtract 5% water from 100% - we are left with 95% dry matter, or 0.95.
2. Divide each ingredient % by 0.95.
3. Protein =  $38/0.95 = 40\%$ . Fat =  $25/0.95 = 26.3\%$ . Fibre =  $32/0.95 = 33.7\%$ .

So the wet food is actually higher in fat and protein than the dry food! Not necessarily what you would expect if you just glance at the numbers on the label.

Some useful further reading:

1. <https://www.ukpetfood.org>
2. <https://www.ukpetfood.org/information-centre/industry-guidance/codes-of-practice-guidelines.html>

The second resource contains tables of minimum levels for all major and minor nutrients that dog and cat foods should contain - the tables are on pages 12-17.

A quick note on meat derivatives and meat meal - these are often seen on pet food labels, and there are an unfortunate number of internet sites which misinterpret what they actually are. *Meat derivatives or by-products* are those parts of the carcass which are either surplus to human consumption or not normally eaten by people in the UK. They include organ meat and poorer muscle cuts, and are always sourced from animals which have been passed as fit for human consumption. Anything else would be illegal in the UK. *Meat meal* is simply dried and powdered end product of meat processing, i.e. it is meat in dry powder form.

## ALTERNATIVE DIETS - RAW, GRAIN FREE, VEGETARIAN, VEGAN

### Raw diets - separating myths from facts

Raw diets are a real hot-button topic these days! While as a practice we tend not to be overly prescriptive about recommending specific diets and manufacturers when it comes to healthy pets, and we are happy to talk about raw feeding, there seems to be an increase in both popularity and misinformation surrounding raw diets, and we are seeing some worrying cases where raw diets are being used inappropriately. So let's explore some of these issues:

#### Myth

- raw diets are more natural, and closer to what the dog's ancestor the wolf is eating in the wild

#### Fact

- dogs have not actually evolved from wolves; dogs and wolves split from a common ancestor
- dogs have been domesticated for over 15 000, and probably closer to 30 000 years; during this time they have been fed an omnivore diet including grains, and have had plenty of time to adapt to this diet change
- there are 36 regions of the genome that differ between dogs and wolves, and 10 of these are in the areas of carbohydrate digestion, i.e. dogs are much more capable of digesting carbohydrates than wolves are
- wolves have a three times higher calorie requirement than dogs (on an equivalent body weight basis) but a similar nutrient requirement, and are therefore much less likely to have problems with nutrient deficiencies in their diet (e.g. the wild carcass diet may not contain much zinc, but because the wolf is eating 3 times as much of it compared to a dog, the wolf will get 3 times as much zinc as the dog, which will likely be enough not to show deficiencies)

#### Myth

- commercial foods contain dead pets or roadkill

#### Fact

- that is illegal in the UK

#### Myth

- raw food improves the immune system

#### Fact

- no evidence for this exists

#### Myth

- raw food will improve your dog or cat's allergies and gastrointestinal problems

#### Fact

- raw food may improve allergy symptoms in pets ONLY IF they are food allergic in the first place (only about 10% of allergic pets have food allergies) AND IF the protein they were being fed in raw form is one they were not allergic to. In other words, it's not the raw aspect that helps, it's the type of protein being fed
- raw food is highly digestible, so it could help some pets with CERTAIN TYPES of gastrointestinal problems (this is actually the only situation in which we *occasionally* recommend a raw food trial, and it would be a very individualised recommendation; this is a tricky situation because there are dozens of different causes of gastrointestinal symptoms, and whether a diet change of any sort is appropriate will depend on many factors, so this should always be discussed with your vet first)

#### Myth

- raw food and bones will help your pet's teeth

#### Fact

- the bones may help your pet's teeth look better as there will be less calculus, but they have not been shown to have any protection against periodontal disease (gingivitis, plaque, infections, loosening of teeth)
- pets eating raw bones on a regular basis are more likely to develop tooth fractures

## **Myth**

- raw fed pets will have firmer stools

## **Fact**

- this one is actually true in most cases

## **Possible problems with raw feeding:**

- broken teeth
- bone foreign bodies
- parasites (Toxoplasma, Neospora, worm eggs) - some of these can be transmitted to people
- bacterial infections (Salmonella, Campylobacter, Listeria) - these can be transmitted to people, either by handling the meat or by contact with the pet's faeces
- nutritional deficiencies due to incomplete diet
- raw diets increase pathogenic bacteria in the gut, and decrease some of the beneficial bacteria including *Lactobacillus*

## **How to feed raw safely**

If you choose to feed raw, we would like to make sure that you have enough information to be able to do so safely. Below are a few basic guidelines:

1. Feed a complete diet. This means either using a commercially prepared raw diet from one of the UK Pet Food registered raw pet food manufacturers (listed below) OR preparing a home made raw diet under the guidance of a veterinary nutritionist (a licensed veterinary surgeon who is a recognised specialist in veterinary nutrition)
2. Avoid bones or only feed bones under supervision
3. Wash all hands, bowls and surfaces after preparing, handling and feeding the raw meat
4. Small children, pregnant women, elderly and immunocompromised people should avoid handling the raw meat
5. Do not re-freeze the meat after it has been defrosted once

More information, including a list of UK Pet Food registered raw food manufacturers can be found on

<https://www.ukpetfood.org/resource/raw-feeding-factsheet.html>

## **Grain free diets**

It is very rare for dogs to have gluten intolerance, and a case of proven feline gluten intolerance has never been reported thus far. The one exception to this are certain dog breeds - Irish Red Setters where gluten causes gastrointestinal problems, and a few Border Terriers where it can contribute to a cramping syndrome. Grains are also very rarely involved in allergic skin disease.

There have been multiple reports in the USA recently of dogs developing Dilated Cardiomyopathy (a serious type of heart disease causing heart failure) thought to be as a result of being fed grain free diets. The exact cause is yet to be completely defined, but is currently thought to be related to the potatoes and legumes in the grain free diets blocking absorption of taurine. Taurine deficiency is a known cause of dilated cardiomyopathy.

Grain free diets can be higher in fat than the average pet food, and may not be appropriate for pets with certain health problems (e.g. pancreatitis, obesity, hyperlipidemia).

## Vegetarian and vegan diets

Dogs are omnivores and it is possible to feed them a vegetarian diet, BUT it has to be properly composed and balanced with guidance from a veterinary nutritionist. We cannot stress this enough - a home made diet is extremely likely to be nutrient deficient otherwise. Vegan diets are best avoided.

Cats are obligate carnivores and really should not be fed a vegetarian diet, though it can be done. Again, it MUST be to a recipe prepared by a veterinary nutritionist, this is even more vital for cats than for dogs. Vegan diets are definitely NOT suitable for cats at all.

More information can be found on

<https://www.ukpetfood.org/resource/vegetarian-and-vegan-diets-factsheet.html>

## FEEDING PUPPIES AND KITTENS

The growth phase is quite demanding nutritionally, and puppies and kittens are much less tolerant of incomplete or alternative diets than adults. We therefore recommend feeding complete commercial puppy and kitten diets during the growth stage.

Once the growth phase is complete, puppies and kittens can be transitioned to adult stage diets. Kittens and small to medium breed dogs will finish growing by 12 months. Large breeds (Labradors, Rottweilers, Dobermans) may continue growing until 15 months of age, and giant breeds (Newfoundlands, Irish Wolfhounds, Great Danes) until 18 months of age.

**Large and giant breed dogs** have one very important consideration when it comes to diet composition - they need a different calcium to phosphorus ration compared with smaller breeds. Too much calcium, or an incorrect proportion of calcium to phosphorus can lead to permanent joint problems. The ideal calcium to phosphorus ratio for these breeds is 1.2:1 - 1.4:1. Large and giant breed puppies should be fed a commercial diet that is labelled as appropriate for large breed puppies - these diets will have the correct calcium to phosphorus ration, and should be fed until the growth phase is complete (15-18m of age, see above). At the time of writing, I am not aware of any raw diet, or any diet labelled as suitable for all life stages, that meets the requirements of large breed puppies.

Puppies and kittens need to be fed more frequent meals than adult dogs and cats, as they are not able to regulate their blood sugar levels as well as adults.

We would recommend the following meal schedule:

- 4 meals per day until 3 months of age
- 3 meals per day until 6 months of age
- 2 meals per day until finished growing
- continue with 1 or 2 meals per day thereafter

Some cats are grazers, and prefer to eat small amounts throughout the day. Dry food can be left out for them and replaced every 24 hours, but any wet food offered should be removed and discarded within an hour or two, especially in warm weather, as it will spoil quickly.

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