

PERSONALISED GENETIC HEALTH

Your  
**Australian Kelpie's**  
Genetic Health Book



*Orivet*  
Genetic Pet Care

# Congratulations!

## You're about to discover the story of your dog's history and genetic health

Thank you for choosing OriVet Genetic Health Book to uncover the story of Your Australian Kelpie's genetic health.

Congratulations on taking the steps to learn about your dog's unique nature and to understand his special health needs. Knowing your dog's unique genetic makeup is more than a novelty - it is a medical necessity. Your dog's breed is his ancestral genetic signature and carries unique health concerns much the same as his age, sex and lifestyle. We believe that combining this knowledge enables you to provide a lifetime of excellent care and live a happier life with your friend.

In this book, you will find detailed information specific to Your Australian Kelpie's health.

It is important to carefully review your entire report and discuss the results with your veterinarian to gain the most value out of your dog's Genetic Health Report. Your vet can help you use your report to help better care for your dog. The next time you visit your veterinarian, consider taking this book with you and ask for specific screening that may be available for your dog.

**Dr. Noam Pik**

OriVet Managing director



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## Australian Kelpie Traits

A magnificent herding dog that thrives in open space. Usually not suited to apartment life.

They are easily trained and have a great appetite for work that has earned them a great reputation in their homeland.



Australian Kelpies are extremely tough and hardy dogs that can appear tireless. Need lots of exercise.

Will enjoy activities such as dog agility events, flyball, retrieving, Frisbee, rally, and competitive obedience.

## Ancestral Genetics

## Ancestral Genetics

**General Breed Description**

The Australian Kelpie is a medium sized dog with an athletic appearance. In Australia there are two registries for Kelpies, with Working Kelpies being registered with the Working Kelpie Council (WCK) and generally being bred for their ability to work, rather than for their appearance. Show or "Bench" Kelpies are registered with the Australian National Kennel Council (ANKC) and places stricter limits on a Kelpie's appearance, such as coat type and colour.

A Working Kelpie has no specified height or weight, and comes in many colours. He has a short flat coat and may have a dense undercoat, and his coat may be longer around the neck and on the legs and tail. Ears are usually pricked, but can be part dropped. Colour can be black, blue or red, with or without tan. Tan can range from dark to almost cream. White markings can also be present. The main focus is on conformation and the ability of the dog to perform his work as a sheepdog. He must be able to work all day, be keen to work and have a natural ability to work sheep. The description of the Working Kelpie as described by the WCK covers mainly aspects of conformation and working ability, describing a strong, muscular but lithe and supple dog with a smooth, effortless stride. The body of a Kelpie is slightly longer than he stands tall (at the withers).

A Show Kelpie has a height listed as 46-51 cm for dogs and 43-48 cm for bitches with the ANKC. Accepted colours are black, black and tan, red, red and tan, fawn, chocolate and smoke blue. The conformational description is similar, with more focus on the details of the head, eyes and ears, as well as the coat type and colour (as listed). In general the head is in proportion to the size of the dog, with pricked ears that are set well apart on the skull and are well haired to prevent foreign body entry into the ear canal. The muzzle is tapered and has close fitting cheeks, and the eyes are almond shaped and intelligent. Eye colour is brown in Show Kelpies.

**History**

The Australian Kelpie was developed by settlers who needed a sheepdog that could work in the wide open spaces and harsh environmental conditions of the Australian bush. Many landowners imported "collies" (herding dogs) from England and Scotland, and the foundation stock of the Australian Kelpie has been established to be several pairs of black and tan short-haired working collies from Scotland. These dogs proved to be ideal for the Australian conditions, and by chance their owners came together in a relatively small area of New South Wales, where close intermixing in the 1870s set the type for the breed. The name "Kelpie" comes from an early successful breeding bitch named "Kelpie". A daughter of hers, who was also a very good breeding bitch, was also named "Kelpie", and her pups were often referred to as "Kelpie's pups". Later they were just called "Kelpies", as were all dogs of the same type at the time of the turn of the century. Another early example of the breed was a black dog named "the Barb" – named after the Melbourne Cup

## Ancestral Genetics

winning horse. Since this time, black Kelpies were often (and still can be) referred to as “barbs”.

It is also interesting to note that the Australian Kelpie was established as a recognised breed and first registered in 1902 – around the same time that the Border collie was being established as a separate breed from the collie (“Scotch” collie). Contrary to popular belief, red Kelpies were not due to the influence of “dingo blood”. One of the foundation breeding pairs from Scotland were mated while on the ship on the way to Australia, and the litter they produced contained black and tan pups with one pup being red. This had been common in the bloodlines that the pair derived from, and they continued to produce the odd red pup. The red colour is recessive, although many at the time believed this colouration occurred due to breeding with dingoes, as these dogs apparently looked somewhat like dingoes.

## Breed Temperament and Behaviour

The Australian Kelpie is a highly active and very intelligent breed with a natural instinct for working sheep. He is a loyal dog who is keen to please, and requires companionship as well as a high level of exercise, both mental and physical. Some have described the Kelpie as a “one man dog”, due to his breeding as a herding dog, who would tend to work for and respond to the whistled commands of his master. The Australian Kelpie is gentle by nature, and tends to get along well with children and other animals.

The Australian Kelpie may easily become bored if not provided with sufficient exercise and mental stimulation. For instance, the family that spends all day at work and leaves the Kelpie to himself in a yard are likely to find their dog developing bad social habits and/or destructive behaviour due to boredom. Constant stimulation and activity are the conditions under which the Kelpie thrives.

## Requirements and Needs

The Australian Kelpie requires little coat maintenance; just an occasional bath and brush as needed for the pet Kelpie. A Kelpie should never be allowed to roam free at night. However, it should be remembered that it is an offence to keep any dog chained on a short chain (3M or less) for 24 hours without exercise breaks. A Kelpie should have a secure place to rest and sleep with shade, adequate water and shelter and should not be able to become tangled if chained.

Kelpies are easy to housetrain, and need to be trained to rest at night, so that they are ready for the activity and work required of them during the day. Puppy school for socialisation and obedience classes are essential for any Kelpie that is kept as a pet. Any Kelpie kept as a pet will also require great commitment from his owner to his ongoing requirements for mental and physical stimulation on a daily basis.



**Best Suited for**

The Australian Working Kelpie is definitely best suited to a working life herding sheep or other livestock (e.g. cattle, goats or even birds). He can make a good family pet if he has a "companion" owner present for most of the day and is given enough suitable activity to keep his active mind and body exercised. Bench Kelpies would probably be more suitable as family pets, and will also excel at sporting activities such as trialling and agility.





## Genetic Disease

## Genetic Disease

## Inherited Diseases and Diseases Particularly Common to the Breed



### 1. Cerebellar Abiotrophy (Cerebellar ataxia)

This is a neurologic condition, and has been reported in a number of breeds, including the Australian Kelpie. It is an inherited disease and in many affected breeds signs appear in young puppies, however in a few breeds signs do not appear until they are several months old, or even when they are several years old. Abiotrophy literally means loss of vital nutritional substances, which are needed by the cell. A certain type of cell called the Purkinje cell in the cerebellum is affected by this disease, and the progressive loss of these cells means the cerebellum can no longer do its job properly.

The cerebellum is responsible for coordinating balance and movement, and the first signs are usually loss of balance, trouble cornering and falling over when shaking the head. Often affected animals will have a tremor that disappears when they are resting – this is often most noticeable in the head. The disease is slowly progressive, and eventually dogs cannot walk without falling repeatedly, or cannot rise to their feet. Eventually these dogs usually require euthanasia due to their condition.

While the signs of cerebellar abiotrophy are similar in all breeds, the age of onset of signs and the rate at which the disease progresses do differ quite a lot from breed to breed. In some breeds, such as Labrador retrievers, the disease is first seen in puppies 6 – 12 weeks of age, and progresses rapidly. In contrast to this, the disease is not seen in the American Staffordshire terrier until 3 – 5 years of age, and progresses over 2 – 4 years.

In the Australian Kelpie cerebellar abiotrophy is usually seen from around 5-12 weeks of age, and progresses rapidly. There is no treatment for this disease, and except for the American staffy, there is no DNA test available as yet. Diagnosis is based on breed, clinical signs and clinical progression. It can only be definitively diagnosed on post mortem examination, and this can be important for breeding establishments. It is important to distinguish this disease from cerebellar hypoplasia, a developmental condition that causes similar signs but which is not progressive, and also hydrocephalus, which has also been documented in a litter of Australian Kelpies that suffered from cerebellar abiotrophy.

#### Cerebellar ataxia screening:

1. No screening available at this time.

### 2. Globoid Cell Leukodystrophy (Krabbe Disease)

This is a type of storage disease seen most commonly in the West Highland white terrier and Cairn terrier, and is inherited as an autosomal recessive disease. It is seen in young animals, which lack a critical enzyme in brain cells, resulting in accumulation of an abnormal substance within certain cells in the brain. Affected animals are born normal, but changes are normally seen by 11 –

## Genetic Disease

30 weeks of age. The white matter of the brain is affected, and on scans the brain appears much reduced in size. This results in muscle weakness and ataxia (incoordination in the gait) which starts in the hind limbs and later moves to the front legs. Muscle tremors are seen, and behavioural changes can also occur. Seizures and blindness are other common signs. The disease is progressive and invariably fatal.

This disease also occurs in the Irish setter, and for the three breeds mentioned so far, the mutation responsible for the disease has been determined, and a genetic test is available for screening for the condition. There are two different mutations that have been determined to date, both of which result in the formation and accumulation of "globoid cells" within the white matter of the brain. This condition also affects several other breeds of dog, including the Australian Kelpie. The genetic mutation for these other breeds has yet to be determined. Krabbe disease is fatal in the Kelpie by around 12 months of age, and there is no treatment or cure available. Diagnosis is by necropsy examination.

**Screening for globoid cell leukodystrophy:**

1. None available at this time.

### 3. Progressive Retinal Atrophy, Generalised

This is a collection of several inherited diseases affecting the retina that cause blindness. Each breed exhibits a specific age of onset and pattern of inheritance, and the actual mechanism by which the retina loses function can vary. The result of almost all types of PRA is similar – generally an initial night blindness, with a slow deterioration of vision until the dog is completely blind. The age at which the dog becomes fully blind also varies depending on the breed. Affected eyes are not painful, unless complicated by a secondary problem, such as cataract or uveitis (inflammation due to a leaking cataract).

Progressive retinal atrophy (PRA) has been classified in several different ways. The simplest of these is by age of onset. Early onset PRA occurs when the affected dog is night blind from birth, and generally is completely blind between 1 – 5 years of age. Late onset PRA is where the dog is night blind at some time over 1 year of age, and full blindness will occur at a somewhat later stage in life.

The Australian Kelpie suffers from a mid-to-late onset form of PRA that tends to be seen from around 18 months of age onwards. The genetic cause of this PRA has not yet been determined; hence a DNA test is not available for PRA in this breed. PRA is diagnosed in the Kelpie via examination of the retina by a veterinary ophthalmologist, with or without electroretinography (ERG). These are generally specialist procedures, and in some animals with later onset PRA, serial eye examinations may be required before

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the signs of retinal degeneration become apparent. ERG is a very sensitive method of detecting loss of photoreceptor function, and can be a very good screening test for puppies that may have an earlier onset form of PRA.

Dogs generally adapt quite well to blindness - especially when it develops gradually - as long as their surroundings remain familiar (e.g. furniture does not get rearranged, they do not move house etc). They are best kept on a lead outside the yard, and care should be taken not to startle them. Balls containing bells can be used as toys for mental stimulation. Obviously they are unable to continue as working dogs however.

**Screening for PRA:**

1. Direct retinal examination by veterinary ophthalmologist – recommend annually from 1 year.
2. Electroretinography.

**4. Hip Dysplasia**

Hip dysplasia is a developmental problem of the hip joint that causes "loose" hip joints (hip joint laxity) and leads to degenerative joint disease (arthritis). It occurs in many dog breeds, especially larger breeds, and also can be seen in the Australian Kelpie. There is a genetic predisposition to develop this condition, but the mode of inheritance is complex, and involves many genes (polygenic). Development of the disease is also influenced by environmental factors (e.g. nutrition). Because of the complexity of the genetics associated with canine hip dysplasia, normal parents can still produce affected offspring. When this occurs the same mating should not be repeated.

Hip dysplasia is uncommon in the Australian working Kelpie, although it is becoming more common in bench lines, with a prevalence of around 9% recorded in the Australian Kelpie in the USA (Orthopedic Foundation for Animals screening statistics). All breeding animals should undergo a recognised screening program with a registry in your country. This means that the amount of abnormality in the hip joint is measured in a consistent manner from dog to dog.

Hip dysplasia can be painful at 5-10 months of age, and affected dogs may have trouble with walking up stairs, or show stiffness after exercise. Pain can become very severe or crippling as the dog ages and arthritic changes occur in the joints. The hip dysplasia itself is present in affected dogs from a young age, and screening is usually carried out at 12 months up to 2 years of age. Screening at a younger age (4-6 months) allows for possible surgery to be carried out with the aim of correcting the looseness in the hips. However many registries, such as the AVA/ANKC Canine Hip and Elbow Dysplasia Scheme (CHEDS) will only certify dogs that are x-rayed at over 1 year of age.

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**Hip dysplasia screening:**

1. Recognised radiographic screening technique under general anaesthesia at 6 – 24 months of age and assessed by accredited radiologist.

Older dogs with pain due to arthritic change generally have their pain managed, although surgical total hip replacement may be considered in severe cases.

**5. Luxating patella**

Luxating patella refers to a kneecap that can dislocate in and out of the groove that it normally sits in. Medial luxation (dislocation inwards, or towards the other leg) is considered heritable, and is usually seen in relatively young dogs. It occurs more commonly in smaller breeds of dogs, but can also be seen in the Australian Kelpie.

Luxating patella is a congenital problem, but the degree to which the patella can move out of the patellar groove tends to increase over time. The degree of luxation can be graded on a scale of 1 – 4, based on clinical examination by the veterinarian and on the amount of change to the knee joint (stifle) on x-ray. Breed registries are available and normal scores can be given for those tested at 12 months of age or older.

**Screening for luxating patella:**

1. Easily detected on examination and manipulation by experienced veterinarian – should check for this in puppies if is a predisposed breed.
2. Radiography and assessment by radiologist for breeding animals in breeds requiring certification for breeding registries – usually done at 12 – 18 months of age.

Clinical signs of luxating patella may be hard to detect initially. Dogs may “skip” a step when running, or “bunny hop” in the back legs. Untreated, luxating patella will wear away at the bone of the leg on each side of the patellar groove, and arthritis will develop. This can lead to severe pain and lameness as a dog gets older.

In young dogs, surgery is generally recommended to correct the problem before bony changes and arthritis sets in. Any degree of luxation over a grade 1 should be corrected surgically. However surgery is less likely to be helpful once arthritis is present, and in older dogs’ treatment is generally aimed at managing pain. It is advisable not to breed with animals affected by this condition.

**6. Cutaneous Asthenia (Ehlers-Danlos Syndrome)**

This is a group of collagen disorders that mainly affect the skin, resulting in skin with the tensile strength that is only 1/27th that of normal skin. Some collagen defects are transmitted as dominant traits, while others are recessively inherited. Cutaneous asthenia has been reported to occur in the Australian Kelpie.

The result of this condition is a puppy with skin that tears very easily with only minor trauma (such as scratching) and tends to heal with large scars. The skin often hangs in loose folds, and will stretch excessively. Skin tears will heal normally if sutured, but can become larger if left untreated. Sometimes other abnormalities may also be present, such as developmental eye abnormalities, cataracts, loose joints, lumps under the skin and easily bruised skin

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### Screening for cutaneous asthenia:

1. There is currently no screening to detect carriers of this disease – it will be readily apparent in affected animals from a young age.

due to fragile blood vessels.

Diagnosis can be made by performing a skin extensibility test, and skin biopsies can help confirm the diagnosis. There is no treatment, and management aims to reduce the risk of injury to the affected animal (e.g. padding sharp corners around the house, avoiding rough play or running where injury may occur, providing soft padded bedding etc). For the Australian working Kelpie, affected pups are generally euthanised. There is no cure for Ehlers-Danlos syndrome.

## Genetic Disease

**Other Conditions  
Which Are Less  
Common or Less  
Devastating In the  
Breed**

These conditions are reported to have a breed predilection in the Australian Kelpie, although they are less common than those mentioned earlier, or have less of an impact on the animal when they occur. Hence they are not covered in detail in this article, however further information can be found by clicking on any diseases that are highlighted. This list is not a comprehensive list of all diseases the Kelpie may be prone to.

Cataract  
Hypothyroidism  
Pannus  
Ventricular septal defect  
Developmental eye disorders (Microphthalmia, multiple colobomas)



Caring for your  
Australian Kelpie

## Caring for your Australian Kelpie

So now you know a little bit about your Australian Kelpie. And of course you have chosen the perfect one for you! So how do you sort through all the (sometimes contradictory) information about caring for your new puppy? There are several aspects of caring for your new dog that we would like to cover in a little detail. Firstly, we will summarise the ages that your puppy will need to visit the vet for general and routine visits, in order to provide him with the best preventative and protective medicine, in order to help him have the healthiest and happiest life possible.

Secondly, did you know that the number one cause of dogs being euthanised is behavioural problems? This results in more deaths than any single disease or cause of injury in any dog breed! So we will also cover some basics in socialising your puppy, and how to avoid some of the common causes of behaviour problems in dogs. No matter how perfect the breed (or line) you have chosen, raising a puppy is a huge commitment, and the biggest factor determining a puppy's behaviour and temperament as an adult is the socialisation and training that he receives – and this is all up to you!

Nutrition is another topic that can seem overwhelming initially, and many people will give you different advice. Mostly this will be well meaning, but rarely will it be based on scientific evidence. Occasionally it can be downright wrong. So we will try to present an overview of how to go about choosing the right diet for your puppy, based on scientific evidence. Also remember that your veterinarian knows your individual puppy's needs and can provide you with individual advice that suits his specific requirements as he grows and changes.



  
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Caring for your  
Australian KelpieRecommended schedule  
for taking your Australian Kelpie to see your vet

AGE	What The Vet Does	Diseases Tested For	Other Things Done At This Visit
6-8 weeks	Full examination and treat for parasites. Vaccination - 1st puppy vaccinations given	Consider <b>stool exam</b> for parasites as needed  Check for heart murmurs.	Weigh. Discuss feeding and care of puppy at home.
10-12 weeks	Full examination, check for parasites and treat as needed. 2nd puppy vaccination given. Begin heartworm, flea and internal parasite prevention program as indicated.	Check for heart murmurs.  Puppy Eye Exam - check for developmental eye disease	Weigh and assess growth rate. Discuss ongoing feeding. Arrange puppy school/ puppy pre-school classes. Start teeth cleaning.
14-16 weeks	Full examination, check for parasites and treat as needed. 3rd puppy vaccination given.	Check for heart murmurs - investigate fully any murmur that is still present.	Weigh and assess growth rate. Discuss ongoing feeding. Prepare for desexing surgery - e.g. blood screen, DNA testing
18-26 weeks	Full examination. Desexing surgery under general anaesthesia (unless breeding animal). Examine teeth fully.	Consider pre-anaesthetic <b>blood test</b>  Joint examination if indicated - e.g. hip dysplasia, patellas Possibly include <b>x-rays for hip dysplasia</b> screening while under anaesthesia. (Important for predisposed breeding animals)	Weigh and assess growth rate. Arrange to start obedience training when stitches out (after 2+ weeks)
1 year	Full examination 1st booster vaccination  Assess heartworm/flea/ parasite prevention program.	<b>Eye examination</b>  If applicable, pre-breeding +/- hip dysplasia screening	Weigh, assess size and growth rate. Assess diet and nutrition. Discuss ongoing training & exercise requirements.
2 years - repeat annually until 8 years	Annual full examination. Consider vaccination - core vaccination generally recommended every 3 years, but discuss with vet for your dog's individual needs. Non-core vaccine (eg kennel cough) still required annually if to be given.	<b>Eye examination</b>  Consider routine health check including blood work, thyroid test and urinalysis.  Detailed <b>dental examination</b>	Weigh. Assess body condition and adult nutrition program. Discuss ongoing exercise and training requirements.
8 years and annually thereafter	Annual full examination. Continue with individualised vaccination program as discussed with your vet.	Yearly <b>eye examination</b>  Annual <b>blood work, thyroid test and urinalysis</b> .  Detailed <b>dental examination</b>	Weigh and assess body condition, assess nutrition requirements. Assess joints and gait for possible arthritic change and assess exercise program needs.
8.5 years and annually thereafter	Full examination.	Yearly <b>eye examination</b>  Annual <b>blood work, thyroid test and urinalysis</b> as part of senior health check.  Detailed <b>dental examination</b>  Consider <b>cancer check</b>	Weigh and assess body condition, assess nutrition requirements. Assess movement and mental status, discuss any changes - possible early onset dementia etc.

The colours in the table above

Blue - refers to the time when your dog is a puppy (a true child)

Green - this time approximates your dog's adolescent period

Red - this is when your dog is an adult

Purple - this is when your dog is a senior (an "aged" adult)

Caring for your Australian Kelpie

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Note there can be some overlap in the ages at which your dog moves through the different life stages, just as there is for people. These coloured stages are a guide only.





## Behaviour & Training

## Behaviour &amp; Training

**Behaviour,  
Training and  
Socialisation**

Dogs are very social animals, and your puppy needs to be indoors with the family from the start. There is no such thing as a “good outdoor dog”. Puppies need to learn how to behave around different animals and people from a young age. This is called socialisation, and it is essential to prevent your puppy growing up to have problems with nervousness and aggression.

A puppy needs to be with his mum and littermates until he is 8 weeks old, while he learns from them how to get along with other dogs. Note that in many states of Australia it is illegal to sell or give away a puppy that is younger than 8 weeks of age. Once your puppy comes home you can start to train and socialise him straight away. You should always be gentle and positive with him – you should never punish or scare your pup. Anything that spooks your pup, especially between 8-12 weeks of age (his “vulnerable” period) can become a lifelong phobia. Yelling and hitting is never effective with any dog. Expose your puppy to all the things he will encounter as an adult – different people, dogs, sights, and sounds. Introduce new experiences gradually, and in a non-threatening manner. Ensure he has lots of his own toys that he can chew on.

Although your puppy cannot venture out into the big wide world until he has had all his puppy vaccinations, you can invite different types of people over for “puppy parties”, and enrol in puppy preschool, which is often run through your local vet clinic. These classes are a great way for him to meet and play with other puppies in a social setting. Playing and wrestling with other puppies is really important because it teaches him not to bite later in life (through learning “bite inhibition”). Your puppy needs to get used to all the different noises that happen around the house and outside, as well as being grabbed by the collar (see below), having his nails trimmed, being groomed, having his teeth cleaned, having people around his food and so on. This will prevent these situations from becoming issues for him when he is older. Teaching your pup to be a dog-friendly, people-friendly dog is your most important job. It keeps people safe, and it keeps him safe, and he will be more likely to be a happy and sociable dog.



## Behaviour &amp; Training

**It is important for the safety of your dog that he learns to accept being grabbed by the collar in times of emergency (eg if the door/gate is accidentally left open, or he is about to run out into traffic etc). All too often dogs learn to associate a collar grab with a negative experience, such as being put outside after play, or being dragged to a site of a misdeed for punishment.**

**The Gotcha Game**

This game is designed to teach your puppy to accept and enjoy being grabbed by the collar, so that if it becomes necessary in an emergency you should not have trouble performing it. Start with your pup inside on a lead, at mealtime.

Gently hold his collar for around a minute, then say "Gotcha!" and follow by giving him a piece of his food.

Practice this at least 25 times a day, always with a treat at the end.

Gradually work up to a slightly firmer grab of the collar. The aim is to build up over time to the type of collar grab you might need to make in an emergency situation. Interrupt play and other activities during the day to practice this game, so that your pup learns to accept this in more lifelike situations.

As important as socialisation for your puppy is training. Early training is key, as it provides mental stimulation, hones impulse control and helps prevent many behaviour problems associated with boredom, stress and inconsistent communication.

Enrol in obedience classes with your puppy. Ensure that the trainer uses positive reinforcement techniques. You can usually find a good trainer in your area by word of mouth or through your local vet clinic. Make sure you check out a session first, and see if the dogs and owners seem to be enjoying the lessons, and are engaged with the trainer/s. (Not just sitting around waiting while one person interacts with the trainer at a time.)

Obedience classes will teach both you and your puppy methods of good communication, while helping to build a strong bond between you. They also provide more opportunity for good socialisation. Practice what you learn at home as much as possible, even after the classes are finished. Training should be a lifelong pursuit. If the whole family can attend classes together you will see the best results, as consistency in communication with your puppy is key.

Remember to intersperse training times with plenty of play – your puppy can start learning from as soon as you bring him home, but he may have a short concentration span at first, and you want to make his learning as much fun as possible!

Your puppy should not run and jump on hard surfaces (such as concrete) the way adult dogs can. Growing bones are not as strong as adult ones, and are more prone to injury. Avoid high impact exercise for growing bodies.

**Behaviour & Training****Adolescence**

Adolescence is a critical time, when your dog's behaviour can go through large changes, not always for the better! It is important to continue working with your dog through this period until his behaviour stabilises into adulthood, usually around 2 – 3 years of age. It remains vital that the adolescent dog is socialised well, both outside and inside the home. Because bite inhibition may decrease, it is important to keep handfeeding, cleaning your dog's teeth, and continuing to allow him to play and wrestle with other dogs.

Training should be maintained to ensure that basic manners and household behaviour do not deteriorate – do not take earlier good behaviour as a puppy for granted. He is now developing adult doggy interests, which may provide a great distraction to training! Behaviour can deteriorate markedly and quickly during this time if your adolescent dog does not get out and socialise regularly and continue to meet new people, new dogs and get to see new places and experiences.

Note that during adolescence, especially in males, it is common for posturing to occur around other dogs – eg staring, snarling, growling, snapping and maybe even fighting. Often this can mean the end of a dog's socialisation. However, this is normal adolescent dog behaviour, generally reflecting a lack of self confidence. This behaviour will generally go away with continued socialisation as a dog develops confidence and no longer feels the need to prove themselves.

There is a need to assess any fighting behaviour as objectively as possible – and to react appropriately when your dog fights. Your dog may be a real pain for a period of time, but this does not necessarily mean he is dangerous! Fighting is normal behaviour in dogs, however causing another dog harm is not. Bite inhibition should remain intact, and the result of a fight should only be saliva around the head and neck. It is rare for a dog to injure another dog in a fight at this age. Injury, especially to the legs or belly, is an indicator of a serious problem, and should be addressed with your vet and/or behaviourist immediately.





# Games

## Games

**Doggy Games**

Variety is the spice of life, and just like us, puppies and dogs will get bored doing the same thing day in day out. You will soon learn that there are certain types of games that your dog enjoys more than others – often this will relate to his breed, and what “type” of dog he is. For example, Terriers often love to dig, while collies and working dogs will run all day!

**The Australian Kelpie is an Athlete, with certain attributes of Smart Cookie as well.**  
You will also get to know which games your dog likes to play.

**See if you recognise your dog here:**

**The Athlete** – dogs with endless energy to burn – will run all day. Often dogs from herding or hunting breeds.

**The Ball Hog** – obsessed with fetching and chasing just about anything. Often come from breeds that work with their mouth, such as retrievers and gun dogs.

**The Nose Dog** – loves nothing more than following his nose around and around. Often from breeds used to track scent, such as hounds, beagles.

**The Couch Potato** – master of the “do we have to?” look, just love sitting in front of the fire  
Examples include greyhounds, basset hounds, and bulldog.

**The Diggy Dog** – just loves to dig and dig.  
Often also like to chase small animals; breeds such as Terriers, or the dachshund.

**The Smart Cookie** – bored easily and loves to learn new things. Often from a breed used to performing work, such as herding livestock.

In general, dogs should have a morning and evening exercise session, with at least one session being dedicated to aerobic exercise. This is best performed in a fenced (safe) off lead area and can include running or playing with other dogs, swimming, playing fetch etc. If there is no safe area where your dog can be off lead, running beside a jogger or cyclist are also good aerobic exercises for dogs. (But as mentioned earlier, not for puppies!) Always ensure your dog is safe from traffic if biking or rollerblading with him.

You can even train a dog to run on a treadmill if he is confined to an apartment or small house. Aerobic exercise releases endorphins, which will have health benefits for your dog as well as have a calming effect on his behaviour.

## Games

## The Athlete



\* Loves high energy games, running and always looking for new things to do.

\* May be from a breed that was originally bred for high-energy jobs, such as hunting or herding. Examples include Vizslas, German Shorthaired Pointers, Australian Shepherds.

**Good Activities:****Frisbee**

Lets your dog run to his heart's content. Ensure that you get a Frisbee designed just for dogs, with padded edges that will not injure his mouth. You can even join a club or compete with other dogs!

Frisbee dog:

<http://www.youtube.com/watch?v=qp9OcGPufEc&feature=related>

**Agility**

This combines athletic activity with obedience work, and is ideal for intelligent athletes. Dogs follow courses that go over, under, around and through various obstacles, and can work up to competition level depending on your level of motivation. Many clubs are available to help you get started and practice at agility.

Dog Agility:

<http://www.youtube.com/watch?v=dR7mZ5jRAH8&feature=related>

**Flyball**

This activity combines a hurdle race with retrieving a ball – see below for a great Aussie example:

**Freestyle**

This is basically dancing with your dog! This is an organised sport, and competitions are held all over the world, or you can keep it between you and your dog if you prefer...

Freestyle demonstration:

**Canicross**

This is basically running cross country with your dog! Definitely for the runners out there.

[http://www.youtube.com/watch?v=2ns\\_US6jrs4](http://www.youtube.com/watch?v=2ns_US6jrs4)

## Games

**Bikejoring**

This is a fun way to enjoy time with your active dog – all you need is a bike and a harness that attaches your dog to your bike! Your dog basically pulls you along. See the example below:

<http://www.youtube.com/watch?v=liC3Sbrrqf4>

**Dock Jumping**

This is a competition event where dogs jump from a dock and the aim is to see which dog can jump the furthest. Great for dogs that love to swim!

<http://www.youtube.com/watch?v=d0yqKpH2D8c>

**Other Good Games:****Doggy Soccer**

This game is just what it sounds like. Use a large ball and roll it gently towards your dog. Encourage him to “get it!” and praise him when he paws or noses it. He will soon get the hang of it!

**Dog Park**

Playing with doggy mates at the dog park will give him a great work out. You can also take your Frisbee, and run or bike to the park to incorporate other work outs into the fun!

**Dog Beach**

For a variation on the theme during warm weather, a trip to your local dog beach (or river, pond etc) can also be loads of fun. Remember to take a floating throw toy, and always watch your dog doesn't get out of his depth!

## The Ball Hog

\* Loves fetching and chewing on toys. May be prone to nipping, chewing and play biting.

\* Generally from a breed that works with his mouth, such as a retriever. Examples include Golden Retrievers, Labradors, Border Collies, English Springer Spaniels.



## Games

### Frisbee

Great for athletic mouthy dogs. Ensure that you get a Frisbee designed just for dogs, with padded edges that will not injure his mouth. You can even join a club or compete with other dogs!

Frisbee dog:

<http://www.youtube.com/watch?v=qp9OcGPufEc&feature=related>

### Flyball

This activity combines a hurdle race with retrieving a ball – see below for a great Aussie example:

<http://www.youtube.com/watch?v=yXeqzwz75Is&feature=related>

### Belly Ball

This is a game that combines various sports such as basketball, soccer and rugby. It uses a large ball (about the size of a soccer ball) and the aim is for the people (usually played with 2 -3 humans) to score by putting the ball under the dog's belly and through the legs. The dog aims to stop this by getting the ball before it goes through the legs. Hectic and fun! designed for the larger sized ball hog! Or you can try with a small ball.

Belly Ball:

<http://www.youtube.com/watch?v=5dNO733sWks&feature=related>

### Fetch

A classic favourite and a great way for your dog to get all the exercise he needs without you having to do too much running yourself. Make sure you have an appropriate fetch toy for your dog that will not injure his mouth or get stuck in his throat – avoid sticks and small balls such as tennis balls for most dogs, as these can lodge behind the jaw and block the dog's airway. Balls on a rope, rope toys, specific throw toys and Frisbees are all fine.

Water fetch. Ball dogs usually love to swim, so taking your game of fetch to the water is often a fun variation for warmer weather. Be careful that your dog doesn't get out of his depth and ensure you have a throw toy that floats!



Provide your dog with a box of chew toys that he can carry around and gnaw on – this will be much appreciated!

## Games

## The Nose Dog

- \* Loves to follow his nose, and will follow a trail anywhere!
- \* May come from a breed originally used as a tracker, such as beagles and other hounds. Examples include Beagles, Bloodhounds, black and tan Coonhounds.

## Good Activities

## Training as a Search and Rescue Dog

A huge commitment, but very rewarding if you have the time and energy to dedicate to it. Certainly investigate further before starting out on this one – generally this is a career path, not a hobby.

SAR training:

<http://www.youtube.com/watch?v=YhUnNI2g-1w&feature=related>

Contact your local organisation for training opportunities

Australia: [www.sarda.net.au](http://www.sarda.net.au)

USA: <http://www.nasar.org/page/34/Canine-Search-and-Rescue>

UK: <http://www.sardaengland.org.uk/>

## Tracking trials

This involves following a scent trail that is laid for dogs to follow, in the basic format of a "missing person" and things that the person has "dropped" along the way. A shortened and more accessible form of search and rescue training.

For more information check your local kennel club. For an introduction click below:

[http://www.akc.org/events/tracking/getting\\_started.cfm](http://www.akc.org/events/tracking/getting_started.cfm)

**Fun stuff to do:**

You can also create your own tracking trail, by asking your dog to sit-stay, then walking through long grass and leaving a treat at the end of the trail. Retrace your steps to your dog and release him to find the treat! Hide treats throughout the yard, and then let your dog sniff them out. Meals can be fun times by putting your dog's bowl in a new spot each day and letting him sniff it out, with a widely spaced trail of kibble leading to the bowl. Good for bigger yards especially.

## Games

## The Couch Potato

- \* Generally happy to settle back down after going for a walk, and not particularly keen on a long run to the park
- \* Common Couch Potatoes include Greyhounds, Basset Hounds and Wolfhounds.

## Good Activities &amp; Games:

## Walking

Either a number of short walks or long leisurely walks - whatever your dog prefers. Try to visit new places where there will be new smells and sights to see regularly and often.



A good way for the Couch Potato to get out and about is to accompany you when you are out and about town on errands, or maybe visiting with friends at a cafe. Take a portable water bowl with you and he can socialise while you do!

Hide and Seek with a toy such as a Kong containing treats can be fun for your dog. Start off with fairly easy "finds" and your dog will learn to go look for his treat. Working for food inside a Kong or other similarly designed toy gives your dog mental stimulation as well.

## The Diggy Dog

- \* Really really loves to dig! Generally likes to chase other small animals.
- \* Most often from Terrier or dachshund breeds.

## Good Activities:

## Earthdog Trials

Courses designed to let these dogs do what they love best – run along "underground" tunnels in search of their prey (for example a rat). Usually dogs start with training tunnels made out of modular wooden boxes, then move up to buried tunnels and longer, more challenging courses. Contact your local breed club or kennel club for more information.

Earthdog demonstration:

<http://www.youtube.com/watch?v=NGbC379hVIQ&feature=related>

## Good Games:

## Digging Box

Create a digging area in the yard such as a sandbox or other designated area that is just for your dog. Get your dog to sit-stay, then bury his toys or a treat. Let him loose to dig them up! As he gets better at the game, bury treasure for him when he's not there to see it. Having his own digging box will give your dog a place to dig that is just for him, and help prevent destruction of the rest of your garden too.



## Games

**The Smart Cookie**

\* Very intelligent dog, very easy to train and becomes bored easily – which may then lead to destructive behaviour such as chewing.  
\* Often will come from a breed with a working background, for example herding livestock. Examples include German Shepherd Dog, Border Collie, Australian Shepherd.

**Good Activities:****Agility**

This combines athletic activity with obedience work, and is ideal for intelligent athletes. Dogs follow courses that go over, under, around and through various obstacles, and can work up to competition level depending on your level of motivation. Many clubs are available to help you get started and practice at agility.

Dog Agility: <http://www.youtube.com/watch?v=yjcWlyHpUIk>

**Obedience training**

Great for your dog whether it is at home, in a small local group or at competition level. Gives him the mental stimulation he craves.

**Obedience competition:**

<http://www.youtube.com/watch?v=b8Ihl7ABQuQ&feature=related>

**Sheep Dog Trials**

In this activity your dog gets to pit his skills against a small flock of sheep and has to herd them through a gate. Very well known pastime for Border Collies in Australia, this is run worldwide, and you don't need a farm to practice! Contact your local (state) working sheep dog association for information on your nearest club and information on how to get started. An activity designed specifically for sheep herding breeds.

**Sheep dog trials:**

<http://www.youtube.com/watch?v=qojXfXUdG0g&feature=related>

**Good Games**

Teach your dog to do a job. You need to know how to train your dog, and then pick a job – it doesn't matter what it is. Your dog will enjoy feeling useful, and can learn to put away his toys, fetching the paper, or putting away the socks! See link:

<http://www.youtube.com/watch?v=dXFmYZiTKMU>

Use interactive toys that get your dog to use his brain to get to the treat hidden inside.

**Hide and Seek**

Play hide and seek with toys, treats or yourself. Initially start by getting your dog to sit-stay, then hide a treat where he can see (eg behind the bed, shrub etc) then let him loose to go find it. Eventually you can work up to hiding his treats when he is not there.



## Nutrition

## Nutrition

## Australian Kelpie Nutrition for Puppies and Adults



### General Nutritional Advice for Puppies and Dogs

Good nutrition is essential for your dog to have a healthy, happy life, and what your dog eats will affect every aspect of his life. It is critical that he has the correct amounts of energy, protein, fatty acids, carbohydrates and trace minerals and nutrients for growth as well as maintenance of a healthy body and brain. Nutrition is vital to a dog's ability to think clearly, as thinking requires mental energy and the correct amino acid balance for the maintenance of normal brain chemistry.

Poor nutrition, e.g. poor quality protein in the diet, or a diet that is not balanced can lead to behaviour problems, as the dog cannot focus properly and will "act out" because he does not understand what you are trying to teach him. It can lead to increased stress levels and reduced immune system function, making the dog more vulnerable to toxins and the various infectious agents that he is exposed to in everyday life. Overall this leads to a reduced lifespan and a reduction in his quality of life, due to an increase in illness and general lack of wellbeing. So, how do you know if your dog's diet is good or bad?

There are several options when feeding your dog – generally the easiest in terms of ensuring a good quality and well balanced diet is to buy a high quality commercial dog food. We shall discuss what makes a dog food "good quality" shortly.

More and more people, including some vets, are now advocating raw food diets, or "natural" diets for dogs. There are some drawbacks to this approach. Firstly, raw meats can transmit parasites (such as toxoplasmosis) and bacteria that can make your dog very ill, such as Salmonella, E.coli and Enterobacter. Raw meat can spoil very quickly, especially in warmer weather, and can generally not be stored for later feeding. Commercial raw meats ("pet meat" or "pet mince") generally have preservatives added, some of which can be dangerous. Be aware that in many countries the pet meat industry is less regulated than the human meat industry, and a lot of preservatives may be added to meat, some of which can make the meat look red when in fact it is starting to spoil. Most veterinary nutritionists recommend that all meat fed to animals should be well cooked, the same as if it were being fed to people.

Secondly, it can be very difficult when home preparing meals to ensure that the meal is well balanced with all the nutrients your dog requires, in a form that will be easily digestible and absorbed by your dog's digestive system and that will be palatable to your dog. Vitamins and minerals must be present not only in the correct amounts, but in the correct ratio in respect to one another, otherwise deficiencies can occur.

## Nutrition

Remember that commercial pet foods are quality tested to ensure that they are fully balanced to meet your dog's requirements, and many are available that are of excellent quality. With a little effort you can generally find a dog food of very high quality if you know what to look for, and know what to avoid. Always look for a diet that is accredited by the regulator in your country. So how do you go about finding a fully balanced, good quality commercial dog food?

The first thing to remember is that ingredients on the label must be listed in order of how much the diet contains. This means the first listed ingredient in a food in theory is the ingredient that the food has the most of, the second ingredient is the one that the food has the second most of, and so on.

Note that if the first ingredient is a meat – e.g. chicken – a lot of this meat is actually water. Once the food is cooked and processed, a lot of this water is removed, leaving maybe 20% of the original weight of the ingredient. So if the second ingredient is a grain – e.g. corn – there may actually be more corn than chicken in the food! If however, the first ingredient is chicken meal, this means that the water has already been removed from the chicken meat (before adding it to the formula and weighing it for the ingredient list), and so the product is more likely to have a high content of animal protein.



Ideally there should be more animal-based protein in a food than grain protein. Animal proteins are more digestible than protein from grain sources – this means the dog can utilise more of the food, and less is wasted and passes through the gut unused. Animal-based protein, including specified meats, dairy products and egg, is referred to as high quality protein, and is important for a healthy immune system, good mental functioning and a good coat quality.

Avoid a diet that contains unspecified meat – ingredients listed as “poultry” or “animal protein”. Often this will be the waste products of meat production that is considered unfit for human consumption. It will often contain a lot less actual meat protein. Look for specified meat, such as “chicken”, “chicken meal”, “lamb”, “pork” etc. Avoid anything termed a “by-product” e.g. “meat by-product” “poultry by-product” etc. This may mean feet, beaks, feathers, fur etc and often contains very little meat!

Also note that animal fat or animal tallow is not a source of protein, and is often added to a diet high in grain protein in order to increase palatability (i.e. make it taste better). If the first few ingredients are all grains and include an animal fat e.g. “chicken tallow” this indicates a lower quality diet that is not as preferable as one with a high content of animal proteins.

## Nutrition

Avoid diets with soy protein, as these can be associated with allergies in dogs, and may lead to skin problems, chronic diarrhoea and other chronic problems. Similarly, corn has reportedly been linked to an increase in allergies in some dogs, with a possible association with skin and joint problems.

Note that terms such as "all natural" and "premium" on a label do not have any legal standing and as such are not reliable indicators of content of the food. However, if a formulation carries accreditation (e.g. Accredited to AS 5812) this means that the product has been independently tested and meets the requirements for accreditation (e.g. for Australian Standard 5812 - a set standard for the manufacture and marketing of pet food). Looking for this standard is a good start in ensuring safety and quality in the manufacturing process.

### So, to sum up – an ideal commercial dog food should contain:

\*More animal-based protein than grain-protein.

\*A specified meat or meat meal as the first ingredient.

\*3 of the first 5 ingredients ideally should be specified animal-based (including dairy products or eggs) ingredients.

\*A fully balanced formulation with added antioxidants.

\*An explanation of the ingredients in it and why they are added.

### How Much to Feed?

How much should you feed your dog? Well this will depend on a number of things, including your dog's age, energy requirements (i.e. stress level and level of activity), bone structure and the quality of food that he is receiving.

There is no set amount that is right for each dog, and energy needs can vary between different dog breeds, and even more between individual dogs of the same breed. Studies have shown that the energy requirements of different dogs of the same breed can vary by up to 35-40%.

So the technical answer is, feed a premium quality food in just the right amount to meet the energy needs of your dog. (Note that a high quality commercial food will balance other nutrients around energy requirements). There will be a feeding guide on the pack, but remember that this is only a guide.

You will need to monitor your dog's body condition and adjust his amount of feed as you go. You should always be able to feel easily, but not see his last few ribs. As a puppy you will be weighing him regularly, and at each visit to the vet, and calculating his energy needs - your vet will show you how to assess his body condition and food requirements during this period.

In order to avoid problems with obesity and overeating, you should measure your dog's food and meal feed in at least 2 meals a day (more when he is a puppy). Most dogs will overeat if free fed (ad-lib feeding). [http://www.canadaguidetodogs.com/health/nutrition\\_obesity.htm](http://www.canadaguidetodogs.com/health/nutrition_obesity.htm)

### Commercial Dog Food Formulations

There are a variety of diet formulations available to suit your dog's age and lifestyle.

Most people are aware that puppies should be fed a specific diet that is formulated just for puppies. But it can also be important to feed a specific diet for adult dogs that have different lifestyles.

For example, an average inactive adult pet dog has a protein requirement of around 18% (high quality protein) in the diet. However, dogs that are under increased stress, such as breeding or showing dogs require a higher level of protein in their diet, and a very hard working dog requires even higher protein levels.

Sled racing dogs require around 32% protein in their diet, as well as a high energy concentration, and will obviously need a different food formulation to the typical Couch Potato! Senior dogs can have different dietary requirements again, depending on their activity level and other factors.

So let's have a brief look at the different types of food that you may need for your dog:

#### Your dog

The Australian Kelpie should be fed a medium breed puppy formula for the first 12 months of life, followed by a medium breed adult formulation to suit his lifestyle and level of activity – generally of a high performance type (see below).



## Puppy Food

There are two main differences between puppies and adults when it comes to nutrition:

1. Puppies have greater requirements in comparison to their weight
2. Puppies have a more limited capacity for digestion compared to adults

Puppies go through their most rapid growth phase in the first six months of life, and can require up to three times as much energy as the adult maintenance requirement (on a per kilogram basis). During growth they also require a relatively higher amount of protein, for new tissue and muscle development, as well as a higher amount of essential minerals and trace nutrients.

Some people have suggested feeding puppies an adult formulation but allowing them to eat more (free feeding) to achieve the increase in energy and nutrients that they require. This is because certain breeds, especially larger and giant breeds, have a known link between too high a growth rate as a puppy and worsening of some skeletal problems either in their youth (e.g. osteochondrosis) or later in life (e.g. hip dysplasia).

However, this feeding strategy is inadvisable for several reasons. Firstly, puppies have a limited digestive capacity compared to the adult dog, and this type of feeding can cause digestive "overload" - leading to nutrient deficiencies. Also, adult formulations will often contain relatively more calcium than the puppy requires. An excess of calcium in the puppy diet has been shown in studies to potentiate the development of osteochondritis dissecans (a type of osteochondrosis) and can cause deficiencies of other important nutrients, such as zinc.

Hence it is important to feed a specific puppy formulation from weaning until skeletal maturity. In small breeds, this may occur from 8-12 months, however in larger breeds maturity occurs later, and does not occur until 24 months in giant breeds.



## Nutrition

### Small Breed Puppy Food

Always choose the correct puppy formula for your dog, and if unsure what the right puppy food is, check with your vet. We have provided a general guide for you below, based on the estimated size of your dog.

Smaller breeds are at a particular disadvantage due to their size. They have a very limited capacity in terms of the volume of food that they are able to ingest and digest at any one time. Also, due to their small size they are not able to store very much energy for use later. Hence they require a very energy and nutrient dense diet (per kilogram bodyweight) and also will require smaller meals to be fed more often.

A very small puppy, such as a American Staffordshire Terrier, requires feeding every few hours, and can be prone to episodes of hypoglycaemia (low blood glucose) if fasted for too long, which can lead to fitting (seizures) and even coma and death if not treated. It is easy to see why they require a puppy food that is specifically designed for small breeds.

### Medium Sized Puppy Food

**Medium sized puppies are generally fed a medium breed or regular type puppy food, which is formulated in between the two formulas described above. This means it is not as energy dense as a small breed formula, but is somewhat more energy dense and with a different mineral profile to a large or giant breed formula, so that it meets the needs of a medium sized puppy during growth and skeletal development.**

### Large Breed Puppy Food

Large and giant breeds take much longer to reach skeletal maturity, and also have relatively weaker bones compared to those of smaller breeds, as the bones are less dense and more prone to remodelling. They are also much heavier, and so put more load on their growing bones. Hence larger breeds are more susceptible to increased stress loads and to developing skeletal injuries or abnormalities.

It is for these two reasons that large and giant breed puppies are fed a different puppy formula to smaller breed puppies. Large breed puppy foods balance energy and nutrient requirements to meet the slower growth curve of a large breed dog, allowing time for bones to develop and strengthen properly as the body grows to its full size.

Always choose the correct puppy formula for your dog, and if unsure what the right puppy food is, check with your vet. We have provided a general guide for you below, based on the estimated size of your dog.

## Nutrition

**Adult Dog Foods**

There are different adult formulations that are designed to meet the different requirements of different dogs. As previously mentioned, dogs with different lifestyles will have different nutritional needs. Makers of premium dog foods provide a range of formulas to suit the needs of all dogs. Foods are generally available in an adult maintenance formulation for small breeds, medium breeds and large breeds and you should always choose a formula that best suits the size of dog that you have.

Adult dogs may vary greatly in not only their size and the amount of food required to maintain a healthy body weight, but also in lifestyle and the diet required to keep them in optimal health for their particular lifestyle. Several different types of different adult foods are described below.

**Small Breed Adult Food**

These foods are generally designed to meet the specific requirements of dogs up to 10kg in bodyweight. This refers to their bodyweight when they are fully grown as an adult, and are fed an adult diet once they have finished growing and developing, usually after around 8 – 12 months in dogs of this size.

**Medium Sized Adult Food**

**These foods are typically designed for medium sized dogs or breeds, which have an adult body weight between 11 and 25 kg. Medium sized dogs will generally reach maturity after 12 months of age, before which they should be fed a puppy formulation.**

**Large Breed Adult Food**

These formulas are designed to meet the needs of dogs who weigh between 26 and 44 kg as an adult, and will generally be formulated for the increased stress on the joints of a dog of this size, as well as their somewhat shorter gastrointestinal tract compared to their body size. Dogs of this body size generally reach maturity between 12 and 18 months of age, and should be fed an appropriate puppy food until this age.

**Giant Breed Adult Food**

Formulated specifically for dogs that weigh over 45 kg as fully grown adults, these foods meet the special needs of very large breed dogs. Giant breed dogs generally reach skeletal maturity between 18 and 24 months of age, and require an appropriate puppy formulation up until this age.

**Light food**

Adult dog formulas also come in a "light" version, for less active dogs, or those especially prone to putting on weight easily. These food types are less energy dense, so that the less active dog can eat until he feels full, but without ingesting more energy than he needs to maintain an ideal weight. Being overweight can create a number of health problems for your dog, and has been shown to be linked to a shortened life span. Joint problems and arthritis, as well as breathing problems will be made worse by being overweight. If your dog is overweight and needs to reduce weight, you should see your veterinarian, as a number of formulas specially designed to help your dog lose weight in a healthy way are also available.

## Nutrition

**High performance/  
Active dog food**

Also available are “performance” formulas, designed for very active and working dogs, with added energy and protein levels. These foods are specially designed for athletic dogs, and dogs that are working – e.g. hunting dogs, farm and stock working dogs, and dogs involved in athletic activity such as agility, flyball, coursing etc. These diets allow animals to take in their increased requirements for protein and energy without having to increase the amount of food they need to eat, and contain very high quality protein, which can be digested more easily and will not overload the digestive system.

**Food for  
breeding bitches**

Breeding bitches provide another nutritional challenge, requiring food to meet not only their own needs but also those of their gestating and then lactating pups. In most cases a premium quality puppy food will be best suited to meet a breeding bitch’s requirements, however it is always recommended to use small breed puppy formulations (i.e. avoid large breed puppy foods) for this purpose. It is not generally recommended to give calcium tablets or supplements unless recommended by your vet. See your vet for advice specific to your bitch’s needs if you are thinking of breeding.

**Breed specific  
food**

Some manufacturers will provide “breed specific” formulations, which are claimed to address breed specific nutritional needs. These can allow for commonly encountered nutritional needs in specific breeds. However remember that they are a general diet, and not tailored to any one individual dog, and in most cases these diets are probably quite suitable for a number of similar breeds and types.

**Health specific  
food**

You may have noticed that there are also available a range of dog formulas that address specific health issues – foods such as “dental diet”, “hypoallergenic diet”, “sensitive skin diet” and so on. These diets have been formulated to aid in the treatment of one or more specific illnesses or health problems in dogs, and may not be suitable for all dogs. In general your vet will recommend one of these diets if they think it would be the best option for your dog. If you think a specific health-related diet may be of benefit to your dog, always discuss this with your vet before changing your dog’s diet.

**Senior Dog Food**

There are also a number of senior formulations on the market, designed for dogs aged 7-8 years of age and older. These foods generally have less energy, higher fibre and around 18% protein (this is the minimum high quality protein level required for adult canine maintenance). They are formulated this way because frequently older dogs are less active, may have a reduced metabolic rate, and can suffer from constipation.



Dogs that benefit from these diets are those that are inclined to weight gain due to reduced metabolism and activity – bearing in mind that excess weight gain puts added stress on the joints and can also worsen any developing arthritis. Also as the dog ages the intestinal tract can lose tone, leading to an increased tendency for constipation – the higher fibre level of the senior diet can assist with this as well.

## Nutrition

However, keep in mind that this is not always the case and your dog will not suddenly stop being active at a certain age! You should still feed your dog to his individual needs, based on activity level and health status.

You should consult with your vet to review your dog's individual health status and nutritional needs if you think he may benefit from a change in diet as he ages.

### Snacks

It is okay to feed snacks to your dog. Just follow a few basic guidelines to ensure that they are just snacks and not creating health problems or obesity!

Firstly, feed healthy, doggy snacks - not people snacks! No biscuits, chips or other human treats – these foods are doggie junk food, high in fat and calories.

Never feed your dog at the table, only in his bowl (or when training). This will avoid a lifetime of begging-type behaviour. Do not feed plate scraps that you would not eat yourself to your dog – e.g. left over veges are okay, but fat, gristle and chop bones are not! Feed healthy snacks such as sliced apple or banana, veges such as carrot or broccoli or frozen veges – beans, broccoli, carrots etc. Please note that corn cobs should NOT be fed to dogs, as the cobs are a common cause of intestinal obstruction, requiring surgery to correct.

Do not feed chocolate, onion, garlic, macadamia nuts, grapes or raisins/sultanas to dogs – these are all toxic substances!



## Nutrition



### Hydration

Keeping your dog well hydrated is just as important as ensuring that he receives good nutrition. It is important to ensure that your dog always has access to clean fresh water. Dehydration can lead to kidney and heart damage, and can occur quickly if water is not available.

Clean your dog's water bowl every day. Bacteria grow rapidly in water bowls and can foul the water quickly, causing your dog to not drink it, or worse, make him sick if he does drink it. Use a small amount of dishwashing liquid and a cloth to clean, and rinse the bowl thoroughly.

Ensure that the bowl is of the correct size, not too big or small. A bowl that is too small may become dry and lead to dehydration. A bowl that is too big may make it hard for your dog to reach the water as the water level drops, or for small dogs and puppies there may be a risk of them falling in trying to get to the water (e.g. in a bucket). For large dogs, a bowl that continually fills from a bottle or hose may be the best choice. For dogs with long ears a tall narrow bowl can help them avoid getting their ears wet when they drink, which can help reduce the risk of ear infections.

For dogs that are indoors, several water bowls around the house can be a good idea. Never let your dog drink out of the toilet – it is unsanitary and can lead to nasty gastrointestinal diseases. If your dog likes to do this, make sure you keep your toilet lid down!



## Dental Health

### Dental Health

You may have heard some advice about keeping your dog's teeth clean. Many people have many different opinions on this topic. The best way to care for your dog's teeth and oral health is to manually clean his teeth. This is not as weird as it sounds, and if you start when your puppy is young, is generally not hard to do. Dog teeth are cleaned with specific dog toothpaste, which is safe if swallowed and usually meat flavoured. There are different flavours, so you should be able to find one your dog likes. Never use human toothpaste on your dog! The equipment you will need include a rubber thimble-like toothbrush that fits over your finger, and a doggie toothbrush for the inner side of the teeth. First, with the thimble toothbrush, gently rub over the outside surface of the teeth (by lifting the lip and running the finger along the outer side of the teeth). Use a circular motion moving across all the teeth, especially near where the tooth meets the gum. Do the upper teeth, then the lower teeth, and repeat on the other side. Then use the doggie toothbrush to do the inner surface of the teeth (the side that faces the tongue). When starting out, do not take more than 10 – 30 seconds all up, and you may or may not use toothpaste to start off. Start when your dog is a puppy, so that he learns early to accept this, and never punish him during brushing – make it as fun and enjoyable for him as possible! The toothpaste is flavoured to make to process as pleasant as possible, and to start with keep it as short as you can, just to get him used to you putting your finger in his mouth. You can gradually work up to a full brush of all teeth, but try to keep the process to less than a minute or so all up. Cleaning is best done 2 – 3 times a week. Always use Veterinary Oral Health Council approved toothpaste to ensure that it is safe and effective for your dog.

### Bones

Bones are not recommended to be fed to dogs, whether cooked or uncooked. They can cause a number of problems, including broken teeth and digestive upsets. However there is a range of products on the market now that are specially designed to help clean your dog's teeth. These include chewable objects that have a manual tooth cleaning action as well as liquids, gels and sprays that contain enzymes to help clean the teeth. Chewable objects may be digestible (able to be eaten) such as "Greenies" or other chews, or indigestible (not able to be eaten) such as certain specifically designed toys. Some products are a combination of both – such as a "Kong", where dry food is placed inside a chewable rubber toy that encourages the dog to play and chew. Always choose a high quality product that is approved by the Veterinary Dentists' Association or Group in your country (e.g. the Australian Veterinary Dental Society, The Academy of Veterinary Dentistry or the American Veterinary Dental College). Look for products that carry the Veterinary Oral Health Council Seal of Approval - many of these products are available in Australia and elsewhere (e.g. "Greenies for Dogs"), not just in the USA.



## Special Offer

**Full Pure Breed DNA Profile \$99.00 + postage of DNA kit to your home (normally \$135.00)**

This test will interrogate your dog's DNA for all genetic diseases and traits (coat colour, long hair gene) relevant to your breed. It will also provide a unique DNA signature profile that can be used to positively identify your dog forensically and/or to confirm parentage.

Disease Results are reported as **NORMAL, CARRIER or AFFECTED**

## ORDER YOUR TEST HERE

Visit [www.orivet.com](http://www.orivet.com) to find out more about how to best care for Your Yorkshire Terrier's health and have more fun with him everyday.

Tell the world about your dog - Join our online community of great pet owners that really love their pet and share your Yorkshire Terrier's Genetic Health Book with your friends. **At** <https://www.facebook.com/breedspecifichealth>

**Note:** Some pure breeds do not have a genetic test available that can be used to screen for some diseases. For more information on which genetic diseases are included for your breed please contact us.

Redemption Coupon Code: **ORIVETPERSBOOK**



## About Orivet

### Our mission

Our mission is to safeguard the health and wellbeing of your pet with fully personalised, breed-specific care. Orivet was founded on the premise that each and every pet is unique, with its own set of specific traits, behaviours, genetic health needs and inherent risks. We work with pet owners, breeders and vets to provide completely personalised products and services that treat and care for pets as the unique individuals they are, taking into account each pet's genetic makeup, age, sex and lifestyle.

Through this we aim to encourage the development of a deep, genuine and lasting bond between pets and their owners.

### Our experience

Our laboratory is one of Australia's leading veterinary pathology facilities providing services to over 1,500 vets around Australia. Our team has more than 150 years of combined veterinary pathology experience and includes veterinary specialist pathologists, animal geneticists and scientists.

We offer specialised services in the areas of clinical genetics, haematology, biochemistry, histopathology, endocrinology, PCR testing, microbiology, infectious diseases and point of care testing.

### How we help you care for your pets

Orivet operates in 3 distinct fields:

We help **veterinary doctors** provide pets with customised preventative and protective medicine, looking out for specific genetic health conditions which can lead to early diagnosis and more effective treatment.

We work closely with **pet animal breeders** by promoting responsible breeding. We offer an extensive range of molecular (DNA) tests and services including screening for genetic disease. The main beneficiaries of this strategy are healthier animals for generations to come.

We help **pet owners** learn about their pets' special nature and needs through the most up-to-date information and tools. Our products and services are designed to provide the highest quality and most relevant nutritional, behavioural and healthcare support for pets.

**Orivet is committed to eradicating animal cruelty wherever it may be on our planet. Our products are made from all natural ingredients, free from any artificial additives and have not been tested on animals.**



PERSONALISED GENETIC HEALTH



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